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AIR FORCE MATERIEL COMMAND**

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This instruction implements Air Force Policy Directive (AFPD) 21-1, *Maintenance of Military Materiel*, and provides directive guidance for maintenance management at the Air Force Materiel Command (AFMC) Centers organic depots as it applies to aircraft and associated aerospace equipment. Air Force Materiel Command Instruction (AFMCI) 21-100 is comprised of three volumes: Volume 1, *Depot Maintenance Principles*; Volume 2, *Depot Maintenance Production*; Volume 3, *Depot Maintenance Production Support*. A Volume and Chapter breakout is provided in Attachment 2. For policies and procedures adhered to planning and administering depot level contract maintenance programs, refer to Air Force Instruction (AFI) 63-101/20-101, *Integrated Life Cycle Management*, and AFI 63-138, *Acquisition of Services*. This publication applies to all

AFMC Regular Air Force. This publication does not apply to United States Space Force, Air Force Reserve, or Air National Guard units. This publication applies to all AFMC military and civilian members and those with contractual obligation to comply with Air Force publications. However, if an AFRC unit is assigned or associated with AFMC where AFMC is the lead this guidance would be applicable to the AFRC unit. Headquarters (HQ) AFMC and Centers will develop supplements to implement the requirements of this instruction at their level and provide them to the Office of Primary Responsibility (OPR) of this instruction for review and approval before publishing. Supplements and addendums to this instruction will be written in accordance (IAW) with Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*, and must be provided to the OPR of this publication for review and approval prior to publication. Supplements are submitted to Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Maintenance Division (AFMC/A4/10/A4M) @ AFMC.A4M.Workflow@us.af.mil. Center-level Supplements must identify and document all Center required deviations (applicability, variance, exception, and differences in organizational placement of responsibilities/processes) in their supplement and addendums with the abbreviation (DEV). Place the (DEV) entry after the paragraph number and directly preceding the affected text, such as (AFSC) (DEV) Use the..., or (ADDED-AFSC) (DEV) Use the...). Only current and verified technical data, as authorized by Technical Order (TO) 00-5-1, *Air Force Technical Order System*, will be used for depot maintenance. All contractor requirements in this instruction must be included in a contract/grant/agreement to be enforceable. Refer recommended changes and questions about this publication to the OPR using Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication* (or equivalent). Route DAF Forms 847 (or equivalent) from the field through the Center to the appropriate Major Command (MAJCOM) functional manager. Ensure that all records created as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed IAW Air Force Records Disposition Schedule (RDS), which is in the Air Force Records Information Management System (AFRIMS). The waiver approval authority for requirements throughout this instruction is the publication Approving Official. Submit requests for waivers through the appropriate chain of command to the Publication OPR for consideration, using DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*, (or equivalent).

(AFSC) Air Force Materiel Command Instruction (AFMCI) 21-100_Air Force Sustainment Center (AFSC) Supplement, is comprised of three volumes: Volume 1, *Depot Maintenance Principles*; Volume 2, *Depot Maintenance Production*; Volume 3, *Depot Maintenance Production Support*. This Supplement provides directive guidance for depot maintenance management. This Supplement applies to the Air Logistics Complexes (ALCs) and other units deemed appropriate. Missions within AFSC that are not organized under the standard Wing Organization concept for Aircraft Maintenance Management IAW AFI 38-101, *Manpower and Organization*, are considered Non-Standard Organizations (NSOs). NSOs require deviations (applicability, variance, and/or differences in organizational placement of responsibilities/processes) from AFMCI 21-100 and this supplement. Deviations to provide/scope applicability for NSO logistics/maintenance in an addendum to the Center supplement is approved by AFMC/A4M, in accordance with (IAW) DAFMAN 90-161, *Publishing Processes and Procedures*. Therefore, NSOs will follow the addendum only, not the parent AFMCI nor this AFSC Supplement. The AFSC Software Directorate (AFSC/SW) is identified as an NSO and is not organized as a standard

organization IAW AFI 38-101. This Supplement does not apply to the United States Space Force. Refer recommended changes and questions about this Supplement to the Supplement's OPR using the Air Force Sustainment Center (AFSC) Form 847, *Recommendation For Change Of Depot Maintenance Management (DMM)*. Route AFSC Form 847s from the field through the appropriate functional chain of command. Local instructions, supplements and addendums to this instruction may be written in accordance with (IAW) Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures* but must be provided to the OPR of this supplement for review and approval prior to publication. The waiver authority for this Supplement is AFSC/A3/4. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. IAW Records Disposition Schedule (RDS) Table & Rule: T21-05 R 02.00, "*Depot Maintenance and Inspection Records*": records pertaining to the major overhaul of aircraft, missiles, propulsion, guidance, or other end-item system equipment at the ALCs will be retained for 7 years after completion of the maintenance and repair work or longer as determined by the ALC/CC. Once records exceed the retention duration, the records can either be moved to an unofficial status or be disposed.

SUMMARY OF CHANGES

This instruction has been substantially revised and restructured into three volumes and must be reviewed in its entirety. Major changes include the incorporation of Guidance Memorandums, corrections, clarifications, and relevant information from other directives.

(AFSC) This supplement has been substantially revised and restructured into the three volumes of AFMCI 21-100 "Depot Maintenance Management" and must be reviewed in its entirety. The requirements and instructions for Requirement Review and Depot Determination (R2D2), Capital Investment Program (CIP), Air Force Materiel Command Depot Maintenance Capacity & Utilization Measurement, and ALC Engineering Roles and Responsibilities have been realigned and will soon publish in AFSCI 20-101 "Depot Processes and Programs Management"

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CHAPTER 1 DEPOT MAINTENANCE WORK MEASUREMENT

1.1. Depot Maintenance Work Measurement (DMWM). This chapter provides guidance and responsibilities for Air Force Sustainment Center (AFSC) DMWM Standards (DMWMS). The prescribing regulation for labor classification is DoD 7000.14-R, *Department of Defense Financial Management Regulation*, Volume 11B, Chapter 13. Labor standards must accurately reflect the labor required to do a particular job. Labor standards are used to establish production schedules and they have a direct bearing on the cost and length of the repair cycle. Labor standards, operation descriptions, and associated times provide data for analysis that enable the repair process owners to identify prime areas for process improvement. Labor standards are used in scheduling, budgeting, sales rates, manpower requirements, and shop capacity. Work measurement is the means utilized to establish labor standards.

1.1.1. The purpose of work measurement in the depots is to meet the requirements of external and internal customers.

1.1.1.1. External Customers. Labor standards are a basis for costs required to perform individual work orders. Labor standards are used to calculate standard Shop Flow Days (SFD) for exchangeable workloads. They also have a direct bearing on quantities of spares purchased by the Item Managers (IMs). Spares can be a significant cost to external customers.

1.1.1.1. (AFSC) Labor standards must accurately reflect labor required to do any particular job. Labor standards are used to establish production schedules, and they have a direct bearing on the length of the repair cycle that is portrayed to the customer.

1.1.1.2. Internal Customers. Work measurement documentation provides the means to benchmark organization work performance. Labor standards are the projected times by which management can effectively evaluate actual organizational work performance. Standard SFD are used to calculate floating stock, where applicable.

1.1.1.2. (AFSC) Labor standards, operation descriptions, and associated times provide data for analysis that enable the repair process owners to identify prime areas for process improvement. Standards are used in scheduling, budgeting, sales rates, manpower requirements, and shop capacity.

1.1.2. HQ AFSC will formulate the detailed requirements concerning DMWM and facilitate/coordinate on any requests from HQ AFMC to the Air Logistics Complexes (ALCs).

1.1.3. The technique selected to conduct a work measurement study will be based on a positive return on investment. The anticipated savings should exceed the cost of measurement.

1.1.4. The information obtained from work measurement studies or analysis will be used to evaluate organizational performance.

1.1.5. For consistency of application within the AFSC depots, tools, techniques, and management data associated with work measurement will be shared.

1.1.6. Industrial Engineering Technician (IET)/Planner Training.

1.1.6.1. All new IET/Planners must successfully complete course CRXMAO0003200SU, *AFMC Industrial Engineering Technician, Fundamentals*.

1.1.6.2. IET/Planner training requirements are found in the Civilian Training Plan (CTP) and will be accomplished IAW AFI 36-2650_AFMC SUP, *Maintenance Training*.

1.1.6.3. All IET/Planners that perform Bill of Material (BOM) management and labor standard reviews are required to complete the Command approved BOM and Labor Standards refresher training, at a minimum of every two years.

1.1.6.3.1. **(Added-AFSC)** Personnel directly involved in establishing or reviewing labor standards must be trained in methods and standards concepts and techniques. All work measurement practitioners must successfully complete appropriate training. Minimum required training includes:

Table 1.0. (Added-AFSC) – Training Requirements.

Item	Required Training
1	Depot Work Methods and Standards (DWMS).
2	Applicable systems required to perform planning functions.
3	Command and locally developed planning courses which may include training in blueprint reading, design drawings, work specifications, technical orders, Time Compliance Technical Orders (TCTOs), process orders, temporary work orders, and Work Control Documents (WCDs).
4a/b	IET/(Maintenance Planner) Training – a. All new IET/(Maintenance Planner) Training Planners must successfully complete the AFMC Industrial Engineering Technician, Fundamentals course. b. All IETs/(Maintenance Planner) must successfully complete Labor Standards recurring training, at a minimum, every two years. All training will be documented in the Training Scheduling System (TSS).
5	All Command approved Maintenance Information System (MIS) courses related to accomplishing work measurement and labor standards (See Note below).
6	Persons using work measurement techniques requiring performance rating (or leveling) must be capable of rating within plus or minus 10 percent of standardized rating criteria. The initial performance rating training and certification is accomplished in the DWMS course. Refresher training and proficiency qualification are required every two years.
7	HQ AFMC Standard Data. Additionally, Methods Time Measurement (MTM-1) or equivalent is required for technicians who develop standard data. If standard data is not developed, MTM-1 or equivalent is not required.
Note	Duplicative materiel or requirements may be waived for a person having an associate degree in industrial engineering technology or a bachelor's degree in industrial engineering.

1.1.6.3.2. **(Added-AFSC)** IET/(Maintenance Planner) must be qualified in their job series. Each planning chief will ensure the completion of proper work measurement training and related career development of personnel assigned to work measurement activities. These personnel will be afforded development opportunities through a planned program of training, continuing education, work assignments, and professional and technical activities. Refresher training should be given as required.

1.1.6.4. DWMS requirements may be waived for personnel having an associate degree in industrial engineering technology or a bachelor's degree in industrial engineering.

1.1.6.5. All training will be documented in the Training Scheduling System (TSS).

1.2. AFSC Responsibilities. HQ AFSC will develop, implement, and maintain guidance and procedures for DMWM which address the following:

1.2.1. ALC Business Office and Maintenance Production Group responsibilities as they apply to DMWM.

1.2.1. **(AFSC)** Ensure adherence to the techniques and methods illustrated in the Depot Maintenance Work Measurement policy.

1.2.1.1. **(Added-AFSC)** Staff a Work Measurement Point of Contact (WMPOC) for coordinating IET (maintenance planner) and reporting requirements, directing labor standard reviews, interpreting policy guidance and providing functional support.

1.2.1.2. **(Added-AFSC)** Ensure ALC maintenance production groups with direct labor standards maintain a fiscal year (FY) Labor Standard Variance Review Program at the Centralized Asset Management (CAM) task level for aircraft and missiles, and at the control number level for commodities.

1.2.1.3. **(Added-AFSC)** When Work Breakdown Structure (WBS) code is blank or does not sufficiently identify labor type, maintain Local Remarks 1 (LRK1) data field of the Unit Manpower Document to identify the manpower requirement as one of the following: Direct Labor (DL), Production Overhead (POH), or General and Administrative (G&A) with each manpower requirements change submitted to their servicing manpower office.

1.2.1.4. **(Added-AFSC)** Labor Standard and Task review.

1.2.1.4.1. **(Added-AFSC)** As a minimum for commodities and propulsion, the top 20 percent in hourly variance of the overall group variance at the Production Number (PDN) level will be reviewed annually. The 20 percent in hourly variance of the overall group variance is the minimum each group can accomplish.

1.2.1.4.2. **(Added-AFSC)** For aircraft and missiles, the task review procedures are driven by AFMAN 63-143, *“Centralized Asset Management Procedures”*.

1.2.1.4.3. **(Added-AFSC)** Adjustments to labor standards will only be accomplished within budget lead times and will be based on End Item Sales Price (EISP) and CAM requirements.

1.2.1.4.4. **(Added-AFSC)** Ensure labor standard review support documentation exists in labor standard files which can be maintained electronically.

1.2.1.4.5. **(Added-AFSC)** In addition, review labor standards on an event-driven basis. Some examples of events that would dictate an event-driven labor standard review are listed below:

1.2.1.4.6. **(Added-AFSC)** New Workload. Workload processes or operations not previously performed on an end item.

1.2.1.4.7. **(Added-AFSC)** Change in Technical Data. Change in technical data that applies to form, fit, and function of an end item. Types of technical data include blueprints, drawings, TOs, etc., (per TO 00-5-1).

1.2.1.4.8. **(Added-AFSC)** Change in Workload. Change in procedures due to product mix, volume increase or decrease, new equipment, new procedures, etc.

1.2.1.4.9. **(Added-AFSC)** Rapid Improvement Events (RIEs). RIEs are process improvements that result in reduction in operation set-up times, manpower requirements, first time through quality, or processing requirements.

1.2.1.4.10. **(Added-AFSC)** Work Control Document (WCD). When the scope of the WCD changes.

1.2.1.5. **(Added-AFSC)** Definitions and References.

1.2.1.5.1. **(Added-AFSC)** Depot Maintenance Work Measurement will use standard industrial engineering (IE) terminology and definitions. A comprehensive "Glossary of Terms" is available in the Handbook of Industrial Engineering and serves as the source and documentation for HQ AFMC work measurement definitions. Any variance in terminology or definitions for applicable IE terms will be addressed in writing to AFSC/A4M for consideration and approval.

1.2.1.5.2. **(Added-AFSC)** Associated references.

1.2.1.5.3. **(Added-AFSC)** Organizations responsible for developing labor standards or managing HQ AFMC Depot Maintenance Work Measurement will utilize readily accessible references via the internet.

1.2.1.5.4. **(Added-AFSC)** AFMCI 65-101, *"Maintenance Accounting and Production System Financial Policy and Procedures for Depot Maintenance."*

1.2.2. Labor Classification. Labor is either direct or indirect. (Reference DoD 7000.14-R, Volume 11B, Chapter 13).

1.2.2.1. Direct Labor. Direct labor is work that can be identified, without undue cost or difficulty, to a single, specific job order. Direct labor generally includes the hands-on maintenance, repair, overhaul, test, and related direct production effort that follow the established sequence and content of work necessary to accomplish the billable job. Direct labor does not include the support work identified as either indirect or General and Administrative (G&A) in nature. Labor not identified as direct labor will be identified as indirect labor.

1.2.2.1.1. **(Added-AFSC)** The qualifying criteria for labor as described in this chapter is that the job being performed, whether it is classified as direct or indirect, must be paid for by the Consolidated Sustainment Activity Group Supply (CSAG-S). This chapter does not apply to jobs falling outside this criterion. Throughout the remainder of this chapter, labor paid for by the CSAG-Maintenance (CSAG-M) shall be referred to as maintenance labor.

1.2.2.1.2. **(Added-AFSC)** Proper classification of maintenance labor is an aid to managers at all levels. It is a tool for achieving the most effective and economical utilization of human resources when combined with accurate reporting of workers' time spent on assigned tasks. It is also a tool for evaluating how well the workforce has been managed against goals stated in performance indicators. The measurement of maintenance labor, especially direct, provides the baseline or yardstick, against which labor management is measured. It should be noted that the classification of maintenance labor is based on the task performed, not on who does it.

1.2.2.1.3. **(Added-AFSC)** Maintenance labor is classified as Direct or Indirect. Indirect labor has two further categories: 1) POH and 2) G&A overhead.

1.2.2.1.4. **(Added-AFSC)** Direct Labor. "Direct labor is work that can be identified, without undue cost or difficulty, to a single, specific job order. Direct labor generally includes the hands-on maintenance, repair, overhaul, test, and related direct production effort that follow the established sequence and content of work necessary to accomplish the billable job. Direct labor does not include the support work identified as either indirect or G&A in nature." (Reference DoD 7000.14-R, "*Financial Management Regulation*", Volume 11B, Chapter 13). The following clarifications apply to AFSC:

1.2.2.1.4.1. **(Added-AFSC)** Direct labor must be identifiable to a specific Job Order Number (JON).

1.2.2.1.4.2. **(Added-AFSC)** Direct labor can be broken down into operations and sub-operations. When operations and sub-operations are performed by multiple workers, standard must be adjusted to account for the required labor expended. The amount of labor required can be measured directly. Exchangeable example: When batch operations such as cleaning, painting, stripping, and heat treating are performed, where WCDs are worked by more than one trained worker, but are worked together, the planner may reduce the standard in this case. For instance, paint if 30 parts are prepared, cleaned and painted at the same time, it would take less time than if each were accomplished one at a time (reference para 1.2.5.3.1). Aircraft example: Tow operations that require 5 trained workers to accomplish a task based on tech data will take 1 hour to be completed

by each trained worker. Therefore, there should 5 hours planned to cover all trained workers accomplishing the task.

1.2.2.1.4.3. **(Added-AFSC)** Direct labor furthers the value of the product or service through enhancement of the form, fit, and/or function to meet the desired specifications of the customer.

1.2.2.1.4.4. **(Added-AFSC)** Direct labor is supported by official work requests and authorized by prescribed work authorization documents indicating the specific nature of the work to be done. Direct labor must be assigned to a direct labor Resource Control/Cost Center (RC/CC), or direct labor time exception to a direct labor RC/CC.

1.2.2.1.4.5. **(Added-AFSC)** Direct labor for programmed workloads will be broken down into tasks and labor standards determined for each task, as specified in this chapter. Direct labor tasks will be documented on a WCD. The time expended on direct labor tasks will be documented in the appropriate time and attendance (TAA) and production systems.

1.2.2.1.4.6. **(Added-AFSC)** Direct labor exceptions. When direct labor employee is not performing direct work as described in the preceding paragraphs, their time is “excepted” to indirect. There are specific duty codes that must be captured for each of the indirect activities for tracking and management purposes. This time is typically leave, training, cleanup, or other necessary activities not tied to direct work.

1.2.2.1.4.7. **(Added-AFSC)** Labor not identified as direct labor will be identified as indirect labor (POH and G&A).

1.2.2.2. Indirect Labor. There are two categories of indirect cost: Indirect Production and G&A (overhead).

1.2.2.2.1. Indirect Production. Indirect Production is all other labor expended in maintenance that does not meet the criteria for direct labor. This includes all labor expended at the Resource Control Center (RCC) level in maintenance that does not meet the criteria for direct labor, i.e., not driven by volume. This includes tasks or functions that support direct labor, or which are inherent to having a direct labor capability.

1.2.2.2.1.1. Indirect production includes all General Schedule (GS) supervision, clerical, and administrative labor. This will also include annual leave, sick leave, and other paid leave. Functions such as attending classroom training or meetings are considered indirect labor when they involve people who are assigned to a direct RCC. The cost of this labor is apportioned over all products in the RCC rather than charged to one or more specific products.

1.2.2.2.1.2. Shop support overhead is labor expended by personnel performing functions above RCC level in support of maintenance, and by personnel performing the primary mission of a staff or overhead function. It is performed by people who are not assigned to a production RCC.

1.2.2.2.2. General and Administrative (G&A) (Overhead) is labor expended by personnel performing functions external to maintenance.

1.2.2.2.2.1. G&A labor is all labor not meeting the qualifications for either direct or indirect production labor. This includes supervision, clerical, and training. There is a valid requirement for indirect production and G&A, which must be recognized separately and should not be hidden through improper conversion or improper classification.

1.2.2.2.2.2. The duty code assignment of personnel and subsequent man-hour exceptions should be recognition of the proper level at which the direct production labor cost is applied.

1.2.2.2.3. **(Added-AFSC)** Relationship to Actual Labor Reporting. The reporting of actual labor should reflect the classification of labor for the task each employee is assigned to do. Where an employee is temporarily assigned to perform a task classified different from normal assignments, the labor time spent in the temporary assignment must be reported based on the classification of the temporary assignment. For example, if a worker who normally does production overhead work, performs a direct labor task, then the time spent on that task must be reported as actual direct labor.

1.2.2.2.4. **(Added-AFSC)** Responsibilities. Each ALC business office classifies maintenance labor and determines if the maintenance labor should be charged to a specific JON.

1.2.3. Classification of Labor Standards. The definition of a labor standard is the time it should take a trained worker or group of trained workers, working at a normal pace, to produce a prescribed unit of work that conforms to technical requirements and standards according to a specified method under specific working conditions.

1.2.3. **(AFSC)** General. This section and related tables address planning within the Aircraft and Exchangeable Groups for conducting tasks/operational analyses developing, maintaining, and using labor standards at the ALCs.

1.2.3.1. Labor standards are classified as engineered or non-engineered. For an end item standard to be classified as engineered, at least 80 percent of its total standard hours must be classified as engineered.

1.2.3.1.1. Engineered labor standards must reflect a relative accuracy of plus or minus 10 percent, with a 90 percent or greater confidence level at the operation level.

1.2.3.1.2. Non-engineered labor standards are all labor standards not meeting the above criteria.

1.2.3.2. **(Added-AFSC)** Labor Standard Establishment Techniques. All of the techniques shown below are acceptable when correctly applied. Labor standard techniques include:

1.2.3.2.1. **(Added-AFSC)** Standard Data is obtained from systems such as E.A.S.E or M.O.S.T. Policies concerning the establishment of Methods Time Measurement (MTM) based standard data elements require a level of accuracy equivalent to an engineered approved standard. When standard data is used to build a standard, the standard is classified as engineered.

1.2.3.2.2. **(Added-AFSC)** Other work measurement techniques include time study, group timing or work sampling. Formulas are available in paragraph 1.2.13. to determine the accuracy of time study/group timing technique, or work sampling data. Therefore, these formulas can be used to determine the number of observations or samples required to classify data as engineered.

1.2.3.2.3. **(Added-AFSC)** Regression and Correlation Analysis. Standards developed using this technique will be considered engineered when the data used for the analysis is engineered.

1.2.3.2.4. **(Added-AFSC)** Technical estimates based on TOs or other factual data. This type of standard is classified as non-engineered.

1.2.3.2.5. **(Added-AFSC)** Estimates. Labor standards set by non-technical, planning personnel or process owners. This type of standard is classified as non-engineered, and should be targeted for conversion where cost effective, using the work measurement technique with the best combination of accuracy and economy. Estimates must be broken down into a level of work units that allows confidence in the validity of the estimate. Include preparation and de-preparation times when setting non-engineered standards. These times can be applied in two ways: in the Personal, Fatigue, and Delay (PF&D) allowance in cases where the operator prepares for the entire shift (e.g., put on protective clothing, etc.), and in elemental times when the time is associated with an individual operation (e.g., get a special tool, etc.). The goal is consistency to ensure the same amount of time is allowed and earned for performing like operations. PF&D will be displayed at the sub-operation level for “exchangeables” and task/work specification (spec) level for aircraft for non-engineered standards. This is an allowance to be added to direct labor to arrive at standard time. This allowance procedure will make the calculation of non-engineered standards consistent with the procedure for engineered standards. Reference paragraph 1.2.11.5. for procedures on PF&D allowances.

1.2.3.2.6. **(Added-AFSC)** Learning Curve. Labor standards will not incorporate factors which reflect the training techniques used and skill of personnel (i.e., learning curve effect).

1.2.3.2.7. **(Added-AFSC)** Recycle Time. The labor standard may include that recycle time inherent in the repair process that does not result from some action or inaction by the repair technician. The inclusion of recycle time must be based upon it being observed, studied, an occurrence factor developed, and allowable time added to the labor standard as an occurrence factor to a step or sub-operation within a specific operation.

1.2.3.3. **(Added-AFSC)** Performance Rating (Leveling). Performance rating is the act of comparing the actual performance of a worker against a defined concept of normal performance. Performance rating will be performed in conjunction with engineered and non-engineered labor standard studies, e.g., work samples, time studies, and other techniques where applicable. All subject matter experts (SMEs) accomplishing performance rating must be currently certified in the system being used.

1.2.3.4. **(Added-AFSC)** Duration. Labor standards will remain in effect until revised IAW paragraph 1.3.3.3. or retired to an inactive file.

1.2.3.5. **(Added-AFSC)** Reviewing Labor Standards.

1.2.3.5.1. **(Added-AFSC)** Review. Reviews of labor standards will be determined locally by the ALC for Exchangeable Management of Items Subject to Repair (MISTR) permanent workloads. The top 20 percent overall variance between actual hours and base hours, and/or event driven actions (e.g., TO updates, equipment changes, etc.) will be the determining factor for yearly labor standard review requirements. Criteria for reviews will be documented in local yearly Work Measurement Plans maintained by the ALC OPR.

1.2.3.5.2. **(Added-AFSC)** Aircraft reviews will be governed by AFMAN 63-143, Centralized Asset Management Procedures.

1.2.3.5.3. **(Added-AFSC)** Revision. Revision of labor standards must be documented through the Sales Price Generator (SPG) or other applicable budgetary process, prior to implementation, and executed within the applicable year of execution.

1.2.3.6. **(Added-AFSC)** Application of Labor Standards.

1.2.3.6.1. **(Added-AFSC)** All planned work will be covered by standards, either engineered or non-engineered (i.e., estimates).

1.2.3.6.2. **(Added-AFSC)** Labor standards coverage is based on Direct Production Standard Hours (DPSH). The DPSH for an organization are the summation of individual end item labor standard hours multiplied by the number of projected or actual units produced during the period being measured. Engineered labor standards coverage is the percentage derived from dividing the number of engineered DPSH by the total number of permanent programmed DPSH, including engineered and non-engineered hours.

1.2.3.7. **(Added-AFSC)** Variance analysis. Direct labor efficiency, defined as earned hours divided by actual hours, is a measure designed to identify potential problems within a work organization; usually a Resource Control/Cost Center (RC/CC) or work center. Significant variance between the projected labor efficiency and reported (actual) efficiency indicates a potential need for process improvement and should be made clearly visible to the process owners for analysis, assessment, and process improvements. Continued variance should be reviewed at appropriate levels of management, as one of several measures of cost effectiveness and resource management.

1.2.4. Indirect Labor Factors and Efficiency. Indirect labor factors are established to account for labor expended by and for a Resource Cost Center (RCC) that is not accounted for by direct labor standards. These factors allow for the cost of indirect labor to be apportioned over all the products repaired in an RCC rather than charged to one or more specific products. To fully evaluate the cost of the items repaired by an RCC and to evaluate their performance, it is necessary to establish factors or allowances for supervisory, clerical, training, and other legitimate time expenditures and for annual, holiday, administrative, and sick leave time.

1.2.4. **(AFSC)** Indirect Labor factors or allowances are established and converted to annual factors. Sick and annual leave should be shown with a seasonal (periodic) variation and the factor for training adjusted for known variations.

1.2.4.1. Indirect Labor Factor Procedures. Standard indirect labor factors for budgeting, cost accounting, planning, and reporting are developed and distributed by the responsible function, obtaining coordination from other organizational components as required.

1.2.4.1.1. **(Added-AFSC)** These factors are established for the FY and are not to be changed unless a significant change in workload or organization occurs. Once established, they are converted into an indirect factor by dividing the standard by the total direct hours available to an RC/CC.

1.2.4.1.2. **(Added-AFSC)** Use the following procedures for establishing factors for indirect labor (excluding leave):

1.2.4.1.3. **(Added-AFSC)** Accumulate all pertinent data available, for example, historical, job description.

1.2.4.1.4. **(Added-AFSC)** Determine work elements in each account.

1.2.4.1.5. **(Added-AFSC)** Evaluate each work element using accepted work measurement techniques, for example, work sampling, time study, frequency studies, etc.

1.2.4.1.6. **(Added-AFSC)** Total the elements for each account and express as a percent of projected direct labor.

1.2.4.1.7. **(Added-AFSC)** Coordinate indirect labor factors with affected supervisory personnel as to completeness of the work elements.

1.2.4.1.8. **(Added-AFSC)** Justify the indirect factors by sufficient data for normal confidence in their accuracy. Where the use of work measurement techniques is not feasible or cost effective; historic data will be considered adequate.

1.2.4.1.9. **(Added-AFSC)** Establish indirect labor factors for leave using historical records and backup data. Annual leave should be computed based on total leave accumulation within the RC/CC. Local base policies generally exist to govern the use of sick leave. Annual leave should generally be prorated with a periodic variation that might be reasonably expected. Other type leave (e.g., holiday, administrative, etc.) is grouped under duty code .33. Leave factor allowances are computed based on projected direct labor and used as a factor of direct earned hours.

1.2.4.1.10. **(Added-AFSC)** Indirect labor factors are compiled and distributed to the appropriate budgeting, cost accounting, planning, and management organizations. These factors will be broken out by month and the element of leave will include factors for duty codes .31 annual leave, .32 sick leave, and .33 holiday leave. Backup data for the indirect labor standards and the indirect labor factors for the FY in which they are used will be filed in the appropriate responsible organization.

1.2.4.2. Labor Efficiency Factors. Labor efficiency factors will be developed and documented. The projected factors will be coordinated with the responsible levels of management.

1.2.4.2. (AFSC) Procedures.

1.2.4.2.1. (Added-AFSC) Projected labor efficiency factors are developed for each RC/CC on an annual basis.

1.2.4.2.2. (Added-AFSC) This guidance is provided so that these factors may be developed on an objective basis. The specific conditions covered below are actual existing conditions and may not be accounted for in the development of labor standards or the use of PF&D factors.

1.2.4.3. (Added-AFSC) Conditions. Labor efficiency factors are developed by projecting the effect of the following conditions on labor efficiency. The following are the most important conditions which can influence historical and projected labor efficiency:

1.2.4.4. (Added-AFSC) Workload Mix. Defined as the number of different items and the volume of each item per period.

1.2.4.4.1. (Added-AFSC) Changes in workload mix may cause changes in labor efficiency.

1.2.4.4.2. (Added-AFSC) Changes in workload mix, which are inconsistent with the current assignment of personnel and skills, may cause some workers to be assigned to the repair of certain items with which they are not familiar. This may cause more time for research of technical data, safety requirements, and quality requirements.

1.2.4.4.3. (Added-AFSC) Changes in workload mix may cause temporary tool or equipment shortages.

1.2.4.4.4. (Added-AFSC) Some processes may be pre-identified as being sensitive to workload volume or mix changes.

1.2.4.5. (Added-AFSC) Tooling and Equipment.

1.2.4.5.1. (Added-AFSC) Changes in equipment downtime may cause disruptions to smooth workflow and completion of items. This is normally related to equipment age, lack of preventative maintenance, and rate of usage.

1.2.4.5.2. (Added-AFSC) Lack of sufficient equipment may cause inefficiencies. This may result from insufficient lead time in the acquisition of required tooling and equipment.

1.2.4.6. (Added-AFSC) Training of New Personnel. On-the-job (OJT) training and new or reassigned personnel when new skills must be acquired will affect efficiency.

1.2.4.7. (Added-AFSC) Product Quality. Changes in reject rates and rework effort may impact the labor efficiency.

1.2.4.8. **(Added-AFSC)** Learning Curve. For new workloads or major changes in work requirements, personnel will begin at a relatively low performance level and improve with the repetition of repair actions. The impact of this on labor efficiency depends upon the amount of experience with the workload and the size of new workload in relation to the total RC/CC workload. Compensation for this condition is incorporated in the labor efficiency factors and not the labor standard itself.

1.2.4.9. **(Added-AFSC)** Shift Worked. Changes in the number of shifts worked or changes in the relative percentage of total work by shift may impact labor efficiency. This change is caused by such things as a reduced amount of support available (e.g., materiel, materiel handling capability, maintenance, etc.).

1.2.4.10. **(Added-AFSC)** Material Support. A change in the level of materiel support may impact the labor efficiency. This may be caused by time spent by mechanics getting materiel, waiting for materiel, or changing from one job to another because of materiel unavailability. The size of the awaiting parts inventory may be an indicator of materiel support problems.

1.2.5. Shop Flow Days (SFD) – (Exchangeable Workload Only).

1.2.5. **(AFSC)** SFD Background. In order to ensure combat units of the Air Force have the required equipment at the right time and place, HQ AFMC must maintain the ability to replenish base stock levels through the constant flow of recoverable materiel to and from globally deployed units. This materiel flow is known as Depot Repair Cycle Time (DRCT), commonly called pipeline time. One of the most important segments of DRCT is SFD. Over or understatement of SFD standards creates unrealistic provisioning of spares and erroneous repair requirement computation. This results in critical items and stock shortages or unneeded stock. Consequently, the importance of establishing accurate SFD standards cannot be overemphasized. This directly relates to objectives of the HQ AFMC mission to enhance the competitiveness of our operations by improving throughput and decreasing inventory and operating expense. We need to measure standard SFD, and then work toward reducing actual SFD, through lean process improvements, and application of theory of constraints, etc.

1.2.5.1. **(Added-AFSC)** Flow Days Standard. The SFD standards are computed estimates for Exchangeable MISTR permanent workloads, representing the planned number of calendar days required to process an end item, measured from the time the item is received in the Maintenance Group to the day of serviceable turn-in. SFD standards are based on a summation of direct labor standards for individual operations. The labor standards can be engineered or non-engineered. The standard flow time development assumes that all assets and parts are available when the item is scheduled into the repair process. Delay time for multiple assets inducted on the same work order will not be included in SFD unless the approved repair process authorizes the batching of items, therefore this delay time will not be part of the process support factor in the SFD standard. The standard is input to the shop floor control system where it is used in the computation of repair and buy requirements.

1.2.5.2. **(Added-AFSC)** File Maintenance of Standards. Each planning element, or equivalent responsible unit, develops, maintains, and inputs the standard shop flow days into the appropriate shop floor systems. The system will perform the computations, but all backup data must be retained in the planning jacket file.

1.2.5.3. **(Added-AFSC)** SFD Standard Computation. The following formula is used to compute SFD standards in calendar days. The resultant decimal is rounded up to whole days. $SFD = 7.3[(S/I) + P]/(DH)$ where: $7.3 = 7X (260/249)$. The 7 converts time in weeks to time in days; 260/249 converts weekdays per year to workdays so that the 11 federal holidays are accounted for.

1.2.5.3.1. **(Added-AFSC)** S = Standard Hours. Includes all occurrence factors for all repair frequencies and PF&D. When an operation with a labor standard takes place concurrent to a process support or unique process support operation (factor P below), only include the standard time for the longer of the two in the equation. Also include all work done on the end item within the RC/CC when the work consists of sequential operations performed by one worker only. For work consisting of concurrent operations or operations performed by multiple workers, the labor standard must be reduced accordingly. Only include the standard time for the longest concurrent operation (critical path). Reduce the standard time for operations performed by multiple workers by dividing the operations standard by the number of workers.

1.2.5.3.2. **(Added-AFSC)** I = RC/CC Constant. Direct labor percent factors expressed as a decimal of productive hours available per shift. The RC/CC direct labor percent factor is determined by removing the RC/CC yearly average indirect category time values (duty codes .24, .25, .26, and .29) from the 100 percent availability. (Note: The percentage factor for janitorial services in code .26 is not to be included in the development of the RC/CC yearly average).

1.2.5.3.3. **(Added-AFSC)** P = Process Support. Develop an average time value for required process steps, both process-related and general. These times will be expressed in hours. Include all occurrence factors (reference Section 1A of this publication) for all repair frequencies. Examples of process related time include plating, curing, heat treat processes, test warmups, etc. General process time includes end item transportation time, queue time, etc. Allowances may also be included, on a pro-rated basis, for planned delays and transportations such as equipment down for periodic calibration and maintenance, and transportation of materiel from supply. Process support time concurrent to a longer labor operation time is not included. This will not include storage time for awaiting parts. An average process support factor will not be a blanket time value. Backup studies will be used to the extent possible and must be retained for audit purposes.

1.2.5.3.4. **(Added-AFSC)** D = Days per week (4, 4.5, 5, 6, or 7).

1.2.5.3.5. **(Added-AFSC)** H = Hours per day in work (7.7 to 24).

1.2.5.3.6. **(Added-AFSC) Note:** There may be instances within an RC/CC where single shift and multishift coexist. In such cases, caution must be exercised in computing the SFD standard.

1.2.5.4. **(Added-AFSC)** Actual SFD. Actual SFD represent the actual number of calendar days required to process an end item measured from the time the item is received in the Maintenance

Group to the day of serviceable turn-in. The average of the actual SFD will be compared with the standard SFD by the responsible planner to determine if the standard SFD requires adjustment or if other actions are needed to improve actual conditions impacting actual flow days. Variance analysis, if required, will be addressed in local instruction.

1.2.6. Occurrence Factors Data Collection.

1.2.6. (AFSC) Data collection used for occurrence factors requires the same statistical analysis as the work measurement technique dictates.

1.2.6.1. Past Occurrence Factors.

1.2.6.1. (AFSC) In the past, occurrence factors have caused many engineered standards to be declared invalid because the backup data was not maintained.

1.2.6.2. Defining Occurrence Factors.

1.2.6.2. (AFSC) The development of labor standards requires that each operation, sub-operation, and/or step be reviewed for frequency, another name for occurrence factor. Frequency is that percent of the time an action, task, or process occurs during the completion of a work cycle (completion of repair on a particular end item/asset). Another way to relate occurrence is the relationship to the Next Higher Assembly (NHA) or the unit of production count.

1.2.6.2.1. (Added-AFSC) The frequency of occurrence for each element will be determined and the information recorded must be clearly identified to the operations, sub-operations, or steps to which it applies. The frequency will be expressed as a percentage of element occurrences when all considerations of work requirements, moves, and recycling are made.

1.2.6.3. Time.

1.2.6.3. (AFSC) The total time value of the labor standard is the sum of the operations times the frequency of each operation. An operation is the sum of all sub-operations under that operation, times the frequency of each sub-operation; a sub-operation is the sum of all steps under that suboperation times the frequency of each step.

1.2.6.4. Expression.

1.2.6.4. (AFSC) Occurrences are expressed as a percentage; however, inputting uses the decimal equivalent. Inputting the frequency is three to the left and two to the right of the decimal, i.e., 125 percent would be input as 1.25. The minimum percent of time is .01 or 1 percent; the maximum is 999.99 times. If more is required, use additional steps, sub-operations, or operations.

1.2.6.5. Calculation.

1.2.6.5. (AFSC) There are at least 10 different ways to calculate an occurrence factor as follows.

Table 1.1. (Added-AFSC) - Different ways to calculate an occurrence factor.

Item	Calculation Method
1	Arithmetic Mean
2	Calculated Ratio
3	Observed Proportion
4	Physically Determined
5	Method Determined
6	Support Shop
7	Recycle Factor
8	Historical Data
9	Technical Data Requirements
10	Study Determined

1.2.6.5.1. **(Added-AFSC)** Arithmetic Mean. Derived by dividing the sum of the values of applicable data by the number of data elements involved. This data may be from either observation or obtained from other records. Workload data will normally come from a sample of the total population. Examples are as follows:

1.2.6.5.1.1. **(Added-AFSC)** Average number of parts per item as observed from TO and workload figures.

1.2.6.5.1.2. **(Added-AFSC)** Average number of items obtained per trip.

1.2.6.5.1.3. **(Added-AFSC)** Average number of paces per trip.

1.2.6.5.2. **(Added-AFSC)** Calculated Ratio. The physical characteristics of the work situation are such that the occurrence can be calculated without introduction of errors. Examples are as follows:

1.2.6.5.2.1. **(Added-AFSC)** Number of selections required to select the correct leads from several leads.

1.2.6.5.2.2. **(Added-AFSC)** Number of times an object must be turned to select the proper side.

1.2.6.5.2.3. **(Added-AFSC)** Number of screws to install a panel when the time value is per screw installed.

1.2.6.5.2.4. **(Added-AFSC)** Number of square inches to be cleaned for a geometric configuration when it is constant from cycle to cycle, and a "per square inch" time value is to be applied.

1.2.6.5.3. **(Added-AFSC)** Observed Proportion. There are situations where only one of a group of tasks can occur any given time. Over an extended period, each event/task must occur. Each event proportion will be the percentage of the total observations divided by the observations for that specific event or task. The sum of all proportions will equal 100 percent. Examples are as follows:

1.2.6.5.3.1. **(Added-AFSC)** Proportion of removal of a threaded fastener with resistance.

1.2.6.5.3.2. **(Added-AFSC)** Using multiple tools on a task, i.e., removing a nut from a bolt, using a screwdriver and an open-end wrench. What proportion of the task used the screwdriver versus the wrench? Both the screwdriver and the wrench time values must be on a part of a turn.

1.2.6.5.4. **(Added-AFSC)** Physically Determined. The physical characteristics of the work are such that the occurrence is determined by looking at the item or the related technical data. No error is induced. Examples are as follows:

1.2.6.5.4.1. **(Added-AFSC)** Number of bolts per specific end item.

1.2.6.5.4.2. **(Added-AFSC)** Distance between anchors to be safety wired on an end item.

1.2.6.5.5. **(Added-AFSC)** Method Determined. Determined by the analyst specifying the sequence of operations and prescribing standard conditions. Many of the occurrence factors will be 100 percent. No error induced. Examples are as follows:

1.2.6.5.5.1. **(Added-AFSC)** Obtain parts from bin.

1.2.6.5.5.2. **(Added-AFSC)** Regular elements occurring once every cycle.

1.2.6.5.5.3. **(Added-AFSC)** Standard data to perform a specific task.

1.2.6.5.5.4. **(Added-AFSC)** Under certain safety situations, regulations require two or more people to be in attendance. Under most circumstances, the "safety" people will be working on their own tasks and not charged to the tasks being measured; however, if these people are required for safety and have no other tasks, then the time will be occurrences as more than one worker (larger than 100 percent).

1.2.6.5.6. **(Added-AFSC)** Support Shop. The origin planner asks for back-shop support. One of the data items to input is Occurrence Factor (OCC FAC), which will either be estimated or taken from production records. In each case, they should be reviewed during negotiations with the back shop. An example is as follows:

1.2.6.5.6.1. **(Added-AFSC)** Origin IET/Maintenance Planner sends a part to be painted and has determined that the occurrence factor is 50 percent; however, later the customer or supply planner (SP) determines this will be required 100 percent of the time.

1.2.6.5.6.2. **(Added-AFSC)** The origin IET/Maintenance Planner must update the planning documents with the new data.

1.2.6.5.7. **(Added-AFSC)** Recycle Factor. Tasks that have not been completed for one reason or another are classified as recycle. These are not tasks caused by operator error (rework). Rework is not included in the occurrence factor. Recycle tasks will be 100 percent plus whatever extra time is required. Examples are as follows:

1.2.6.5.7.1. **(Added-AFSC)** End item test failure. Many test stands are programmed to stop at the first failure, indicating what part or area has not met the required specifications. The unit is repaired as the test stand has indicated, then retested for either pass or fail. This is true 'recycle' time and is included as part of the "should take time" by prorating the test time over 100 percent.

1.2.6.5.7.2. **(Added-AFSC)** If the 'repair after test' time is a separate task from 'repair', then the prorated time does not have to be 100 percent plus but carried as the actual percentage observed.

1.2.6.5.7.3. **(Added-AFSC)** When the operator has omitted a sequential task, regardless of the reason, the omitted time is 'recycling' time; however, any time required to disassemble/assemble so the omitted task can be completed is rework and cannot be credited.

1.2.6.5.7.4. **(Added-AFSC)** When an installed part has proven to be defective, the time to reinstall a new part is classified as 'recycle' time and prorated by the occurrence factor.

1.2.6.5.7.5. **(Added-AFSC)** Work normally required to hand fit or correct inherent deficiencies of an assembly will be occurrence factored.

1.2.6.5.7.6. **(Added-AFSC)** Unavoidable calibration, adjustments, or unpredictable work done as the result of an inspection or test and the necessary retests.

1.2.6.5.7.7. **(Added-AFSC) Note:** Rework is any work done on an item to correct work previously done due to operator error. Rework will not be included in the direct production labor standards. The workload generated through rework requirements must be isolated for special considerations. This isolation of rework would result in a variance of the earned hour report and operating cost reported.

1.2.6.5.8. **(Added-AFSC)** Historical Data. May be used to determine occurrence factor. Examples are as follows:

1.2.6.5.8.1. **(Added-AFSC)** Completed WCD.

1.2.6.5.8.2. **(Added-AFSC)** Monthly production count summary.

1.2.6.5.8.3. **(Added-AFSC)** Routing slip history file.

1.2.6.5.9. **(Added-AFSC)** Technical Data Requirements. An occurrence factor dictated by applicable TO technical data. Examples are as follows:

1.2.6.5.9.1. **(Added-AFSC)** TCTO.

1.2.6.5.9.2. **(Added-AFSC)** Occupational Safety and Health Administration (OSHA) requirements.

1.2.6.5.9.3. **(Added-AFSC)** Directives from the SP.

1.2.6.5.10. **(Added-AFSC)** Study Determined. Occurrence factors which are study determined are based on the number of times the event occurs during the development of a labor standard. Examples are as follows:

1.2.6.5.10.1. **(Added-AFSC)** A 10-cycle study (previously determined to be representative of the workload) was completed with the required statistical accuracy for an engineered standard (reference paragraph this chapter). One of the elements had only two (2/10) occurrences (non-engineered); therefore, an occurrence factor of 20 percent.

1.2.6.5.10.2. **(Added-AFSC)** An element with identical work content (right- and left-hand subassemblies installed) will have an occurrence factor of 200 percent providing the element description reads "install right and left-hand subassemblies."

1.2.6.6. Development.

1.2.6.6. **(AFSC)** The data can be developed from several different sources such as:

1.2.6.6.1. **(Added-AFSC)** Data collected while doing the work measurement study.

1.2.6.6.2. **(Added-AFSC)** Data taken from the WCD.

1.2.6.6.3. **(Added-AFSC)** Data taken from the test stand. Some test stands have, as part of their input, serial number indicator to give a count at end of tests.

1.2.6.6.4. **(Added-AFSC)** Historical data (WCDs, shipping records, etc.).

1.2.6.6.5. **(Added-AFSC)** All recycled work, work controlled by the test equipment, not by worker error or neglect, is considered as 'should take time', requiring an occurrence factor.

1.2.6.6.6. **(Added-AFSC)** Material usage records.

1.2.6.7. Documentation.

1.2.6.7. **(AFSC)** Documentation of occurrence factors must be maintained in the labor standard jacket to provide an audit trail.

1.2.6.7.1. **(Added-AFSC)** The following must be documented for backup:

1.2.6.7.1.1. **(Added-AFSC)** Source -- Reason occurrence required.

1.2.6.7.1.2. **(Added-AFSC)** Method -- Technique used.

1.2.6.7.1.3. **(Added-AFSC)** Conversion factors.

1.2.6.7.1.4. **(Added-AFSC)** Special Conditions.

1.2.6.7.2. **(Added-AFSC)** The documentation requirements may be hand scribed (legibly) on documents which already exist in the Labor Standard Jacket/File. The recorded information must be clearly defined as to the operation, sub-operation, or step to which the occurrence applies. Data may also be a part of any computer output product, generally on a supplementary line, if it provides an audit trail.

1.2.7. Task Measurement.

1.2.7.1. **(Added-AFSC)** As in all work measurement techniques used to develop engineered standards, the SME must be assured that a 'representative sample' of the workload has been observed. The absolute minimum number is three units; however, with the high variability in our workload, an agreement must be made between the IET/Maintenance Planner and the production shop to determine a realistic quantity.

1.2.7.2. **(Added-AFSC)** All labor standards are an average time; therefore, the larger the sample the better the statistical reliability will be. There comes a point in time where it is not economically feasible to study a task any longer, but it must meet the statistical accuracy of plus or minus 10 percent at 90 percent confidence level to be classified as an engineered standard.

1.2.8. Engineered Labor Standards Methodology.

1.2.8. **(AFSC)** The ALCs have the authority to decide where, and to what extent to apply engineered standards based on their competitive needs, and economic considerations, i.e., where anticipated direct labor savings exceed the cost of standards development. There is no blanket, across the board numerical engineered labor standard coverage goal.

1.2.8.1. **(Added-AFSC)** Engineered labor standards must include as a minimum:

1.2.8.1.1. **(Added-AFSC)** Documentation of an operations analysis.

1.2.8.1.1.1. **(Added-AFSC)** An operations analysis encompasses the procedures that the process owners consider, i.e., production, the purpose of the operations, methods used, inspection requirements, materials used, material handling, setup, tools, equipment, and working conditions.

1.2.8.1.1.2. **(Added-AFSC)** The operations analysis is considered an integral part of developing labor standards. The analysis should be accomplished and recorded prior to the determination of a labor standard, and in the improvement of established labor standards.

1.2.8.1.1.3. **(Added-AFSC)** An operations analysis should be based on a process chart, because of its wide application for describing and improving a method. The process chart is one of the most important tools for methods engineering, in that it provides a graphic presentation of the process. Typical types of process charts include flow process chart, operation process chart, operator process chart, man and machine process chart, workplace layouts, value stream maps, etc. The type of chart should be selected for a specific application. The level of detail may vary with type of standard.

1.2.8.1.1.4. **(Added-AFSC)** For engineered labor standard development, the operations analysis must be documented in sufficient detail (technique and type standard dependent) to allow future reviewers to recreate the steps the original data developer used.

1.2.8.1.1.5. **(Added-AFSC)** Workloads longer than one year identified as having potential for methods improvement will have a method study accomplished within the first year after production initiation.

1.2.8.1.2. **(Added-AFSC)** Method Improvement Studies.

1.2.8.1.2.1. **(Added-AFSC)** Method improvement studies are an integral part of continuous process improvement and engineered standard development. They are performed to provide managers with ideas and data on how to achieve optimal approaches to doing work. Each study should provide improvement and standardization of the methods, equipment, working conditions, and operator training. Candidates for method improvement studies should be selectively chosen from high labor-intensive areas, suggestion programs, analysis of management information reports, feedback from the production workforce, etc.

1.2.8.1.2.2. **(Added-AFSC)** A method improvement study will document a clear description of the current work process, the proposed process, flow process charts for current and proposed methods, and an analytical comparison of the two methods, as applicable. The work center supervisor or designated representative will review and coordinate with the new method description before the standards are set or revised, and subsequently report any deviations from the approved method.

1.2.8.1.2.3. **(Added-AFSC)** In the case of new workloads, direct labor costs must be documented to satisfy the requirement of the buying activity that the projected levels of productivity are reasonable and attainable. Ideally, projected direct labor hours are backed up by a methods improvement study, plus documented labor standards. In practice, this work measurement continuous process improvement cycle may not coincide with the need to provide labor costs for new workloads. When this occurs, the projected times must be based on a combination of historical times, plus professional judgments based on programmed, documented changes (e.g., acquisition of new equipment, revised floor layouts, work content changes, etc.). As soon as the changes are implemented, time variations must be recorded to provide evidence of attainability. In addition, realistic labor efficiency factors must be used to compute startup costs.

1.2.8.1.3. **(Added-AFSC)** Specific Records.

1.2.8.1.3.1. **(Added-AFSC)** A record of standard practice or method followed when the standard was developed.

1.2.8.1.3.2. **(Added-AFSC)** A record of rating or leveling observed during performance where applicable.

1.2.8.1.3.3. **(Added-AFSC)** A record of the standard time computation including explanation of PF&D allowances.

1.2.8.1.3.4. **(Added-AFSC)** A record of observed, synthesized, or predetermined time system time values used in determining the final standard time, e.g., data collection sheets, etc.

1.2.8.1.3.5. **(Added-AFSC)** A minimum of 80 percent of the normal time associated with the labor effort covered by the standard will be derived from recognized industrial engineering techniques in which the statistical accuracy requirement can be demonstrated to meet the above.

1.2.8.1.3.6. **(Added-AFSC)** Occurrence factor calculations and supporting backup data.

1.2.8.1.3.7. **(Added-AFSC)** A ‘Historical Record Change’ memorandum explaining the reason for each labor standard increase or decrease in standard time. This requirement includes changes in the standard practice (method) which is implemented but does not impact the standard time sufficiently to require alteration.

1.2.8.1.3.8. **(Added-AFSC)** Flowchart or diagram.

1.2.8.1.3.9. **(Added-AFSC)** Work area layout.

1.2.8.1.3.10. **(Added-AFSC)** SFD standard computations (for “exchangeables” only).

1.2.8.1.3.11. **(Added-AFSC)** This documentation must be maintained in files, either paper or electronic, by the Work Measurement Subject Matter Expert (WMSME) or planning personnel.

1.2.9. Accuracy Formulas.

1.2.9.1. **(Added-AFSC)** Time (Stopwatch) Study and Group Timing Technique.

1.2.9.1.1. **(Added-AFSC)** There are many references containing formulas and procedures for the statistical analysis of time study data. These procedures are based on the number of cycles, the meantime, the range between cycles, and the standard deviation. Repetitive time study accuracy is established at the elemental level. For non-repetitive time studies, accuracy is established at the cycle level.

1.2.9.1.2. **(Added-AFSC)** The formula in the Figure below represents an accurate method of determining the statistical validity of study data:

Figure 1.0. (Added-AFSC) - Accurate method of determining the statistical validity of study data.

$S = [(SD / \sqrt{N}) * (T)]/X$, where: S = Relative accuracy, X = Arithmetic mean of the time values, SD = Standard deviation, N = Number of samples and T = The (N-1) t value (see T reference in table below)

N	T	N	T
1	3.078	11	1.363
2	1.886	12	1.356

3	1.638	13	1.350
4	1.533	14	1.345
5	1.476	15	1.341
6	1.440	16	1.337
7	1.415	17	1.333
8	1.397	18	1.330
9	1.383	19	1.328
10	1.372	20	1.325

Reference: Probability and Statistics for Engineers (See Note). **Note:** Extracted from Johnson, Miller, and Freund, "Probability and Statistics for Engineers," 8th Edition, ISBN-13: 978-0321986245, represents 90 percent confidence level.

1.2.9.1.3. **(Added-AFSC)** Level of accuracy required should be the highest attainable, based upon the type of work being performed. Highly repetitive, short-cycle operations must have high quality standard times (+/- 10 percent). Highly variable repairs may not have consistent times from occurrence to occurrence, particularly at the elemental level. Consequently, the development of statistically accurate times may not be attainable within practical and attainable limits.

1.2.9.1.4. **(Added-AFSC)** A finite number of time study observations should be made for highly variable work elements to ensure proper and economical use of the industrial engineering resources. The precise number can be determined by establishing a minimum number of cycles to be observed and calculating the accuracy after this minimum has been measured. If the accuracy is unacceptable, a specific number of additional cycles can be observed, and a new accuracy calculation made. If a significant improvement has not been achieved, the study should be stopped, and the current level of accuracy accepted and reported for the standard. All supporting study data will be maintained as an audit trail.

1.2.10. Work Sampling.

Figure 1.1. (Added-AFSC) Formulas used to determine relative or absolute accuracy of work sampling data.

Relative:	$SR = Z \sqrt{[(1 - P) / (N * P)]}$
Absolute:	$SA = Z \sqrt{\{[P * (1 - P)] / N\}}$
Where:	
SR =	Relative accuracy expressed as a decimal
SA =	Absolute accuracy expressed as a decimal
Z =	Number of standard errors = 1.645 for 90 percent confidence level
P =	Percent occurrence expressed as a decimal
N =	Number of observations

1.2.10.1. **(Added-AFSC)** Compute SR or SA according to the formula in Figure 1.1. When absolute accuracy is used, the $SA = SR(P)$ relationship will hold true.

1.2.10.2. **(Added-AFSC)** To determine the number of work sampling observations required to attain a specified statistical accuracy at a desired percent confidence level, the formulas in the figure below are used.

Figure 1.2. (Added-AFSC) - Formula for work sampling observations.

Relative:	$N = Z^2 * (1-P)$
SR squared * (P)	
Absolute:	$N = Z^2 * P * (1-P)$
SA squared	

Note: To use this formula, the value of P must be estimated before the study. The formula is also used at various points in the study to determine progress toward a predetermined statistical accuracy.

1.2.10.3. **(Added-AFSC)** In addition to the formulas in the above two figures, engineered labor standards must accomplish the following to maintain status:

1.2.10.4. **(Added-AFSC)** A methods validation will be accomplished. This will include sufficient observations of the elements to verify or to change their descriptions.

1.2.10.5. **(Added-AFSC)** Current workplace layouts will be compared to the layouts on file to determine if any changes have occurred. **Note:** If either of these two factors change, the appropriate portion of the work measurement study must be reevaluated to maintain its engineered labor standards status.

1.2.11. Labor Standard Review Requirements.

1.2.11. **(AFSC)** If a labor standard review is required, each labor standard review must be annotated with the name of the responsible industrial engineering technician and the date the standard was reviewed. The names of any personnel consulted during the technical review must also be listed. Documentation requirements are listed below. PF&D must only be recalculated if the allowance is dependent on the workload mix, such as an aircraft work center where a percentage of the planes are worked outside; otherwise, PF&D should be revalidated during the review.

1.2.11.1. Technical Data.

1.2.11.1.1. **(Added-AFSC)** Verify the current TO number is valid and check all changes to the TO since the last review.

1.2.11.1.2. **(Added-AFSC)** If there are no changes to the tech order since the last review, annotate this fact. If there have been changes, an annotation should be made as to whether the changes affect the standard.

Figure 1.3. (Added-AFSC) - Examples of TO annotations.

1. TO 00-25-234, *General Shop Practice Requirements for the Repair, Maintenance, and Test of Electrical Equipment*. There were no changes to the process since the previous review.
2. TO 00-25-234, The changes were discussed during the labor standard/occurrence factor/ WCD review.

1.2.11.2. Work Control Document (WCD).

1.2.11.2. (AFSC) Review the WCD, with technical personnel where required, and make annotation.

Figure 1.4. (Added-AFSC) - Examples of WCD annotations.

1. The WCD was reviewed with Joe Smith/LAPNE and no changes were required.
2. The WCD was reviewed with Joe Smith/LAPNE and was revised on 1 Mar 2007 based on changes to the TO.

1.2.11.3. Labor Standard Hours.

1.2.11.3. (AFSC) Labor standard hours will be validated through one of the following methods:

1.2.11.3.1. (Added-AFSC) Work sampling study, time study, or other work measurement technique.

1.2.11.3.2. (Added-AFSC) Variance analysis comparing actual direct labor hours required to standard hours.

1.2.11.3.3. (Added-AFSC) Estimate. Estimates must be accomplished at a level of work units that allows confidence in the validity of the estimate.

Figure 1.5. (Added-AFSC) - Examples of Labor Standard Hours annotations.

1. Due to the addition of a new cleaning step to sub-operation 0010 in the latest revision to the TO, the sub-operation time was increased from 1.2 to 1.5 hours per discussion with the engineer John Johnson/LAEA.
2. There were no requirement or process changes since the last review; therefore, the current standard of 6 hours is accurate, per discussion with the engineer John Johnson/LAEA.
3. Analysis of actual direct labor hours required for FY07 showed the operation is taking an average of 5.75 hours. After discussion with Jimmy Jones/LAEC, the standard is reduced by 0.25 hours.

1.2.11.4. Occurrence Factors.

1.2.11.4. (AFSC) Occurrence factors should be validated against current, forecast technical/failure changes, or recent historical data. Either an annotation should be made or a copy of the report showing the occurrence factor should be added to the file.

Figure 1.6. (Added-AFSC) - Example of Occurrence Factor annotation.

The E046B occurrence factor report for commodities dated 15 Oct 2007 showed an actual occurrence factor for the operation to be 0.80 for the last 12 months. Post analysis it was determined that the operational occurrence will continue at the 0.80 level. The occurrence factor was updated 1 Nov 1998.

1.2.11.5. Personal, Fatigue, and Delay (PF&D) Allowances.

1.2.11.5. (AFSC) PF&D allowances must be calculated by RC/CC/skill code.

Figure 1.7. (Added-AFSC) - Examples of annotations in the PF&D calculations.

1. Reviewed shop conditions with the supervisor Jim Jones/LIPEM. Shop conditions have not changed so the previous PF&D of 10 percent is still valid.
2. Reviewed shop conditions with the supervisor Jim Jones/LIPEM. Due to new environmental requirements, additional personal protection equipment (PPE) is required, so the PF&D was recalculated to 14 percent.

Note: PF&D allowances are applied to standards at the sub-operation level for “exchangeables”. As a minimum, a sub-operation/operation is defined as a work unit performed at one workstation with one skill level. If the unit is moved to another workstation, or a different skill level is required (e.g., system test to repair, etc.), a new sub-operation must be established to allow PF&D to be applied. When non-engineered standards are based on actual hours or estimates, it must be clear from the documentation that PF&D was not double counted. (Aircraft Only). PF&D factors are allowed for engineered and non-engineered standards. However, due to aircraft "fixed price" funding, PF&D factors are not feasible at the aircraft operation level due to the unpredictable nature of aircraft maintenance being performed inside hangers, outside in varying weather conditions, and the vast amount of WCD operations. Locally, if a determination is made to include a PF&D factor, a standard PF&D can be locally determined at the Brochure Work Spec Task Level during the ERRP DEV PAC review. Locally determined, standard PF&D factors, will be documented in the applicable ERRP DEV PAC.

Figure 1.8. (Added-AFSC) - Examples of annotations for locally determined standards.

1. The standard of 50 hours is based on average actual hours for FY97 therefore the PF&D is included in the estimate.
2. The standard of 1.5 hours is an estimate which did not include a PF&D allowance therefore a 10 percent PF&D was added to each sub-operation. PF&D calculations are on file in the planning office.
3. The standard is engineered; a 10 percent PF&D was added to each sub-operation. PF&D calculations are on file in the section office.

1.2.11.5.1. Overview of Allowances.

1.2.11.5.1.1. **(Added-AFSC)** PF&D is the time allowed a worker to compensate for attending to personal needs, fatigue, and delay occurring due to conditions beyond their control. This time is additive to the normal time required to accomplish a job. The inclusion of this allowance is common practice in the development of a labor standard.

1.2.11.5.1.2. **(Added-AFSC)** Allowances for PF&D must be included as part of the labor standard. When increased allowances are used because of temperature, lighting, noise, and other environmental situations, actual readings must be documented.

1.2.11.5.1.3. **(Added-AFSC)** There will be no subjectively assigned or applied special delay allowances. Special delay allowances must be supported by an engineered backup study of the work conditions.

1.2.11.5.1.4. **(Added-AFSC)** The determination of a separate PF&D allowance for each labor operation performed may not be feasible due to the large number of operations in depot maintenance. Adequate allowances can be achieved through study and identification of different type work conditions and the application of pre-established allowances based upon these conditions. Each allowance is applied to all operations under the conditions associated with that allowance. There will be no "across the board" type increases or decreases in allowance category percentage without the support of an engineering study.

1.2.11.5.1.5. **(Added-AFSC)** Allowances will be applied at the sub-operation level for Exchangeable MISTR permanent workloads items and the operation level for aircraft. As a minimum, a sub-operation/operation is defined as a work unit performed at one workstation with one skill level. If the unit is moved to another workstation, or a different skill level is required (e.g., system test to repair, etc.), a new sub-operation/ operation must be established to allow PF&D to be applied. When estimates and historical data are used for non-engineered standards, it may be necessary to first remove the allowance or a portion of the allowance from the basic time to prevent double counting. **Note:** Air Force Materiel Command Labor Standard Data System (ALSDS)/E046B for permanent exchangeable workloads has the capability within the system to distinguish PF&D allowances, therefore aircraft labor standards are assumed to be included in the base hours. Aircraft and Exchangeable permanent workloads should have the appropriate back-up documentation to justify allowance factors.

1.2.11.5.1.6. **(Added-AFSC)** Special condition (other). Time expended by direct labor personnel on the inventory of tools is placed in the labor standard when the inventory is required once per operation, end item, or movement to or from a work area. When the inventory is performed on a once per day frequency, the time is placed in the PF&D allowance as part of end-of-shift cleanup time. The percent of cleanup time for tool inventory (control) should be documented.

1.2.11.5.1.7. **(Added-AFSC)** Where appropriate, a fixed PF&D allowance based on the standardized method may be developed one time for a specific function or for groups of personnel doing similar work under similar conditions. The fixed allowance applies to all standards in the function or group and precludes the need to individually compute the allowance for each standard.

In work situations where the guidelines are not applicable, the fixed allowance will be developed through work measurement techniques such as time study or work sampling.

1.2.11.5.1.8. **(Added-AFSC)** The development and application of PF&D allowances requires that the various conditions under which a job is performed be examined and considered. To ensure that all conditions are considered, separate factors are provided for each of the three areas: Personal, Fatigue, and Delay. Analysts/technicians must be completely objective in establishing the allowances which correctly reflect the true situations inherent to the job.

1.2.11.5.2. Allowance for Personal Time.

1.2.11.5.2. **(AFSC)** Consider the surroundings, working conditions, and job requirements which cause the employee to stop work from time to time to attend to necessary personal needs (go to restroom, get a drink of water, get fresh air, etc.). Since most operations allow two breaks of 10 minutes each during the 480-minutes (8 hour) shift, the basic allowance for this factor will be 4.2 percent (20.0). If facilities layout or management policy dictate that longer break periods are required, it will be necessary to re-compute the percentage for the basic allowance subject to approval of higher authority.

Table 1.3. (Added-AFSC) - Basic Allowance and additional percent. Basic Allowance is 4.2 percent, add the percent that coincides with the following condition(s).

Condition	Additional Percent
Normal office conditions.	0
Normal shop, central heat, slightly dirty or greasy.	1
Slightly disagreeable conditions. Exposed to inclement weather part of the time, lightly dirty or greasy, poor heating or cooling.	3
Exposed to extremely disagreeable conditions most of the time. Proximity to hot objects, continuous exposure to disagreeable odors and fumes, or to excessive temperature ranges.	6

1.2.11.5.2.1. **(Added-AFSC)** Add the following where applicable. Where time is allowed by management at the beginning of the shift to make ready and/or at the end of the shift to get/put away tools and equipment, clean-up work area, or to don/remove special work clothing (e.g., aprons, smocks, etc.) allowances are as follows:

Table 1.4. (Added-AFSC) – Additional Allowance for Prep and Cleanup

Minutes	Additional Percent
5	1.0
10	2.1
15	3.1
20	4.2

1.2.11.5.2.2. **(Added-AFSC)** In ‘super-cleanroom’ conditions, supplement these allowances with an adjunctive allowance. Required when operators must utilize special clothing, which includes

caps, boots, etc., and remove it when leaving work area. This includes time to invest or divest special clothing at beginning and ending of shift, at lunch, and for personal requirements 4.0.

1.2.11.5.2.3. **(Added-AFSC)** Where the work period is 8 consecutive hours, and 20-minute lunch period is allowed at the expense of the government 4.2.

1.2.11.5.3. Allowances for Fatigue.

1.2.11.5.3.1. **(Added-AFSC)** Physical. Consider the average weight handled per man and only those elements of time that the man is under load to determine percentage (total time for under load elements divided by base time and use the closest percentage on the chart).

1.2.11.5.3.2. **(Added-AFSC)** Also, consider the height that loads must be manually lifted (average situation).

Table 1.5. (Added-AFSC) – Allowance for Weight and Load as a Percentage of Time

Weight/Load Handled as Percent of Time (Effective Net Weight Handled)	(Percent of Time)				
	1-12%	13-25%	25-50%	51-75%	76-100
1 to 10 pounds	0%	1%	2%	3%	4%
11 to 20 pounds	1	3	5	7	10
21 to 30 pounds	2	4	9	13	17
31 to 40 pounds	3	6	13	19	25
41 to 50 pounds	5	9	17	25	34
51 to 60 pounds	6	11	22	x	x
61 to 70 pounds	7	14	28	x	x
71 to 80 pounds	8	17	34	x	x

Note: x – Study individual job for improvement considering job enlargement, mechanical aids, worker rotation or other stress relieving aids.

1.2.11.5.3.3. **(Added-AFSC)** Table values will be multiplied by factors as dictated by conditions in the following table.

Table 1.6. (Added-AFSC) - Conditional factors.

Condition	Number
For picking up loads from floor, multiply basic allowance by . . .	1.10
For placing load above chest-height, multiply basic allowance by . . .	1.20
For getting load from above chest-height, multiply basic allowance by . . .	0.50
Note: The application of the factors from this table in the computation formula in paragraph 1.2.11.5.4.7. will normally provide a realistic PF&D allowance. However, in some instances the use of these factors results in an unrealistic, zero or negative denominator in the formula. When this occurs, assuming all factors are defined correctly, it will be necessary to combine related elements or standards into higher levels until a realistic allowance is obtained.	

"Realistic" is defined as an allowance acceptable to the worker, the supervisor, and the analyst.

1.2.11.5.3.4. **(Added-AFSC)** To determine the effective net weight for sliding or rolling objects the weight must be multiplied by the following coefficients of friction (average values) as seen in the following table.

Table 1.7. (Added-AFSC) - Coefficients of Friction.

Surface	Friction Coefficient
Wood on Wood	0.4
Wood on Metal	0.4
Metal on Metal	0.3

Example: Worker sliding a 40lb. casting from metal conveyor to wooden work bench. Effective net weight (ENW) = 40 lbs. x .4 = 16 lbs.

1.2.11.5.3.5. **(Added-AFSC)** Position. Consider the position which the employees must assume to perform the operation. Select the class which best describes the average condition. It is assumed that the job will be less tiresome if the position can be varied frequently.

Table 1.8. (Added-AFSC) - Position.

Class	Percent
Sitting or standing	0
Sitting	1
Walking	1
Standing	2
Climbing or descending ramps, stairs or ladder	4
Working in close, cramped position	7

1.2.11.5.3.6. **(Added-AFSC)** Mental. Consider the degree of concentration necessary to perform the job and the amount of variety in the tasks. Highly repetitive jobs should be low in this factor.

Table 1.9. (Added-AFSC) - Mental.

Item	Class	Percent
1	Work largely committed to habit; simple calculations on paper; reading easily understood material such as routine or familiar instructions; counting and recording; simple inspection requiring attention but little discretion; arranging papers by letter or number.	0
2	Work requires full attention; copying numbers, addresses or instructions; memory of part number, name while checking stock or parts list; simple division of attention between work at hand and jobs of others, conveyor, or	2

	time schedule; simple calculations in head; compiling papers by subject of familiar nature.	
3	Work requires concentrated attention; reading of non-routine instructions; routine calculations on paper such as long division and fourplace multiplication; checking numbers, parts, papers, etc., requiring cross check or double check; division of attention between three components such as accounting, inspecting, and grading or driving over unfamiliar route, watching vehicle, traffic & route signs.	4
4	Work requires deep concentration, swift mental calculations or calculations on paper; memorizing; inspection work requiring interpretation and discretion of unfamiliar nature, as when working against non-routine specifications; highly divided attention between phases of work, operations of others, hazards etc.	8

1.2.11.5.3.7. **(Added-AFSC) Lighting.** Consider the amount of light on the working surface in relation to the fineness of details upon which the operator works. Consider the amount of glare on the work surface and rapid changing or ‘hypnotic’ effect on the work surface.

Table 1.10. (Added-AFSC) - Lighting.

Class	Percent
Continual glare on work areas; work requiring constant change in light on work area. Less than 75 candle power on work surface for normal job. Less than 125 foot-candle power on work surface for close work.	2

1.2.11.5.3.8. **(Added-AFSC) Noise Factor.** Consider the general noise of the work areas as well as any annoying, sharp, staccato, or intermittent noises occurring during more than 50 percent of the workday. If ear plugs or earmuffs are worn, their sound deadening effect must be considered when using this allowance.

Table 1.11. (Added-AFSC) - Noise Factor.

Item	Class	Percent
1	Constant, rather loud noises such as in machine shops, motor test shops, etc. (over 60 decibels).	1
2	Average constant noise level but with loud, sharp, intermittent, or staccato noise such as nearby riveters, punch presses, etc. (Example: sheet metal shop).	2

1.2.11.5.3.9. **(Added-AFSC) Monotony.** Consider the fatigue resulting from fast, highly repetitive operations. The cycle time is the time elapsed from starting one element until the same element is started again.

Table 1.12. (Added-AFSC) - Monotony.

Cycle Time	Percent
0.00-0.20 minutes	4
0.21-0.40 minutes	3
0.41-0.80 minutes	2
0.81-2.50 minutes	1
2.51 minutes or more	0

1.2.11.5.3.10. **(Added-AFSC)** Restrictive Safety Devices and Clothing. Consider those devices which are required by the job, and which cause fatigue when worn. No allowance should be made here unless it is necessary to remove the device occasionally for relief, or if wearing them causes fatigue. If more than one device is required, add the following allowances.

Table 1.13. (Added-AFSC) - Restrictive Safety Devices and Clothing.

Item	Class	Percent
1	Face shield	2
2	Rubber boots	2
3	Goggles or welding mask	3
4	Tight, heavy protective clothing	4
5	Filter mask	5
6	Safety glasses	0

1.2.11.5.4. Allowances for Delay.

1.2.11.5.4. **(AFSC)** Consider the job in relation to adjacent jobs--how long can any adjacent job be shut down before the job being studied is affected? Also, consider other delays inherent in the job, such as supervisory interruptions, moving from one workstation to another, waiting for cranes, etc. No delays which can be prevented by the employee should be considered here.

Table 1.14. (Added-AFSC) - Basic Allowance.

Item	Class	Percent
1	Isolated job. Little coordination with adjacent jobs	1
2	Fairly close coordination with adjacent jobs	2

1.2.11.5.4.1. **(Added-AFSC)** Balancing Delay. Where employees are required to move from one workstation to another to balance adjacent stations, add the following:

Table 1.15. (Added-AFSC) - Balancing Delay.

Item	Class	Percent
1	Move once each 5 minutes	5

2	Move once each 30 minutes	3
3	Move once each 60 minutes	2
4	Move once each 2 hours (120 minutes)	0

1.2.11.5.4.2. **(Added-AFSC)** Special Delay Allowances.

1.2.11.5.4.3. **(Added-AFSC)** Except for the above, there will be no predetermined or generally used delay allowance percent that is applied without an engineered study. An appropriate study must be conducted in each shop or functional area to ascertain additional delay allowance requirements.

1.2.11.5.4.4. **(Added-AFSC)** All non-cyclic work elements will be apportioned in the manner that will most accurately add their cost to the product cost. Work elements such as cleaning chips and tool care and replacement, though occurring on an irregular basis, can be measured and the time required prorated directly to the machine operating portion of the work cycle rather than as an allowance. Certain other irregular occurring elements having a direct relationship to the job, such as obtaining parts and materials and periodic inspection, should be added to the cycle time on a prorated basis or as a separate work element rather than added as an allowance. Again, care should be taken to assure that there is no duplication between cycle time elements and allowance elements. The delay allowance must not be used as a "dumping ground" for operation activity not an integral part of the workload in the shop.

1.2.11.5.4.5. **(Added-AFSC)** Special delay allowance elements fall into two categories: (1) those which occur on a non-foreseeable basis (power failure, minor repairs to defective parts, wait for job assignment), and (2) those which occur on a time basis (daily, weekly, hourly). The following are examples of the type of special delay which can be considered for allowance:

1.2.11.5.4.5.1. **(Added-AFSC)** Obtain job information from production supervisor, inspector, or Production Controller (Scheduler).

1.2.11.5.4.5.2. **(Added-AFSC)** Wait for special tools already being used if waiting time cannot be eliminated.

1.2.11.5.4.5.3. **(Added-AFSC)** Power failure of non-reportable duration.

1.2.11.5.4.5.4. **(Added-AFSC)** Work interference.

1.2.11.5.4.5.5. **(Added-AFSC)** Minor rework elements if not caused by operator error.

1.2.11.5.4.5.6. **(Added-AFSC)** Extra work required due to hidden part or materiel defects if minor.

1.2.11.5.4.5.7. **(Added-AFSC)** Unsuccessful hunts for parts or materials.

1.2.11.5.4.5.8. **(Added-AFSC)** Machine breakdown of non-reportable duration.

1.2.11.5.4.6. **(Added-AFSC)** Application and expression of allowance as a percentage. The factors provided in this procedure are expressed as a percentage of 480 minutes (eight hours). Since the productive time in the workday is a variable inversely proportional to the amount of PF&D allowance, it is necessary that all factors are expressed as a percentage of the total workday to provide a constant base. It is therefore necessary that all locally determined factors are similarly expressed.

1.2.11.5.4.7. **(Added-AFSC)** Computation as a percent of workday. The application of the allowances requires that the total percent of PF&D allowance be determined first by adding the percentage for the applicable factors of the productive day before it can be applied. This is accomplished by dividing the total workday by the productive day expressed as a percent of the workday, see Figure 1.9 for an example.

Figure 1.9. (Added-AFSC) - Percent of Workday Computation

$\text{Allowance Factor} = \frac{100\%}{100\% - 15\%} = \frac{100\%}{85\%} = 1.176$

Figure 1.10. (Added-AFSC) Work Day Computation in Minutes.

$\text{Allowance Factor} = \frac{480 \text{ min.}}{480 - 72 \text{ min.}} = \frac{480 \text{ min.}}{408 \text{ min.}} = 1.176$

1.2.11.5.4.7.1. **(Added-AFSC)** Application to Normal Time. The final step in the application of the allowance is to multiply the normal time by the allowance factor. For example, assume the rated productive time to be 408 minutes, the job standard would be: 408 minutes X 1.176 = 480 minutes. (Ex: 4 hours labor x 1.176 (15% PF&D) = 4.71 total labor hours).

1.2.11.5.4.8. **(Added-AFSC)** Examples of Application.

1.2.11.5.4.9. **(Added-AFSC)** Unloading Boxes from Truck.

Figure 1.11. (Added-AFSC) Unloading Boxes from Truck.

The boxes weigh 25 pounds each and the employee is under load 25 percent of the time. The boxes are being taken from stacks slightly higher than his waist and are placed on pallets resting on the truck bed. The work is purely routine. The employee walks approximately five feet with each box. The cycle time (per box) is .500 minutes, actual under load elements equal .125 minutes (if per pallet the % may be somewhat less). No restrictive safety devices are required. A forklift operator is considered a part of the unloading crew.

Computation and Allowance		Percent
Personal		
Basic		4.2
Class B Slightly disagreeable, exposed to weather		3.0
Fatigue		
Physical	25 pounds handled at 25% of the time (total under load element time, .125 divided by cycle time, .500 = 25%)	4.0
Mental	Class A – work committed to habit	0.0
Position	Class C (walking)	1.0
Monotony	Class C (0.50 minutes)	2.0
Delays		
Class A. Little coordination with adjacent jobs		1.0
TOTAL ALLOWANCE		15.2%

Allowance Factor = 100% = 100% = 1.179

100% - 15.2 84.8%

1.2.11.5.4.10. (Added-AFSC) Aircraft Instrument Assembly.

Figure 1.12. (Added-AFSC) Aircraft Instrument Assembly.

Job Conditions:

- An employee receive tray of parts and assembles small aircraft instruments. Completed instruments are delivered to outgoing window in clean room. Cycle time is 15 minutes.
- Work is performed in a 'super' cleanroom.
- No formal break periods have been established, but employees are free to attend to personal needs as necessary.
- Instrument weighs less than one pound.
- No clean up period at end of shift.
- Employee performs work seated at work bench.
- No restrictive devices are required.
- Only occasional visual and mental concentration required.
- Unavoidable delays have been established at 5 percent by separate study.

Computation and Allowance	Percent
Personal	
Basic	4.2
'Super' clean room	4.0
Fatigue	
Position-sitting	1.0
Delays	
Unavoidable Delay	5.0
TOTAL ALLOWANCE	14.2%

$$\text{Allowance Factor} = \frac{100\%}{100\% - 14.2\%} = \frac{100\%}{85.8\%} = 1.166$$

Computation of Standard. Standard time is computed in the same manner as shown in the preceding examples.

1.2.11.5.4.11. (Added-AFSC) Contract Administration.

Figure 1.13. (Added-AFSC) Contract Administration.

Job Conditions:

An employee is performing in a technical capacity administering contracts. The following conditions are in effect:

- The employee reviews and prepares contractual documents, contacts contractor or other government personnel for obtaining information or resolving problems, and participates in meetings. The work requires a combination of deep concentration and concentrated attention.
- The employee is primarily sitting but does change positions throughout the work day (i.e., not restricted to desk). Operations vary in cycle time and content. No restrictive devices are required. Delays are inherent in the job. Employee has the ability to shift to other operations when delays occur.

Computation and Allowance		Percent
Personal		
Basic		4.2
Fatigue		
Mental	Work requires deep concentration 50% time and concentrated attention 50% time	6.0
Position	Sitting	1.0
Monotony	N/A	0.0
Delay		
Isolated Job		1.0
TOTAL ALLOWANCE		12.2%

Allowance Factor = $\frac{100\%}{100\% - 12.2\%} = 1.139$

100% - 12.2%

Computation of Standard. Standard time is computed in the same manner as shown in the preceding examples.

1.2.11.5.4.12. (Added-AFSC) Preparation of Voucher.

Figure 1.14. (Added-AFSC) Preparation of Voucher.

Job Conditions:

An employee is preparing a voucher for payment. The following conditions are in effect: -

The operation is performed in a normal office.

- The work requires full attention. Employee must check request for payment against contract clauses, make calculation on calculator, and prepare voucher.

- Employee accomplishes job at desk but may change routines to obtain additional data.

- Cycle time of operation is 20 minutes. - No restrictive devices are required.

- If flow of work is cut back, operation would have to be shut down or curtailed.

Computation and Allowance		Percent
Personal		
Basic		4.2
Fatigue		
Mental	Work requires concentrated attention	4.0
Position	Sitting	0.0
Monotony	N/A	0.0
Delay		
Fairly close coordination with adjoining jobs		2.0
TOTAL ALLOWANCE		11.2%

Allowance Factor = $\frac{100\%}{100\% - 11.2\%} = 1.126$

Computation Standard. Standard time is computed in the same manner as shown in the preceding examples.

1.2.11.6. Shop Flow Days (SFD) Exchangeables.

1.2.11.6. (AFSC) The shop flow day calculation should be reviewed. If there were any changes to any of the factors going into the formula, the shop flow days should be recalculated. Since indirect factors ('I' in the formula) are recalculated on an annual basis, it is important to calculate the formula with the latest factors. An annotation should be made, or a copy of the calculations attached.

1.2.11.7. Engineered Labor Standards.

1.2.11.7.1. (Added-AFSC) In addition to the requirements set out in paragraph 1.2.11.3, engineered labor standards must accomplish the following to maintain their status:

1.2.11.7.2. (Added-AFSC) A methods validation will be accomplished. This will include sufficient observations of the elements to verify or to change their descriptions.

1.2.11.7.3. **(Added-AFSC)** Current workplace layouts will be compared to the layouts on file to determine if any changes have occurred.

1.2.11.7.4. **(Added-AFSC) Note:** if either of these two factors changed, the appropriate portion of the work measurement study will be re-accomplished and documented.

1.2.12. Aircraft Labor Standards.

1.2.12.1. **(Added-AFSC)** The LSR process for aircraft shall be performed during the ERRP DEV PAC review on Brochure Work Spec Tasks with a labor hour variance of + or – 20 percent. Inaccurate TAA hours will not be used in the + or – 20 percent variance in determining an LSR. LSRs will be performed IAW local supplements and AFMAN 63-143.

1.2.12.2. **(Added-AFSC)** PF&D factors are allowed for engineered and non-engineered standards. However, due to aircraft "fixed price" funding, PF&D factors are not feasible at the aircraft operation level due to the unpredictable nature of aircraft maintenance being performed inside hangers, outside in varying weather conditions, and the vast amount of WCD operations. Locally, if a determination is made to include a PF&D factor, a standard PF&D can be locally determined at the Brochure Work Spec Task Level during the ERRP DEV PAC review. Locally determined, standard PF&D factors, will be documented in the applicable ERRP DEV PAC. Each ALC will generate local procedures for handling PF&D documentation, if required.

1.2.12.3. **(Added-AFSC)** Occurrence factors are not a determination in the DPSH hours determined to perform a task. Aircraft occurrence factors are reviewed during the ERRP DEV PAC review process, therefore, are not required for the LSR process. IAW AFMAN 63-143, if all aircraft/missiles input during a particular FY are to receive the task, then the occurrence factor is 1.00. If only a percentage of the aircraft/missiles will receive the task, then the occurrence factor should reflect the percentage. For example, if 12 PDMs are scheduled in a FY, but only six will be receiving a particular task, then the occurrence factor will be .50. Occurrence factors are at the MDS task level, not individual operation level.

1.2.13. Sample Size and Rejection Criteria.

1.2.13. **(AFSC)** For sample size and rejection criteria use Table 1.2 for the sample size and rejection number based on the number of standards.

1.2.13.1. **(Added-AFSC)** Enter table with the number of active standards in the area being sampled (i.e., 1,500 active standards, use 1,201 to 3,200 range).

1.2.13.2. **(Added-AFSC)** Read the sample size to take (i.e., 125). Find the number of rejected standards that requires rejection of the entire batch (i.e., 22). When a batch fails, the entire population is considered to have similar flaws. The remedial actions to correct the sample batch need to be applied to the general population. A resample must be taken to confirm acceptable results.

1.2.13.3. **(Added-AFSC)** This group of standards (i.e., 125) may be prioritized by workload volume, but at least 25 percent of the sample must address the total range of standards.

Table 1.2. (Added-AFSC) - Sample size and rejection criteria.

Number of Standards	Sample Size	Rejection Number
2 to 8	2	2
9 to 15	3	2
16 to 25	5	2
26 to 50	8	3
51 to 90	13	4
91 to 150	20	6
151 to 280	32	8
281 to 500	50	11
501 to 1,200	80	15
1,201 to 3,200	125	22
3,201 to 10,000	200	22
10,001 to 35,000	315	22
35,001 to 150,000	500	22
150,001 to 500,000	800	22
500,001 and over	1,250	22

1.2.14. Accepted or rejected.

1.2.14. **(AFSC)** The following criteria are used to determine if an individual labor standard is accepted or rejected. Defects will be classified as critical, major, or minor. Any sampled standard that has one critical defect or four major defects will be considered a reject. No limitation is placed upon the number of minor defects a sample can have.

1.2.14.1. **(Added-AFSC)** Critical defects.

1.2.14.1.1. **(Added-AFSC)** Standard method is not commensurate with method being used.

1.2.14.1.2. **(Added-AFSC)** The total of any sub-operations that are left out, or included but no longer required by the TO, have an impact greater than the accuracy requirements on the standard being evaluated.

1.2.14.2. **(Added-AFSC)** Major defects.

1.2.14.2.1. **(Added-AFSC)** No reason for each labor standard time increase or decrease documented, or incorrect action reason code applied.

1.2.14.2.2. **(Added-AFSC)** Labor standard documentation requirements missing which impacts the traceability of the method and accuracy of the time, one defect per finding.

1.2.14.2.3. **(Added-AFSC)** Misapplication of work measurement techniques.

1.2.14.2.4. **(Added-AFSC)** Errors in labor standard time computations having impact greater than accuracy allowed.

1.2.14.2.5. **(Added-AFSC)** Misapplication of PF&D or supporting engineered backup studies missing.

1.2.14.2.6. **(Added-AFSC)** No evidence of a method analysis.

1.2.14.2.7. **(Added-AFSC)** No evidence of an operations analysis.

1.2.14.3. **(Added-AFSC)** Minor defects. Any documentation errors or other errors considered significant.

CHAPTER 2

DEPOT MAINTENANCE PRODUCTION SUPPORT

2.1. Depot Maintenance Production Support. Depot Maintenance strives to apply the right resources at the right time at point-of-use to execute a needs-driven production plan and schedule.

2.1.1. Depot Maintenance activities must be process-improvement based, must keep the mechanic on-task, and must optimize warfighter support.

2.1.1. (AFSC) Purpose. This chapter contains policies and procedures required of the AFSC to conduct Depot Maintenance (DM) production support activities for aircraft, exchangeable (commodities), Other Major End Items (OMEI) (e.g., missiles, engines, etc.), and associated components/parts.

These activities are grouped into several DM categories to include programmed depot maintenance (PDM), Modification (MOD), Unprogrammed Depot Level Maintenance (UDLM), unpredictable, and exchangeable requirements. It specifically addresses the overall philosophy, policies, procedures, organizational structure, key personnel duties and responsibilities, key functional area requirements, and systems necessary to perform DM production support within USAF guidance. For the 309th AMARG and some Geographically Separated Units (GSUs), procedures in this chapter pertaining to data systems are not applicable. AMARG will continue to use the approved commercial-off-the-shelf (COTS) products in place of the legacy systems used at the ALCs. They will also follow the supply rules and guidance in AFH 23-123V1, *Materiel Management Handbook Volume One, Materiel Management Reference Information*; AFMAN 23-122 *Materiel Management Procedures*; and AFI 23-101 *Air Force Materiel Management*, for materiel ordering and turn in processes and procedures.

2.1.2. HQ AFMC will develop Command policy for depot maintenance production support activities to include workload control, planning, scheduling functions, and documentation requirements.

2.1.2.1. (Added-AFSC) Philosophy. Depot Maintenance (DM) exists to support the warfighter. It provides this support by applying its resources to keep the mechanic on task. DM strives to apply the right resources at the right time at point-of-use to execute a warfighter needs-driven production plan and schedule. Process improvement results, in turn, assist in determining personnel duties/responsibilities, organizational structure, enterprise software configuration requirements, facility requirements, and other DM requirements.

2.2. Air Force Life Cycle Management Center requirements for Production Support. HQ Air Force Life Cycle Management Center (AFLCMC) will develop, implement, and maintain a standardized process to ensure workloads are supportable and funded. For further guidance; reference AFMAN 63-143, *Centralized Asset Management Procedures*.

2.3. AFSC requirements for Production Support. HQ AFSC will develop implement, and maintain standardized processes and procedures for the Depot Maintenance Production Support process to include:

2.3.1. Processes for Pre-Production Support for items prior to induction.

2.3.1.1. **(Added-AFSC)** Production Support Functions. (Schedule Execution Support)

2.3.1.2. **(Added-AFSC)** Scheduler Functions.

2.3.1.3. **(Added-AFSC)** Review aircraft/missile history.

2.3.1.4. **(Added-AFSC)** Route from Pre-Dock and Dock; track all routed items.

2.3.1.5. **(Added-AFSC)** Verify PDM/UDLM work packages are in the appropriate production scheduling system, and ensure JON opened in G004L.

2.3.1.6. **(Added-AFSC)** Synchronize back-shop support to schedule.

2.3.1.7. **(Added-AFSC)** Manage WCDs and issue to Production Supervisor for distribution to mechanics. **Note:** For the ALCs with electronic work control document (eWCD) capability, the scheduler will make available 10 days' worth of work at a time to the production first line supervisor via a MIS report indicating operations available for work by production for the 10 day period.

2.3.1.8. **(Added-AFSC)** Verify operation completion to include T-JONs. **Note:** For the ALCs with eWCD capability, only operations in MIS operation status code 9 will be stamped once completed by the mechanic, which verifies certification of completion on the eWCD, and credits the RC/CC with earned hours. The scheduler will verify all operations contain the appropriate stamps, serial numbers, and corrective actions before certifying with a C stamp.

2.3.1.9. **(Added-AFSC)** Ensure JON is closed in G004L and input departure notice in the appropriate production scheduling system.

2.3.1.10. **(Added-AFSC)** Chair the Tail Team/Aircraft Maintenance Team (AMT)/Product Focus Team (PFT) (includes the First Line Supervisor, Maintenance Process Engineer, Production Support Technician (PST), and as needed, the Planner) meeting to perform a 10 day 'forward look' of operations IAW with the critical path schedule. The evaluation involves reviewing skills, parts, tools, equipment, etc. for each operation.

2.3.1.11. **(Added-AFSC)** Production Support Technician (PST) Functions.

2.3.1.12. **(Added-AFSC)** Perform research, direct-line ordering, turn-in processes, file maintenance of backorders, etc.

2.3.1.13. **(Added-AFSC)** Perform direct-line materiel requisitioning.

2.3.1.14. **(Added-AFSC)** Monitor backorder status.

2.3.1.15. **(Added-AFSC)** Process turn-ins of aircraft/missile-specific DIFM/DOTM and verify turn-in of unused parts.

2.3.1.16. **(Added-AFSC)** Assist with 10 day ‘forward look’ for resource support against the critical path.

2.3.1.17. **(Added-AFSC)** Assist with processing and tracking cannibalization actions in the Production Scheduling System.

2.3.1.18. **(Added-AFSC)** Coordinate delivery of kits/packages and available resources based upon aircraft/missile schedule.

2.3.1.19. **(Added-AFSC)** Synchronization Team Function. The Synchronization Team’s focus is on the aircraft/missile tail/serial number schedule, the RDD of a given operation, and the backshops’ Estimated Delivery Dates (EDDs). The Synchronization Team has representatives from the backshops and from each aircraft/missile squadron for backshop conflict resolution. Specific functions include:

2.3.1.19.1. **(Added-AFSC)** Track and expedite manufacturing and repair work done in the backshops.

2.3.1.19.1.1. **(Added-AFSC)** Track assets throughout the production cycle.

2.3.1.19.1.1.1. **(Added-AFSC)** Coordinate with Scheduler and Planner upon failure of parts supportability to reschedule operation as necessary.

2.3.1.20. **(Added-AFSC)** Production: Each squadron director is responsible for aircraft repair in the production shop through associated flight chiefs and first line production supervisors to accomplish depot repairs. Using standard repair processes, the squadron director is responsible for production output for their shop(s) utilizing the most productive and cost-effective methods to produce a timely and quality product.

2.3.1.20.1. **(Added-AFSC)** The first line supervisor assigns work and supervises mechanics performing tasks on the aircraft/missile.

2.3.1.20.2. **(Added-AFSC)** The mechanic plays an integral part in meeting customer expectations. While the support functions are to ensure the mechanic is supportable, the mechanic has a responsibility to ensure the proper use of technical data, identification of problems in a timely manner, proper use of PPE, and adherence to safety, environmental, security, and regulatory guidance. The mechanic, as required, will support operational sequencing to ensure the critical path network is properly flowed to ensure optimal flow days to meet customer expectations IAW AFMAN 63-143. Mechanics must complete work in the appropriate time and attendance system and certify completion of operation by stamping and dating WCD or eWCD.

2.3.2. Processes for Production Support for items that have already been inducted.

2.3.2.1. **(Added-AFSC)** Production Support for Aircraft and Missile Repair.

2.3.2.2. **(Added-AFSC)** Purpose. This section outlines the DM production support philosophy and policies required to effectively operate and manage the aircraft/missile repair process.

2.3.2.3. **(Added-AFSC)** Aircraft/missile management will implement an automated aircraft/missile production operation-level schedule. This schedule must be available to both production and support personnel.

2.3.2.4. **(Added-AFSC)** The schedule emanates from production's FY work plan with the number of aircraft/missiles by work package, becomes more specific by MDS level of detail, and is most specific with the schedule by tail number for a particular aircraft or serial number for a particular missile. This schedule resides in the aircraft/missile repair scheduling system that captures operations by start date within the network and provides project management capability and visibility.

2.3.3. Processes for Exchangeable Repair.

2.3.3.1. **(Added-AFSC)** Exchangeable Repair.

2.3.3.2. **(Added-AFSC)** Purpose. This section outlines the DM production support functional policies required to effectively operate and manage depot exchangeable repair processes and workload.

2.3.3.3. **(Added-AFSC)** The overarching purpose is to standardize the basic repair processes for ALC organic depot level repair and overhaul for Exchangeable Workloads

2.3.3.4. **(Added-AFSC)** Exchangeable Meeting. The ALCs will establish scheduled exchangeable meetings. Ensure meeting topics, as a minimum, include Execution and Prioritization of Repair Support System (EXPRESS) induction constraints, AWP issues, and asset status; Mission Impaired Capability Awaiting Parts (MICAP), Surge, and Repair Cycle Status; production schedule execution and deviations; late Engineering Technical Assistance Request (ETAR/202) will be discussed in the monthly formal exchangeable meeting; prioritization of assets requiring/competing for shared resources; materiel constraints. Ensure any constraints that cannot be resolved are elevated.

2.3.3.5. **(Added-AFSC)** When the response/disposition from the engineering activity has not been received from the responsible engineer, the requesting activity will ensure that late AFMC Form 202s are discussed at the Exchangeable Meetings.

2.3.3.6. **(Added-AFSC)** To determine the importance/impact of the late 202s, production and production support will collaborate prior to the meeting to determine where they should be discussed in the exchangeable meeting.

2.3.3.7. **(Added-AFSC)** One of the key discussion points will be those assets that cannot be repaired based on the current tech data, and a decision is needed to extend the tech data or to condemn the asset.

2.3.3.8. **(Added-AFSC)** Develop, implement, and maintain a standardized process to support developing aircraft materiel cost for inclusion in aircraft sales rates, including the source or basis for materiel costs. For additional information, reference AFMCI 65-101.

2.3.4. Ensure aircraft/missile status documentation is accomplished IAW TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*, and TO 00-20-2, *Maintenance Data Documentation*.

2.3.5. Ensure aircrews are debriefed to determine the status of the aircraft.

2.3.6. Establish a single point of entry and exit for Request for Quote (RFQ) forms and data.

2.3.6.1. **(Added-AFSC)** RFQ Policy within DM. AFSC Form 501, Request for Quote/Rough Order of Magnitude, will be used to process and control RFQ data flow between the customer and the Pre-Production Planning Team (PPPT). A DLA Form 1838, Organic Manufacturing Quote, is also authorized as an alternative RFQ form for DLA requests for ALC organic manufacturing quotes.

2.3.7. Participate in the Spares Requirement Review Board (SRRB) per AFMAN 63-143.

2.3.7.1. **(Added-AFSC)** Spares Requirement Review Board (SRRB). The AF established the SRRB to combine separate ALCs, MAJCOM, and ANG (hereinafter included under the CAM and Fund Holders designator as an AF customer of the Working Capital Fund) budgeting processes for AF secondary items supporting the worldwide requirement for CSAG-S reparable and consumable items and validating the CSAG-S portion of the Air Force Cost Analysis Improvement Group (AFCAIG) Cost Per Flying Hour (CPFH) submission. Participate in the SRRB per AFMAN 63-143.

2.3.8. Provide non-parts supportability elements for Aircraft and Missile Requirements (AMR) as part of the Logistics Requirements Determination Process (LRDP) per AFMAN 63-143.

2.3.8.1. **(Added-AFSC)** Aircraft and Missile Requirements (AMR). The AMR process is used to develop, review, validate, and approve depot level maintenance and repair for aircraft and missile systems within the weapon system sustainment portfolio. This applies to all AF organizations requiring and providing depot maintenance on AF systems, whether the work is performed organically, contractually, or via inter-service. This does not apply to Federal Aviation Administration (FAA) certified systems or systems supported via interim contract support. The ALCs must support the AMR process documented in AFMAN 63-143 and AFMAN 63-143-AFSC Supplement, which is driven by TO 00-25-4, Depot Maintenance of Aerospace Vehicles and Training Equipment (AGE).

2.3.8.2. **(Added-AFSC)** UDLM Supportability Review.

2.3.8.2.1. **(Added-AFSC)** Prior to induction, the IET (Aircraft Maintenance Planner) will perform a complete supportability analysis on UDLM required work package for all resources (e.g., technical data, materiel, equipment, special tools, skills, facilities, etc.) required to support the UDLM. The IET (Aircraft Maintenance Planner) will evaluate the output of the resource determination and simulation(s)/analysis, compare it with all resource requirements for all other work scheduled during the same period, and identify any shortfalls to the SPO/SPM.

2.3.8.2.2. **(Added-AFSC)** The Master Scheduler will coordinate with the SPO/SPM and schedule the UDLM work within the FY Production Schedule. The IET (Aircraft Maintenance Planner) will enter the JON into G004L and coordinate creation of a specific Tail/Serial Number Schedule.

2.3.9. Establish a process to assemble aircraft specific or exchangeable component specific disparate parts and non-parts into one unit to be delivered to maintenance as a part of the critical path for that repair requirement.

2.3.10. Establish a process which outlines the pickup and delivery of pre-positioned parts to the kit staging area for a specific repair requirement.

2.4. Depot Maintenance Job Routing.

2.4.1. HQ AFLCMC will:

2.4.1.1. Ensure decisions to job route/non-job route are made by the Program Office (PO)/Program Manager working with the ALCs and Defense Logistics Agency (DLA).

2.4.1.1.1. Job Routed Repair. Job routed repair occurs when a recoverable component is found to be unserviceable during the overhaul, the item is removed, repaired/reconditioned, and reinstalled on the same end item.

2.4.1.1.2. Non-Job Routed Repair. Non-job routed repair occurs when an unserviceable item is removed and replaced with a serviceable item from supply. A non-job routing process is strictly a remove and replace operation.

2.4.1.2. Ensure all conversions from job routed to non-job routed begin budget lead-time away for anticipated cost changes to the Consolidated Sustainment Activity Group-Maintenance (CSAG-M)/Consolidated Sustainment Activity Group-Supply (CSAG-S).

2.4.1.3. If circumstances still require job routing, approval must be obtained from the PO. Such action must be reported to supply for supply to accurately record the true requirements for stockage. For additional Nuclear Weapons-Related Materiel (NWRM) job routing guidance, reference AFI 20-110, *Nuclear Weapons-Related Materiel Management*, and AFI 20-110_AFMC SUP, *Nuclear Weapons-Related Materiel Management*.

2.4.2. HQ AFSC will develop, implement, and maintain standardized procedures for the following:

2.4.2.1. Job Routing.

2.4.2.1. (AFSC) Job Routing.

2.4.2.1.1. (Added-AFSC) The decision to Job Route/Non-Job Route will be made by AFLCMC (SPO/System Program Manager (SPM)/SCM), as appropriate, working with the ALCs and DLA. Normal practice is for an unserviceable asset to be turned into supply in exchange for an available serviceable asset. Consequently, job routed repair is not authorized if a serviceable asset is available from supply in the configuration required. All conversions from job routed to non-job routed should begin budget lead-time away for anticipated cost changes to the CSAG-M/CSAG-S. If circumstances still require job routing, approval must be obtained from the Program Office. Such action must be reported to supply in order for supply to record accurately the true requirements for stockage (reference AFI 20-110 AFMCSUP for NWRM job routing guidance).

2.4.2.1.2. (Added-AFSC) Job Routed Repair. Job routed repair occurs when a recoverable component is found to be unserviceable during the overhaul, the item is removed, repaired/reconditioned, and reinstalled on the same end item.

2.4.2.1.3. (Added-AFSC) Have Exchangeable and/or AMXG IET (maintenance planner) develop a BOM on routed repairs. Work with SPO/SPM/SCM to get items as MISTR Line in the out years based on trend analysis data.

2.4.2.1.4. (Added-AFSC) Non-Job Routed Repair. Non-job routed repair occurs when an unserviceable item is removed and replaced with a serviceable item from supply. A non-job routing process is strictly a 'remove and replace' operation.

2.4.2.1.5. (Added-AFSC) Procedures for Job Routing (As approved by the SPO/SPM/SCM, as appropriate).

2.4.2.1.6. (Added-AFSC) The appropriate WCDs will be developed and used as required by Volume 2, Chapter 2. All job routed repairs are to be input and tracked through the repair process via the appropriate data system.

2.4.2.2. Non-job Routing.

2.4.2.2. (AFSC) Non-Job Routed Repair. Non-job routed repair occurs when an unserviceable item is removed and replaced with a serviceable item from supply. A non-routing process is a strictly 'remove and replace' operation.

2.4.2.2.1. (Added-AFSC) Procedures for Non-job Routing.

2.4.2.2.2. (Added-AFSC) Shop replaceable units (SRUs) removed from line replaceable units should be turned into DLA and a serviceable asset used to fill the hole on the end item. Due-in from maintenance/due-out to maintenance (DIFM/DOTM) procedures will be used to maintain financial/materiel accountability. If the SPO/SPM or 448th SCMW (whoever manages the item) approves, job routing will be permitted if SRUs are not available.

2.4.2.3. Process Routing.

2.4.2.3. (AFSC) Process Routing.

2.4.2.3.1. **(Added-AFSC)** Process routing, which consists of forwarding an item to a process shop, is an integral part of the overall repair effort but is not considered a job route. A process shop is defined as a DM function that provides conditioning support on component assemblies and materials, or essential support services for end items being repaired by other DM organizations.

2.4.2.3.2. **(Added-AFSC)** The following are examples of candidates for process routing: cleaning, plating, heat treat, welding, battery servicing, grinding, machining, non-destructive inspections (NDIs), check/test, and minor maintenance (not to exceed Level Three field repairs).

2.5. (Added-AFSC) General Information.

2.5.1. **(Added-AFSC)** The term “production” refers to the Production Flights, Sections, and/or Elements that perform depot maintenance actions. The term “Production Support” refers to the units in the Production Support Flight (PSF), Sections, and/or Elements that support the performance of Program Depot Maintenance (PDM) that support the performance of PDM (e.g., planning, scheduling, materiel requisitioning, maintenance process engineering, etc.). Also, the name of the flight, section, or element is used in lieu of individual flight functional titles (as they relate to responsibilities and procedures) in most paragraphs.

2.5.2. **(Added-AFSC)** Electronic Maintenance Information System (MIS) forms used in lieu of hard copy are acceptable providing the MIS forms fulfill the intent of the hard copy and provide required reporting data.

2.6. (Added-AFSC) Depot Maintenance Supply Support and Materiel Control. Sufficient maintenance supply support is critical to successful depot maintenance production. The repair environment applies agile combat support logistics concepts such as: (1) identified value in customer support (parts when needed; on-time delivery), (2) a streamlined process model. (3) uninterrupted continuous flow-through process, (4) synchronized delivery of materiel from internal and external suppliers, (5) supportability reviews, electronic commerce, and technology enablers, and (6) planning, engineering, contracting, and supply support well forward to support the depot maintenance effort. AFSC shall:

2.6.1. **(Added-AFSC)** Select the Production Support Flight positions required to support their workload. AFSC may not establish other positions to perform the duties and responsibilities assigned to these positions by this instruction. Assigned duties and responsibilities must be performed by incumbents in the following positions. Production Support Flight Chief (PSFC) and Production Support Section (PSS). Other disciplines may also be assigned to the PSFC and/or PSS to enhance the effectiveness of the mission. (**Note:** Those organizations supporting AFMAN 63-143 may be structured through matrixed alignment as required.)

2.6.1.1. **(Added-AFSC)** Ensure the ALCs have functions that perform strategic planning, master scheduling, and analytical activities needed to ensure production requirements are fully supportable prior to asset induction. Activities may include customer requirements analysis, long-to short-range production planning, master production scheduling, capacity and materiel requirements planning, and contingency management.

2.6.1.2. **(Added-AFSC)** AFSC will ensure the ALCs have functions that perform the day-to-day scheduling and materiel ordering activities required to keep the mechanic continually engaged in asset repair from initial induction to final sell. These activities include: researching direct line ordering and movement of parts and materiel within the maintenance organization; coordinating with 448th supply chain management wing (SCMW) and DLA to manage awaiting parts (AWP) assets; scheduling and monitoring assets through the repair process; researching and ensuring JONs are opened properly for workloads; managing parts removed to Facilitate Other Maintenance (FOM). **Note:** (aircraft only); assisting production personnel in resolving engineering/quality support issues; delivering and/or coordinating delivery of tools/support equipment.

2.6.1.3. **(Added-AFSC)** AFSC may establish “Lead” positions to manage multiple personnel in identical positions. For example, a “IET (maintenance planner) Lead” position may be established to manage multiple IET (maintenance planner) positions.

2.6.2. **(Added-AFSC)** Ensure all personnel adhere to the principles of supply and financial disciplines IAW DAFI 23-101, AFI 23-101_AFMCSUP, AFI 20-110, and AFMCI 65-101.

2.6.2.1. **(Added-AFSC)** All consumable parts will be properly processed for turn-in to the Materiel DLA or proper disposal and demilitarization.

2.6.2.2. **(Added-AFSC)** Develop, implement, and maintain standardized procedures for the management and control of depot maintenance materiel.

2.6.2.3. **(Added-AFSC)** Develop additional process implementation guidance for materiel management and support to include BOMs.

2.6.2.4. **(Added-AFSC)** Develop an audit program to address BOM accuracy.

2.6.2.5. **(Added-AFSC)** Ensure all production items in delay status, routed items, and loaned equipment are segregated, and protected from pilferage and damage. All materiel in storage will be protected as required according to DAFI 23-101, Air Force Joint Manual (AFJMAN) 23-210, *Joint Service Manual (JSM) for Storage and Materials Handling*, DoDI 5000.64_DAFI 23-111, *Accountability and Management of DoD Equipment and Other Accountable Property*, and AFI 20-110.

2.6.2.6. **(Added-AFSC)** Establish guidance for the approval of inventory adjustments concerning depot maintenance owned materiel.

2.6.2.7. **(Added-AFSC)** Ensure maintenance personnel properly control maintenance-initiated component collections for recovery, repair, and overhaul.

2.6.3. **(Added-AFSC)** Develop, implement, and maintain a standardized process to support aircraft programmed depot maintenance and major overhaul materiel cost forecasts. For additional information, reference AFMCI 65-101 and AFMAN 63-143.

2.7. **(Added-AFSC) Pre-Production.**

2.7.1. **(Added-AFSC)** Supervisory IET (Planning Chief). Responsible for planning of DM workload execution for aircraft, exchangeable(s), missiles, and/or OMEI. Provide advice and assistance to the Production Flight, Production Support functions (PSF), in the area of day-to-day planning activities, designing, analyzing, and improving production control through the development of more efficient and effective DM processes.

2.7.2. **(Added-AFSC)** IET (maintenance planner). Responsible for development of new workload planning packages and daily planning functions which support work package development from defined requirements. Includes but not limited to establishment of labor, equipment, flow day, and facility standards; refinement of MDS critical path; IET/Maintenance Planner services which includes work measurement studies; development and file maintenance of the DM repair BOM; establishment of WCDs; identification of skills, training, equipment, and facility requirements; research, plan, and initiate job acceptance for programmed and non-programmed workloads; plan for job routing/non-job routing; identification of necessary tooling, engineering, and provisioning data as identified by the SPO/system program manager (SPM) and incorporated into the List of Material (LOM) to support production; direct costs to establish the end item sales price for programmed and non-programmed workloads; evaluation of production processes and methods improvement to minimize production flow time. **Note:** AFMAN 63-143 is supported by the planner as identified above.

2.7.2.1. **(Added-AFSC)** IET/Maintenance Planner Training. IET/Maintenance Planner Training. All new IETs/Maintenance Planners must successfully complete the AFMC Industrial Engineering Technician, Fundamentals course.

2.7.2.1.1. **(Added-AFSC)** All IETs/Maintenance Planners must successfully complete BOM and Labor Standards recurring training, at a minimum, every two years. All training will be documented in the Training Scheduling System (TSS).

2.7.2.2. **(Added-AFSC)** IET (maintenance planner) Planning Functions:

2.7.2.2.1. **(Added-AFSC)** Participate in Pre-Production Planning Team (PPPT).

2.7.2.2.2. **(Added-AFSC)** Review incoming workload records and pre-existing conditions.

2.7.2.2.3. **(Added-AFSC)** Provide estimates to include labor hours, materiel and resources for RFQ/Rough Order Magnitude (ROMs) on new/existing workload requirements.

2.7.2.2.4. **(Added-AFSC)** Chair Production Planning Team (PPT) events.

2.7.2.2.5. **(Added-AFSC)** Participate in Pre-Induction meetings.

2.7.2.2.6. **(Added-AFSC)** Determine duplicate workload operations/tasks/load Configurations.

2.7.2.2.7. **(Added-AFSC)** Integrate TOs engineering changes, and mechanic input into work packages.

2.7.2.2.8. **(Added-AFSC)** Participate in supportability reviews.

2.7.2.2.9. **(Added-AFSC)** Develop, adjust, update, maintain BOMs.

2.7.2.2.10. **(Added-AFSC)** Accomplish Time Studies, as required.

2.7.2.2.11. **(Added-AFSC)** Perform Labor Standard Review to include Event Driven. IAW Volume 3, Chapter 1.

2.7.2.2.12. **(Added-AFSC)** Adjust fixed price work sheet (FPWS) as required.

2.7.2.2.13. **(Added-AFSC)** Develop planned and unplanned work packages.

2.7.2.2.14. **(Added-AFSC)** Develop/adjust master network/gated process for workload.

2.7.2.2.15. **(Added-AFSC)** Load work requirements in applicable system.

2.7.2.2.16. **(Added-AFSC)** Comply with JON closure process. IAW AFMCI65-101, Chapter 2.

2.7.3. **(Added-AFSC)** Master Scheduler. Responsible for approving the schedule for asset induction, work plan for aircraft induction, carry-out, flow days, etc. Chair the Pre-Induction Aircraft Conference. Review system schedule and determine impact of MODs, UDLM, and new or changed DM requirements. Review resource supportability by MDS per FY. Adjust schedule per facility or skill constraints. **Note:** This position may be assigned to the Production Support Flight Chief (PSFC), as necessary. In support of AFMAN 63-143, the Master Scheduler function is part of PSF.

2.7.4. **(Added-AFSC)** PSF is responsible for overseeing analysis functions critical to the efficient and effective operation of Pre-Production and Production Support.

2.7.5. **(Added-AFSC)** Management Analyst. Responsible to perform analysis on various program operations and processes for production, PSF activities; prepare charts and data for meetings as required; may develop internal procedures in support of operations. **Note:** In support of AFMAN 63-143, the PSF may be performed as a Pre-Production and/or Production Support function to facilitate analysis of trends affecting the work package for feedback to production and the SPO.

2.7.6. **(Added-AFSC)** Production Support (Responsible for Schedule Execution Activities).

2.7.7. **(Added-AFSC)** Supervisory Production Controller. Responsible for managing daily execution activities for scheduling, materiel, and related PSF activities to support the repair of aircraft, exchangeables, and/or OMEI.

2.7.8. **(Added-AFSC)** Production Controller (Scheduler). Manage execution of shop workload (i.e., repair, overhaul, MOD, and PDM activities, programmed and un-programmed for aircraft, OMEI, and exchangeable workloads). Responsible for updating capacity information in Execution and Prioritization of Repair Support System (EXPRESS)/D087X (Exchangeables only). Monitor and manage shop capacity for both the input and output of assets. Synchronize support to the schedules. Ensure all WCD completion requirements have been satisfied. Reference Volume 2, Chapter 2.

2.7.9. **(Added-AFSC)** Production Controller (Materiel). Provide materiel requisition support, item research, direct-line order placement, monitor work in progress, develop, correct, or adjust information in data systems, and assist higher graded Production Controller (Scheduler) when required. **Note:** In support of AFMAN 63-143, the Production Controller (Materiel) may perform tasks for the PPPT and/or PPT or equivalent to support identification of materiel and materiel requisition status as part of PSF.

2.7.10. **(Added-AFSC)** Material Expeditor/Handler/Sync Representative. Receive, route, and move parts, assemblies, components, and other materiels between repair stations/shops. Operates materiel handling equipment and, if applicable, coordinates with NWRM storage facility personnel with respect to movement of NWRM assets for those ALCs with NWRM responsibilities.

2.8. **(Added-AFSC)** Special Positions within Maintenance. Personnel notification procedures and individual negotiability issues will be managed IAW the master labor agreement (MLA). **Note:** Location of these functions is an ALC Option.

2.8.1. **(Added-AFSC)** Records Professional (Forms and Records).

2.8.1.1. **(Added-AFSC)** Review, annotate, and store documents.

2.8.1.2. **(Added-AFSC)** Document weapon system history with Comprehensive Engine Management System (CEMS), Reliability and Maintainability Information System (REMIS), Programmed Depot Maintenance Scheduling System (PDMSS), Core Automated Maintenance System (CAMS), and Malfunction Detection Analysis & Recording System/MDARS/G081 as required. **Note:** For ALCs utilizing electronic WCD capability, an electronic data record may be utilized and permanent records stored either physically or electronically, mediums such as compact disc. Retain all documentation either (physically or electronically) IAW the applicable AFRIMS Depot Maintenance Records table and rule for audit compliance. For ALCs utilizing electronic WCD capability, an electronic data record may be utilized and permanent records stored either physically or electronically, mediums such as compact disc. Retain all documentation either (physically or electronically) IAW the applicable AFRIMS Depot Maintenance Records table and rule for audit compliance.

2.8.2. **(Added-AFSC)** Depot Forecasting Specialist (DFS).

2.8.2.1. **(Added-AFSC)** Articulate depot maintenance goals and objectives so that funding requirements, equipment, manpower align to achieve needed goals and objectives.

2.8.2.2. **(Added-AFSC)** Perform analysis to determine if items should be placed in collaboration, based on complex demand triggers. Perform reviews of all items in collaboration, Utilize PDMC Collaboration Lists for analysis. Refer to AFMCI 23-105, *Planning for Defense Logistics Agency (DLA)-Managed Consumables (PDMC)*.

2.8.2.3. **(Added-AFSC)** Perform Material Forecasting Analysis on all active Production Numbers/Control (PDN/CTRL), and established methodology.

2.8.2.4. **(Added-AFSC)** Submit demand signal/requirement planning for DLA Managed Consumables (PDMC) for inclusion in demand data exchange (DDE) requirements to DLA.

2.8.2.5. **(Added-AFSC)** Perform reviews of all items in collaboration, Utilize PDMC Collaboration Lists for analysis.

2.8.2.6. **(Added-AFSC)** Submit Demand Input Templates (DIT) for Planning, through DLA Managed Consumables (PDMC) Automated Tool.

2.8.3. **(Added-AFSC)** System Program Office/Supply Chain Management (SPO/SCM) Engineer Authority and Equipment Specialist (ES). The SPO/SCM Engineer Authority and ES provide fully defined requirements, required engineering LOMs, stock-listed parts, etc. to support the requirements, and disposition for technical issues, reliability, quality, and deficiency reports (DRs).

2.8.4. **(Added-AFSC)** Co-Located Positions / Support Functions. Positions outside the ALC may be co-located to support requirements (e.g., Production Process Engineer, DLA Material Support, Depot Supply Chain Management (DSCM), etc.).

2.8.4.1. **(Added-AFSC)** Cognizant Engineer and Equipment Specialist (ES).

2.8.4.1.1. **(Added-AFSC)** Responsible for providing a fully supportable requirement for Aircraft and Exchangeable workload requirements to the ALCs. The engineer and ES provide fully defined requirements, required engineering LOMs, stocklisted parts, etc. to support the requirements, and disposition for technical issues, reliability, quality, and deficiency reports.

2.8.4.1.2. **(Added-AFSC)** In support of AFMAN 63-143, the Cognizant Engineer and ES are part of the CAM collaborative team and support the production shop as required during aircraft schedule

execution.

2.8.4.2. **(Added-AFSC)** DSCM Team (448th SCMW, DLA, and Maintenance Representative).

2.8.4.2.1. **(Added-AFSC)** Role is to improve parts supportability to DM by providing a strategic, long term, outlook on parts integral to mission supportability.

2.8.4.2.2. **(Added-AFSC)** Will work with the ALC, Supply Chain Manager (SCM), NWRM Storage Facility, and DLA to coordinate the strategic procurement of essential materiel with the pursuit of uninterrupted availability of aircraft, engines, missiles, and exchangeables.

2.8.4.3. **(Added-AFSC)** Planning for DLA Managed Consumables (PDMC) Flight. Reference: Planning for Defense Logistics Agency (DLA)-Managed Consumables (PDMC) AFMCI 23-105.

2.8.4.3.1. **(Added-AFSC)** This position's role is to improve materiel availability of DLA managed consumables across the AF enterprise at the time of need by enhancing the DLA demand plan.

2.8.4.4. **(Added-AFSC)** ALC Financial Management (FM).

2.8.4.4.1. **(Added-AFSC)** FM is responsible for the utilization of funds practices at the ALCs and the management of unit cost target performance and performs financial cost analysis.

2.8.4.5. **(Added-AFSC)** Quality Assurance (QA).

2.8.4.5.1. **(Added-AFSC)** QA is an integral part of all DM activities. The ALCs will implement QA programs to evaluate/assess all programs. QA assessments are outlined in Volume 3, Chapter 8 of this instruction.

2.8.4.6. **(Added-AFSC)** Product Support Center (PSC).

2.8.4.6.1. **(Added-AFSC)** Located outside of the identified organizational structure. The PSC will be an enclosed, secure, and controlled area, and will be used for the purpose of maintaining and stocking Custodian Authorization and Custody Receipt Listing (CA/CRL) tooling/equipment, locally manufactured, modified, or special end item unique tools and equipment, consumables, and administrative supplies.

2.8.4.7. **(Added-AFSC)** Defense Logistics Agency (DLA).

2.8.4.7.1. **(Added-AFSC)** DLA Aviation

2.8.4.7.1.1. **(Added-AFSC)** Responsible for Supply, Storage, and Distribution duties to include retail

supply support to DM utilizing Customer Support Specialists (CSSs), and Sustainment Specialists (formerly supportability specialists and demand Planners), materiel handlers, etc.

2.8.4.8. **(Added-AFSC)** DLA Distribution.

2.8.4.8.1. **(Added-AFSC)** Responsible for materiel storage, packaging, receiving, inventory, and distribution in support of the depot repair function IAW MOAs, Memorandums of Understanding (MOUs), or Support Agreements.

2.9. **(Added-AFSC)** Functions.

2.9.1. **(Added-AFSC)** Production. Each squadron director will be the accountable OPR responsible for assets in the production shop and the assigned resources to accomplish depot repairs. Using standard repair processes, the OPR is responsible for production output for the shop(s).

2.9.1.1. **(Added-AFSC)** The OPR has overall responsibility for the workload, planning, scheduling, and quality control in support of repair, production, overhaul, and manufacturing processes. Includes determining capacity parameters in EXPRESS to uphold the supportability function of the automated repair execution process.

2.9.1.1.1. **(Added-AFSC)** Provide supervision, operational direction, and guidance to the maintenance production chiefs and the PSF to ensure the most productive and cost effective methods are used to produce a timely and quality product that maximizes serviceable asset availability.

2.9.1.1.2. **(Added-AFSC)** Is responsible for managing resources required to perform programmed and non-programmed workloads; will respond when the automated Supportability Module of EXPRESS considers repair to be constrained based on insufficient shop capacity. Capacity constraints are revealed daily in two EXPRESS output reports: the Supportability Report and Supportability Summary.

2.9.1.1.3. **(Added-AFSC)** Chair the informal Exchangeable Meeting which is a meeting (as required) that discusses constraints and provides overall maintenance and production assessment to support the repair process. Reference Volume 3, Chapter 2, Paragraph 2.18.3.

2.9.1.1.4. **(Added-AFSC)** Form and manage depot field teams (DFT), when tasked, to provide worldwide support for customers, TCTO requirements, and TO 00-25-107, Maintenance Assistance requests. Reference Volume 2, Chapter 10.

2.9.1.2. **(Added-AFSC)** The Squadron Commander/Director determines when end items are taken in or out of on work order (OWO) status. The Squadron Commander/Director must weigh customer requirements with the level of risk they are willing to accept. The Squadron Commander/Director decides when to take an item off OWO and place it in the AWP store

(remains on the maintenance 'M' balance). Adherence to policy will reduce the AWP backlog, capture true costs associated with depot repair, capture accurate consumption data needed to facilitate stockage of replacement items, and allow personnel to perform repairs on required assets.

2.9.1.3. **(Added-AFSC)** DM activities are barred from inducting assets (exceeding the net repair objective) to cannibalize as a source of supply (SOS) for repair parts not available through normal supply channels. Parts needed to effect repairs will be requisitioned from the supply system. If repair parts are not received in a timely manner, the Squadron Commander/Director may seek relief by asking AFLCMC, DLA, and/or the 448th SCMW to fund carcass cannibalization with an AFSC Form 206. Thus, maintenance is paid for work associated with cannibalization and all demand data is captured in the applicable data systems. Under no circumstances is the Squadron Commander/Director authorized to induct beyond the repair objective for the purposes of cannibalizing parts unless a funded AFSC Form 206 is provided. AFLCMC, DLA, and/or the 448th SCMW will provide the disposition and supply condition code of all assets inducted for cannibalization purposes when the work is completed.

2.9.2. **(Added-AFSC)** Production Support Functions.

2.9.2.1. **(Added-AFSC)** General. This section provides guidance and direction for operating a PSF. The PSF manages the planning, scheduling, and AF DM materiel activities required to support execution. **Note:** Exchangeable Groups operating IAW AFMAN 63-143 meet the intent of the requirements for Production Support for Exchangeable Repair.

2.9.2.2. **(Added-AFSC)** Induction Process. All end items driven into repair or drawn into repair are assigned a 14-position end item document number through Wholesale and Retail Receiving and Shipping system (WARRS)/D035K. The end item document number stays with the end item until it is turned into supply. The assets will be tracked using the same document number. Likewise, D035K, Exchangeables Production System (EPS)/G402A, and Inventory Tracking System (ITS)/G337, LDMS or appropriate MIS will use the same document number to account for repairables. The Production Controller (scheduler) will monitor and coordinate with the DLA-A via WEBSDR/Form 37 on delinquent in-transits.

2.9.2.3. **(Added-AFSC)** The quantity per transaction (D7M) will always be 'one each' to facilitate end item tracking.

2.9.2.4. **(Added-AFSC)** Ordering From Supply. To order materiel, use standard operating procedures and systems. Use the Automated Bill of Material/Naval Air Systems Command Industrial Material Management System (ABOM/NIMMS) as the input system for materiel ordering. All shops must provide the end item document number, standard reporting designator (SRD), and required delivery date (RDD) with all requests. By including the end item document number on each issue request, D035K will react by linking the end item and component/piece-parts internally. Supply policy states that you must use a Urgency of Need (UND)/Force Activity Designator (FAD) combination to equal at least a priority 06 in order to initiate AWP. Combinations include all UND A/FAD combinations and UND B/with FAD 1 thru 3. **Note:** Depot level maintenance is assigned FAD III and must use this FAD in determining priority in all cases except as in Table 6.4. Block 13 column 61.

2.9.2.5. **(Added-AFSC)** The end item document number is assigned by D035K and can be found on the WCD produced by G337/appropriate MIS. The SRD can be obtained from the Air Force Technical Order (AFTO) Form 350, Repairable Item Processing Tag, the REMIS table, or the TO. The user provides the required delivery date.

2.9.2.6. **(Added-AFSC)** When ordering parts, use the end item document number of the end item being repaired to ensure the right parts are linked to the right end item. D035K will edit end item document numbers against the database for end item document numbers.

2.9.2.7. **(Added-AFSC)** All backorders against an end item are now considered AWP backorders regardless if the end item is in AWP or OWO status. D035K will automatically code piece-parts and/or component requisitions as AWP, with project code 'AWP' and advice code '6N' when the end item document number, SRD, and RDD are entered on the issues request.

2.9.2.8. **(Added-AFSC)** Bench Stock/Residual Materiel. Bench stock and residual materiel are two examples of maintenance owned bit and piece parts to be used before any additional bit and piece parts are ordered. Production Controller (materiel) will query D035K to check if item is supported by Industrial Product-Support Vendor (IPV) prior to placing part orders. Reference AFSCI 23-101, *Industrial Product-Support Vendor (IPV) Program*.

2.9.2.9. **(Added-AFSC)** Other Sources of Materiel. When traditional sources fail to provide required parts by the required delivery date, DLA may opt to use other sources for parts support. Other sources include approved cannibalization and save lists, local purchase, or local manufacture.

2.9.2.10. **(Added-AFSC)** Local Manufacture. Parts catalogued with a national stock number (NSN) can be locally manufactured when the designated SOS cannot meet the delivery date. Coordinate local manufacture with the SOS. A funded AFSC Form 206 along with the appropriate blueprints/drawings must be provided for local manufacture. Local manufacture items must be properly documented, and demand data must be captured and input into the supply system.

2.9.2.11. **(Added-AFSC)** Cannibalization of Inducted Items. Cannibalization of inducted items is the removal of an installed assembly, subassembly, component, or part from one inducted item for use on another item with the intention of replacing it. A cannibalization of inducted items occurs when a component ordered against an end item/end item document number has to be file maintained to another end item/end item document number because the component was cannibalized. Production Managers are not authorized to over induct end items [(in excess of the Net Repair Objective (NRO))] for the express purpose of cannibalizing parts. Reference AFMCI 21-100, Volume 2 Chapter 12 Section 12.2. *Additional Program Requirements*.

2.9.2.12. **(Added-AFSC)** Reclamation. Reclamation is the recovery of parts for further use from end items or excess assemblies. Parts removed by reclamation are generally not replaced and the end item may not be identifiable for turn in. Reclamation will be used instead of procurement or repair by the SOS, after considering cost, whenever it provides the quickest means of satisfying a

MICAP or other critical item requirement, or when there is no other known SOS. Reference Volume 3, Chapter 6.

2.9.2.13. **(Added-AFSC)** AWP Policy (reference Volume 3, Chapter 6, DAFI 23-101, and AFI 20-110 AFMCSUP for NWRM assets). **Note:** D035K transaction authority varies by ALC.

2.9.2.13.1. **(Added-AFSC)** When all the component parts have been received or canceled, D035K will automatically change end item document number condition code from AWP-G to AWP-F and change the DIOH Status Code to fully parts supportable (FWP). D035K will output a notification of the condition change, parts will be delivered, and work can be completed. The EXPRESS system will drive supportable (FWP) assets prior to requesting another asset from supply to be shipped to maintenance.

2.9.2.13.2. **(Added-AFSC)** Moving an End Item from OWO to AWP status. A transaction will be processed to move the end item off the JON OWO and into AWP. The ZFA/L will be processed in D035K to load the AWP storage location. The backorders for parts/components will be file maintained automatically. D035K will pass a D7 RF/PK to Job Order Production Management System (JOPMS)/G004L to move the end item from OWO to AWP. All AWP end items will be maintained on the 'M' balance.

2.9.2.13.3. **(Added-AFSC)** Uninstalled parts in the shop for the end item will be returned with the end item. Parts returned from the shop should be stored with the end item. However, if there is no room or it is not practical, parts may be stored in a separate area. Each part/component must be identified to a particular end item and cannot be co-mingled with parts from another end item.

2.9.2.13.4. **(Added-AFSC)** AWP Supportable Notification. When an AWP end item becomes 100 percent parts supportable, D035K will generate an information notice. This is notification that the last backorder against a given end item has arrived (or cancelled) and the asset is ready to return to repair.

2.9.2.13.5. **(Added-AFSC)** Moving an End Item from AWP to OWO. Once the last backorder is received, D035K codes the end item FWP or 100 percent supportable. G402A/appropriate MIS is used to transfer AWP to OWO when the end item move notice is received from D035K.

2.9.2.13.6. **(Added-AFSC)** End Item Turn-In Processing. When turning in an asset, the Production Controller (scheduler) will use the same end item document number created when the asset was brought into repair. D035K checks for existing backorders marked against the end item document number. If backorders exist, the system responds with a controlled exception 'AK' notifying the user of existing backorders. **Note:** To help prevent 'AK' exceptions the Production Controller (scheduler) and appropriate others as required will work with the Production Controller (materiel) to reconcile any outstanding backorders prior to the sale of the end item.

2.9.2.13.7. **(Added-AFSC)** AWP 'Get Well' Efforts. Existing supportable end items must be worked before additional carcasses are inducted for repair. D035K has been programmed to facilitate the drawdown of FWP assets by first selecting end items coded FWP before other carcasses. Where information technology (IT) systems fail to induct 100 percent supportable

AWP/FWP coded assets; the Production Controller (scheduler) must intervene and induct those available assets into repair. Which assets and the number inducted are at the discretion of maintenance.

2.9.2.13.8. **(Added-AFSC)** AWP Reconciliation. DLA-A/MSS will complete an annual AWP reconciliation (AWP End Item Reconciliation AW6 Report from CA Dispatch). The purpose of this reconciliation is to ensure proper accountability of AWP end items, piece parts on hand, and piece parts on order. Use existing Due In From Overhaul (DIOH)/AWP management reports to complete this reconciliation. The AWP reconciliation will be coordinated with PSF and scheduled by DLA.

2.9.2.13.9. **(Added-AFSC)** Long lead-time AWP assets will be addressed during the Exchangeable meetings and will be maintained on the 'M' balance. Maintenance will coordinate with AFLCMC, DLA, and/or 448th SCMW for disposition (Reference Chapter 6).

2.9.2.13.10. **(Added-AFSC)** Storing Assets. DLA will store and control serviceable components, piece parts, unserviceable end items, and AWP assets in a Shop Service Center (SSC). **Note:** NWRM assets are excluded.

2.9.2.13.11. **(Added-AFSC)** AWP Metrics. DLA will provide AWP by RC/CC, NSN, and SOS to isolate problem components, poor support to repair shops, and SOS support. The information will be used to assist in solving wholesale and retail stockage and issue problems.

2.10. **(Added-AFSC)** Multiple Source of Repair (MSOR). MSOR items use a combination of organic and/or contract repair such as organic/organic, organic/contract, or contract/contract. The items are routed to the appropriate organic and/or contract repair sites.

2.11. **(Added-AFSC)** Supportability. Supportability is measured in terms of carcass, capacity, funds, and parts. Each of these resources affects a shop's ability to perform the repair. For example, lack of carcasses, parts, capacity, and funds will prevent the end item from being 'driven' into the shop. All of these resources are evaluated each day as part of the repair process before any repairs are funded. The Supportability Module in EXPRESS is used to evaluate resource supportability.

2.11.1. **(Added-AFSC)** EXPRESS measures carcass, capacity, funds, and parts against predetermined criteria. In EXPRESS, 448th SCMW has the ability to adjust carcass criteria and the responsibility to see if carcasses can be made available where the EXPRESS Supportability Module considers repair to be constrained based on carcasses not being available. Two EXPRESS outputs that reveal when carcass constraints are evident are the Supportability Report and the Supportability Summary. Reference AFSCI 23-103, *Execution and Prioritization of Repair Support System (EXPRESS)*

2.11.2. **(Added-AFSC)** Organic Repair. EXPRESS will identify repairs for programmed workload. Programmed workload is defined as workload assigned a permanent control number.

2.11.3. **(Added-AFSC)** Non-Programmed Workload Support. The non-programmed workloads may include: Insurance/Numerical Stockage Objective (INS/NSO) items, low demand items, local manufacture, items that are non-Cooperative Logistics Supply Support Agreement (nonCLSSA) foreign military sales (FMS) items, MODs/TCTO items, partnership workloads, some Depot Maintenance Interservice Support Agreement (DMISA) items, and other non-predictable workloads. These requirements will be worked using an AFSC Form 206. **Note:** AFSC Form 206 use in not required for those partnerships and DMISA's on Permanent Production Numbers.

2.12. **(Added-AFSC)** Requirements are computed at the individual item level in Enterprise Supply Chain Analysis, Planning, and Execution (ESCAPE) - Service Parts Management (SPM). The 448 SCMW validates and maintains the forecasted repair and buy quantities which are used for long range planning and budgeting. Base and depot levels are computed when pipeline data is passed from SPM to Readiness Based Leveling (RBL). Depot working levels are overlaid into EXPRESS by RBL.

2.12.1. **(Added-AFSC)** Readiness Based Leveling (RBL) D035E. RBL is the AF system designed to allocate the SPM worldwide requirement among bases and the depot to reduce base expected backorders. RBL ensures the worldwide sum of levels does not exceed the requirement computed in SPM. RBL allocates all adjusted stock levels (ASLs) unless there is an insufficient worldwide requirement to meet demands.

2.12.2. **(Added-AFSC)** Exchangeable Induction Policy. CSAG-M is self-sustaining wherein all costs are required to be recouped through payments from our customers. DM should not usurp 448th SCMW's responsibility for determining how to satisfy repair requirements by over inducing carcasses as a source of supply for repair parts not available through normal channels of supply. The 448th SCMW must retain the authority for initiating buys, pay DM to 'harvest' usable repair parts off carcasses held in supply, or use of any other means available to provide repair parts to the repairing agency.

2.13. **(Added-AFSC)** Repairable Asset Process.

2.13.1. **(Added-AFSC)** This is the process of unserviceable assets transferring from the customer to the repair facility. Upon successful funds application within the daily EXPRESS process and receipt of D7, the unserviceable asset is moved directly from central receiving to the repair facility when a repair requirement exists in EXPRESS. If no immediate requirement exists, the unserviceable asset is stored in the warehouse pending future repair, reclamation, or disposal.

2.13.2. **(Added-AFSC)** The EXPRESS logic determines which programmed demands to repair first and if an asset will be inducted that day. EXPRESS uses multiple systems to obtain item specific data that includes the daily demand rate (DDR) and specific EXPRESS MAJCOM Scenario Subsystem (EMSS) data. EXPRESS will generate a complete list of all programmed repair actions on a daily basis for organic items. Non-programmed workload requirements will be handled on an exception basis.

2.13.3. **(Added-AFSC)** Supportability Module. EXPRESS automatically determines which items can be repaired by using the supportability module. Funding shortfalls are identified and will be

resolved by the 448th SCMW. High priority supportability failures should receive special management emphasis within the CSAG-S.

2.13.4. **(Added-AFSC)** Automated Project Order (APO) system/J025A. After intervention, the scrubbed supportable list is passed to J025A for funding. If it passes funding, the list is passed back to EXPRESS. If there is a failure at the funding point, the 448th SCMW may be tasked to do further research.

2.13.5. **(Added-AFSC)** D035K EXPRESS Table Loading. EXPRESS passes the funded supportable prioritized list to the D035K EXPRESS Table. Loading the list to the D035K EXPRESS Table starts movement of unserviceable assets into the applicable maintenance facility for repair.

2.14. **(Added-AFSC)** EXPRESS Contingency Planning. In the event that the daily prioritization, funding, and distribution automated processes fail, there are various options available based on the circumstances causing the contingency.

2.14.1. **(Added-AFSC)** If all data required for optimal EXPRESS processing is not available, ALCs should proceed with EXPRESS processing using the data available. Except in the event that wholesale management and efficiency reports (WMER)/D035B data is not available, there are two options to consider:

2.14.1.1. **(Added-AFSC)** If work in progress, plus workload from the previous Prioritized List limited by available repair resources adequately occupies the shop, no new EXPRESS run is necessary (i.e., it is better to work with the previous data than to use outputs produced by EXPRESS without the D035B file). Repair constraints must be considered manually in this case as the EXPRESS Supportability function will not be applicable.

2.14.1.2. **(Added-AFSC)** Only if the unsupported repair objective, plus work in progress is not sufficient to workload the shop, should the Production Controller (scheduler) request the system administrator to proceed with EXPRESS processing realizing the results will be somewhat compromised by the lack of current D035B data. Since the system administrator may be requested to proceed with EXPRESS processing, which will overlay the previous results, any scheduler planning to use the previous results must make a copy of the Prioritized List.

2.14.2. **(Added-AFSC)** If EXPRESS fails to run, continue to repair assets where the previous day's repair left off (i.e., where the total repair objective was not supported due to limited repair resources). The previous day's unsupported repair objective is on the EXPRESS Prioritized List. If the previous day's unsupported repair objective plus work in progress is not sufficient to workload the shop, the 'bringing in of additional workload' will be a managerial decision.

2.15. **(Added-AFSC)** Manual Intervention of the EXPRESS Table. There may be times when it is necessary for the Production Controller (scheduler) to manually intervene with the automated process of developing the daily EXPRESS Table. This can be done in the EXPRESS Table Quantities Output in EXPRESS immediately following the Supportability Module run. All intervention transactions must take place as designated by each operating location. Changes will

not be accepted after this time. All file maintenance changes to EXPRESS data during intervention should be made with caution. The intervention window is the opportunity for 448th SCMW to review and/or input recommended changes to the scheduler for manual intervention. Caution: Incorrect input(s) will result in serious operational problems, data problems, funding problems, and possible erroneous repair drives. Any intervention for quantity or switch changes must be fully documented with descriptive reason statement, date, and name/title of person making change.

2.15.1. (Added-AFSC) During intervention, there are no specific restrictions regarding deletion of stock numbers or quantities for which the Production Controller (scheduler) is responsible. However, barring only the exceptions specified below, the scheduler is permitted to add only stock numbers or quantities that are identified on that day's EXPRESS Supportability Report.

2.15.2. (Added-AFSC) The report reflects items that are both supportable and unsupportable. The added stock numbers or quantities must be limited to those which are prioritized above the lowest priority requirement supported by the funding burn rate. Stock numbers or adequate quantities shown as supportable must be selected and deleted from the EXPRESS Table to offset the repair costs of any stock numbers or quantities that are added.

2.15.3. (Added-AFSC) Conditions Required for Manual Intervention. The Production Controller (scheduler) may only manually intervene in the automated process if one or more of the following circumstances exist:

2.15.3.1. (Added-AFSC) Interchangeability and Substitutability (I&S) Issues. Examples include Subgroup Master NSN versus Actual NSN, one-way interchangeable items, and Authorized for Procurement Purposes (APP) NSNs. To address these in intervention, a new NSN can be added but only when it is offset by deleting the identified NSN for which it substitutes.

2.15.3.2. (Added-AFSC) Equipment constraints. EXPRESS does not consider the type or amount of equipment in the shop. The Supportability Module only calculates the number of hours available in a shop. The Production Controller (scheduler) must review the daily EXPRESS repair listing to ensure the capacity of the shop's equipment has not been exceeded for the items being driven into repair.

2.15.3.3. (Added-AFSC) Personnel constraints. EXPRESS does not consider the skills available in the shop. When the repair listing cannot be supported due to personnel constraints, the Production Controller (scheduler) may correct the listing to accurately reflect the skills and/or number of personnel available.

2.15.3.4. (Added-AFSC) Erroneous parts data. When an NSN fails for parts and research shows those parts are available, the end item shall be brought in for repair unless another constraint exists. Also, when an NSN is identified for repair and parts are not available, the end item may be removed from the repair list.

2.15.3.5. (Added-AFSC) Validated data discrepancies. When data discrepancies can be validated, the problem must be documented and reported to the appropriate OPR. When this 'dirty data' can be accurately validated, the OPR, typically 448th SCMW, must determine what the repair

requirement and priority would be for an affected item if the data were valid. If the Production Controller (scheduler) is convinced the NSN should be added to or the quantity increased on the EXPRESS Table, it can be done provided an NSN and/or adequate quantity of lower priority supportable requirements are deleted to offset the repair cost of the added requirements. Conversely, a data discrepancy resulting in a decision to reduce repair requirements or priorities can be addressed by deleting the affected NSN or reducing the quantity during intervention.

2.16. (Added-AFSC) Max Item Switch and Supportability Max Item Quantity ('M' switch). The Production Controller (scheduler) is responsible for setting the Max Item Switch and Supportability Max Item Quantity. These settings are used together to manage capacity in the shop by controlling the maximum number of items allowed on the Express Table. The settings are by specific PSSD/NSN. Any intervention for switch changes must be fully documented with date, name/title of person making change (Systematically time stamped during user submission), and descriptive reason statement describing the methodology used to determine the change. Caution: Incorrect inputs(s) may result in erroneous repair drives.

2.16.1. (Added-AFSC) Max Item Switch. This is a three-position switch that determines which particular assets [Condition Code 'Y', Awaiting Maintenance (AWM), OWO] will be included in the Max Shop Quantity calculation on the 'Repair Resource Maintenance' view and in the Supportability Max Item Quantity calculation on the 'Item Maintenance' view. The selection of 'EXPRESS Table', 'AWM Pipe', or 'Repair Pipe' in the 'Repair Resource Maintenance' view determines how shop quantity will be capped. Default value is 'EXPRESS Table'.

2.16.1.1. (Added-AFSC) EXPRESS Table. Constrains the number of potential, repairable, and supportable requirements that are loaded to the EXPRESS Table to the quantity placed in the Max Shop Quantity field for that shop.

2.16.1.2. (Added-AFSC) AWM Pipe. Constrains the number of potential, repairable, and supportable requirements that are loaded to the EXPRESS Table to the Max Shop Quantity field less the sum of all items that have Condition Code 'Y' or are AWM for that shop.

2.16.1.3. (Added-AFSC) Repair Pipe. Constrains the number of potential, repairable, and supportable requirements that are loaded to the EXPRESS Table to the Max Shop Quantity field less the sum of all items that have Condition Code 'Y', are AWM, or are OWO for that shop.

2.16.2. (Added-AFSC) The 'AWM Pipe' or 'Repair Pipe' settings may be used to maintain a constant level of repairs for a specific NSN in a shop. This logic helps to maximize shop efficiency by maintaining a standard OWO balance throughout the shop. The Production Controller (scheduler) will ensure all repair requirements continue to be met when utilizing the 'AWM Pipe' and 'Repair Pipe' settings.

2.16.3. (Added-AFSC) Conditions Required for Supportability Max Item Quantity. The Production Controller (scheduler) may only set the Supportability Max Item Quantity if one or more of the circumstances exist.

2.16.3.1. **(Added-AFSC)** NSN repair is impacted by equipment constraints (e.g. Precision Measurement Equipment Laboratory (PMEL), test set, fixtures.). EXPRESS does not consider the type or amount of equipment in the shop. The Supportability Module only calculates the number of hours available in a shop. The Production Controller (scheduler) must review the daily EXPRESS repair listing to ensure the capacity of the shop's equipment has not been exceeded for the items being driven into repair.

2.16.3.2. **(Added-AFSC)** NSN repair is constrained due to personnel issues (e.g., skill set, qualifications, training, number of personnel). EXPRESS does not consider the skills available in the shop. When the repair listing cannot be supported due to personnel constraints, the Production Controller (scheduler) may correct the listing to accurately reflect the skills and/or number of personnel available.

2.16.3.3. **(Added-AFSC)** NSN repair is constrained due to facilities (e.g., shop, size, space) EXPRESS does not consider the type of facilities that the work will be performed in. The Production Controller (scheduler) must review the daily EXPRESS repair listing to ensure the capacity of facility has not been exceeded for the items being driven into repair.

2.16.3.4. **(Added-AFSC)** Other. Used only when reasons are outside the prescribed EXPRESS drop down and/or predetermined acceptance probability (PAP) Switch adjustments. Any intervention must have a descriptive reason statement, date, and name/title of person making change.

2.16.4. **(Added-AFSC)** Supportability Max Item Quantity (M-Switch). This data field represent maximum items allowed in the shop for the specific item and depends upon the switch setting of the 'Supportability Max Item Quantity' in the 'Item Maintenance' view. The default value is 99999 (i.e., 100 percent unconstrained quantity). The field range is from 0 to 99999.

2.16.4.1. **(Added-AFSC)** Supportability Max Item Quantity (M-switch) is designed to manage capacity when the "AWM Pipe" or "Repair Pipe" settings are not feasible. The "AWM Pipe" or "Repair Pipe" are appropriate for use at the PSSD level. However, there are examples when these settings will not sufficiently manage capacity; such as, multiple testers within PSSDs that repair multiple parts. Capacity management is required to control Work-in-Progress (WIP), the number one rule for Art of the Possible (AoP) maintenance machine management. Uncontrolled WIP drives increased Shop Flow Days (SFDs), increased Working Levels (WLs), and the possibility of increased sparing levels.

2.16.4.2. **(Added-AFSC)** The use of the M-Switch may be short-term or long-term. Short-term use of the M-Switch may arise when unanticipated demands occur, testers go down, or flying hours increase due to unplanned contingencies. AoP machines' capacity will need to be resized to keep up with the increased demand. If increased demands persist and outgrow budgeted capacity,

the long-term use of the M-switch may be required.

2.16.4.3. **(Added-AFSC)** Maintenance and SCM personnel should work to gain more capacity through

the Annual Program and capital investment program (CIP) budgeting processes. Transparency shall be maintained between the supply chain management group (SCMG) and maintenance group (MXG) on the long-term use of the M-Switch. Continuous constraints to EXPRESS drives can skew the priorities computed by the EXPRESS model and can result in suboptimal support to the customer. Thereby, it is incumbent that all parties are working to “bust constraints”, to include the use of the M-switch.

2.16.4.4. **(Added-AFSC)** M-switch usage will be monitored at a minimum of monthly in Exchangeable meetings or IAW local guidance.

2.16.5. **(Added-AFSC)** 448th SCMW Recommendations. The 448th SCMW can recommend changes to the Max Item Switch and Supportability Max Item Quantity settings, but the Production Controller (scheduler) has the final authority and is ultimately responsible for induction into maintenance.

Table 2.1. **(Added-AFSC)** Exchangeable Meeting Focus.

Exchangeable Meeting Focus					
What to Review		Questions to Ask.		Examples listed below	
Asset Posture		What is on-hand at field level?			
Is the Redistribution Order (RDO) an option?					
What is the serviceable balance?					
Do we have available ‘F’ condition carcasses?					
How many items are backordered?					
Repair Cycle (Snapshot View)		What is broken?			
Where is it?					
Is somebody fixing it?		What are the bottlenecks?			
What are the leading indicators?					
Repair Cycle Dynamics		How fast?			
How reliable?	Right priorities?	Resource problems?	People problems?	Contractor support?	

2.16.6. **(Added-AFSC)** Exchangeable Meeting Attendees. The mandatory monthly forum will include all personnel who resolve problems within the depot repair process. The Squadron Commander/Director, 448th SCMW personnel, appropriate Squadron representatives from scheduling, process engineering, planning, materiel support, as required; representatives from system engineering, contracting, procurement, DLA, and others critical to customer support will

also participate in these meetings, as required, if specific issues demand attendance. Personnel at other ALCs will facsimile (FAX) or email the status of items for which they are responsible to the affected Squadron Commander/Director. If issues exist, personnel will participate in the meetings via video-conference, speakerphone, etc. The Squadron Commander/Director responsible for the 'problem item' will lead the discussion.

2.16.7. **(Added-AFSC)** Roles and Responsibilities in Support of the Exchangeable Meetings.

2.16.7.1. **(Added-AFSC)** The 448th SCMW's role is to brief the worldwide health of the item. This includes information on the Exchangeable Chart, as required, and includes the Asset Posture items listed in Table 2.1. The 448th SCMW is responsible for attending the Exchangeable meetings if items being reviewed are under their area of responsibility. The 448th SCMW is also responsible for any additional information relative to the 'problem item' that is not portrayed on the chart or requires further explanation, which may involve identifying and correcting data problems involving requirements and asset data that impact EXPRESS. The 448th SCMW should also be prepared to discuss any procurement issues, availability of carcasses for reclamation or cannibalization, status of repair actions at contractor or other organic locations, etc.

2.16.7.2. 18.5.2. **(Added-AFSC)** DLA will brief parts related issues and AWP status.

2.16.7.3. **(Added-AFSC)** The Contracting Officer will attend, as necessary, to discuss contracting issues.

2.16.8. **(Added-AFSC)** Informal Exchangeable Meeting Discussions. The Squadron Director will lead the Exchangeable meeting discussions. The entire team will participate, as necessary, in the discussion directing efforts at problem resolution. The basic health and status of items will be addressed covering the specifics of what failed and why.

2.16.8.1. **(Added-AFSC)** The 'Top 10' problem items to be briefed will be determined using the EXPRESS Supportability Summary Report. The review will consist of the items IAW the Single Prioritization Across Weapon Systems (SPAWS) ranking that have failed. Additional items that cannot be produced may be added to the list.

2.16.8.2. **(Added-AFSC)** Workaround for Determining the 'Top 10'. Currently, there is no automated method to have the Supportability Summary Report sort items for multiple shops. An alternate method would be to run the Supportability Summary Report for the entire ALC, eliminate those shops not within the Group Commander/Director purview, and select the 'Top 10' items IAW the SPAWS ranking that have failed.

2.16.8.3. **(Added-AFSC)** 448th SCMW Recommendations. The 448th SCMW can recommend an item be included on the list to be presented but the Squadron Commander/Director has the final authority to determine what is presented.

2.16.8.4. **(Added-AFSC)** AWP and Hangar Queens. In addition to the 'Top 10' items, the meeting will also include a status of parts driving AWP and all Hangar Queens compiled by DLA. Additional back-up charts should be added as required.

2.16.8.5. **(Added-AFSC)** Exchangeable Chart Data. The owning organization is responsible collecting and displaying the information for this chart. The information can be obtained from the Basing & Logistics Analytics Data Environment (BLADE), Supply Chain Management (SCM) View, Execution and Privatization of Repair Support System (EXPRESS), or other approved and current command system(s) by the applicable representative from the supply chain. Local instruction(s)/guidance may be developed to further define this process. The following subparagraphs list examples of items that may be displayed and discussed on the Exchangeable Chart but are not mandatory.

2.16.8.5.1. **(Added-AFSC)** WorldWide (WW) Active Inventory. This is the amount of inventory needed to support all customers (i.e., FMS, other services, and non-capitalized customers). This includes authorized and on-hand levels. Formulas and information sources are:

2.16.8.5.2. **(Added-AFSC)** Worldwide Inventory Authorized (WW Inv Auth) peacetime operating stock (POS) readiness spares package (RSP) working level (WL) contract repaired item (CRI).

2.16.8.5.3. **(Added-AFSC)** On-hand Worldwide Inventory On Hand (WW Inv OH). $WW\ Inv\ OH = POS\ On\ Hand + RSP\ On\ hand + Work\ In\ Process + Consolidated\ Serviceable\ Inventory\ (CSI)\ On\ hand + CRI\ On\ hand + In\ transit\ (serviceable\ and\ unserviceable).$

2.16.8.5.4. **(Added-AFSC)** WorldWide MICAPs (MICAP).

2.16.8.5.5. **(Added-AFSC)** SPAWS Value. SPAWS is the prioritization method within EXPRESS that merges each of the weapon system priority lists into a single prioritized list across all weapon systems (indicated by rank and support indicator). The Production Controller (scheduler) uses this list to make repair induction decisions for a specific NSN to support field-level requirements.

2.16.8.5.6. **(Added-AFSC)** Peacetime Operating Stock (POS).

2.16.8.5.7. **(Added-AFSC)** Authorized (POS Auth). This is the computed RBL level within Standard Base Supply System (SBSS) or D035K.

2.16.8.5.8. **(Added-AFSC)** On-hand (POS OH).

2.16.8.5.9. **(Added-AFSC)** Readiness Spares Packages (RSP).

2.16.8.5.10. **(Added-AFSC)** Authorized (RSP Auth).

2.16.8.5.11. **(Added-AFSC)** On-hand (RSP OH).

2.16.8.5.12. **(Added-AFSC)** Net Repair Objective (NRO). The repair objective quantity provided by EXPRESS and is calculated before the supportability module has processed. This figure is obtained from the Working Level and Base Needs report in EXPRESS.

2.16.8.5.13. **(Added-AFSC)** Working Level Authorized (WL Auth). Computed by RBL and is the recommended amount of assets that should be in the Consolidated Serviceable Inventory (CSI) and Work-In-Process (WIP) at any one time to support requirements. These assets are owned by the 448th SCMW and are located at a depot, contractor facility, or at an offbase storage location. The level can be obtained from the Working Level and Base Needs report in EXPRESS.

2.16.8.5.14. **(Added-AFSC)** Consolidated Repairable Inventory Estimated (CRI Est). The amount of unserviceable assets that RBL estimates should be in the retrograde pipeline or available in the warehouse. This information is found in the depot working level file in D035E to EXPRESS.

2.16.8.5.15. **(Added-AFSC)** Total Work-In-Process (Total WIP). Shows the status of assets currently in the repair process and includes any assets in work at another repair location such as a contractor, another service, or another depot. For depot assets, this quantity includes OWO, AWM, and unserviceable materiel in transit to maintenance. While Item Manager Wholesale Requisition Process (IMWRP)/D035A at each depot has visibility of the local WIP balances, only D035A has visibility of assets in WIP at off-base storage locations and at each depot. Total of the following balances: WIP assets (condition code 'M') at the depots, ownership purpose (O/P) code 09; WIP assets (condition code 'M') at repair contractors or other services, O/P code A; and unserviceable assets in transit to maintenance (condition code 'Y'), O/P code 09. Reference AFMCMAN 23-501, Volume 1, D035A, D035B, RAMP and WHSL Module Data Subsystems.

2.16.8.5.16. **(Added-AFSC)** Consolidated Serviceable Inventory On Hand (CSI OH). The total of the following balances provided by D035A: serviceable assets (condition code 'A' and 'Z'), O/P code 09 stored at a depot (condition code 'B' and 'C' assets are rolled up in the 'A' quantity,); serviceable assets (condition code 'A') stored at off-base storage locations, O/P code A; and serviceable assets (condition code 'A') stored at repair contractor locations, O/P code A.

2.16.8.5.17. **(Added-AFSC)** Consolidated Repairable Inventory On Hand (CRI OH). Total of the following quantities are obtained from D035A: Unserviceable materiel (condition codes D, E, F, G, J, K, L, Q, and R) at a depot, O/P code 09; unserviceable materiel (condition codes D, E, F, G, J, K, L, Q, and R) at an off base storage location (includes contractor and other service storage locations), O/P code A.

2.16.8.5.18. **(Added-AFSC)** Unserviceable In-transit (In-transit). Amount of unserviceable materiel being returned from retail customers. Provided by read, reportable asset management process (RAMP)/D035C (HDFA screen): Unserviceable Intransit are O/P code 01 and HK (INTRANSIT UNS). Reference AFMCMAN 23-501, Volume 1.

2.16.8.5.19. **(Added-AFSC)** Monthly Demand Rate (MDR). Production is concerned with the SCM wholesale repair requirement versus the retail demand rate generated by CSAG-S retail customers.

2.16.8.5.20. **(Added-AFSC)** Retention Authorized (Retention Auth). The maximum amount of assets the 448th SCMW is authorized to have in their inventory.

2.16.8.5.21. **(Added-AFSC)** Local Work-In-Process (Local WIP). The amount of assets in the repair process at the local ALC. This balance is obtained from D035A as condition code M, O/P code 09.

2.16.8.5.22. **(Added-AFSC)** Additional information. The following information should be considered when building the Exchangeable production chart.

2.16.8.5.22.1. **(Added-AFSC)** Procurement Due-Ins. Information concerning procurement dueins is not reflected on this chart because the chart displays the ‘current’ health of the item not ‘future’ health. The 448th SCMW should be prepared to discuss any procurement issues or pending buys.

2.16.8.5.23. **(Added-AFSC)** Exchangeable Production Chart Overall Item Rating. Maintenance will color code the overall rating of the item green, yellow, or red as follows: Green means item has no MICAPs and all individual ratings are green; yellow means the item has no MICAPs and one or more of the individual items are yellow; red means the item has one or more MICAPs and/or one or more of the individual items are red. Reference Table 2.1.

Figure 2.1. **(Added-AFSC)** Sample Exchangeable Production Meeting Chart.

EXPRESS		Bypass: 0		Exchangeable Problem Item Chart		1306-00-162-8143	
SPT	0	Carcass: 44		RED		Supervisor: Mark Cowart	
Failed	76	Hours: 0		POWER SUPPLY		Scheduler: Beverly Styes	
		Funds: 0		PDN: 42201A		PM: Windal Proctor	
		Parts: 32		RCC: MIBR9F		IM: Sue Underwood	
				Date: 31-Mar-10		Planner: Katherine Stew	

Total Auth	Total OH	Priority SPRS	MICAP	RSP Auth / OH	POS Auth / OH	W/L Auth	Net Rep Obj
54	87	0	0	0	34 / 1	20	76

Serv	4	Total WIP	15	Reps O/H	32	Other Reps	36	Other assets	0
RSP	0	Organic OWO	8	AWP F	0	Retro	0	DIFM	0
POS	1	Cont OWO	0	F, K, R, at WR	32	Q Cond	0	Surplus I & S	0
Z Cond	3	Y Cond	7			Other	0		
A Cond	0					F, K, R, at other ALC's	0		
Intransit	0					AWP G	36		

Equipment	G	Diod				
Facilities	G	R				
CRI	G					
Parts	R					
Personnel	G					

SHIFTS		1	
Flow Days		G	
AWM	274.0	AWP	843.1
Actual	-222.2	Standard	23

WR-ALC / Production History / Forecast												MTD
	Jun08	Jul08	Aug08	Sep08	Oct08	Nov08	Dec08	Jan09	Feb09	Mar09	Apr09	
Prod	7	3	5	2	4	10	6	4	8	16		
Target	14	5	10	9	15	16	9	9	10	10	23	
B/O's	36	38	43	62	76	65	60	71	86	79		
MDR	7.7	7.7	7.7	7.7	2.7	2.7	2.7	9.3	9.3	9.3		
OWO	7	9	7	11	21	13	4	5	5	11		
AWP	46	47	47	47	46	49	52	53	51	36		
RO	34	34	40	40	40	19	19	19	34	34		

2.16.8.5.23.1. **(Added-AFSC) Overall Equipment Rating.** Maintenance independently rates each critical piece of equipment. Green indicates adequate equipment to handle the projected workload is available and is in serviceable condition. Yellow indicates adequate equipment is not available but an acceptable plan is in place (i.e., equipment is down for routine maintenance, needs minor repair, or scheduled for routine maintenance and a workaround exists). Red indicates that adequate equipment is not available or equipment is down for maintenance for an extended period of time and no workaround exists. Individual equipment ratings will be rolled up to a composite equipment color-code rating. Items with any critical equipment having a color coded rating of red or yellow will have the same overall equipment rating.

2.16.8.5.23.2. **(Added-AFSC) Overall Personnel Rating.** Maintenance rates personnel. Green indicates that sufficient personnel are available to produce full requirements. Yellow indicates personnel are available to produce critical areas of MICAP and RSP but some requirements (POS and/or CSI) cannot be filled. Yellow also indicates requirements can be met but overtime rate exceeds sustainable levels. Red indicates sufficient personnel are not available to fulfill requirements for MICAP or RSP items or when capacity is used up for further repairs. Personnel status will remain red until additional hours are assigned or become available through completed repairs.

2.16.8.5.23.3. **(Added-AFSC)** Overall Flow Day Rating. Maintenance rates flow days. Green indicates the item is produced in less than or equal to the standard flow days. Red is assigned to items produced with flow days greater than the standard. Standard Shop Flow Days will be calculated and reviewed IAW Volume 3, Chapter 1 in this instruction. Standard Shop Flow Days are input into G019C MISTR tab in G004L. Actual Shop Flow Days will be obtained from the appropriate maintenance system.

2.16.8.5.23.4. **(Added-AFSC)** Overall Consolidated Repairable Inventory Rating. The 448th SCMW validates CRI inventory. Green is assigned if carcasses are on hand. Green is also assigned if RBL identified CRI levels are zero. Red is assigned when carcasses are not available.

2.16.8.5.23.5. **(Added-AFSC)** Overall Parts Rating. Maintenance rates overall components. Green is assigned to items with parts on hand to do the EXPRESS driven repairs. Red is assigned if parts are on backorder and not available to support RDD. The D035K system is used for access to estimated delivery dates.

2.16.8.5.23.6. **(Added-AFSC)** Overall Funds Rating. Green indicates funding is available and production is not impacted. Yellow indicates funds are available to cover the critical areas of MICAP and Joint Chiefs of Staff (JCS) projects but funding lacks capability to cover full requirements. Red is assigned when lack of funding is preventing the MICAP or JCS item from being brought into repair.

2.17. **(Added-AFSC)** EXPRESS Funds Application. (Reference AFSCI 23-103).

2.17.1. **(Added-AFSC)** Purpose. This guidance provides direction for funds application of Work Authority (WA) as it relates to EXPRESS funding execution.

2.17.2. **(Added-AFSC)** There is no ownership of the repair cost authority (CA) as the 448th SCMW is held in central pool by specific SOS. The central pool is maintained and executed at Group level to allow for funding on demand to support the repair on demand process. This process focuses on the repairable assets managed by the 448th SCMW. These items can be identified by a three position Expendability, Recoverability, Reparability Category (ERRC) designator of XD1 or XD2 or the one position alpha designator of C or T. Items are also identified as budget code '8' items.

2.17.3. **(Added-AFSC)** The 448th SCMW Group FM office for each SOS is responsible for providing timely funding to allow daily EXPRESS execution via J025A.

2.17.4. **(Added-AFSC)** The 448th SCMW Group Wholesale Funds Manager(s) representative from the SOS Group FM office will address funding issues at Exchangeable meetings for their SOS and will communicate with the 448th SCMW FM prior to the meetings to obtain the latest funding information.

2.18. **(Added-AFSC)** Organic Workload Funding Execution Process.

2.18.1. **(Added-AFSC)** The EXPRESS system determines the repair execution requirements for organic programmed repair items (Exchangeables), and identifies the requirements by Sub Group Master (SGM) and by weighted repair cost. On a daily basis, EXPRESS triggers the read, project order (PO) funding process in J025A. For each SOS/Source of Repair (SOR) combination, J025A generates an on-line PO using data from EXPRESS and G004L. J025A then notifies EXPRESS when the PO has been funded and accepted or that funding was not completed. CSAG-M will not put assets into work without a funded PO.

2.18.1.1. **(Added-AFSC)** The EXPRESS supportability module for each SOR contains a separate burn rate for each SOS having repair at that SOR. The burn rates tell the EXPRESS supportability module how much CA is available from each SOS to support their daily repair requirements. The EXPRESS burn rate is SOS specific rather than shop specific. The 448th SCMW Group Wholesale Funds Manager(s) is responsible for the SOS repair funding burn rate data and ensures burn rate data has been properly entered into EXPRESS. The burn rate data consists of four elements that are required to calculate the EXPRESS burn rate: SOS Checkbook, Days Remaining, Funding K-factor (%), and Percent of Checkbook. These values can be changed as needed.

2.18.1.2. **(Added-AFSC)** SOS Checkbook is the uncommitted CA balance for a particular SOS. EXPRESS Depot Funding will receive each SOS's uncommitted CA balance for monthly production count (MPC) 1Q01 from J025A daily.

2.18.1.3. **(Added-AFSC)** Days Remaining identifies the remaining workdays in FY or for a specific number of days the applicable funding should apply. The 448th SCMW Group Wholesale Funds Manager(s) work(s) with the CSAG-M Acceptor at each SOR to identify the remaining workdays.

2.18.1.4. **(Added-AFSC)** Percent of Checkbook is the percent of uncommitted CA balance that will be applied for an SOS's requirements at a particular SOR.

2.18.1.5. **(Added-AFSC)** Funding K-factor (%) allows the daily burn rate to be exceeded by a predetermined percent. If SOS burn rate is calculated to \$500 for a given day and the SOS selected 150% for the K factor, the burn rate will equal \$750. The EXPRESS supportability module would use \$750 as the burn rate for this SOS rather than \$500. The K-factor helps with situations where an item has an extremely high unit repair cost or the requirement on a given day exceeds the burn rate because of increased demands.

2.18.2. **(Added-AFSC)** Burn rate calculation.

2.18.2.1. **(Added-AFSC)** EXPRESS calculates the SOS burn rates by multiplying the SOS's uncommitted CA balance by the SOS's percent assigned to that SOR then divides by remaining work days and multiplies the value by the K-factor %. $\text{SOS burn rate} = \text{K factor} \times [(\text{uncommitted CA} \times \% \text{ of CA}) / \text{days remaining}]$.

2.18.3. **(Added-AFSC)** EXPRESS PO Processing.

2.18.3.1. **(Added-AFSC)** J025A edits the information it receives from the EXPRESS file. Using the EXPRESS data and information from G004L, J025A will automatically build/initiate a PO and transmit to the Initiator/Approver (the 448th SCMW Group Wholesale Funds Manager) at the appropriate SOS. J025A cannot attempt to build a PO for the requirement if data is missing or has invalid characters for the Production Control Number, SGM, Quantity, Production Section Scheduling Designator (PSSD), or Fund Classification Reference Number (FCRN). Care must be taken to ensure the data is properly entered into EXPRESS and G004L.

2.18.3.2. **(Added-AFSC)** Approver transmits the PO to the ALC for certification of funds and the ALC will then submit the PO to the CSAG-M Acceptor. The CSAG-M Acceptor will then send the PO to Defense Finance and Accounting Service (DFAS) for Obligation of CA Funds and DFAS will finalize the PO. Notification is returned to EXPRESS stating funds application is complete. A record of the PO is also forwarded to Defense Industrial Financial Management System (DIFMS) Funding Initiation Tool (FIT) system to update the maintenance financial records.

2.18.3.3. **(Added-AFSC)** Prior to acceptance, if the Acceptor rejects the PO, it is passed back to the Certifier then to the Approver and back to the Initiator with comments for appropriate action. Subject to required actions, funding will not be applied for induction needs for the particular funding stream [Program Control Number (PCN)/FCRN] in question that day.

2.18.4. **(Added-AFSC)** PO acceptance.

2.18.4.1. **(Added-AFSC)** There is no partial approval/acceptance of a PO. After supportability and subject to maintenance manual intervention, should total dollar value on PO exceed total available WA, the Initiator will reduce the requirement to the available funding. Initiator can delete any or all funding streams from the PO.

2.18.4.2. **(Added-AFSC)** The CSAG-M Acceptor's on-line signature on the PO indicates CSAG-M is accepting the SOS's offer (i.e., the workload). This process allows the CSAG-M to incur an expense on behalf of the 448th SCMW.

2.18.5. **(Added-AFSC)** PO Funds Application Time Limits.

2.18.5.1. **(Added-AFSC)** There is a two hour window (1330-1530 Eastern Time) to build the PO, approve the funds, certify and commit the funds, accept the PO, obligate the funds, and notify EXPRESS of the funded or unfunded requirements.

2.18.5.2. **(Added-AFSC)** The Initiator is responsible for oversight of the acceptance process. Initiator is required to monitor the EXPRESS funding process and contact the Acceptor when the PO amendments are not being processed in a timely manner. The Initiator will ensure the approval, certification, and acceptance process is completed during the two hour window. If completion cannot be accomplished, the Initiator/Approver/Certifier/Acceptor in J025A may request to extend the J025A EXPRESS window.

2.18.5.3. **(Added-AFSC)** Upon completion of funding process, EXPRESS reformats the funded J025A file and sends the file to D035K which begins the movement of reparable carcasses to shops for induction and repair to commence.

2.18.6. **(Added-AFSC)** Contingency Plan.

2.18.6.1. **(Added-AFSC)** If J025A is off-line, the CSAG-M Acceptor will sign a paper copy and return to the initiator. The Initiator will hold the paper copy until J025A is back on-line.

2.18.6.2. **(Added-AFSC)** J025A provides a PO amendment number that G004L needs to load the information into the maintenance systems. Amendment numbers are not available until the Initiator is able to input the POs into J025A.

2.19. **(Added-AFSC)** General. **Note:** Exchangeable Groups operating IAW AFMAN 63-143 meet the intent of the requirements for Production Support for Exchangeable Repair.

2.19.1. **(Added-AFSC)** Procedures and Analysis (P&A). Responsible for overseeing analysis functions critical to the efficient and effective operation of PSF. **Note:** P&A functions for Exchangeable workloads may be located at the Group or Squadron level.

2.19.1.1. **(Added-AFSC)** Provide support and coordination for meetings and briefings.

2.19.1.2. **(Added-AFSC)** Develop and maintain internal Group operating procedures which will not conflict with published governing instructions.

2.19.1.3. **(Added-AFSC)** Perform internal process reviews and monitor practices to ensure compliance with established procedures and practices.

2.19.1.4. **(Added-AFSC)** Measure process compliance and evaluate business metrics.

2.19.1.5. **(Added-AFSC)** Analyze trends.

2.19.1.6. **(Added-AFSC)** Evaluate workload progress.

2.19.1.7. **(Added-AFSC)** Recommend changes to process, personnel position descriptions and procedures, equipment and facility, information systems, and training.

2.19.1.8. **(Added-AFSC)** Track Quality and Engineering Investigations (Q/EIs)/credits, warranty, and desired results.

2.19.2. **(Added-AFSC)** IET (maintenance planner) Planning Functions:

2.19.2.1. **(Added-AFSC)** Estimate labor hours and resources to perform PDM MODs, and UDLM statement of work (SOW) in support of RFQs.

2.19.2.2. **(Added-AFSC)** Reconcile similarities between PDM and MOD work packages.

2.19.2.3. **(Added-AFSC)** Update FPWS and reconcile and provide FPWS to the SPOs.

2.19.2.4. **(Added-AFSC)** Develop master network.

2.19.2.5. **(Added-AFSC)** Develop work packages.

2.19.2.6. **(Added-AFSC)** Integrate TOs, engineering changes, and mechanic input into work packages.

2.19.2.7. **(Added-AFSC)** Develop BOMs by PDM operation.

2.19.2.8. **(Added-AFSC)** Merge Tail Serial Number Scrub List to BOMs for UDLM operation.

2.19.2.9. **(Added-AFSC)** Adjust BOMs as necessary.

2.19.2.9.1. **(Added-AFSC)** Update BOMs from AMR for FY LOM.

2.19.2.10. **(Added-AFSC)** Adjust aircraft/missile schedules by major job.

2.19.2.11. **(Added-AFSC)** Participate in the supportability reviews.

2.19.2.12. **(Added-AFSC)** Load workload packages.

2.19.2.13. **(Added-AFSC)** Adjust operation schedules.

2.19.2.14. **(Added-AFSC)** Compare equipment to work specifications.

2.19.2.15. **(Added-AFSC)** Compare facilities to work specifications.

2.19.2.16. **(Added-AFSC)** Review aircraft/missile records and pre-existing problems.

2.19.2.17. **(Added-AFSC)** Participate in Pre-Induction conference.

2.19.3. **(Added-AFSC)** Master Scheduler Functions.

2.19.3.1. **(Added-AFSC)** Coordinate FY work plan for aircraft/missile induction, carry-out, flow days, and shifts with planning. Any changes must be coordinated and approved by planning to ensure changes to work packages and networks are updated.

2.19.3.2. **(Added-AFSC)** Review system schedule impacts of MODs, UDLM, and new or changed requirements.

2.19.3.3. **(Added-AFSC)** Review resource supportability by MDS per FY.

2.19.3.4. **(Added-AFSC)** Adjust schedule per facility or skill constraints.

2.19.3.5. **(Added-AFSC)** Establish aircraft/missile schedule.

2.19.3.6. **(Added-AFSC)** Develop aircraft/missile input/output schedule with planning.

2.19.3.7. **(Added-AFSC)** Confirm incoming tail/serial number and configuration.

2.19.3.8. **(Added-AFSC)** Chair Pre-Induction Conference.

2.20. **(Added-AFSC)** Production Support Functions. (Schedule Execution Support Flight (PSF).

2.20.1. **(Added-AFSC)** Production Controller (scheduler) Functions.

2.20.1.1. **(Added-AFSC)** Review aircraft/missile history.

2.20.1.2. **(Added-AFSC)** Route from Pre-Dock and Dock; track all routed items.

2.20.1.3. **(Added-AFSC)** Verify PDM/UDLM work packages are in the appropriate production scheduling system, and ensure JON opened in G004L.

2.20.1.4. **(Added-AFSC)** Synchronize back-shop support to schedule.

2.20.1.5. **(Added-AFSC)** Manage WCDs and issue to Production Supervisor for distribution to mechanics. **Note:** For the ALCs with electronic work control document (eWCD) capability, the Production Controller (scheduler) will make available 10 days' worth of work at a time to the production supervisor via a MIS report indicating operations available for work by production for the 10 day period.

2.20.1.6. **(Added-AFSC)** Verify operation completion to include temporary JONs (T-JON). **Note:** For the ALCs with eWCD capability, only operations in MIS operation status code 9 will be stamped once completed by the mechanic, which verifies certification of completion on the eWCD, and credits the RC/CC with earned hours. The Production Controller (scheduler) will verify all operations contain the appropriate stamps, serial numbers, and corrective actions before certifying with a C stamp.

2.20.1.7. **(Added-AFSC)** Ensure JON is closed in G004L and input departure date in the appropriate production scheduling system.

2.20.1.8. **(Added-AFSC)** Chair the Tail Team/Aircraft Maintenance Team (AMT)/Product Focus Team (PFT) (includes the First Line Supervisor, Maintenance Process Engineer, Production Controller (materiel) and as needed, the IET (maintenance planner) meeting to perform a 10 day 'forward look' of operations IAW with the critical path schedule. The evaluation involves reviewing skills, parts, tools, equipment, etc. for each operation.

2.20.2. **(Added-AFSC)** Production Controller (Materiel).

2.20.2.1. **(Added-AFSC)** Perform research, direct-line ordering, turn-in processes, file maintenance of backorders, etc.

2.20.2.2. **(Added-AFSC)** Perform direct-line materiel requisitioning.

2.20.2.3. **(Added-AFSC)** Monitor backorder status.

2.20.2.4. **(Added-AFSC)** Process turn-ins of DIFM and verify turn-in of unused parts.

2.20.2.5. **(Added-AFSC)** Assist with 10 day 'forward look' for resource support against the critical path.

2.20.2.6. **(Added-AFSC)** Assist with processing and tracking cannibalization actions in the Production Scheduling System.

2.20.2.7. **(Added-AFSC)** Coordinate delivery of kits/packages and available resources based upon aircraft/missile schedule.

2.20.3. **(Added-AFSC)** Synchronization Team Function. The Synchronization Team's focus is on the aircraft/missile tail/serial number schedule, the RDD of a given operation, and the backshops' Estimated Delivery Dates (EDDs). The Synchronization Team has representatives from the backshops and from each aircraft/missile squadron for backshop conflict resolution. Specific functions include:

2.20.3.1. **(Added-AFSC)** Track and expedite manufacturing and repair work done in the backshops.

2.20.3.2. **(Added-AFSC)** Track assets throughout the production cycle.

2.20.3.3. **(Added-AFSC)** Coordinate with Production Controller (scheduler) and IET (maintenance planner) upon failure of parts supportability to reschedule operation as necessary.

2.20.4. **(Added-AFSC)** Production: Each squadron director is responsible for aircraft repair in the production shop through associated flight chiefs and production supervisors to accomplish depot repairs. Using standard repair processes, the squadron director is responsible for production output for their shop(s) utilizing the most productive and cost effective methods to produce a timely and quality product.

2.20.4.1. **(Added-AFSC)** The Production Supervisor assigns work and supervises mechanics performing tasks on the aircraft/missile.

2.20.4.2. **(Added-AFSC)** The mechanic plays an integral part in meeting customer expectations. While the support functions are to ensure the mechanic is supportable, the mechanic has a responsibility to ensure the proper use of technical data, identification of problems in a timely manner, proper use of PPE, and adherence to safety, environmental, security, and regulatory guidance. The mechanic, as required, will support operational sequencing to ensure the critical

path network is properly flowed to ensure optimal flow days to meet customer expectations IAW AFMAN 63-143. Mechanics must complete work in the appropriate time and attendance system, and certify completion of operation by stamping and dating WCD or eWCD.

2.21. **(Added-AFSC)** Aircraft and Missile Requirements (AMR)

2.21.1. **(Added-AFSC)** Develop, plan, and refine requirements. The SPO/SPM (Program Office) is responsible for identification of the requirements.

2.21.1.1. **(Added-AFSC)** Aircraft and Missile Requirements (AMR). The AMR process is governed by TO 00-25-4 and AFMAN 63-143. The AMR process is used to develop, review, validate, and approve depot level maintenance and repair for aircraft and missile systems. The AMR process includes Bill of Work (BOW), and Requirements Supportability processes.

2.21.1.2. **(Added-AFSC)** The ERRP drives the generation of a new engineering requirement from conception through approval by providing justification with fully developed supportability elements. In addition, the Program Office/SPM or designee, with input from the ALC maintenance group, will determine which current/existing tasks will be included in the ERRP, with a goal of 20 percent annually.

2.21.2. **(Added-AFSC)** Requirements Definition Team. This team is comprised of Program Office Engineering and ESs. The team will document a proposed requirement (new, amended, or deleted) and take the necessary actions to receive approval to further develop the requirement to gain approval from the Chief Engineer. For existing tasks that are under review, full DEV PACs are required. Standard aircraft handling maintenance tasks (e.g., towing, jacking, safe for maintenance, etc.) do not need to be defined in an engineering DEV PAC, PART I first level review, but do require supportability analysis consideration in the development of the engineering requirement review process in DEV PAC, PART II.

2.21.2.1. **(Added-AFSC)** Supervisory IET (Planning Chief) AMR Functions:

2.21.2.1.1. **(Added-AFSC)** Oversees Maintenance Squadron AMR involvement and Maintenance Requirements Supportability Process (MRSP) execution.

2.21.2.1.2. **(Added-AFSC)** Key stakeholder in the induction process where Depot Maintenance accepts tactical responsibility for the asset (aircraft, end item, etc.) from the Program Office.

2.21.2.2. **(Added-AFSC)** IET (maintenance planner) Strategic Functions:

2.21.2.2.1. **(Added-AFSC)** Support/Participate at various meetings/reviews to include but not limited to:

2.21.2.2.1.1. **(Added-AFSC)** Activation Meetings (e.g., Depot Maintenance Activation Working Group (DMAWG) to provide familiar workloads with man-hours, networks, and etc. Work with

Program Office (e.g., Program Manager (PM), Engineer (EN), Equipment Specialist (ES), and or AMR Lead). IAW AFMAN63-122, and/or AFMAN63-143.

2.21.2.2.1.2. **(Added-AFSC)** Collaborative Functional Team to support several meetings/reviews (i.e., ERRP DEV PAC, Work Specification Document, AMR Brochure, Depot Customer Workload Agreement (DCWA), BOW, and etc.).

2.21.2.2.2. **(Added-AFSC)** Conduct analysis and/or supportability reviews on documents, establishing (i.e., new, existing) workloads, to include but not limited to and provide data to Program Office (e.g., AMR Lead, PM, etc.):

2.21.2.2.2.1. **(Added-AFSC)** Documents: (i.e., Work Specification Document, AMR Brochure, DCWA, BOW, Summary of Changes Requirements, etc.)

2.21.2.2.2.2. **(Added-AFSC)** Price-Out of new tasks or task changes to the Strategic BOW.

2.21.2.2.2.3. **(Added-AFSC)** Define, validate and update tasks to Work Spec Document.

2.21.2.2.2.4. **(Added-AFSC)** Develop, validate, build/adjust and update DPSH to AMR Brochure.

2.21.2.2.2.5. **(Added-AFSC)** Document all task (new and current) for validity and accuracy within the task groups.

2.21.2.2.3. **(Added-AFSC)** If trend analysis has a flat trend line and it is constant, direct product actual hours (DPAH) can be considered. (Functional Check Flight (FCF), Over & Above (O&A), Correct Defect, Less than 100% OCC FAC unpredictable, etc.). This will be negotiated between Program Office and Depot Maintenance-Supervisory IET (Planning Chief).

2.21.2.2.3.1. **(Added-AFSC)** Provide feedback to the Program Office relating to any assigned supportability elements determined to be non-supportable.

2.21.2.2.3.2. **(Added-AFSC)** Coordinate approval of scheduled maintenance task and the year they are planned to be performed based on the results from the ERRP and BOW process.

2.21.2.3. **(Added-AFSC)** IET (Aircraft Maintenance Planner) Operational Functions:

2.21.2.3.1. **(Added-AFSC)** Provide input for tail number specific supportability analysis quarterly based on Program Office requirements, (i.e., Pre-Induction Inspection (PII), records review, condition data, and etc.).

2.21.2.4. **(Added-AFSC)** IET (Aircraft Maintenance Planner) Tactical Functions:

2.21.2.4.1. **(Added-AFSC)** Provide daily support by tail number and recommend maintenance tasks

update to Strategic IET (Aircraft Maintenance Planner) functions, as required.

2.21.2.4.2. **(Added-AFSC)** Ensure that all Maintenance Work Request (MWR) (unpredictable) are charged to the correct work spec code. Reconcile at JON Closure.

2.21.2.4.2.1. **(Added-AFSC)** Approve hours required for unpredictable work, which goes against hourly

trended work spec codes.

2.21.2.4.2.2. **(Added-AFSC)** Approve Production Controller (schedulers) request operations/tasks which are used in trended by occurrence work spec codes.

2.21.3. **(Added-AFSC)** The Requirements Supportability Process reviews and assesses the supportability for individual tasks (scheduled maintenance tasks) new and existing tasks in the AMR Work Spec, AMR brochure, or BOW. It determines the program year the new task would be supportable and added to the Work Spec and AMR brochure, and actions required to obtain supportability for existing tasks which were not previously reviewed for supportability prior to funding in the brochure.

2.21.3.1. **(Added-AFSC)** The SPO/SCM Engineering Authority will develop a LOM required for new and existing tasks by reviewing TOs, drawings, or other engineering data. The SPO/SCM Engineering Authority will review the list of “new” and existing materiel (not previously loaded against a PDM or other depot task) to verify that all have a NSN assigned. This includes NSNs for materiel, repair parts, special tools, hazardous materiel (HAZMAT), etc. When complete, this list will become the fully indentured engineering BOM or MOD kit inventory consisting of component parts, quantity per unit, and parent component relationships required to produce an end item. The SPO/SCM Engineering Authority will send the developed list to the appropriate source of supply (e.g., 448th SCMW, DLA, etc.). The 448th SCMW, DLA, and IPV will perform a preliminary supportability review and provide a risk assessment to the SPO/SCM Engineering Authority. Reference AFSCI 23-101.

2.21.3.2. **(Added-AFSC)** Supportability Elements for All Reviews. The elements to be reviewed for supportability include parts, 448th SCMW managed items, and DLA managed items (includes General Support Division (GSD), local purchased, and local manufactured items). Non-parts supportability elements for all reviews include support equipment, special tooling, common tooling, PPE, HAZMAT, manpower/skills, PSC or ‘Blue Straw’ or ‘Tool Crib’ materiel, and facilities/utilities, and training requirements.

2.21.4. **(Added-AFSC)** AMR Brochure.

2.21.4.1. **(Added-AFSC)** The AMR brochure is file maintained in Sustainment, Planning, Execution Reporting System (SPERs) and developed to identify the DM tasks required to maintain

AF aircraft and missile systems in mission ready status. **Note:** Requirements are based on need and not on the availability of funds. The AMR brochure supports organic workload agreements and the Work Spec. New or changed scheduled maintenance tasks identified during the Work Spec reviews are assigned DPSH labor standards by IETs (maintenance planners).

2.21.4.2. **(Added-AFSC)** Standards are based on approved data, group timing, work sampling, estimates, technical estimates, or trend analysis, and maintained in a project workload planning system. Where feasible, three years of data should be considered.

2.21.4.2.1. **(Added-AFSC)** The brochure is developed and managed by the Program Office responsible for the weapon system management with input from the Lead Commands, ALC/Business Operations (OB) representative, Funds Holders, Customers, and the organic SOR. It is used primarily by weapon system engineers, equipment specialists, production managers, IETs (maintenance planners), requirement functionals, CSAG-M, HQ USAF, HQ AFMC, and the other MAJCOMs.

2.21.4.2.2. **(Added-AFSC)** It also documents the programmatic DM requirements for weapon systems and provides data used to substantiate budget submission.

2.21.5. **(Added-AFSC)** Work Specification (Work Spec) Requirements.

2.21.5.1. **(Added-AFSC)** Work Specs are of prime importance in securing maintenance services under the AF DM concept and are the most critical documents in maintenance negotiations. Work Specs are not to be used as depot level TOs. The Work Spec is prepared to support organic workload agreements, commercial contracts, and interservice agreements. The Work Spec documents general information relating to the specific weapon system including terms, data requirements/procedures, special security or quality requirements/procedures, scheduled maintenance tasks for receipt of the weapon system at the facility, work task requirements and final processing of the weapon system, and applicable TOs and directives. The Work Spec is maintained in the SPERS.

2.21.5.2. **(Added-AFSC)** The SPM Engineering Flight develops the DM technical requirements and provides to the Production Management Specialist (PMS) who is responsible for the overall preparation, content, and coordination of the Work Spec. The PMS completes the Work Spec, makes available to the appropriate stakeholders, and schedules the annual Work Spec review. The PMS incorporates changes identified during the review and forwards the Work Spec to the SOR for DPSH development. The SPM engineer is the final authority for the technical requirements in the Work Spec.

2.21.5.3. **(Added-AFSC)** Work Specs are updated and reviewed annually to ensure that new or changed tasks, as well as existing tasks, are adequately defined. Work Specs govern the scope of maintenance and are used by the PMS to state the depot maintenance required to be performed on government equipment.

2.21.5.4. **(Added-AFSC)** Programmed Depot Maintenance (PDM). PDM requirements identified by

the using command and SPO/SCM Engineering Authority are compiled as work specifications in a Work Specification Document (Work Spec).

2.21.5.5. (Added-AFSC) The SPO/SPM will coordinate the development of the Work Spec with the IET (maintenance planner). In addition to new requirement development, the ERR manager will track and schedule a 20 percent review of completed (existing) DEV PACs annually, with a plan to review completed (existing tasks) DEV PACs at least once every five years. The plan for the subsequent years' review will be provided at the AMR yearly. Maintenance IETs (maintenance planners) will validate DPSH of the existing scheduled depot maintenance tasks annually, as part of the SPO ERR DEV PAC review at the task level, as part of the AFMAN 63-143 collaborative team. This review constitutes the required labor standard and WCD reviews for aircraft operations, as required by other chapters in this instruction. The SPO/SPM will ensure existing task requirements have been reviewed for supportability and is included in the DEV PAC review. Validation will occur concurrently with the ERRP development and review of the DEV PACs for existing tasks. New requirements, which are not fully supportable, will not be included as a funded brochure requirement until they are fully supportable unless an alternate supportability plan is provided by the SPO.

2.21.6. (Added-AFSC) The Collaborative Functional Team. This team consists of the following members: SPO/SCM Office (Engineering, ESs, LMS, PMS, AMR Lead), Maintenance Production Engineering, ALC/OB representative, IETs (maintenance planners); Maintenance Production Technicians (aircraft mechanics), when required; Supply Chain Specialists from the 448th SCMW and DLA.

2.21.6.1. (Added-AFSC) The collaborative functional team will estimate the physical resources required to accomplish the Work Spec. For aircraft, the physical resources' estimates may include ramp and hangar space, engine run test cells, compass row, colocated and assigned industrial (i.e., backshop) capability, etc., to the point that tasks and physical resource requirements are correlated. The team will identify from the Work Spec repair requirements that should logically be performed by locally ALC assigned industrial resources to include correlating the specific task with a particular ALC industrial capability. The SPO and AFMC will input the requirements into the SPERS module unless the role has been delegated to the IET (Aircraft Maintenance Planner). This delegation authority must be in writing to the ALC maintenance group.

2.21.6.1.1. (Added-AFSC) The validated Work Spec will be available 1 April by accessing SPERS or contacting the SPO/SPM. The IET (Aircraft Maintenance Planner) will use the validated Work Spec to perform trend analysis of work to include any differences if the new Work Spec represents a change to the current (already in work) PDM package. The analysis will include the labor hours, equipment, facilities, materiel, and special tooling required to accomplish the SOW. The IET (maintenance planner) will develop the master operations required to support the tasks, correlate the specified work with required skill codes, identify which tasks have materiel associated, identify facility requirements for each task, correlate required skills with hours, and flow the work in a logical sequence to include high level network development with support from the SPO, network team, production mechanic, and scheduler.

2.21.6.1.2. **(Added-AFSC)** The SPO/SPM will review/negotiate the hours and occurrence factors provided by the IET (maintenance planner). SPO/SPM will make changes to hours and occurrence factors in the SPERS module as necessary unless the role has been delegated to the IET (maintenance planner). This delegation authority must be in writing to the ALC by the SPO. The SPO/SPM will ensure all materiel for the Work Spec is stock listed and supportable. The SPO/SPM ES will confirm identified items have current valid contracts or can be locally manufactured to support the workload. The ES should treat PDM materiel supportability in the same way as MOD/TCTO materiel supportability such that it is programmed, budgeted, and available.

2.21.6.1.3. **(Added-AFSC)** The Work Spec and AMR brochure is published on 15 November for the upcoming FY, and is available by accessing SPERS or contacting the SPO/SPM.

2.21.6.1.4. **(Added-AFSC)** The SPO/SPM will complete development of the AMR brochure and Work Spec by Program Year. The AMR brochure includes tasks, approved hours, occurrence factors, and number of aircraft/missiles scheduled to work per year by MDS, and the Work Spec includes tasks only. The AMR process is documented in AFMAN 63-143 as required by TO 00-25-4.

2.21.7. **(Added-AFSC)** Bill of Work (BOW).

2.21.7.1. **(Added-AFSC)** The BOW documents all scheduled maintenance tasks, by MDS, contained in the Work Spec and brochure with the following elements: Work package, parts listings, hazardous materials, special tooling, non-issued PPE, support equipment, and production skills needed to perform the task. Additionally, it includes the aircraft/missile maintenance network (critical path), creation of the specific operations from the developed master operations, associated to the tasks, by MDS, and updates to the list of materiel in their respective data systems.

2.21.7.1.1. **(Added-AFSC)** Operational Supportability occurs from when the brochure is published to aircraft/missile induction, is based on the operational tail/serial number (as applicable) specific BOW, and assumes all identified supportability elements are or will be available 31 days prior to task execution schedule. A task review of scheduled maintenance task(s) will be accomplished 90 days prior to execution of the task(s).

2.21.7.1.2. **(Added-AFSC)** The IET (maintenance planner) as part of the BOW team will review specific operations created to support tasks in the Work Spec and determine the appropriate sequencing with the assistance of firstline supervisors and mechanics. Those operations, when sequenced based upon dependency, define the critical path network. Defined and sequenced operations are then grouped into major jobs in the Production Scheduling System. Operations and major jobs, which do not impact the critical path, are considered 'auxiliary/parallel'. The result is an MDS specific network of dependent operations built around the critical path, plus noncritical operations which are sequenced with critical path operations, into a schedule that is optimized to available resources.

2.22. **(Added-AFSC)** Modification Requirements.

2.22.1. **(Added-AFSC)** The SPO Program Manager (PM) in conjunction with the SPO/SPM Engineer and Lead Command will prepare the MOD package or SOW/TCTO. The IET (maintenance planner), as part of BOW development, will evaluate the impact of the proposed MOD against depot capacity to include facilities, equipment, and manpower. The IET (maintenance planner) will develop and execute simulation(s)/analysis to determine the impact of loading the MOD into the network. The IET (maintenance planner) will identify any resource constraints caused by loading the MOD into the network. Specific constraint information must include quantity and type of resource required to accomplish the task, availability of the required resource during the execution period of that task, and impact to resource availability based upon the resource requirements for all other tasks for all other scheduled aircraft/missile during that same period. The system should similarly reflect the impact upon resource availability of removing a particular task from the workload.

2.22.1.1. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will determine the number of hours required to accomplish the MOD. In the network, these hours are measured in flow days. Following the MOD kit proof, the IET (maintenance planner) will refine the estimate of required hours to perform the MOD. If adjustments to the rough order of magnitude (ROM) and schedule are required, the adjustments are accomplished at this time.

2.22.1.2. **(Added-AFSC)** If the MOD kit proof is accomplished at a SOR different from the location(s) which will actually perform the work or if only a 'Trial Install' was accomplished, the IET (Aircraft Maintenance Planner) and SPO/SCM Engineering Authority will review the PDM and/or MOD work scheduled on the aircraft to identify redundant activities. The IET (Aircraft Maintenance Planner) and SPO/SCM Engineering Authority or his designee, i.e., PM or ES, will also review the Work Spec and applicable technical data for duplicate or obsolete materiel.

2.23. **(Added-AFSC)** Unpredictable Requirements.

2.23.1. **(Added-AFSC)** For the purpose of this instruction, the following definitions clarify terms used to describe unpredictable requirements.

2.23.1.1. **(Added-AFSC)** There are two types of unpredictable requirements: those that are Work Spec (project) related and those that are not (non-project). Unpredictable requirements can be discovered during records review (accomplished at the pre-induction conference), Pre-Dock Inspections [i.e., non-destructive inspection (NDI) and Evaluation and Inspection (E&I)] and aircraft/missile disassembly, In-Dock activities (mechanic 'stumble-ons'), or Post-Dock activities (i.e., functional test or check flight). The E&I team, mechanic, work lead, or production supervisor, whomever discovers the unpredictable requirement, is responsible to document the discrepancy [e.g., AFSC Form 173, MDS/Project Operation Assignment, AFSC Form 959, Maintenance Work Request (MWR) Discrepancy Log, etc.]. E&I will initiate inspection discrepancies through the appropriate MIS for approval by the IET (maintenance planner). Stumble-on discrepancies will be documented in the discrepancy log, if authorized by local supplement, and initiated by the production controller (scheduler) in the appropriate MIS for approval by the IET (maintenance planner). Supportability will be accomplished for all unpredictable requirements prior to approval/qualification by the IET (maintenance planner). Workarounds may be authorized if supportability cannot be obtained within the flow days of the

aircraft to meet the negotiated schedule. All workarounds [e.g., cannibalizations (CANNs), routes, shoe tags, local manufacture, Government Purchase Card (GPC), etc.] will be documented in the supply system and provided as feedback IAW the applicable AFMAN63-143 collaborative team to alleviate a non-supportable posture for future requirements.

2.23.1.2. **(Added-AFSC)** Work Spec (Project) Related Unpredictables are requirements that are defined or can be related to one of the work codes in the Work Spec document. These unpredictables are within the scope of the Work Spec and have a negotiated block of hours/money available to assign against in the course of performing programmed maintenance. Unpredictables will have a block of hours allocated.

2.23.1.3. **(Added-AFSC)** Overrun of hours for project work will not drive additional funds, and the tasks are trended and will be adjusted during the annual review.

2.23.1.4. **(Added-AFSC)** Unpredictables are either planned or unplanned based on the expected frequency of the work and the nature of the operation (complexity and criticality). The only difference between the two is that the planned has a work package pre-built and ready to drop.

2.23.1.5. **(Added-AFSC)** High Frequency Planned Operations are normally expected to occur for more than 20 percent but less than 100 percent of the aircraft/missile tail/serial numbers and are fully planned.

2.23.1.6. **(Added-AFSC)** Low Frequency Planned Operations occur less than 20 percent but are planned when work is critical or complex.

2.23.1.6.1. **(Added-AFSC)** PAO and Strategic IET (Aircraft Maintenance Planner) will annually review any tasks occurring 20% or more in O&A and provide data to Collaborative Functional Team. Collaborative Functional Team will work tasks to get them in planned work (AMR, other funded customer orders (OFCO), or etc.). Tasks could go through DEV PAC processes.

2.23.1.7. **(Added-AFSC)** Low Frequency Unplanned Operations. Unpredictable requirements within the scope of the Work Spec which are normally expected to occur less than 20 percent of the time. Prior to being worked by Production, the IET (maintenance planner) and Project Administration Officer (PAO), as part of the Maintenance Review Team (MRT), may physically review the discrepancy to ensure validity and that the requirement is covered in the Work Spec. Once the determination is made, the IET (maintenance planner) must approve unpredictable Work Spec related requirements (unplanned low percent). When approved by the IET (maintenance planner), the work is systematically assigned an operation number and incorporated into the production schedule.

2.23.1.8. **(Added-AFSC)** Over and Above (O&A) Unpredictables (non-Work Spec/non-project related) are requirements that cannot be directly related to a work code in the current Work Spec but should be complied with for safety or because it is more economical to do the work at the depot. O&A Unpredictables will not be accomplished without prior PAO or, as applicable, an Administrative Contracting Officer (ACO) approval. The PAO/ACO may give advance work

approval as locally supplemented. **Note:** As applicable, PAO functions apply to ACO activities in support of a contracted workload.

2.24. (Added-AFSC) Project Administration Officer (PAO).

2.24.1. (Added-AFSC) If the PAO approves the non-project work, the IET (maintenance planner) will adjust the FPWS to reflect the additional work. If the O&A hours have been expended and more hours are required, the PAO notifies the MAJCOM requesting additional 206 funding. The IET (maintenance planner) will adjust the hours on final FPWS and forward to Workloader.

2.24.1.1. (Added-AFSC) Discrepancies that are non-project related and not approved for work by the IET planner are forwarded to the PAO by the IET planner for work approval. If the PAO has O&A funds and opts to work the discrepancy, the PAO will approve the work. If the PAO chooses not to fund the work and the work does not pose a safety of flight issue, then the discrepancy is archived as Carry Forward to Home Station (CFHS) and presented to the customer when the aircraft/missile is delivered.

2.24.1.2. (Added-AFSC) If the PAO determines the identified discrepancy either falls outside the scope of the PDM/UDLM/MOD and is not 'safety of flight', or otherwise determines that they will not fund the repair identified by the DEA (Delegated Engineering Authority) or SPO/SCM Engineering Authority, maintenance will not perform the work and the discrepancy will be archived and entered on AFTO Form 781, *Aviation Resource Management System (ARMS) Aircrew/Mission Flight Data Document*, and/or AFTO Form 95, *Significant Historical Data*.

2.25. (Added-AFSC) Develop and Approve FY Plan.

2.25.1. (Added-AFSC) The IET (Aircraft Maintenance Planner) and Cognizant Engineer, as part of the CollaborativeTeam IAW AFMAN 63-143, will perform analyses of the workload defined by the approved Work Spec to establish the optimal flow-plan of aircraft/missile through the available depot facilities IAW known PDM and MOD requirements. Also included in this analysis will be historical UDLM requirements for a given FY. The results of this analysis will determine the quantity of aircraft/missile maintenance can accommodate for the FY along with the required number of flow days.

2.25.2. (Added-AFSC) The Master Scheduler and IET (Aircraft Maintenance Planner) will review the FY Input-Output plan. The analysis will define facility and workload variables that may impact the negotiated delivery date(s). The result of the analysis will reflect the required sequencing of aircraft/missile input to the depot by arrival date (draft Input-Output schedule). The developed draft Input-Output schedule forms the basis for any future analysis for proposed additional workloads (i.e., UDLM/'drop-in') for the given FY plus provides the foundation for development of the Master Plan that grows in specificity as a tail/serial number specific network. Simulation(s)/analysis of the developed Work Spec is critical to accurately determining the annual schedule, as well as assessing the impact of any future changes to negotiated delivery dates, inputs, etc.

2.25.3. **(Added-AFSC)** The Master Scheduler and IET (Aircraft Maintenance Planner) will review the draft Input/Output schedule, perform ‘rough-cut capacity planning’, and verify that available facilities will accommodate the planned sequencing of aircraft through available PDM/MOD production resources. The Master Scheduler will identify any conflicts, recommend solutions in the form of a revised Input-Output schedule, obtain coordination from the planning organization, and forward the Input-Output schedule to the SPO/SPM. The SPO/SPM will distribute the developed Input-Output schedule to the MAJCOMs so the MAJCOMs know when to send the aircraft/missile to the depot.

2.26. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) As Part of the BOW Team.

2.26.1. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will review the aircraft/missile PDM/MOD schedule as it relates to tasks by skill in the production scheduling system, plus relevant simulation(s)/analysis results, and will note where all job-hours are networked into the schedule (Planned Labor Application). The AMR brochure hours, simulation(s)/analysis developed in Workload Analysis Planning Data System (WAPDS)/G037F or other simulation(s)/analysis tools, and aircraft/missile history is used to project annual, quarterly, and monthly aircraft/missile PDM/MOD personnel resource requirements by work package. The developed report will include the total mix and quantity of skills required to accomplish the work package by month, plus report skill shortages or overages. Skill/personnel shortfalls or overages are identified to the PSF Chief.

2.27. **(Added-AFSC)** Unprogrammed Depot Level Maintenance (UDLM) Requirements.

2.27.1. **(Added-AFSC)** The customer (Lead Command/FMS) generates a work request to the SPO/SPM for Unprogrammed work IAW TO 00-25-107, or by submitting an AFTO Form 103, Aircraft/Missile Condition Data, IAW TO 00-25-4. It is the responsibility of the SPO to ensure supportability prior to forwarding the workload request to maintenance. The IET (Aircraft Maintenance Planner) will prepare the ROM based on tasks and LOM. The SPO will coordinate with the Master Scheduler and the owning unit to schedule aircraft/missile arrival. The SPO/SPM will complete AFSC Form 206 or AFMC Form 181, *Project Order* using the coordinated fund site. The SPO/SPM will forward the completed AFSC Form 206 or AFMC Form 181 to maintenance.

2.27.2. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will review the AFTO Form 103 or TO 00-25-107 and translate the tasks on the AFTO Form 103 or TO 00-25-107 into operations on a WCD with assistance from the SPO/SCM Engineering Authority, as necessary.

2.27.3. **(Added-AFSC)** The SPO/SPM will coordinate the developed price for the UDLM with the customer and prepare an AFMC Form 181 to identify the funding citation. The SPO/SPM will coordinate induction timing with the customer. The SPO/SPM will forward the AFSC Form 206 and schedule to maintenance. Upon receipt of the AFSC Form 206 and expected induction date, the IET (Aircraft Maintenance Planner) will input labor hours and materiel into G004L which will assign the JON.

2.27.4. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will develop a MDS, tail/serial number specific, operational LOM by correlating items from the BOM with specific UDLM operations for a particular aircraft/missile and load the information into the appropriate database. This LOM is not the same as the one developed within Depot Maintenance Materiel Support System (DMMSS)/G005M for planned PDM. The IET (maintenance planner) will develop the UDLM WCD IAW governing directives. The IET (maintenance planner) will assign an operation number to each UDLM operation, associate each operation with the appropriate RC/CC, and input the data into the appropriate system against the UDLM T-JON.

2.27.5. **(Added-AFSC)** The Master Scheduler will integrate the UDLM schedule into the MDS network. Once the UDLM schedule is input into the planning system (e.g., Programmed Depot Maintenance Scheduling System (PDMSS)/G097, etc.), supportability reviews of all resources against that schedule are possible.

2.28. **(Added-AFSC)** Pre-Induction Process.

2.28.1. **(Added-AFSC)** Operational Supportability occurs from when the work specification is validated to aircraft induction [for the period 17 months prior to induction ending 31 days prior to induction or JON is opened (ability to submit the first materiel/part requisition). It is based on the operational tail/serial number, as applicable, assuming all identified supportability elements are/or will be available 31 days prior to task execution schedule.

2.28.2. **(Added-AFSC)** Operational Supportability Assessment reviews will occur at a minimum quarterly with the last review to be accomplished 90 days prior to execution of the task(s).

2.29. **(Added-AFSC)** Pre-Induction Inspection (PII).

2.29.1. **(Added-AFSC)** Depot Pre-Induction Inspections (PIIs) are designed to determine the aircraft condition lead-time before induction to depot maintenance. Depot teams use the aircraft condition knowledge to establish a supportable BOW process for specific repair actions, parts, tools, and equipment; i.e., generating what needs to be done, with what, and ensuring it will be there when planned. PIIs are synchronized with the home station check (HSC), Phase, or isochronal (ISO) inspections prior to depot input to the MDS directed by Program Office. PIIs can be a physical inspection or a pre-induction analysis of records. The determination as to who will accomplish the PII (Depot Team, Contract Team, or Field Unit) will be negotiated during the Fleet Scheduling Conferences and is when the Depot schedules are established with arrival dates of the aircraft at the respective ALCs. As part of the conference, the PII will be 'scheduled' approximately nine months prior to induction to PDM. The MAJCOM/Unit representative will declare their intent to accomplish 'Organizationally' or request DFT/contract field team (CFT) support for the PII. If none of these options are feasible at a particular time, any aircraft not receiving a PII would still be inducted into PDM. If a depot or contract team is accomplishing the PII, the Plans, Scheduling and Documentation (PS&D) Section Chief or designated representative will:

2.29.1.1. **(Added-AFSC)** Be provided a visit agenda by the PII team lead.

2.29.1.2. **(Added-AFSC)** Coordinate with PII team lead to present a situational awareness inbrief/outbrief to the MXG as required.

2.29.1.3. **(Added-AFSC)** Coordinate/request tail number data pull queries from applicable MIS.

2.29.1.4. **(Added-AFSC)** Act as liaison and refer PII team to maintenance units for equipment support as required.

2.29.1.5. **(Added-AFSC)** Maintain a file copy of the PII report from PII Team Lead.

2.29.2. **(Added-AFSC)** The PII provides additional information regarding the condition of a specific aircraft, with sufficient lead time to improve support of the depot level work package (months before aircraft scheduled maintenance induction) and real-time means to establish the known aircraft condition baseline for planning effectively. Detailed PII instructions will be documented in TO 00-25-4.

2.30. **(Added-AFSC)** Pre-Induction Conference.

2.30.1. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will identify unpredictable requirements during the Pre-Induction Conference when reviewing aircraft records and AFTO Forms 103 supplied by the customer prior to aircraft/missile arrival.

2.31. **(Added-AFSC)** Establish and Open Serialized JON.

2.31.1. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will identify a specific tail/serial number and JON against a Control Number and forward it to a Workloader. The Workloader will activate the obligation of funds against the specific tail number in G004L. When inputting the three digit JON suffix to the existing five digit Control Number with a single field Job Designator, the resultant nine digit number will account for costs and resource control by tail/serial number.

2.31.2. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will 'serialize' the JON (i.e., links a specific aircraft/missile serial number to a three digit JON suffix) and forward the information to the Workloader. The Workloader will input the serial number/JON suffix data into G004L. At this point, CSAG-M funds become available in the Maintenance Data Systems for use.

2.31.3. **(Added-AFSC)** The SPO/SPM will provide the task listing to the IET (Aircraft Maintenance Planner). Tasks are categorized as either 'fixed price' or 'options'. The IET (Aircraft Maintenance Planner) will validate which tasks on the list will be worked. The validated list is used to make final adjustments to the tail/serial-number specific work package by loading the appropriate options into the production scheduling system.

2.31.4. **(Added-AFSC)** The IET (Aircraft Maintenance Planner) will select operations by Work Categories and Configuration Codes, and input them into the production scheduling system which connects to G004L for production count. The result is a tail-number/serial number specific schedule by operation.

2.31.5. **(Added-AFSC)** The Master Scheduler or IET (Aircraft Maintenance Planner) will open applicable control numbers connected to the JON in G004L. Opening of the JON (i.e., control numbers) for materials ordering may occur 30 or more days prior to aircraft/missile arrival within the same FY.

2.32. **(Added-AFSC)** Execution Process.

2.32.1. **(Added-AFSC)** Automated program management scheduling systems (e.g., Lean Depot Management System (LDMS)/D300, PDMSS, ROCIT, PDMSS WEB, IMPRESA, etc.) are the core systems within the aircraft/missile repair process. Visibility of schedule, resources required by operation start dates, operations by type required, funding, and etc., are provided to the aircraft Tail Team/AMT, missile PFT, and process support personnel in the industrial logistics pipeline so that all members synchronize their efforts to the aircraft/missile schedule. The Production Controller (scheduler), Production Controller (materiel), and aircraft/missile Production Supervisor form the aircraft specific team which meets regularly to assure support in 'rolling 10 day' windows. An IET (maintenance planner) is available for support to the team as needed.

2.32.2. **(Added-AFSC)** A tail/serial number specific production schedule with its critical path provides the focus for synchronizing logistics support and direct labor. The goal for all process support players is to provide the supporting resources to the mechanic prior to the operation start date.

2.32.3. **(Added-AFSC)** Aircraft/missile Production Supervisor must not shift major jobs in the schedule for manipulating short term efficiency of direct labor. Movement of operations for a specific aircraft tail number within the 10 day window will remain the prerogative of the Tail Team/AMT. Outside of the 10 day window, the Weapon System Support Chief (WSSC) will approve movement of specific aircraft tail number operations. Any premature start/production count, movement, and deletions/reversals of operations to facilitate efficiency or schedule targets is not permitted.

2.32.4. **(Added-AFSC)** Adherence to schedule will be more critical as flow days are reduced. Independent, uncoordinated manipulation of the schedules would desynchronize the in work major aircraft/missile tasks from their support logistics. Unexpected events will always occur and may require changes to the schedule. Unexpected events are more readily accommodated when the majority of tasks are accomplished according to schedule.

2.32.5. **(Added-AFSC)** Aircraft/missile management will man load to the schedule on multiple shifts within existing constraints, if required, and will result in fewer aircraft/missiles in work at one time but the major end items will flow through the depot at higher velocities. Aircraft labor and logistics support will be highly focused on fewer aircraft. By reducing the number of aircraft on-station, thereby increasing the number available in the field, an increasing capacity arises at the ALC.

2.32.6. **(Added-AFSC)** Proper synchronization of available backshop repair capacity (supporting off aircraft/missile repair items) to the aircraft/missile schedule is a necessary pre-condition to reducing the number of aircraft/missile flow days. The backshops will integrate the aircraft/missile

schedule requirements into their scheduling activities meaning aircraft/missile production must be able to prioritize their backshop requirements as per the aircraft production schedule. Priorities must then be de-conflicted if multiple aircraft/missile or exchangeables customers require the same backshop capacity at the same time. The synchronization team consists of a Sync Rep, i.e., a scheduler from the Production Controller (scheduler) from the PSF, along with Exchangeable backshop representative(s). The team is responsible to resolve conflicting priorities and expedite output to the schedules. The representatives will meet as required to work the 'hot item' aircraft/missile priorities from an ALC perspective when conflicting demands for backshop capacity exist. De-conflicting competing customer requirements for backshop capacity can only be accomplished if the Sync Rep works closely with the backshops. Accordingly, the backshop IET (maintenance planner) are able to work quickly and collaboratively to properly load available backshop capacity. Priorities worked in the backshops must be synchronized to the aircraft/missile schedule, if the integrity of the aircraft/missile production schedule is to be maintained, and support provided when needed. Regular high level reviews occur to resolve conflicts between aircraft requirements and backshop capacity.

2.32.7. **(Added-AFSC)** Discrepancies discovered after aircraft/missile arrival that have been planned as 'low frequency' operations will be qualified (e.g., it is funded, materiel can be ordered against it, etc.) by IET (maintenance planner) approval. Once qualified, the production scheduling system will issue the WCDs associated with the planned task at the start of the associated major job.

2.32.8. **(Added-AFSC)** The IET (maintenance planner) and SPO/SCM Engineering Authority will perform a risk analysis of all 'safety of flight' related low frequency unplanned operations based on the complexity and criticality of the work required. If the IET (maintenance planner) and SPO/SCM Engineering Authority determines there is significant risk involved in the operation, or if the nature of the work justifies it (e.g., very complex, high cost etc.), the formal work planning process will be applied and WCDs will be prepared to support the work, even if it is expected to be used on less than 20 percent of the tail numbers.

2.32.9. **(Added-AFSC)** The mechanic/technician discovering the requirement for unpredictable work is responsible to document the discrepancy and ensure the applicable WCDs are initiated to include all follow-on maintenance actions. All discrepancy documentation will reference applicable technical data to include any follow-on actions (i.e., ops checks) required by the technical data, and part number, TO, figure, and index. Prior to work being accomplished, the Production Supervisor reviews the documentation to ensure the proper Production Acceptance Certification (PAC) requirements are included and the information is complete. A MWR is then generated if the automated capability exists. If the automated capability does not exist and the maintenance actions have not been previously planned, the Production Controller will submit the hand-scribed AFSC Form 173 to the IET (maintenance planner). The IET (maintenance planner) will periodically review O&A occurrences and initiate full planning for those operations that occur frequently enough to justify this action. The non-project related O&A WCDs are processed to the PAO for approval.

2.32.10. **(Added-AFSC)** The E&I team and/or mechanics/technicians must be trained on their unpredictable work requirement documentation responsibilities. The training provided will

include the responsibility for ensuring WCDs are generated and how to prepare the work sheets/AFSC Forms 173/AFSCs Form 959 to include identification of water line, butt line, and part number information, etc. The training provided will also stress that all follow-on maintenance actions required by the technical data must be documented. In addition, the training provided must include the proper use of AFTO Forms 781 and AFTO Forms 95.

2.33. **(Added-AFSC)** Tactical Supportability. Tactical Supportability occurs from aircraft/missile induction to aircraft/missile departure date. The task review is based on availability of supportability elements to meet task execution schedule. Maintenance will provide feedback of unpredictable requirements discovered from induction to completion so the SPO/SPM can ensure that the organizations responsible for supportability are aware for future requirements.

2.33.1. **(Added-AFSC)** The IET (maintenance planner) reviews unpredictable discrepancies and determines whether the identified discrepancy is project/Work Spec related. If it is project related, the IET (maintenance planner) verifies/corrects hours and accomplishes all other steps required to approve/qualify the task as a valid operation if hours are available within the existing funding. If the discrepancy is non-project related or project hours have been expended, the IET (maintenance planner) will submit the discrepancy to the PAO for approval of hours/funding. Discrepancies disapproved by the IET (maintenance planner) are forwarded to the PAO, archived, and will be presented to the customer upon aircraft/missile delivery and CFHS.

2.33.1.1. **(Added-AFSC)** If an AFMC Form 202, *Engineer Technical Assistance Request* or AFTO Form 252, *Technical Order Publication Change Request* was not accomplished, the AFMC Form 202 is forwarded to the DEA or SPO/SCM Engineering Authority for review and disposition.

2.33.1.2. **(Added-AFSC)** The DEA or SPO/SCM Engineering Authority, as part of the tactical team, reviews the discrepancy as submitted and determines an appropriate repair disposition.

2.33.1.3. **(Added-AFSC)** If the engineering repair disposition falls under project/Work Spec, the IET (maintenance planner) will plan the repair with hours and approve the WCD through the system. If the repair falls under non-project, the IET (maintenance planner) will forward the planned hours through the appropriate system to the PAO for O&A funding.

2.33.1.4. **(Added-AFSC)** If the PAO does not have the funding to accomplish the repair, the PAO will notify the applicable SPO/SPM for additional funding. A SOW for the repair will be initiated from the SPO/SPM and the IET (maintenance planner) will initiate a ROM.

2.33.1.5. **(Added-AFSC)** If the DEA or SPO/SCM Engineering Authority determines the identified discrepancy is not a defect, (i.e., existing technical data is sufficient to accomplish the task at hand), the engineer will advise the maintenance supervisor and/or IET (maintenance planner), provide guidance as necessary to correct the cited condition, annotate the AFMC Form 202 as 'No Action Required', and process the form according to AFMCMAN 63-1202, *Air Force Materiel Command Engineering Technical Assistance Request (ETAR) Process*. The DEA or SPO/SCM Engineering Authority will forward the AFMC Form 202 back to the IET (maintenance planner).

2.33.1.6. **(Added-AFSC)** The IET (maintenance planner), PAO, or ACO can approve a limited (non-MISTR/overhaul) repair for an item. The scheduler will introduce the item into the backshop with an IET (maintenance planner) approved AFSC Form 173 or WCD for a 'one-time, limited repair' (e.g., spot weld, etc.). The scheduler will route the item to the appropriate backshop for repair.

2.33.1.7. **(Added-AFSC)** When appropriate, the IET (maintenance planner) will develop and execute a simulation(s)/analysis of the developed workload package. The simulation(s)/analysis are performed at the discretion of the IET (maintenance planner) depending upon the anticipated impact to the Production Scheduling System of the Unpredictable Requirement. The IET (maintenance planner) will determine whether the unpredictable requirement is a critical path or parallel operation. It is a critical path event if it has an identified dependency. Unpredictable requirements will be transformed into a work package comprised of operations and resources by type. The resources by type will be arrayed against the tail/serial number schedule to determine the best fit for the operations in the schedule. Resource requirements will then be compared against resource availability.

2.34. **(Added-AFSC)** Tactical Supportability (Tail Team/AMT/Missile PFT Rolling 10 Day 'Forward Look').

2.34.1. **(Added-AFSC)** This review occurs in rolling two week windows (i.e., 10 workdays). Accountable Tail Teams/PFTs, consisting of a Production Controller, IET (maintenance planner), Production Controller (materiel), and Aircraft/Missile Production Supervisor, will be assigned to individual aircraft/missile tail/serial numbers. The number of aircraft(s)/missile(s) each Tail Team/AMT/PFT is responsible for and the skill level of Tail Team/AMT/PFT members are based upon schedule requirements. The Tail Team/AMT/PFT will have complete responsibility for task execution on their assigned aircraft/missile. The scheduler will control execution of the tail/serial number specific production schedule and will release only supportable WCDs to the aircraft/missile supervisor. The aircraft/missile Production supervisor will adhere to the tail/serial number specific production schedule as closely as skill availability allows. The Production Controller (materiel) will ensure parts are ordered and coordinate with DLA the delivery of materiel to the Production Controller (materiel) aircraft/missile. Tail Team/AMT/PFT members will review the status of the weekly production plan for each aircraft/missile assigned to the Tail Team/AMT/PFT on a daily basis. The Production Controller Scheduler will coordinate delivery of special equipment and the availability of special tools for each aircraft/missile IAW scheduled operation start.

2.34.1.1. **(Added-AFSC)** The IET (maintenance planner) will identify items which can be logically associated by operation and packaged together/kitted for delivery. To what degree materiel is planned into operational packages will be determined locally.

2.34.1.2. **(Added-AFSC)** If a review by the Production Controller (materiel) or mechanic reveals local operation package items that were not loaded/identified in the materiel planning system (e.g., *Materiel Processing System* (MPS)/D230, G005M, etc.), the Production Controller (materiel) will contact the IET (maintenance planner) who will add that item to the local operation/materiel list.

2.34.1.3. **(Added-AFSC)** The DLA CSS will review items for which the EDD has slipped, and determine if the new EDD threatens the schedule or otherwise warrants additional action.

2.34.1.4. **(Added-AFSC)** The Production Controller (materiel) will confirm availability of MOD kits or PDM/UDLM operation packages to meet the RDD for individual aircraft/missile IAW the PDM/UDLM/MOD schedule. The IET (maintenance planner) will locally determine the appropriate replacement factor and occurrence rate for materiel to include in kits and operation packages.

2.34.1.5. **(Added-AFSC)** The PST may separate existing mod kits by operation number. The members of the Tail Team/AMT/PFT will review the status of the aircraft/missile to include schedule progress, materiel supportability projections (10 days to two-week forward look), available manpower, etc., and coordinate available resources toward accomplishment of the production schedule. The Production Controller (scheduler) will appraise schedule status, determine which operations are next in the schedule, and provide the operations to the Production Controller (materiel). The Production Controller (materiel) will brief materiel supportability of operations scheduled for the period of the 'forward-look'. The Production Controller (materiel) will provide the scheduler and aircraft/missile supervisor with a list of operations that are supportable. The aircraft/missile Production supervisor will review the scheduled operations falling within the 'window of the forward look', and determine if manpower/skills are available.

2.34.1.6. **(Added-AFSC)** Based upon the review of schedule, materiel supportability, and manpower/skills availability, the Tail Team/AMT/PFT will make required adjustments to the schedule. Appropriate delay codes will be entered against unsupportable operations. A report of non-supportable and delay coded operations will be available in the scheduling system. The aircraft/missile Production supervisor will perform a 'forward-look' of hours by skill required to perform supportable scheduled operations. The aircraft/missile Production supervisor will report overages and shortfalls by skills to the Production Flight Chief who will reallocate available skills to support the total master system schedule (i.e., allocate manpower to and from other aircraft/missile).

2.35. **(Added-AFSC)** The Aircraft/Missile Production Supervisor and Mechanics. The aircraft/missile supervisor and mechanics will meet as required, at the beginning of shift, to ensure effective crew communication (e.g., hand out 10 day work requirements turnover log, supportable WCDs, kit status and locations, etc.) occurs between shifts. Daily crew meetings will occur at shift overlap, if applicable. The purpose of the daily crew meeting is to receive and pass the status of work to the next shift, and provide information regarding supportable WCDs and work packages to the next shift. Second and third shifts will also pass on information regarding work accomplished for day shift support resolution. The aircraft/missile Production supervisor will ensure critical path operations are continued across all shifts and will deliver reports to relieving supervisors regarding critical path accomplishment.

2.35.1. **(Added-AFSC)** The Squadron Commander/Director will chair a weekly meeting with the appropriate support section supervisors. As a minimum, critical path planned verses critical path completed, flow days planned versus flow days completed, and negotiated output date verses

Production Scheduling System projected output date will be reviewed for each aircraft/missile. The Squadron Commander/Director will assign action items to the appropriate support section supervisors' for problems that are beyond the scope of the Tail Team/AMT/PFT to resolve. Action items will be answered by the next working day. The PSF will work logistics issues. The Production Supervisors will resolve skill issues to ensure integrity of the Master (all aircraft/missile) Schedule. If a change in the operations scheduled within a 10 day window is required, the IET (maintenance planner) will adjust the operation execution date, as appropriate, within the confines of resource availability to optimize schedule execution such that the negotiated aircraft/missile delivery date is unaffected. The Production Controller (scheduler) will coordinate with the IET (maintenance planner) to resolve changes that fall outside the 10 day window.

2.35.1.1. (Added-AFSC) The Production Controller (scheduler) will coordinate for the delivery of special or aerospace ground equipment (AGE). Production will notify the tool crib to expect demand for specific special tools required to execute the schedule by operation. The Production Controller (materiel) will coordinate with the materiel handler/expediter to deliver equipment required to execute the schedule by operation.

2.35.1.2. (Added-AFSC) The Master Scheduler will review all overtime requests. If overtime is required to protect the schedule, the Master Scheduler will determine the optimal apportionment of that overtime by aircraft/missile.

2.36. (Added-AFSC) Request and Order Material.

2.36.1. (Added-AFSC) Direct Exchangeable Items.

2.36.1.1. (Added-AFSC) The Production Controller (materiel) turns in the repairable item through ABOM/NIMMS and orders a serviceable item. The cost of a new unit is charged against the aircraft/missile JON. The DLA CSS will monitor status of all direct exchangeable items on order to determine capability to satisfy depot demands. If the requisition status does not meet the RDD and cannot be expedited, supportability options may include:

2.36.1.1.1. (Added-AFSC) Raise priority to MICAP when the condition is within 10 days of a particular system operational check/critical path (reference DAFI 23-101).

2.36.1.1.2. (Added-AFSC) Initiate a T-JON (i.e., AFSC Form 206) for local repair or manufacture of the item.

2.36.1.1.3. (Added-AFSC) Authorization to cannibalize the item (reference Volume 3, Chapter 6).

2.36.1.1.4. (Added-AFSC) Send unserviceable unit to respective backshops for repair with the repaired item going to the Tail Number Bin (TNB)/Missile Serial Number Bin (SNB) when complete if the item is not needed immediately at the aircraft/missile.

2.36.1.1.5. **(Added-AFSC)** Notify the customer that the negotiated delivery date will slip day-by-day, and that additional costs in overtime may be incurred to get the aircraft/missile back on schedule.

2.37. **(Added-AFSC)** Planned Material.

2.37.1. **(Added-AFSC)** The Production Controller (materiel) will review a LOM for each operation within the current two week 'window' for each tail/serial number.

2.37.1.1. **(Added-AFSC)** Request(s) for materiel, not pre-positioned at the aircraft/missile, will be submitted into the MPS or other designated materiel processing system to support the current two week schedule 'window'. The location and timing of prepositioning of materiel will be determined locally, as appropriate. The scheduler/Production Controller (materiel) will determine what materiel to order, when to order it, and where it should be delivered (e.g., to the aircraft/missile or TNB/SNB).

2.37.1.2. **(Added-AFSC)** While working on the aircraft/missile, the mechanic can identify an item(s) required to accomplish the planned operation. The mechanic reviews and determines the items required to accomplish the specific operation. The mechanic will also identify materiel required to accomplish 'install' operations immediately following execution of any associated 'remove' operation.

2.37.1.3. **(Added-AFSC)** The mechanic will pull bench stock materiel required to complete an operation unless the IPV contractor performs kitting of these items. The IPV contractor will replenish bench stock items IAW the quantities identified during routine inventories. Reference AFSCI 23-101.

2.38. **(Added-AFSC)** Unplanned Material Request.

2.38.1. **(Added-AFSC)** The mechanic/Production Controller (materiel) will request materiel via the materiel ordering system with the priority necessary to meet the RDD shown in the operational schedule. Material requests for 'Unpredictable' (not planned against the operation or quantity exceeding that planned against the operation) will be sent to the IET (maintenance planner) for review and approval for NONBOM materiel if appropriate. **Note:** Approval will be systematically or written (reference Volume 3, Chapter 6).

2.38.1.1. **(Added-AFSC)** The IET (maintenance planner) receives and reviews NONBOM materiel requests for unprogrammed materiel in the Material Module of the appropriate production scheduling system. The IET (maintenance planner) will determine if the requested materiel should be planned against an operation, if the materiel was previously ordered, or if it was erroneously ordered for a different operation. The IET (maintenance planner) reviews the quantity ordered against the tail/serial number specific LOM quantity and units per assembly (UPA). **Note:** For G097 users only, if the IET (maintenance planner) determines if materiel should be ordered, the IET (maintenance planner) will change the status code in the Material Module to 'Approved'. IET (maintenance planner) approval triggers MPS (D230) to overlay the materiel data included in the request into ABOM/NIMMS to order the materiel.

2.38.1.2. **(Added-AFSC)** Resolve Stock Ineffectiveness Via Supportability Options.

2.38.1.3. **(Added-AFSC)** The Production Controller (materiel) will track the status of all outstanding backorders on a daily basis and notify the DLA CSS if status is not adequate.

2.38.1.4. **(Added-AFSC)** The DLA CSS will notify the Sync Team or equivalent to update the 'Hot Item' list. 'Hot Item' is a term for a required item in which the EDD exceeds the RDD that is being processed or repaired. The Production Controller (scheduler) will provide the item RDD to the Sync Team. The Sync Team or equivalent will update the 'Hot Item' list with the new RDDs. With manufactured/routed items, the 'Hot Item' list will also be updated to reflect the process of repairing the item, as opposed to the original intent of replacing the item (manufacture pieces of a part as opposed to manufacture of the end item with an NSN or locally assigned P number).

2.38.1.5. **(Added-AFSC)** Workarounds.

2.38.1.5.1. **(Added-AFSC)** The scheduler and aircraft/missile supervisor will develop workarounds when required to compensate for delays in materiel supportability (i.e., EDD exceeds RDD). Examples of workarounds include re-arranging major jobs, crew size adjustments, multiple shifts, overtime, etc. Based upon the flow days impact of the developed workaround, the scheduler and aircraft/missile Production supervisor will determine whether to delay execution of a scheduled operation. **Note:** For those ALCs with Maintenance Requirements Supportability Process (MRSP)/Core teams working IAW AFMAN 63-143, the MRSP/Core team is responsible to develop the work- arounds necessary and will not release the operation to the shop floor until supportability is determined. The following rules apply for developing workarounds:

2.38.1.5.2. **(Added-AFSC)** Identify and work major jobs that do not affect the major job of the 'Hot Item', i.e., work jobs that are parallel to the major job of the 'Hot Item' but are not on the schedule's critical path.

2.38.1.5.3. **(Added-AFSC)** Man load the installation major job (apply more people in the current shift) of the 'Hot Item' to get the major job back on schedule.

2.38.1.5.3.1. **(Added-AFSC)** Apply multiple shifts to the 'install' major job of the 'Hot Item'.

2.38.1.5.3.2. **(Added-AFSC)** Apply overtime to the 'install' major job of the 'Hot Item'.

2.39. **(Added-AFSC)** Non-SPO Field Directed Cannibalization (CANN) Action. For those ALCs supporting Logistics Requirements Determination Process (LRDP) tactical/Core teams working IAW AFMAN 63-143, the LRDP tactical/Core team is responsible to develop and approve the CANN actions and will notify the scheduler of the approved CANN aircraft.

2.39.1. **(Added-AFSC)** If all efforts to acquire the required materiel by the RDD fail, the Production Controller (scheduler) will review what (if any) CANN options exist and will initiate CANN procedures (reference Volume 3, Chapter 6). The Production Control (scheduler) will

forward the number of CANNs and the number of labor hours consumed to perform CANNs to the P&A section for analysis and reporting to the SPO/SPM and the Squadron Commander/Director.

2.39.1.1. **(Added-AFSC)** When the CANN is approved, the Production Controller (scheduler) prepares the required CANN paperwork and the mechanic will remove the required item from the 'donor' aircraft/missile. The Production Controller (materiel) will deliver the item to the receiving aircraft/missile.

2.39.1.2. **(Added-AFSC)** CANN actions are a last resort option to obtain a part or component. Since maintenance is not reimbursed for labor and other costs to perform CANNs, this procedure should be avoided if other avenues to secure the item are available. The Production Controller (scheduler) will initiate documentation for CANN actions. **Note:** This does not include CANN actions directed by the SPO via an AFSC Form 206 in support of the field.

2.40. **(Added-AFSC)** Engineering Disposition and Schedule Changes.

2.40.1. **(Added-AFSC)** If all attempts to resolve a materiel shortfall fail, the Tail Team/AMT/PFT will request an engineering disposition (i.e., AFMC Form 202). The Tail Team/AMT/PFT will request cognizant engineering to determine whether the discrepancy represents a 'safety of flight' condition. If not, the aircraft/missile can be returned to the customer without repairing the identified discrepancy. The discrepancy will be archived and the schedule will not be changed.

2.40.1.1. **(Added-AFSC)** If the discrepancy does represent a 'safety of flight' condition, the Production Controller (scheduler) will initiate a schedule change through the Master Scheduler to the SPO/SPM via appropriate channels. The schedule change represents a slippage of the negotiated delivery date. The Production Controller (scheduler) and Tail Team/AMT/PFT can effect schedule changes peculiar to a specific aircraft/missile which do not impact other aircraft/missile schedules.

2.40.1.2. **(Added-AFSC)** The Master Scheduler will evaluate the impact of the recommended change upon the total system schedule. If the Master Scheduler determines that system priorities and resource constraints require a change to the aircraft/missile schedule, the Master Scheduler will direct the IET (maintenance planner) to effect the appropriate change to the tail/serial number network.

2.41. **(Added-AFSC)** Receive, Store, and Deliver Material.

2.41.1. **(Added-AFSC)** DLA Aviation will receive and inspect incoming materiel for obvious damage, check for correct documentation, and deliver to point of use (POU).

2.41.2. **(Added-AFSC)** Material received from maintenance that was removed to FOM will be maintained electronically or manually. The aircraft/missile mechanic is responsible for attaching proper documentation to the item removed to FOM and will notify the Production Controller (materiel). The Production Controller (materiel) will move the item into the FOM storage area.

The Production supervisor is responsible for ensuring that items removed by the mechanics are identified and presented to the PSS for input in a timely manner (reference Volume 3, Chapter 6).

2.41.3. **(Added-AFSC)** The IET (maintenance planner) will review the system generated data on unplanned manufactured items and notes the occurrence factor (i.e., number of issues) for each item. When the local manufacture of an item will not be a single occurrence, the IET (maintenance planner) may elect to plan that item against the operation.

2.41.4. **(Added-AFSC)** The IET (maintenance planner) will advise the ES to update the Acquisition Advice Code (AAC) for items if recorded usage history so warrants.

2.41.5. **(Added-AFSC)** The Production Controller (materiel) will turn in discrepant materiel received by maintenance to the DLA Aviation (DLA-A) Shop Service Center (SSC) for credit. DLA-A will initiate a Supply Discrepancy Report (SDR) using WebSDR for any discrepant materiel received.

2.42. **(Added-AFSC)** Item Delivery In Accordance With Schedule and Requirements.

2.42.1. **(Added-AFSC)** The DLA-A materiel handler will deliver items directly to Production Controller (materiel). Any materiel stored within the FOM/TNB/SNB will be delivered by PSF to the aircraft when required. Oversized items delivered directly from the backshop will be moved to the aircraft/missile by the AF materiel expeditor.

2.42.1.1. **(Added-AFSC)** Items that cannot be delivered by Production Controller (materiel) (e.g., HAZMAT, tools, etc.) will be picked up by the mechanic.

2.42.1.2. **(Added-AFSC)** The Production Controller (materiel) is the primary agent for receipt of materiel at the aircraft/missile. Other personnel at the aircraft/missile (i.e., scheduler, aircraft/missile Production supervisor, and mechanic) may also receipt materiel.

2.42.1.3. **(Added-AFSC)** Mechanics will initiate a Quality Deficiency Report (QDR) any time they identify a delivered item to be discrepant which does not meet form, fit, or function, and notify the Production Controller (materiel) that a replacement will be required. QDR procedures are identified in TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*.

2.43. **(Added-AFSC)** Aircraft/Missile Status Documentation.

2.43.1. **(Added-AFSC)** The depot procedures are outlined in TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policy, and Procedures*.

2.43.2. **(Added-AFSC)** The ALC will debrief aircrews to determine the status of the aircraft upon arrival to the depot. The aircrews will be debriefed using locally developed procedures or checklists to determine the airworthy status of the aircraft for any new incoming flight discrepancies prior to performance of any depot maintenance.

2.43.3. **(Added-AFSC)** The aircraft AFTO Forms 781 are the only source of aircraft status. WCDs direct what work is to be performed and are not a source to determine aircraft status. These procedures are to prevent dual documentation of maintenance status in both the AFTO Forms 781 series and depot WCDs.

2.43.3.1. **(Added-AFSC)** The following procedures will be used for all aircraft/missile work including unpredictable operations, low frequency predictable, and all other O&A work operations not fully planned as part of regular depot activity upon debrief of the aircraft to DM. Aircraft/missile status documentation is accomplished by utilizing AFTO Forms 781 series and/or AFTO Forms 95 prior to induction into DM. AFTO Forms 95 will be reviewed by appropriate dock, phase, and functional test personnel as necessary to identify any historical information which may be pertinent to the aircraft for PDM.

2.43.3.2. **(Added-AFSC)** After induction, depot WCDs will be used for all other DM work as the sole source of aircraft/missile maintenance up to the preflight/testing phase. During PDM/MOD or other programmed/unprogrammed maintenance, all work performed shall be documented on depot WCDs (reference Volume 2, Chapter 2). The use of AFTO Forms 781 series will be reinitiated prior to the start of the aircraft initial applicable -6 FCF Preflight inspection.

2.43.3.3. **(Added-AFSC)** Discrepancies from aircraft debrief may be corrected in the AFTO Form 781As, *Maintenance Discrepancy and Work Document*, and AFTO Form 781Ks, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*, prior to induction into DM. Entries to include all delayed discrepancies and inspections must be carried forward to depot WCDs or transferred to AFTO Forms 781As for completion. If discrepancies are cleared using AFTO Forms 781As, technical data used to correct the discrepancies must be referenced and the maintenance technician completing the work will sign off the 'Corrected By' block as prescribed by TO 00-20-1. If discrepancies are transferred to depot WCDs, the 'Corrective Action' blocks of the AFTO Forms 781As and AFTO Forms 781Ks must reference the depot WCDs used to clear the discrepancies. All uncleared entries in the AFTO Forms 781As and AFTO Forms 781Ks will be transferred to WCDs as authorized and described by TO 00-20-1. The statement, "All preceding uncleared entries transferred to depot WCDs" (specify identification number), will be annotated in the last block of the AFTO Forms 781As and AFTO Forms 781Ks. Depot maintenance begins after this action or when all other pre-depot actions are complete as locally defined. The aircraft's AFTO Form 781 series will be 'closed' by records professional and will not be used to annotate further discrepancies. The aircraft's records (AFTO Forms 781 series) will remain closed until preparation for the initial applicable -6 FCF Preflight begins. The end result must be a complete audit trail in the AFTO Forms 781 series.

2.44. **(Added-AFSC)** Post Dock Documentation.

2.44.1. **(Added-AFSC)** Upon completion of the aircraft In-Dock Maintenance Phase of depot level maintenance, the Post Dock Review Team (PDRT) will conduct a Post Dock Records Review (PDRR) using AFSC Form 504, Post Dock Review Checklist, or a locally developed form that captures, at a minimum, information required by AFSC Form 504.

2.44.1.1. **(Added-AFSC)** PDRT required attendees are the Losing Production Controller (scheduler), the Gaining Production Controller (scheduler), the IET (maintenance planner), losing Production Controller (materiel), records professional and the Gaining Post Dock Production Supervisor or designated alternate.

2.44.1.2. **(Added-AFSC)** PDRT Optional Attendees based on MDS requirements are the Losing Production Phase Supervisor or designated alternate, the Fuel Supervisor, the Gaining Production Controller (scheduler)/Production Controller (materiel).

2.44.2. **(Added-AFSC)** The PDRT will reconcile all forms and documents using the AFSC Form 504, ensuring all required signatures are obtained.

2.44.3. **(Added-AFSC)** After completion of the initial FCF, all in-flight discrepancies and follow-on maintenance will be annotated in the AFTO Form 781 series. When AFTO Forms 781As discrepancies are closed, a reference to the appropriate technical data will be annotated in the corrective action block. IAW AFI 21-103, *Equipment Inventory, Status and Utilization Reporting*, maintenance debrief will enter flying time information into REMIS. Ensure flying times and installed engine event history recorder readings for all FCFs are updated no later than (NLT) the next duty day after occurrence (reference Volume 3, Chapter 7). In event of major discrepancy after initial FCF, AMXG/CC/CD/DD may grant written approval via memorandum for aircraft maintenance documentation to return to WCDs; approval memo shall be filed with aircraft records.

2.45. **(Added-AFSC)** Measure Results and Analyze Trends.

2.45.1. **(Added-AFSC)** The P&A will monitor and review internal PSF process performance and feedback to determine the correct metrics for providing accurate feedback for focused and effective process improvement. Selected measures must accurately reflect the status of critical indicators of success. Subsequent to determining the correct metrics for providing accurate feedback, the P&A will identify the source(s) for the information used to collect that metrics.

2.45.2. **(Added-AFSC)** The P&A will then determine the parameters for acceptable PSF performance within the selected metrics IAW Squadron Commander/Director guidance. The P&A will also monitor metrics driven by the Maintenance Group or Complex.

2.46. **(Added-AFSC)** Evaluate Process and Procedures.

2.46.1. **(Added-AFSC)** The P&A will perform periodic review of procedures to verify mission objectives are supported. The results of these reviews will be reported to the Squadron Director and PSF.

2.46.2. **(Added-AFSC)** As a result of internal review, the P&A will conduct analysis, identify changes to policies and procedures, system changes, and remedial training requirements, and measure performance deficiencies, as required.

2.47. (Added-AFSC) AFSC/FM. Financial Management (FM). Responsible for developing policy and procedures for budgeting and funding of the CSAG-S and CSAG-M programs. Provide

funding documents and unit cost targets to the ALCs. Serve as focal point for fee-for-service issues.

Table 2.2. **(Added-AFSC)** Information Systems Interfacing.

Personnel operating within the repair process use numerous DoD and USAF legacy systems. Specific legacy system descriptions are:	
Item	Interface
SPERS	COMMERCIAL ASSET VISIBILITY – SPERS provides visibility of assets at commercial contractor facilities, status reporting, and capability to process transactions received from asset management subsystem. The status transactions reported are: receipt at a contractor's facility, induction into repair, completion of maintenance, shipment, not economically repairable, request for disposition instructions, scrap transaction, disposition of nonrepairable assets, and visibility of NWRM assets. The system uses a standard 180 days for turnaround at a contractor's facility from the date of induction. There is no provision for reflecting the contractual due date nor for projecting changes in shipping dates.
MABSM	IMPRESA system (MABSM) is a COTS Enterprise Resource Planning (ERP) system that includes a Maintenance, Repair, and Overhaul (MRO) module which integrates with Manufacturing and Financial applications. It provides users with access to enterprise-wide information and utilizes a web-based user interface. MABSM is used primarily to manage maintenance functions within the 309 Maintenance Groups at OO- ALC/Hill Air Force Base, Utah. It is currently used to support the 309 Commodities Maintenance Group. 309th Aircraft Missile Maintenance Group, 309 Electronics Maintenance Group and 309 Maintenance Support Group. The software system name is IMPRESA and the software release is 7.30.10. The database configuration is Oracle 11.1.0.7 64 bit (11g). The hardware platform is HP Proliant DL585. The operating system is Red Hat Enterprise/Linux Advanced Server (64 bit). The hardware is located and managed at Hill Air Force Base, Utah within the IT organization. The system is common access card (CAC) enabled with single sign-on (SSO) capability. Access to the system is granted via account/password only when a DD Form 2875 has been approved and processed. Users at locations outside of the Hill2Kdomain can access the system with proper security and firewall access approvals. The system is capable of enforcing report and form level security for government approved vendors, typically used for vendors working on site at a HAFB location.
D002A	INTEGRATED LOGISTICS SYSTEM – SUPPLY (ILS-S) provides Joint D035 within CDRS only. RBL computes users' stock levels for selected recoverable items and provides the levels to the recorded users. When received, the levels are loaded and used in the requisitioning process.

D035J	FINANCIAL INVENTORY ACCOUNTING AND BILLING SYSTEM (FIABS) provides financial recording for the accountable item inventory balance of AF investment items and items in the general support, system support, and reparable support divisions of the AF stock fund. Reflects the dollar status of stock fund general ledger.
D035K	WHOLESALE AND RETAIL RECEIVING AND SHIPPING (WARRS) is a legacy mainframe D035 subsystem that provides retail customer support including bit and piece parts and end item support to depot maintenance. Maintains historical data for all accountable depot retail transactions and for Air Force receipts into the depot and for shipments out of the depot.
D087X	EXECUTION AND PRIORITIZATION OF REPAIR SUPPORT SYSTEM (EXPRESS) provides a single ALC integrated priority list of all repair requirements, determining ability of existing resources to support repair actions, and providing the data and mechanism to move items into repair. Prioritization of Aircraft Repairables (PARS) prioritizes repair and distribution of assets to the users from the source of the CSI. EXPRESS Prioritization Processor (EPP) sets priorities for the repair of items which are not addressed in PARs and combines all into a single integrated list for each repair shop. Assets which do not have aircraft availability goals are prioritized using a deepest-hole logic to try to fill the most critical need. EPP provides list to the Distribution Module to identify prepositioning actions for serviceable parts as they come out of repair. The Supportability Module takes the EPP list and determines whether the required items can be repaired based on four evaluation criteria availability: carcass, repair parts, repair funds, and repair resources. Items meeting all criteria are entered onto the D035K EXPRESS Table for transfer to the shop.
D230	MATERIEL PROCESSING SYSTEM (MPS) enables mechanics to automatically request materiel on the shop floor, immediately notifies the planner for approval, and provides the ability for Production Controller (materiel) to review the status of all orders placed, as well as correct and process orders with error conditions returned. MPS is intricately tied to the schedule execution and PDM workload management system for aircraft and missiles, and performs materiel planner support for commodities.
G004L	JOB ORDER PRODUCTION MASTER SYSTEM (JOPMS) initiates and manages the Job Order Number (JON) which is required to begin a maintenance task on the shop floor. The system creates and tracks work in progress, interfaces with financial systems providing visibility of production hours in process and completed (earned hours), provides a repository for storing the production number master records, tracks customer work requests, record work authorizations, maintain temporary work plans, records end item production, and documents standard labor hours earned during depot level maintenance.

G005M	DEPOT MAINTENANCE MATERIAL SUPPORT SYSTEM (DMMSS) identifies materiel that must be pre-positioned to support maintenance workloads and manages the BOM, which is required for planning for materiel in support of production maintenance workloads, initiating costing for the depot maintenance systems, and providing a mechanism to control materiel usage.
G019C	MISTR REQUIREMENTS SCHEDULING AND ANALYSIS SYSTEM – MISTR provides maintenance with scheduling and analysis data on MISTR repairable items. Schedules and tracks MISTR items and provides management information necessary to respond to the turnaround required by the repair cycle. The system also produces MISTR schedules that are distributed to maintenance for scheduling repair operations by individual stock number and control number.
G081	MALFUNCTION DETECTION, ANALYSIS & RECORDING SYSTEM/MDARS provides in-flight aircraft status and troubleshooting info while generating a permanent record of line replaceable unit (LRU) status. MDARS shows current performance of selected systems, performs engine health diagnosis, identifies discrepant LRUs, records trend data, determines its own health, calibrates the total monitoring system and provides for data storage and retrieval. A GRD computer system processes in-flight data recorded on tapes, evaluates the trend data, and develops programs to utilize the experience data. System supports base level and logistics for the C-5A/B, C-141, C-17 at Air Mobility Command (AMC) bases, Air Force Reserve (AFR) bases, and Air National Guard (ANG) bases.
G097	PROGRAMMED DEPOT MAINTENANCE SCHEDULING SYSTEM (PDMSS) is the HQ AFMC depots standard project management system used to manage execution of all aircraft programmed/unprogrammed depot maintenance and overhaul workload performed for the warfighter. PDMSS performs planning, maintenance operation resourcing and completion, critical path schedule execution, and performance management and is the critical workload management system for aircraft and missile IET (maintenance planners), Production Controller (scheduler) and maintenance technicians.
G337	INVENTORY TRACKING SYSTEM (ITS) tracks repairable end items from time of induction into the depot to time of turn-in. It provides inventory control and assigns item tracking numbers to all parts as they come in and subsequently tracks them through disassembly, repair, and assembly.

G402A	EXCHANGEABLES PRODUCTION SYSTEM (EPS) designed to furnish Depot Maintenance with an on-line real-time system. This system provides direct line communication with depot supply to query supply balances. The user can update maintenance and supply records by processing production issue and turn-in transactions. Users also currently have the capability to retrieve this information by means of terminals and printers. The system provides visibility of workload requirements, end item assets availability in depot supply, job order number data, and production count data on all workloads.
J025A	AUTOMATED PROJECT ORDER (APO) SYSTEM automates the AFMC Form 181 process/coordination and provides an automated routing control for the next in line process step. Emphasis of the system is to provide access for the status of documents as approved, rejected, or canceled; for extraction of summarization data; access to historical data and reports.
G300	LEAN DEPOT MANAGEMENT SYSTEM (LDMS) contains the Air Force Illustrated Parts Breakdowns (IPB) for each end item it tracks. Prevents technicians from ordering unapproved parts! LDMS identifies end items that need modification or have a pending TCTO. LDMS prompts technicians to verify modification was done when job is closed. Modification history is available for each end item. No MOD left behind. Automates Processes–Enforces OSS&E–Reduces errors–Eliminates waste. Increases Aircraft Availability–Reduces CNDs, MICAPs. Reduces Maintenance Costs–Increases productivity–Reduces carcass requirements. Conclusion LDMS is a Tool for Success!

CHAPTER 3

OPERATIONAL WORKLOADING, PLANNING, AND SCHEDULING CONTROLS

3.1. Relationship Between the Control Functions.

3.1.1. Planning. The planning function depends on the workload function, the scheduling function located throughout the production shops, and the production function of the various shops which accomplish repair processes or services on end items for which the planning organization is responsible.

3.1.2. Workload Control. The workload function provides requirements for which the repair capability exists and ensures funds availability and ample lead-time for setting up the basic Job Order Number (JON), labor, and materiel standards.

3.1.3. Scheduling. The scheduling function uses the tools provided by planning to ensure proper shop loading of end items and manpower. Scheduling personnel participate, as required, in the Pre-Production Planning Team (PPPT) and the Production Planning Team (PPT), and as such, support the planning function in the depot production process.

3.1.4. Production. The production organizations produce project orders as assigned. The production organizations provide direct feedback regarding current workload status such as unplanned materiel requirements, WCDs, technical data discrepancies, etc. Production personnel are active members of the PPPT and PPT and support the planning function in the depot production process.

3.1.5. HQ AFSC will ensure the control functions record labor, materiel and cost within their areas of responsibility accurately. Daily management reports will be made available to maintain data integrity. Erroneous transactions processed must be corrected upon receipt of the error listing.

3.1.6. Quality Assurance (QA). QA provides quality guidance during preproduction and production planning and through work completion. Reference **Volume 3, Chapter 8** of this instruction for QA guidance.

Section 3A—Control of Workload

3.2. Control of Workload. Workload control is an integral part of the mission. It starts from the point of building a plan and ends when the last item is completed for the last job order for a given fiscal period. Criteria in this chapter pertains to policies, controls, and procedures applicable to each individual item of workload from the point before induction through job closure. **Note:** This chapter does not apply to depot maintenance plant management.

3.2. (AFSC) The ALC will manage organic depot level maintenance production facilities required to repair and modify AF materiel. The buyer-seller relationship is outlined in AFMCI 65-101 and Volume 3, Chapter 1 which covers the policies and procedures governing the DPEM customers of the CSAG-M. Criteria in this directive pertains to policies, controls, and procedures applicable to

each individual item of workload from the point before induction through job closure. **Note:** This chapter does not apply to depot maintenance plant management.

3.2.1. Relationship with Other Functions. Workloading cannot be entirely separated from other internal depot maintenance functions. AFSC personnel involved with the workloading process must also be aware of the required relationship with the planning and scheduling functions.

3.2.2. Operating Policy. The emphasis on workload management includes control of all direct work from point of input through the resulting costs.

3.2.2. (AFSC) Control over workload in no way affects the basic charter of the ALC but enhances response by limiting support to valid mission requirements of a legitimate customer. The following policies will be adhered to:

3.2.2.1. (Added-AFSC) Processing Technical Order Compliance (TOC). These are items that did not generate from the Technology Repair Center (TRC). Certain commodity items are coded by the SP as being within the capability of any system program director (SPM) to perform TOC regardless of their TRC designation. When the maintenance workloading function determines the items are acceptable, the required support must be charged against the responsible SP's type 6 Project Order. If there is no current Project Order from the originating SPM, workloading personnel will negotiate with the responsible SP to obtain a type 6 Project Order to cover the prescribed work. Under no circumstances may this non-TRC TOC work be accomplished against another type Project Order (reference AFMCI 65-101 for the types of Project Orders).

3.2.2.2. (Added-AFSC) Required Correlation Between Negotiated Work Specs and QA Verification Requirements. Under the CSAG-M operation, the ALCs must rigidly observe the negotiated job specification as established with the customer. Planned workbooks and quality verification requirements will be developed within these guidelines (i.e., during the course of the job when there are other defects or work requirements identified by the quality or production function and when correction would cause the labor hour ceiling originally agreed to with the customer to be exceeded). The PAO will approve all O&A work. Forecasting all CSAG-S funded customer orders to include repair group categories (RGCs) J, K, L and P, and OFCO to include Sustaining Engineering Program and TPS.

3.2.2.3. (Added-AFSC) Work negotiations are a continuous effort. MISTR items are driven in daily through the EXPRESS system. MISTR items are driven by daily EXPRESS requirements. EXPRESS items are referenced in AFMCI 23-103. The processes will always have the objective of meeting warfighter requirements and maintaining MICAP rates. To accomplish this necessitates eliminating capability where requirements no longer exist and shifting capability to match changes in requirements.

3.2.2.4. (Added-AFSC) Control numbers will be electronically assigned to provide a method of continuity and assurance so that specific exchangeables can be identified to either a permanent or temporary category. All data products, in relation to control number assignment, are designed and distributed specifically for the use of the central control number assignment function. Workloader personnel review current management products to assure the proper use of production numbers on

work authorization document (WADs) (reference AFMCI 65-101). WADs authorize the expenditure of labor, materiel, and other related costs to do work by a specific customer on AFMC Form 206 or AFSC Form 206, *Temporary Work Request*, and AFSC Form 600, *Production Order*, within G004L (reference Volume 3, Chapter 3). WADs are related to all supporting documents through the medium of the production number, which consists of a basic control number and job designator, and results in:

3.2.2.4.1. **(Added-AFSC)** Identification of the type work to be done.

3.2.2.4.2. **(Added-AFSC)** A medium for the allocation and control of parts and materiel required to do the work.

3.2.2.4.3. **(Added-AFSC)** A medium for the accumulation of Direct Product Earned Hours (DPEH) and end item inductions/completions at the JON level.

3.2.2.4.4. **(Added-AFSC)** A medium for the control of the accumulation and application of materiel consumption data and accurate cost data.

3.2.2.5. **(Added-AFSC)** For management purposes, changes to control numbers are not authorized. If an incorrect control number has been opened, correct the error by closing the incorrect control number and opening a new control number. When workloads are transferred from one group to another, the control number will not be changed. Block assignment of control number for any reason is not authorized.

3.2.2.6. **(Added-AFSC)** Follow AFMAN 63-143 to ensure AMR and Logistics Requirements Determination Process (LRDP) brochure hours and BOW/SOW costs are reviewed annually.

3.2.3. Stabilization of Rates. AFMCI 65-101, *Depot Maintenance Accounting and Production System Financial Policy and Procedures for Depot Maintenance*, contains HQ AFMC policy on sales rates. HQ AFSC will ensure all personnel involved with Work Authorization Documents (WADs) are aware that any changes to the rates must be approved IAW AFMCI 65-101.

3.2.4. Workload Requirements. Accurate identification of individual workload requirements is necessary to ensure that each item of inducted workload will be properly categorized throughout the production process. Examples include the Repair Group Categories (RGCs) and reimbursement codes. These types of identifiers apply to each workload accepted from the CSAG-M customer. HQ AFSC will ensure all items have a Project Order established before any work or service is performed. AFMCI 65-101 contains the policies and procedures associated with Project Order management and control.

3.2.5. Workloaders should be aware of the impact of each WAD while it is inducted to the production process. The previous paragraphs are a goal of day-to-day workload control, and each technician must be aware of and responsible for the financial impact. That impact starts from the point of induction and goes through the sales and project order closure.

3.2.6. Depot Field Team Requirements. These requirements are normally within the scope of TO 00-25-107, *Maintenance Assistance*. AFMC Form 206, *Temporary Work Request*, or equivalent, is initiated using the WAD Edit Extension table for temporary JONs. Reference AFMCI 65-101 and **Volume 2, Chapter 10** of this instruction.

3.3. Workload Generation. Depot maintenance workloads may be generated from various sources such as base or tenant organizations, ALC Management of Items Subject To Repair (MISTR) drives, ALC aircraft/missile/engine project directives, as well as from internal ALC requirements. Regardless of the source, any workload going through the production process will be associated with a production number. A production number is composed of a five-digit control number and a one-digit job designator. HQ AFSC will develop, implement, and maintain procedures for the use of production numbers for depot workloads.

3.3.1. **(Added-AFSC)** Production numbers are categorized as permanent, temporary, or support, depending upon the type/situation of the specific workload involved. General guidelines are as follows:

3.3.1.1. **(Added-AFSC)** Permanent Production Numbers. Contain a numeric in the first position. Application:

3.3.1.1.1. **(Added-AFSC)** Serialized aircraft, missile, and OMEI.

3.3.1.1.2. **(Added-AFSC)** All other areas where there is a repetitive/continuous workload (e.g., MISTR, MDS, TMS engines, or areas that involve a workload with a long flow time).

3.3.1.2. **(Added-AFSC)** Temporary Production Numbers. Begin with an alpha in the first position. Application:

3.3.1.2.1. **(Added-AFSC)** All off-base work.

3.3.1.2.2. **(Added-AFSC)** All repairs done on ALC equipment.

3.3.1.2.3. **(Added-AFSC)** All manufacture.

3.3.1.3. **(Added-AFSC)** All other workloads that do not justify the establishment, file maintenance of extensive permanent materiel, and labor standards in the associated computer systems. This area includes both planned and unplanned workloads.

3.3.1.4. Project Directives. Project directives will normally have a permanent production number assigned. However, if the quantity is insufficient to warrant the setting up of finite labor and materiel standards, the Workloader will contact the issuing activity and request the issuance of a computer generated AFMC Form 206 or AFSC Form 206. This action allows setting up a temporary production number and use of the project directive as an attachment to the Work Authorization Document (WAD).

3.3.1.5. Base Tenant Support. All Base Tenant support should be IAW local Host Tenant agreements. Where differences occur between the Host Tenant agreements and CSAG policy and procedures, the Depot Maintenance Systems (DMS) Air Force Industrial Fund (AFIF) policy and procedures will take precedence. Whenever Host-Tenant agreements are initially set up or revised, maintenance personnel will be familiar with the CSAG procedures and will consider the procedures/policies in their agreement. Recurring work will be requested on a computer generated AFMC Form 206 or AFSC Form 206 by the tenant, and may involve either of two RC/CC rate EISP applications Bill of Material Indicators (BOMIs) either M or R. The Data Processing Code (DPC) will be S, and T prefix Control Number (CN) will be used. BOMI will be M or R, only one labor operation with operation standard hours (OSH). OSH = 1.000 hour, RGC will be N and the JON Quarterly Sales Indicator (QSI) of M, and unit of measure (UOM) of hour (HR) will be machine assigned. In the job quantity block, the originator will show the first quarter's labor hours requirement. The 309th AMARG/OBW will prepare AFMC Form 206 or AFSC Form 206 for each RC/CC doing work for that tenant and send the forms to the responsible Production Planning Office for preparation of the AFSC Form 237, Temporary Labor and Material Plan. For Base Tenant Support temporary jobs, the BOMI now becomes an RC/CC rate indicator and shows which rate is to be used to compute the EISP. When the BOMI = R, the EISP is computed using the RC/CC labor rate plus the RC/CC direct materiel rate. Any BOM list, when the BOMI = R, is not computed in the EISP. When the BOMI = M, the EISP is computed using the RC/CC labor rate plus the BOM list. If no BOM list exists, and the BOMI = M, the EISP will be computed using the RC/CC labor rate only. If a tenant support job is going to require an excessive amount of direct materiel which will not be covered by the RC/CC direct materiel rate, a separate AFMC Form 206 or AFSC Form 206 and AFSC Form 237 are prepared and materiel planned accordingly. In this situation, use RGC N and DPC N. If this type of tenant support jobs is recurring, consider making them permanent jobs with project order 7, RGC N, and DPC N. Temporary JONs with DPC S will not be automatically closed but will be updated each succeeding quarter by the computer. At the end of each quarter, G004L will reduce the job order quantity (JOQ) to what has been completed, and allow the JON to go to sales. G004L will then re-establish the production number with the next quarterly JON suffix. At the beginning of each quarter, the tenant will electronically initiate a new AFMC Form 206 or AFSC Form 206 to the workload technician depicting the new labor hours and dollar value requirement in the JOQ and estimated job total cost blocks. The workloader will then submit a computer generated AFSC Form 930, *G004L File Maintenance Transactions*, to file maintain the new JOQs for each JON set up for that tenant.

3.4. Hourly Sales Rates and End Item Sales Price (EISP). The completion of each individual workload will generate revenue for the CSAG-M. That revenue is designed to offset expenses that have been incurred to complete the workload. The generation of the revenue is accomplished by establishing an Hourly Sales Rate or EISP for the products or services provided. AFSC will develop, implement, and maintain processes and procedures for the application of the Hourly Sales Rates or EISPs. Reference AFMCI 65-101 for the criteria applicable to sales rates.

3.4.1. RC/CC Rates. RC/CC rates are annual average hourly rates approved by the ALCs before the beginning of a FY and used as follows:

3.4.1.1. Aircraft, Missile, and OMEI. The RC/CC rate forms the initial baseline for the ALC approved DPSH rate for these areas. Before the ALC requests approval of the generated rates, the

financial impact caused by carry-over work must be considered and may dictate a change to the RC/CC rate or the ALC may elect to change only the computer generated end result.

3.4.1.2. Permanent production numbers on all other workloads. The RC/CC hourly rate is input into the SPG in Depot Maintenance Accounting and Production System Integrated Engine (DMAPSIE) by the Workload Programming Planning and Control System (G004C) as directed by the ALCs before computation of the next FY EISP. The SPG in the DMAPSIE system then computes an EISP for each assigned permanent production number. During September each year, prices are input into the G004L system. The G004L system maintains a separate file of the prices called the Sales Price Master (SPM). The prices remain firm throughout the next FY unless a change is approved by HQ AFMC. For new workloads (i.e., new production numbers), the new price is input into the SPM file AFSC Form 600. Individual price changes authorized by the ALCs are electronically input into the SPM and controlled by Financial Management. AFMCI 65-101 identifies the engine sales price development and usage.

3.4.1.3. Temporary production numbers. The RC/CC hourly rate is downloaded into G004L from G004C on or about 1 October to compute either an average hourly sales price or an EISP.

3.4.1.4. All production numbers. The input of RC/CC rates to the above designated computer systems pertains to RC/CCs which are in existence in G004C as of 1 September of each year. If new RC/CCs are set up during the year, the rates are provided to the designated systems after ALC approval. Reference AFSCMAN 65-101 for complete details on the RC/CC rate approval process.

3.4.1.4.1. Sales Rates are either hourly or end item. The specific workload and/or a method of accomplishment dictate which of the two types applies.

3.4.1.4.2. Computational Routines for Temporary Production Numbers. Specific details are contained in this Volume 3, Chapter 3.

3.4.1.4.3. Computational Routines for Permanent Production Numbers (nonserialized). Reference AFMCI 65-101.

3.4.1.4.4. OMEI Pricing. Reference Volume 3, Chapter 3 for specific details.

3.5. Responsibilities of the Workloader. HQ AFSC will ensure Workloader responsibilities are developed, implemented, and maintained.

3.5.1. **(Added-AFSC)** Ensure valid production numbers are established on all WADS.

3.5.2. **(Added-AFSC)** Ensure all new work requests are covered by a funded Project Order. If determined to be unfunded, there will be an error message on the G004L-L3G, Workloader's Review List, take immediate action to get a Project Order amendment. Start daily follow-up action to get proper funding (reference AFSCMAN 65-101). Make sure all unfunded work is not started.

3.5.3. **(Added-AFSC)** Facilitate all depot maintenance requests from the customer. Acceptance of Project Orders should be based on the existing or adjusted organic capability to perform the work or service requested and if the completion date is feasible.

3.5.4. **(Added-AFSC)** Verify all fields on the computer generated AFMC Form 206 or AFSC Form 206.

3.5.5. **(Added-AFSC)** Process and control all error/valid transaction listings for tenant activities related to temporary work requests.

3.5.6. **(Added-AFSC)** Review for control and quality of all file maintenance transactions. This includes:

3.5.6.1. **(Added-AFSC)** Editing all pertinent blocks on computer-generated forms to ensure information is correct before sending to G004L and G019C.

3.5.6.2. **(Added-AFSC)** Receiving and checking the G004L-L3G report daily to ensure previous day's input was accepted. If errors exist, initiate and complete corrective action. The G004L-L3G report is obtained electronically.

3.5.7. **(Added-AFSC)** Gather and update travel and per diem costs for A-Prefix WADS. Obtain planned expense materiel costs, if applicable, from the planning function. Review for adequacy and insert into the applicable data system before closing A-prefix WADS. Obtain from the system and file maintain, with a computer generated AFSC Form 930 transaction, materiel costs related to tenant workload requests. This must be done on time to prevent absorbing costs.

3.5.8. **(Added-AFSC)** Aid the Production Controller (scheduler) in designating the type of JON suffix, either monthly or quarterly, for the initial opening of permanent WADS when requested.

3.5.9. **(Added-AFSC)** Act as the ALC focal point for providing applicable production status to the initiator of the depot maintenance repair requirement.

3.5.10. **(Added-AFSC)** Ensure all RC/CCs established within the ALC are contained in the master table.

Update as required IAW AFMCI 65-101.

3.5.11. **(Added-AFSC)** Ensure the correct FCRN is maintained in the master JON record of the G004L system at all times, and this responsibility may be delegated to the funds certifier.

3.6. Work Performance Category Descriptions (Job Designator). HQ AFSC will ensure work performance category descriptions (Job Designator) are developed for the following:

3.6.1. Code A - Major Overhaul.

3.6.1. **(AFSC)** This type of maintenance consists of complete end item disassembly, cleaning, inspection for repair requirements, and tests on the operating components and basic structure to

determine the authorized support necessary to restore serviceability. Inspection and repair actions may include replacement of subassemblies or operating components, and adjustment, calibration, reassembly, and functional testing of the complete unit. It is considered to be synonymous with the terms rework or rebuild. Modification may be done along with the repair when the labor hours are subordinate to the repair requirement. This includes complete rehabilitation of AF equipment (i.e., structural repairs required on major airframe components as the result of crash, battle, or comparable damages which require depot facilities, skills, and tooling to restore alignment).

3.6.2. Code B - Progressive Maintenance/Programmed Depot Maintenance (PDM).

3.6.2. (AFSC) Progressive maintenance or PDM includes a predetermined amount of repair work requiring depot skills, equipment, and tooling that requires disassembly, necessary cleaning, and inspection for repair or replacement, as necessary, of the component and assemblies. This defined cycle of repair may be equated with one increment of a periodic maintenance overhaul when done on a progressive basis requiring two or more inputs to the end item. It is authorization to reassemble, calibrate, adjust, and functionally test the complete assembly. Modifications may be done along with and included under code B when it is considered a subordinate portion of the total work.

3.6.3. Code C - Depot Performance of all Two Level Organizational and Intermediate Workloads other than Engines.

3.6.3. (AFSC) This code applies to the level of maintenance done by the CSAG-M organic facilities that does not require skills or equipment capabilities above that authorized for an AF organization or intermediate maintenance function. Maintenance will be performed in a depot under this code on commodity component items Expendability, Recoverability, Reparability Category (ERRC) coded for repair at organizational or intermediate level (i.e., XF, NF, XD, and ND) which can be economically restored to a serviceable condition within this level of repair.

3.6.4. Code D - Activation of Stored Major Item.

3.6.4. (AFSC) This maintenance includes the depreservation, servicing, inspection, testing, and replacement of subassemblies, as required, on major end items that have been stored or kept in an inactive pool at an authorized storage point. The range of end items includes aircraft, missiles, aircraft engines, vehicles, and motorized equipment. Removal from shipment is included under this code.

3.6.5. Code E - Inactivation, Storage Preparation, and In Storage Maintenance of Major Items.

3.6.5. (AFSC) This code applies to the preparation for temporary or long-term storage of major items at authorized ALC storage points. Major end items include aircraft, missiles, aircraft engines, vehicles, and motorized equipment. For routine maintenance required on the stored items to maintain the desired level of serviceability, refer to Code M. Preparation for shipment is included under this code.

3.6.6. Code F - Renovation Proof Testing.

3.6.6. **(AFSC)** This code applies when the maintenance work consists of performing a proof test procedure on a representative quantity of items or materiel to determine whether specification characteristics are satisfactory. This testing will result in the destruction or loss of a predetermined stock of supply or customer owned items. Items requiring proof testing will include ordnance items, missile propellant mixtures, or other items or materiel whose projected shelf life can only be determined through a sample destruct and analysis process. Included under this code is the required documentation evaluating the test results necessary to ensure retention of the desired capability on the remaining on-hand stock.

3.6.7. Code G - Analytical Rework Evaluation of Materials and In-Service Items.

3.6.7. **(AFSC)** This code is applied when a depot maintenance mission organization performs a chemical or physical analysis of in-service items or new materiel including Analytical Condition Inspection of aircraft. This analysis includes the tear down necessary for deficiency inspection of components or to facilitate laboratory processing that is chemical, metallurgical, physical, etc. Included is the technical evaluation and documentation of the findings or determination of maintenance criteria as in an item undergoing prototype analysis for planning purposes during which no repair is involved. If depot maintenance codes A, B, or C is to be performed concurrent with the teardown and analysis work, the appropriate code will apply for the repair portion of the job. Turn-in to supply on the code G job and issue to the code A job order if required. An Engineering Investigation IAW TO 00-35D-54 may be processed using a permanent or temporary job order with code G. If the TRC is not the responsible TRC for the item, use the temporary job order with code G and include the analysis for teardown (i.e., repair and test) along with the documentation as applicable. The SP initiates AFMC Form 206 or AFSC Form 206 in this case. Code G also applies when an end item is undergoing prototype analysis for labor and materiel planning purposes in which no repair is involved. Code G may also apply when the technical evaluation and documentation result from kit and print proofing AFMC Form 206 or AFSC Form 206 is initiated by the SP for each evaluation.

3.6.8. Code H - Conversion/Modification.

3.6.8. **(AFSC)** A conversion will alter the basic characteristics of an item to change the mission, performance, or capability. Normally, these modifications are known as Cost Class V Mods. Minor repairs may be performed under this code only when accomplished along with conversion and the labor hours requirement is either subordinate to the change or essential to the operating safety of the end assembly. A modification is the alteration or change of the physical makeup of a weapon support system, subsystem, component, or part IAW approved technical direction of TOC. These are known as Class IV modifications. This type of maintenance covers the accomplishment of TCTOs on otherwise serviceable stock. These types of items require periodic inspection and testing, as specified in the technical order governing the item's maintenance cycles.

3.6.9. Code I - Repair.

3.6.9. **(AFSC)** Depot Performance of Organizational and Intermediate Level Maintenance. This code applies to that level of maintenance done by the CSAG organic facilities that do not require

skills or equipment capabilities above that authorized for an AF organizational or intermediate maintenance function. This code applies to maintenance performed on aircraft that are base assigned, or in a transient status, not scheduled for input on a PDM project. This aircraft maintenance including daily and routine inspection and replacement of defective or time change accessories, the accomplishment of periodic inspections specified in applicable TOs, and the required maintenance. When a portion of a job requires depot level support, include the organizational or intermediate level part of the work under the higher level. Repair of damages to exterior aircraft surfaces, corroded or worn airframe components, or correction of minor structural defects not requiring depot precision alignment is also included in Code I. The disassembly or buildup maintenance required for engine power packs is within the scope of this code. Maintenance will be done in a depot under this code on commodity component items ERRC coded for repair at organizational or intermediate level (i.e., XR, XF, or NF) which can be economically restored to a serviceable condition within this level of repair. This level of repair will also apply to any recoverable type of end item (i.e., XD or ND) that is generated regardless of its assigned overhaul TRC depot. This code applies to ALC owned PME. All cost class IV work will be done under this code. **Exception:** Reference code T.

3.6.10. Code J -Inspection and Test, Condition Determination or Bench Check.

3.6.10. **(AFSC)** This code applies to the physical examination or testing required in determining the condition status of an item. This action must be a separate and distinct requirement applicable to the total job. Condition status includes the determination of whether the item being examined can properly perform its intended use, and the level of repair that would be necessary to restore serviceability should the item be classified as repairable. No type of repair is authorized under this code. **Note:** When asset characteristics are outside of normal repair requirements, use of code J is required to process assets for base supply through the ALC before the actual repair or restoration to a serviceable condition. The WAD must contain a DPC T. These are items having a high condemnation rate or an extremely low condemnation rate when condition classification is undetermined. Use this code as directed by AFMCI 65-101.

3.6.11. Code K - Manufacture and Fabrication.

3.6.11. **(AFSC)** This code applies to the manufacture or assembly/fabrication of any item. Manufacture of suggested items, tools, and equipment is included.

3.6.12. Code L - Reclamation.

3.6.12. **(AFSC)** This code authorizes to process end items, assemblies, or subassemblies for parts and components that will be added to the supply inventory or immediately consumed. Limit repair of the part reclaimed under this code to the minimum usable level. Dispose of the remains of the reclaimed end items. It is authorized to process the residue materiel to disposal. Code L also covers the demilitarization of assemblies before disposal. Use code L for SP/PMS directed cannibalization of stock from supply using cost code H. Dispose of the cannibalized asset as directed by the manager. Use DPC N with this type of job regardless of origin (reference production controller (schedulers) instructions for cannibalization).

3.6.13. Code M - Storage.

3.6.13. **(AFSC)** This code includes the inspection, re-preservation, and routine maintenance of weapons systems, equipment items, subsystems, and components in the supply system in a storage status to maintain a predetermined level of serviceability.

3.6.14. Code N -Technical Depot Assistance.

3.6.14. **(AFSC)** This code is used to authorize the use of qualified depot maintenance workers to provide technical information, instructions, and guidance, or to perform work requiring specialized depot skills at a customer's location outside the MXSG under an RGC of area or base assistance (reference TO 00-25-107). This code is also used for accounting of foreign student training when accomplished in the ALC shops (reference AFMCI 65-101).

3.6.14.1. **(Added-AFSC)** Within depot shops, T- prefix control number and code N must be set up in the appropriate RC/CC where the work is performed. When a job price has been negotiated, the price will be divided by the RC/CC rate to determine the total labor hours that will be earned. The JOQ should be 1 and the operation occurrence 1. In this case, the operation standard hours are the same as the labor hours to be earned. This code is also used for accounting of foreign student training under RGC N when done in the ALC shops. Costing of this training is accomplished using the applicable RC/CC approved rate from the G004C system. Reference AFMCI 65-101 for policy and procedures.

3.6.14.2. **(Added-AFSC)** This code includes all demilitarization other than that incidental to reclamation (i.e., code L).

3.6.15. Code T - Other Work.

3.6.15. **(AFSC)** This type applies to other work not covered by other authorized Weapon Performance Categories.

3.6.16. Code U - Software Maintenance/Sustainment.

3.6.16. **(AFSC)** Are modification activities after initial operating capability (IOC) or fielding necessary to correct defects and/or improve performance and upgrade or modify to adapt and/or perfect the fielded software baseline to a changing/changed environment. Maintenance/sustainment can include the modifications or upgrades necessary to ensure safety and relevance in operations and interoperability with other systems. Depot-level software maintenance includes:

3.6.16.1. **(Added-AFSC)** Corrective maintenance successfully fixes faults discovered in the software.

3.6.16.2. **(Added-AFSC)** Adaptive maintenance incorporates changes made necessary by modifications in the software or hardware (i.e., operational) environment of the program to assure intraoperability and interoperability including changes in the maintenance environment.

3.6.16.3. **(Added-AFSC)** Perfective maintenance incorporates changes demanded by the user which may be due to changes in requirements or legislation, or for embedded applications in response to changes in the surrounding system. A changed requirement can be but not limited to responses to urgent operational needs.

3.6.16.4. **(Added-AFSC)** Preventive maintenance modifies a software product after delivery to detect and correct latent faults in the software product before they become effective faults.

3.6.17. Code W - Contractor Logistics Support.

3.6.17. **(AFSC)** CLS is commercial support for those weapons systems and equipment that do not have an organic support base established. Contractors provide total support including depot maintenance for the equipment, end item, and components. Only those maintenance functions that would be classified as depot level, if the equipment was maintained organically, will be included.

3.6.18. Code Y - Scheduled Maintenance.

3.6.18. **(AFSC)** The application of certain maintenance procedures to ensure that aeronautical equipment is maintained by controlling degradation resulting from time, operation cycles, use, and climatic exposure. Scheduled maintenance requirements are the minimum necessary under all conditions and are mandatory to insure timely discovery and correction of defects. Includes Standard Depot Level Maintenance and PDM.

Section 3B – Procedures for Control of Workload

3.7. Job Order Number (JON). A JON is a nine-position alphanumeric combination composed of the control number, job designator, and a three-position JON suffix. HQ AFSC will ensure procedures are developed for the proper use of JONs to include:

3.7. (AFSC) Job Order Number (JON) Master. The JON master record, established for each end item or other type workload requirement, provides the basis for management visibility. The source of assets to be repaired, the level of repair to be accomplished, who will do the repair, methods to be used, and the necessary tooling and skills required are items that the IET (maintenance planner) must know to ensure valid master record establishment.

3.7.1. Types of Production Control Numbers.

3.7.1.1. **(Added-AFSC)** Permanent. A permanent control number is a five-digit number assigned to each end/line item of planned workloads: MISTR, TMS, and MDS, or any recurring planned workload. The range of permanent control numbers (to be electronically and or manually assigned) will run from numbers 00001 through 99999. The assignment of the number also dictates a need to set up labor and materiel standards (by planning) in the applicable data systems.

3.7.1.2. **(Added-AFSC)** Temporary. A temporary control number is composed of one alpha (i.e., first position) assigned by the workloader, and four numeric assigned to each end/line item of temporary or nonrecurring workloads. The four numerics are computer generated.

3.7.2. JON Suffix.

3.7.2. **(AFSC)** This is a three-position alphanumeric code that will be determined and assigned IAW the following:

3.7.2.1. **(Added-AFSC)** If the estimated unit cost is \$90,000 or more and is subject to E&I such as aircraft, missiles, and OMEI, the last three positions must relate to a specific serial number. The following rules apply to serialized suffix assignment:

3.7.2.1.1. **(Added-AFSC)** For G097 records, the JON suffix alpha, numeric, or if a combination if used for a serialized suffix and corresponds to the G097 weapon identity code.

3.7.2.1.2. **(Added-AFSC)** For non-G097 items involving supply, the JON suffix must be numeric with a zero in the third position for AF items and Ownership Purpose Code (OPC) of 1, 4, or 5 for DMISA items.

3.7.2.2. **(Added-AFSC)** Serialized items that are non-G097 not involving supply will have a JON suffix of all alphas.

3.7.2.3. **(Added-AFSC)** If the estimated unit cost is \$25,000 to \$90,000 and is subject to E&I. The first and second positions represent the FY and month, respectively, of the actual induction. If the OPC is A (i.e., Air Force), the third position will be A. For other than AF ownership, the third position will agree with the OPC available as an attachment to this regulation. The same FY and month for a production number will not be allowed with two different OPCs.

3.7.2.4. **(Added-AFSC)** If the estimate unit cost is less than \$25,000, the three-position suffix can be monthly or quarterly. The first and second positions will be FY, quarter, and month. The third position is the same as table in the above paragraph.

3.7.2.5. **(Added-AFSC)** If the estimated unit cost is greater than \$25,000 and is not subject to E&I, a monthly JON suffix is assigned.

3.7.2.6. **(Added-AFSC)** If the estimated unit cost is less than \$25,000 and not subject to E&I, a monthly or quarterly JON suffix may be assigned.

3.7.2.7. **(Added-AFSC)** All JONs carrying the monthly identifier in the second position of the JON suffix will use a coding scheme of A = October, B = November, C = December, D = January, E = February, F = March, G = April, H = May, I = June, J = July, K = August, and L = September. Any JON carrying the monthly identifier of M can be used in October, November, or December with the previous FY for replacement of non-serviceable assets only.

3.7.2.8. **(Added-AFSC)** JON suffix covered in this section pertains to the JON suffix structure for all permanent production numbers and for C prefix with DPC P temporary production numbers. All other temporary jobs will have a quarterly JON suffix assigned by G004L IAW the current Project Order Number (PON) and the applicable DPC.

3.7.2.9. **(Added-AFSC)** When a monthly JON suffix has been established, a quarterly JON suffix will not be allowed before the next quarter. When a quarterly JON suffix has been established, a monthly suffix will not be allowed before the next quarter.

3.8. Production and Control. HQ AFSC will ensure processes and procedures for production and control are developed, implemented, and maintained for the following:

3.8.1. Status for Internal ALC Use.

3.8.1. **(AFSC)** The current production status as of the end-of-day on Thursday of each week or the end of month (EOM) may be obtained for any assigned production number by referencing the end item master list. The master lists are produced in the following sequence and reflect the status of each item: JON/FY (G004L-G1A), PSSD/JON/FY/ON/MATL ID (G004L-G3A), and End Item Identity (G004L-W3B). These lists show the status of all records that are on the temporary or permanent JON master files.

3.8.2. Production Status for Customer Feedback.

3.8.2. **(AFSC)** This action is accomplished through the data contained on the G004L-L3C.

3.8.3. Assignment of Permanent Control Numbers.

3.8.3. **(AFSC)** The assigned portion of the permanent control number register will consist of two master listings and serves two purposes. All control numbers currently assigned will be shown and any control number, which does not appear on these lists, is available to be assigned. JON Master List by JON/FY (G004L-G1A) and the JON Master list by EII (G004L-G3B) is stored electronically and viewed online.

3.8.3.1. **(Added-AFSC)** Permanent control numbers will be computer generated or can be manually established to indicate a particular workload TMS and MDS.

3.8.3.2. **(Added-AFSC)** Closing of Permanent Control Numbered JONs. The G004L system, through the use of status codes related to actions taken on any specific JON master record, will close a JON master at the end of the JON period.

3.8.3.3. **(Added-AFSC)** Use 'Delete Permanent PDN' to delete the permanent JON master when the record has no suffix assigned. The G004L system will electronically delete these at the following EOM. **Note:** This action will delete the entire production number, not just the JON Master.

3.8.4. Assignment of Temporary Production Numbers.

3.8.4. **(AFSC)** Temporary Production Numbers are assigned electronically when the workloader correctly completes the required information on the AFMC Form 206 or AFSC Form 206. “A”-Prefix is used only for workloads that will be accomplished off base with personnel on actual temporary duty. Procedures for the use of hourly standards are given in this chapter. For work done under a type 6 PON, the end item identity (EII) must be a customer account identity (CAI). All “A”-prefixed work must have a valid MDS/TMS or stock number as the EII. Only one “A”-prefixed control number will be set up for each area technical assistance request. Personnel from support RC/CCs will be loaned to the responsible RC/CC.

3.8.4.1. **(Added-AFSC)** For normal TDY job orders, the JOQ should be the total number of manhours required for the TDY requirement.

3.8.4.2. **(Added-AFSC)** C-Prefix. This prefix is used only for non-ALC PME work that will be done as cost class 1. This prefix will be assigned to accumulate production costs to a specific CAI for other than the ALC PME. The CAI must be used for all C-prefixed control numbers.

3.8.4.3. **(Added-AFSC)** M-Prefix. This prefix is used only for local manufacturers. This prefix will be assigned to all manufacture work except line and Cost Class IV support.

3.8.4.4. **(Added-AFSC)** T-Prefix. This prefix will be assigned to all temporary repair work done on base within the ALC shop and/or all off base modification programs under serial number control.

3.8.4.5. **(Added-AFSC)** When a JON completion is processed in the end item production segment of the G004L system and it completes the JOQ for a temporary production number with a K, N, T, or U DPC, the system will automatically close the JON.

3.8.5. Maintenance Generated Temporary Work Requests.

3.8.5. **(AFSC)** Initiation of a computer generated AFMC Form 206 or AFSC Form 206 by maintenance is used to establish the C prefix PME customer account job orders and T prefix (DPC S) job orders for tenant support.

3.8.6. Production Number Errors.

3.8.6. **(AFSC)** Any opening WADs with errors will be printed out on the G004L-L3B and G004L-L3G list. The workloader must notify the customer for corrections as necessary. Any JON master record, once established, will be automatically deleted only when the JOQ and completions are equal on temporary JONs or when there have been no inductions on a permanent number at the end of the JON period. All temporary JONs (i.e., A, M, or T prefix) will close automatically. Temporary JONs for tenant support T prefix (DPC S) will close and regenerate with the latest labor, materiel, and JOQ. All permanent JONs close at the EOM when all inductions for the JON period have been completed.

3.8.7. Production Numbers for Training (Reimbursable).

3.8.7. (AFSC) The WAD will be established using the appropriate CAI. The trainer will be considered direct labor and loaned to the RC/CC in which the labor operation is set up. Duty Code 11 will be used. A local special projects shred code may be used if desired. The approved RC/CC rate, which does not include direct materiel, will be used to compute the sales price by G004L. These workloads will use a T prefix production number with job designator N.

3.8.8. Increased Job Order Quantities (JOQs).

3.8.8. (AFSC) JOQs input using AFMC Form 206 or AFSC Form 206 may be increased by the initiator with a changed computer generated AFMC Form 206 or AFSC Form 206 until such time as Part II of AFMC Form 206 or AFSC Form 206 is accepted. After that time, increased JOQs will be accepted only on two different control numbers: A prefix, and T prefix with a DPC S. Requests for JOQ increases should be substantiated with proper documentation. The JOQ of prior year requirements cannot be increased.

3.8.9. File Maintenance of the JON Master File.

3.8.9. (AFSC) File Maintenance of the JON Master File. This will be accomplished directly in the G004L system.

3.9. File Maintenance. HQ AFSC will ensure Workloader file maintenance procedures are developed, implemented, and maintained.

Section 3C – Planning and Control.

3.10. The Industrial Engineering Technician (IET). The IETs provide the labor and materiel standards, shop capability, WCDs, and associated data to accomplish the production processes. The planning function requires technical knowledge of data systems, production processing methodology for various end items, ability to interpret directives, and complete understanding of management objectives.

3.10.1. Planning must provide timely support to workloading for all organizational changes. Due to the need to pass valid production and actual hour data to other systems, it becomes necessary to closely manage the data systems update preparation relative to organizational change. The net result is to limit organizational changes to being effective at the beginning of a fiscal quarter.

3.10.2. HQ AFSC will ensure IET responsibilities are developed, implemented, and maintained for all IETs within the ALCs.

3.10.2. (AFSC) IET (Maintenance Planner) Responsibilities.

3.10.2.1. (Added-AFSC) Participate in and coordinate on workload negotiations when requested. Organizations utilizing EXPRESS do not negotiate MISTR workloads.

3.10.2.2. **(Added-AFSC)** Provide cost/hour estimates and source selection support and provide technical inputs to decision tree analysis and inter-service studies.

3.10.2.3. **(Added-AFSC)** Provide limited planning support to the acquisition process for weapon systems and end items.

3.10.2.4. **(Added-AFSC)** Provide production planning for current workloads.

3.10.2.5. **(Added-AFSC)** Coordinate and provide follow-up on technical data changes on applicable work packages and WCDs as required.

3.10.2.6. **(Added-AFSC)** Prepare and maintain WCDs; review MWRs for O&A work.

3.10.2.7. **(Added-AFSC)** Develop and maintain resource standards for labor and materiel.

3.10.2.8. **(Added-AFSC)** Perform periodic labor standard reviews on permanent workloads (reference Volume 3, Chapter 1).

3.10.2.9. **(Added-AFSC)** Develop task sequencing compatible with technical data, work requirements, and work specifications.

3.10.2.10. **(Added-AFSC)** Provide data, updates, and recommendations to management, when requested.

3.10.2.11. **(Added-AFSC)** Review and coordinate on actions of the AMR.

3.10.2.12. **(Added-AFSC)** Assists in determining requirements and establishing justification for group modernization projects and programs.

3.10.2.13. **(Added-AFSC)** Provide planning support as required during the development and implementation of new technologies and review new industrial processes for impact to the current production process.

3.10.2.14. **(Added-AFSC)** Update associated logistics data, (e.g., labor standards, flow day computations, and WCDs).

3.10.2.15. **(Added-AFSC)** Provide Planning support to safety and health related programs as needed.

3.11. Exchangeable Component Item Control. HQ AFSC will ensure repair processes for the following are established.

3.11. **(AFSC)** The basis for pricing end items is determined 12-15 months in advance of the actual generation of those items for repair. Because of this time-phasing and the necessity of establishing the pricing rates approximately 14 months in advance of workload generation, the customer has no reliable visibility of serviceable component availability, nor can maintenance rely upon such

availability when establishing labor standards for repair of the end items. Such situations force consideration of concurrent repair of exchangeable components. The ALC is responsible for disposing of the exchangeable components, and concurrent repair of the items must be approved by the ALC. Repair concepts for exchangeable items are normally agreed upon between the materiel management and ALC during the initial pre-production planning accomplished after TRC assignment or when new major end item repair requirements are made known through major modification/engineering change. Those requirements may be of such magnitude or sophistication as to require a preproduction planning effort. The preplanning effort will determine and establish the repair process of those agreed upon items.

3.11.1. Job Routed Items.

3.11.1.1. **(Added-AFSC)** Exchange Items.

3.11.1.2. **(Added-AFSC)** Field Level Repair. This type of repair, when done in support of serialized end items, should be costed as O&A work to the end item with the approval of the PAO (reference AFMCI 65-101) normally, and a block of hours per end item will be identified for this type of effort. Once repair on a component has been made by the maintenance activity, and the component leaves maintenance, but subsequently fails for reasons other than materiel failure, any follow-on repair of that item will be costed as rework. The labor and materiel used in rework are charged to operations overhead in the RC/CC doing the work.

3.11.2. Field Level Repair.

3.11.2. **(AFSC)** This type of repair, when done in support of serialized end items, should be costed as O&A work to the end item with the approval of the PAO (reference AFMCI 65-101) normally, and a block of hours per end item will be identified for this type of effort. Once repair on a component has been made by the maintenance activity, and the component leaves maintenance, but subsequently fails for reasons other than materiel failure, any follow-on repair of that item will be costed as rework. The labor and materiel used in rework are charged to operations overhead in the RC/CC doing the work.

3.11.3. Other End Item Repair.

3.11.3. **(AFSC)** These end items are sold to the customer at a predetermined EISP. The materiel standards also normally include the exchangeable component. The component repaired on its own MISTR identity must be issued as materiel to the job order applicable to the NHA. Multiple turn-in and issue documents are required in this case. The TO for repair of the end item may have to be supplemented by use of the sub-indentured item TO to complete the repair process.

3.12. Pre-Production Planning (New Workloads). Pre-production planning is a prerequisite to establishing a successful depot repair process. HQ AFSC will develop, implement, and maintain Pre-Production Planning processes to include:

3.12. **(AFSC)** Pre-Production Planning is done after TRC workload assignment and before a new weapon system becomes operational or at least concurrently with the operational phase. When

TRC workload assignments are transferred from one ALC to another, some preproduction planning is required by the receiving TRC for a smooth and efficient transfer with minimum impact on customer requirements. New workload assignment is required to be completed prior to new workload acceptance for all depot level maintenance, including but not limited to new acquisition, new work, modification installation, modification follow-on, overseas workload, and workload shifts, reference AFMAN 63-122.

3.12.1. Pre-Production Planning Team (PPPT) composition.

3.12.1. **(AFSC)** Pre-production planning teams are composed of representatives from SPO/SPM Engineering Authority, MX Production Engineering, Production, Scheduling, QA, IET (maintenance planner), SE, Bioenvironmental Engineering, PAC, Training, and Supply. SPO/SPM Engineering Authority leads the effort.

3.12.2. Ongoing Pre-Production Planning.

3.12.2.1. **(Added-AFSC)** Cognizant or MX Process Engineer is responsible for new major end item repair requirements that generate after the initial TRC assignment. These items may be the result of modification, product improvement, or engineering change proposals.

3.12.2.2. **(Added-AFSC)** Major modification requirements may be of such magnitude and sophistication as to require the effort of a PPPT.

3.12.2.3. **(Added-AFSC)** Safety of flight, life support, or QA verification requirements. When items have been identified as a safety of flight, loss of life support item, or QA verification requirements, the items will receive formal PPPT.

3.12.2.4. **(Added-AFSC)** DFT activities. Special planning may be required depending on the tasks that will be done in the field by DFT. Therefore, WCDs are developed and used during kit proofing of a modification that will be done in the field. Other work done in the field by the DFT will be planned and will result in a planned package that will contain all required specific operations and quality verification inspection requirements.

3.12.2.5. **(Added-AFSC)** The magnitude of pre-production planning is determined by the complexity of the weapon system/end item and by the requirements established and negotiated by the responsible Product Support Manager (PSM). The team will:

3.12.2.6. **(Added-AFSC)** Identify RC/CC manning requirements, as required. Identify the total required versus available manpower by required skill level and RC/CC. The total standard hours required versus the total manpower available by skills is the basis for determining the depot's manpower capability to accomplish the programmed workload by the desired date. Any new manpower requirements will be identified in terms of personnel equivalents. To accomplish this, it will be necessary to develop labor standards for those items processed within a given RC/CC.

3.12.2.7. **(Added-AFSC)** The PPPT is responsible to identify tools, equipment, ground handling, and mockup requirements, as required. Review all applicable technical data and determine the

availability and adequacy of the above items. Identify any items that are not available locally and take steps to ensure they will be on hand in time to support the programmed workload. Identify the workload to be applied across common test equipment and because of that finding, determine the number of test set/stations required to provide support for a smooth repair-line flow.

3.12.2.8. **(Added-AFSC)** When a 3-shift operation will not satisfy negotiated requirements, take action to obtain additional test equipment or test stations not provided for initially. For temporary workloads, the Cognizant Engineer will determine if a PPPT is required and the IET (maintenance planner) will determine if a PPT is required. The PPPT is responsible to identify facility requirements as required. Review the technical data and flow process requirements to determine whether existing facilities are adequate for the proposed workload. Consider any peculiar needs such as light, heat, power, water, ventilation, floor drains, compressed air, cleaning booths, paint booths, clean room, noise suppression, special safety considerations, etc. Take action to ensure peculiar facility needs are provided in time to support the programmed workload.

3.12.2.9. **(Added-AFSC)** A layout of work areas by RC/CC is required. Prepare area layout drawings with floor space required, showing all workbenches and the location of equipment, test stations, machines, utilities, etc., as required.

3.12.2.9.1. **(Added-AFSC)** Capacity Utilization (reference DoD 4151.18-H, *Depot Maintenance Capacity and Utilization Measurement Handbook*).

3.12.2.9.2. **(Added-AFSC)** The following steps outline the procedures for calculating the physical capacity:

Table 3.1. (Added-AFSC) Steps that outline the procedures for calculating the physical capacity.

Step	Procedure
1	Obtain a detailed shop layout print which identifies the functions of the shop, its boundaries, its area, and its equipment/workbench locations. Verify and update as necessary the layouts to reflect the current situation.
2	Work Breakdown Structure (WBS) Codes can be found in AFSCI 20-101, Depot Processes and Programs Management.
3	Facility Code. Developing and maintaining the RC/CC to Facility Code requires identifying every WBS and Building Number combination in which the RC/CC performs work (See Note)
Note: A unique Facility Code is then assigned to the combinations as indicated in the sample below. These codes are assigned independently within each RC/CC. Numbers 1 through 9 are used to identify up to nine Building and PSC Code combinations. If additional codes are required, alpha characters A through Z may be used.	

Table 3.2. (Added-AFSC) Code Example.

RC/CC	Bldg No.	WBS Code	Facility Code
MTPCC	3001	1.2.6	5
MTPCC	3001	1.2.3	6
MTPCC	3001	1.1.3	7
MTPCC	3123	1.3.1	8
MTPCC	3108	6.1	A

3.12.2.9.3. **(Added-AFSC)** The RC/CC/Facility Code master file changes must be coordinated with the E046B and G004L systems prior to implementation.

3.12.2.10. **(Added-AFSC)** Repair requirements should be an integral part of the project directive, work order, or SOW. The PPPT should ensure that these requirements are clearly stated and technical data covering these requirements is available. Technical data will be reviewed, homogeneous end items assigned to given RC/CCs, and Process Flow Charts developed for each item. The team will identify and establish shipping/receiving areas as end item storage for each RC/CC. Storage will accommodate those items AWM or AWP. A first article/prototype inspection will be scheduled and a walk-through disassembly/assembly will be accomplished to:

3.12.2.10.1. **(Added-AFSC)** Verify the repair process.

3.12.2.10.2. **(Added-AFSC)** Determine which sub-indentured items will be repaired/replaced.

3.12.2.10.3. **(Added-AFSC)** Determine which sub-indentured items will be routed, for what purpose, and at what frequency. Identify support RC/CCs required and manpower for each.

3.12.2.10.4. **(Added-AFSC)** Identify all items to be processed across the same test equipment/test stations and locate that equipment/test stations within the facility so as to be readily accessible to all or most of the related repair lines. Identify and quantify any additional equipment/test stations required to support the programmed workload.

3.12.2.10.5. **(Added-AFSC)** Validate the use of designated ground handling equipment, special tools, test equipment, etc.

3.12.2.10.6. **(Added-AFSC)** Determine Personnel Equivalent and types of skills required.

3.12.2.10.7. **(Added-AFSC)** Determine standard labor hours required.

3.12.2.10.8. **(Added-AFSC)** Identify any required special tools, equipment etc., not previously identified. Consult with Bio-environmental engineering regarding any special requirements to meet OSHA/Industrial Hygiene standards that apply.

3.12.2.10.9. **(Added-AFSC)** Determine what additional inspection requirements and quality verifications are necessary.

3.12.2.10.10. **(Added-AFSC)** Verify the exchange items that require turn in for movement to the responsible TRC/SOR. This is considered a 'remove and replace' concept due to TRC/SOR assignment to another location.

3.12.2.11. **(Added-AFSC)** Develop a QA plan. All commodities and work areas covered by established QA methods. The development of a planned QA plan is an integral part of the preproduction planning function. The QA representative, with the planning activity, will develop and refine the planned QA plan IAW Volume 3, Chapter 8.

3.12.2.12. **(Added-AFSC)** Develop resource standards.

3.12.2.12.1. **(Added-AFSC)** Develop materiel standards for each end item programmed for repair. Should formal illustrated parts breakdown TOs not be available, blue line TOs or provisioning documents may be used to identify parts for materiel standard development.

3.12.2.12.2. **(Added-AFSC)** Labor standards may be developed from blue line copies of the overhaul TOs if the formal TOs are not yet published (reference Volume 1, Chapter 1).

3.12.2.12.3. **(Added-AFSC)** WCDs may be developed and validated during the first article/prototype inspection. WCD inspection points and required support shop routes may be identified and provided for (reference Volume 3, Chapter 1).

3.12.2.13. **(Added-AFSC)** To make necessary changes as approved by AFLCMC Engineering. Ensure proper technical data is available in sufficient quantity to support the scheduled repair. The PPPT will review preliminary technical data and make the necessary changes to provide adequate repair coverage, and will also review the preliminary illustrated parts breakdown data to ensure all replaceable parts are identified. In addition to the depot overhaul technical data reviews pertaining to the items scheduled for repair, the PPPT will also ensure, where appropriate, that the test station data will be available and adequate to support operation and maintenance. **Note:** A production technician should be present when technical data, test station data, or process procedures are being discussed.

3.12.2.14. **(Added-AFSC)** Determine personnel training requirements. As a result of technical data review and the first article/prototype inspection, the PPPT will determine any training requirements that need to be accomplished before starting the repair schedule.

3.12.2.15. **(Added-AFSC)** Determine Special Safety Consideration and Requirements.

3.12.2.16. **(Added-AFSC)** Identify the tasks/operations that will require data collection provisions on the WCD or attached data sheet.

3.12.3. PPPT requirements.

3.13. Production Planning. Production planning begins after new workload acceptance for all depot level maintenance, including but not limited to new acquisition, new work, modification

installation, modification follow-on, overseas workload, and workload shifts. HQ AFSC will develop, implement, and maintain production planning procedures for the following:

3.13.1. Labor Standards.

3.13.2. Material Standards.

3.13.2. **(AFSC)** Material standards are reviewed and revised by the appropriate planning activity and are used to calculate materiel requirements for a given workload. Each workload assigned a permanent production number established in G004L system must be evaluated for component materiel items to be used in the repair process. Material standards are then prepared and input to the G005M system. If indirect items, such as bench stock, are added to G005M, ensure the expense code is overridden. These standards are an integral part of the Uniform Cost Accounting (UCA) System and provide a means to compute an EISP.

3.13.3. Data Collection.

3.13.3. **(AFSC)** The PPT will review the tasks/operations that require data collection to ensure they are still accurate. If necessary, identify the operations/tasks to add or remove data collection provisions.

3.14. Work Control Documents (WCDs). WCDs are not technical data. The WCD is an official and authorized document with the technical data reference. All programmed and non-programmed work will be documented on an approved WCD. The WCD is the official record for work including control, identification, and routing operations. The completed WCD provides an audit trail of work performed. HQ AFSC will ensure all WCDs are developed IAW Volume 2, Chapter 2 of this instruction.

3.15. Planning Jackets (Non-Aircraft). HQ AFSC will ensure each planning section develops and maintains a master jacket for each permanent production number within their assigned area of responsibility.

3.15.1. **(Added-AFSC)** Jacket must meet requirements IAW appropriate instruction. The production number and EII will be shown on the face of the jacket. Backup materiel can be stored in a different location and on a media different than paper as long as a consistent procedure is followed and an audit trail is maintained. The use of electronic storage is preferred with the ability to print documentation on demand.

3.15.1.1. **(Added-AFSC)** Permanent Production Numbers. The permanent production number jacket will contain the following:

3.15.1.1.1. **(Added-AFSC)** AFSC Form 600 (optional) screen print.

3.15.1.1.2. **(Added-AFSC)** Current labor standard.

3.15.1.1.3. **(Added-AFSC)** Project Directive (as required).

3.15.1.1.4. **(Added-AFSC)** Flow Day Computation (required by instruction).

3.15.1.1.5. **(Added-AFSC)** Other Backup Documents as Required. **Note:** If the labor standard development function is separate from the normal planning function and separate folders must be maintained, then a copy of the labor standard is desirable in the planning jackets but not mandatory.

3.15.1.2. **(Added-AFSC)** Temporary Production Numbers (except local manufacture). The jacket will contain the following:

3.15.1.2.1. **(Added-AFSC)** AFMC Form 206 or AFSC Form 206 screen print.

3.15.1.2.2. **(Added-AFSC)** Special Instructions screen print (optional).

3.15.1.2.3. **(Added-AFSC)** Initial L3A report (i.e., Temporary Job Record) and any subsequent L3As due to changes.

3.15.1.2.4. **(Added-AFSC)** Other backup documents as required.

3.15.1.2.5. **(Added-AFSC)** AMARG uses Maximo for both Permanent and Temporary Production.

3.16. Planning Jacket (Aircraft, Missile, or Other Major End Item (OMEI)). HQ AFSC will ensure each planning office develops and maintains a master jacket for each aircraft, missile, or OMEI. At a minimum, the planning jacket will contain the following:

3.16. **(AFSC)** Each IET (maintenance planner) must develop and maintain a master jacket for each aircraft, missile, or OMEI. The permanent production number will be shown on the face of the jacket. Backup materiel can be stored in a different location, on a media different than paper if a consistent procedure is followed and an audit trail is maintained. The use of electronic storage is preferred with the ability to print documentation on demand. At a minimum, the planning jacket will contain the following:

3.16.1. Air Force Technical Order (AFTO) Form 103, *Aircraft/Missile Condition Data*, and incoming AFTO Form 781A, *Maintenance Discrepancy and Work Document* write-ups.

3.16.2. Incoming Correspondence.

3.16.3. Pre-Induction Meeting Minutes/Amendments.

3.16.4. Incoming Aircraft History.

3.16.5. Fixed Price Work Sheets (FPWSs).

3.16.5.1. **(Added-AFSC)** Initial FPWS is the responsibility of the SPO and the final FPWS is the responsibility of the Planner. Both should be maintained in the planning jacket file.

3.16.6. AFMC Form 202, *Engineer Technical Assistance Request* and other technical information.

3.16.7. Copy of JON closeout sheet.

3.17. Support Shop Application. HQ AFSC will ensure procedures for shop support are developed for workload routing to include:

3.17.1. Routing may involve multiple RCCs or may occur within a single shop. Routing may be classified as either job routing or process routing. The determination of job and process routing is defined in **Volume 3, Chapter 2** of this instruction.

3.17.2. Items removed for accessibility purposes will be reinstalled, when possible, on the end item from which removed.

3.17.3. Unserviceable exchangeable components from aircraft and engines are normally removed, turned into supply, and a serviceable replacement acquired from supply. Reference **Volume 3, Chapter 6** of this instruction. Exchangeable components are processed IAW **Volume 3, Chapter 2** of this instruction.

3.17.4. To ensure AFSC recoups operating costs under the industrial fund (reference AFMCI 65-101) to produce each end item, timely reporting of all support must be affected.

3.17.5. All direct materiel transactions used in support of moved items will contain the 9 position JON of the supported end item.

3.17.6. WCDs are required to ensure proper control of all support work, to ensure required maintenance, and to ensure return of the items to the final destination.

3.17.7. Routed Order (Aircraft).

3.18. Cost Awareness. The IET ensures proper costing through accurate planning of the labor, materiel required, and WCD preparation. The IET will review these prices/rates to determine when a change is required as the intent under the CSAG-M is to break even. HQ AFSC will ensure the IETs apply cost awareness in the following areas:

3.18. (AFSC) A WCD will be used for negotiated workloads and permanent control numbers as assigned. End item prices will be included in the JONs utilizing Unburden RC/CC Rates except for serial number-controlled items, and an average hourly sales rate/end item price for temporary JONs dependent upon the UOM. Planner will review completed temporary jobs to validate accuracy of estimated labor hours. If there is a difference between estimated hours and actual hours, the planner will adjust labor hours within the G004L system to correlate with the actual hours expended when necessary. The planner shall notify Workloading if there is a difference between planned hours/material and Estimated Job Total Cost. The Planner shall release the Temporary Job Record to the scheduler for the closeout process once reconciliation is complete.

3.18.1. Temporary JONs.

3.18.1.1. (Added-AFSC) The IET (maintenance planner) prepares and inputs the labor plan and the BOM into the G004L system. The system will output the Temporary Job Record (i.e., G004L-L3A) containing all pertinent control data, the labor hours cost for A-prefix control numbered JONs, and end item price for M-prefix JONs. Based upon the UOM, the system will compute an average hour sales rate or end item price for T-prefix JONs. The PPT must review these documents to ensure completeness before release to scheduling.

3.18.1.2. (Added-AFSC) Various computations must be made by G004L to provide an EISP or an average hourly sales rate. Funded materiel is known as expense (nonexchange) materiel. On temporary job orders, cost code is A and 100 percent of stocklist price is used. Unfunded materiel is known as exchange or investment materiel. Cost codes applicable are D/E/M/T/X or Z codes. Cost code E is costed at the average repair cost. Cost codes M/D/T/X and Z are costed at 100 percent of the stocklist price. The computer will do the computation based upon planning input. For cost codes M/D/T/X or Z, the unfunded materiel cost by operation equals the stocklist price times the materiel quantity. For cost code E, the unfunded materiel cost per operation equals the stocklist price times the materiel quantity times average repair cost. To compute the labor cost per operation, multiply the operation count limit times the operation standard hours times the RC/CC rate provided by the G004C system. Reference the appropriate instruction in this instruction for G004L computations.

3.18.1.3. (Added-AFSC) To compute an end item price for all jobs with UOM equal to each (EA), G004L will summarize the total funded materiel cost and other direct cost, summarize the total labor cost, add the two summary figures, and divide that result by the JOQ.

3.18.1.4. (Added-AFSC) To compute an average hourly rate for all jobs with the UOM equal to HR, G004L will summarize the total funded materiel cost, the total labor cost, and the other direct costs, and divide the result by the total labor hours for the job.

3.18.1.5. (Added-AFSC) The system will re-compute the hourly sales rate or EISP as required for all temporary JONs when any element affects the cost of a labor operation such as added or deleted materiel from an operation or when the total job quantity is changed. When a new labor operation is added in a new RC/CC, the current rate for that RC/CC as provided by G004C is used. All other computations are made using the applicable RC/CC rate in existence at the time the record for the labor operation was set up on the master record.

3.18.1.5.1. (Added-AFSC) Establishing and Revising AFMC Form 206 or AFSC Form 206. Planner will review completed temporary jobs to validate accuracy of estimated labor hours. If there is a difference between estimated hours and actual hours, the planner will adjust labor hours within the G004L system to correlate with the actual hours expended when necessary. The planner shall notify Workloading if there is a difference between planned hours/material and Estimated Job Total Cost. The Planner shall release the Temporary Job Record to the scheduler for the closeout process once reconciliation is complete.

3.18.1.5.2. **(Added-AFSC)** Establishing and Revising AFMC Form 206 or AFSC Form 206. Sample screens and instructions are as follows:

Figure 3.1. (Added-AFSC) Temporary Work Request (AFMC Form 206 or AFSC Form 206).

Establish Temporary Workload Request		
RN:	AUTH:	Special Instructions: ☐
CI:	EJTC:	FSC-IMC:
TRC:	WTC:	Phone:
PCN:	PON:	JOQ:
EII:	UI:	PSC:
PN:	Need DT: 00/00/0000	MICAP:
ERRC:	PRI:	Funds CERT:
JD:	REJ DIV:	Reason:
FCRN:	Noun:	CN Type:
DPC:	PO/PTC:	CN:
DN:	PSSD:	

Figure 3.2. (Added-AFSC) Temporary Plan Header (screen shot from G004L).

Temp Plan Header

Production Number:

Planner: TABOR L End Item NSN: 000B0001B PCN: FBDVCR PO/PTC: MABBW PSSD: MBBB9A UOM: SOP: I FSCM: IIII Work Unit: Noun: CANN Plan Description: Save Plan: ☐	Phone: 67146 Priority: 02 JOQ: 1 DPC: N PDN: A1732N New JD: ODC: 1.00 BOMI: M Delivery Date: 12/31/2003 PN: 123456 Transfer Plan To:

Figure 3.3. (Added-AFSC) Records Do Not Exist.

AB00003: NO MORE RECORDS EXIST FOR THIS SELECTION

- (1) Control Number.
- (2) Planning Organization/Planner Technician Code (PO/PTC).
- (3) Job Designator (New).
This is that last chance to change the Job Designator.
- (4) Production Section/Scheduling Designator (PS/SD).
- (5) Other Direct Costs.
In dollars & cents.
- (6) Production Count Indicator (PCI).
A = Automatic; B = Manual (Usually A).
- (7) Bill of Material Indicator (BOMI).
M = Material; R = Hourly (Usually M).
- (8) Unit of Measure (UOM).
EA if sold at EISP, or HR if sold at hourly rate (Usually EA).
- (9) Delivery Date.
- (10) Status of Planning Indicator.
C = Complete; I = Incomplete (Must be C before JON will be assigned).

Figure 3.4. (Added-AFSC) Build Temporary Labor Plan (screen shot from G004L).

Temporary Labor

Production Number:

RCC	FC	ON	BSPI	OO	TI	OSH	SK	Operation Description	WCD	Timestamp
MEPTT	1	00010	S ▾	1	A	.00	AB	CAT 3T302D	Finish	7/21/2003 15:25:16
MEPTG	1	00030	S ▾	1		.00	AB	TRAILER 3T303D		7/21/2003 15:25:16
MEPTD	1	00050	S ▾	1		.00	AB	PRETEST 3TT15D		7/21/2003 15:25:16
MEPTD	1	00070	S ▾	1		.00	AB	TEST 3TT15T		7/21/2003 15:25:16
MEPTT	1	00090	S ▾	1		.00	AB	FINAL 3TT14P		7/21/2003 15:25:16
MEPTT	1	00100	S ▾	1		.00	AB	WRAP 3T102P		7/21/2003 15:25:16

Figure 3.5. (Added-AFSC) Record Not On File.

AB00008: REQUESTED RECORD NOT FOUND ON FILE

- (1) Resource Control Center (RCC).
- (2) Facility Code.
- (3) Operation Number.
Must be numerical for *T* prefix Control Numbers.
- (4) Batch/Single Processing Indicator (BSPI).
B = Batch; S = Single
- (5) Operation Occurrence.
If Batch BSPI, the number of time per 206; if Single BSPI, the number of times per End Item.
- (6) Type of Inspection (TI).
To be filled in by the Quality Assurance organization.
- (7) Operation Standard Hours.
- (8) Skill Code.
- (9) Operation Description.
- (10) Last 6 positions will contain the WCD No.

Figure 3.6. (Added-AFSC) Build Temporary Material Plan (screen shot from G004L).

Bill of Materials

Production Number: T8719J

Return to Plan Header

Labor Plan

ON	MTL NSN	PN	MFR CD	UI	MTL QTY	STD SLP	CST CD	TIV	Comments	Timestamp
00010	1650000646379	102654/ORIFICE	01359		2		A	.00	Comments	6/13/2003 09:24:45
00010	1650002025930	820532/FILTER	82722		5		A	.00	Comments	6/12/2003 13:33:36
00010	1650005735988	19662-2	01359		5		A	.00	Comments	6/12/2003 13:33:36
00010	1650006277806	19527-5/SLINGER	01359		5		A	.00	Comments	6/12/2003 13:33:36
00010	1650006710700	820005-2/FILTER	65035		5		A	.00	Comments	6/12/2003 13:33:36
00010	1650006724428	20228-3	01359		1		A	.00	Comments	6/12/2003 13:33:36

Figure 3.7. (Added-AFSC) Requested Record Not Found.

AB00008: REQUESTED RECORD NOT FOUND ON FILE

- (1) Operation Number.
Must match a Labor Operation Number.
- (2) Material National Stock Number.
NOTE: The REVIEW TEMP BILL OF MATERIAL, Screen No. AB2011, has a place to add Planner's comments if desired; for instance, denoting if this NSN is an authorized substitute.
- (3) Part Number.
NOTE: Use the Part Number found in Tech Data; D043 may have several P/N's tied to one NSN & the Part Number required by Tech Data may not be listed in the D043 under a sub NSN.
- (4) Federal Supply Code for Manufacturers (FSCM).
FSCM or CAGE of P/N; from D043. NOTE: If NSN is an authorized substitute, use the Part Number found in Tech Data and 99999 for the FSCM (or CAGE).
- (5) Unit of Issue (UI).
From D043 Unit/Issue.
- (6) Material Quantity.
Total quantity needed for the whole 206.
- (7) Stock List Price.
From D043 Unit Price.
- (8) Cost Code (CC).
Generally *A* for Direct, *B* for Exchange, *L* for Indirect, etc. (see page 87 of AFMC R 66-61 for complete list)
- (9) Net Price.
For *B* Cost Code items only; from the D043 *P* Screen; Exchange Price.

3.18.2. Permanent JONs.

3.18.2. (AFSC) The G004L system will interface to the SPG in DMAPSIE system for existing permanent JONs. For new workloads, the IET (maintenance planner) must compute the EISP based upon known labor and materiel planned for each end item and input the price into the G004L system by an AFSC Form 600 transaction.

3.18.2.1. (Added-AFSC) Establishing a Permanent JON Workload. The forms used for workload management are computer screens generated by G004L. Samples and process procedures to open new workload in G004L are as follows:

3.18.2.1.1. **(Added-AFSC)** The Actual NSN is the item that will be produced. The Master NSN is used for filling linked requirements and does not necessarily have an open Control Number. If any Modification NSNs are listed, they must be modified to the Actual NSN before being sold.

3.18.2.1.2. **(Added-AFSC)** Determine work requirements. If no prototype was performed within the last two years, another may be required as decided by the Program Manager. Make sure all support equipment, technical data, materiel, skills, routed support, etc., are available before accepting the work. This is a function of the planning team.

3.18.2.1.3. **(Added-AFSC)** Determine an estimated EISP. This price cannot be changed for approximately two years, so it should be as accurate as possible and also anticipate future events. The EISP is calculated by multiplying the standard hours by the RC/CC labor rate and adding the materiel cost. The materiel cost is calculated by multiplying the price of each line item on the BOMs by the UPA and by the replacement percentage and then summarizing. The EISP includes all routed labor and materiel support required. Preliminary labor standards may be established in the E046B system using a Pseudo Control Number. Preliminary BOMs may be established in the G005M system using a P Job Designator.

3.18.2.1.4. **(Added-AFSC)** Complete AFSC Form 600 transaction to establish end item in G004L.

3.18.2.1.5. **(Added-AFSC)** Complete planning tasks. This includes completing the labor standards, BOMs, WCDs, Routed Support requests, etc. The AFSC Form 600 must be completed and overlay the E046B and G005M systems before labor standards and BOMs can be input.

3.18.2.1.6. **(Added-AFSC)** When all planning tasks are complete, send the 801 to workloading who will open a Control Number in G019C. Before sending to workloading, annotate Special Instructions/SOW with a projected implementation date which is the date that all elements will be ready for the shop to start work.

Figure 3.8. (Added-AFSC) Establish Work Authorization (MISTR) (AFSC Form 600).

Establish Work Authorization MISTR							
(1) **	EII:	1680014252813YQ	(9) **	FCRN:	3962		
(2) *	Noun:	CONTROL	(10) **	PRI:	04		
(3) *	PO:	MATEA	PTC:	G	(11) *	FJCC:	A
(4) *	PSSD:	MTPC9J	(12) *	EISP:	213		
(5) *	FSC-IMC:	SE	(13) **	ERRC:	T		
(6) *	DPC:	T	(14)	PSC:			
(7) **	PCN:	UJFITK	(15) **	WTC:	MAWWT		
(8) **	CN:	29277	(16) **	JD:	A		

* = Entered by Planning Organization.
** = Filled out when 801 is initiated.

(1) End Item Identity (EII).

(2) Noun. A brief description of the EII unless the 801 screen has a Miscellaneous Code of X (PP72-10 or FEMS). Then the noun will be the 2 position MMAC followed by the 3 position IMC for the EII.

(3) Planning Organization and Planning Technician Code.

(4) Production Section/Scheduling Designator.

(5) Federal Supply Class-Item Manager Code. The appropriate code for the ALC which is the prime for the EII: OC-ALC = SK; OO-ALC = SU; & WR-ALC = TG.

(6) Data Processing Code. Usually T. If Miscellaneous Code is X then DPC is X.

(7) Program Control Number.

(8) Control Number.

(9) Funds Classification Reference Number.

(10) Priority. Reference AFI 23-101 for identification of priority codes.

(11) Future JON Classification Code. Usually A for high volume; B for low volume.

(12) End Item Sales Price. In whole dollars. (Labor Standard times RCC Rate plus Material costs) Make sure this is correct before the 600D is sent as this price is fixed for the first full Fiscal Year and cannot be changed except by authorization from headquarters.

(13) Expendability-Recoverability-Reparability Category Code.

(14) Procurement Source Code. Applicable to EII.

(15) Workloader Technician Code.

(16) Job Designator

Figure 3.9. (Added-AFSC) Special Instructions for Establish Work Authorization (MISTR) (AFSC Form 600).

Special Instructions:

- (1) P/N 43051-021
- (2) Repair Per TO 2JA8-20-3.
- (3) PBA Item: EISP fixed per contract.

- (1) Add Part Number of item being repaired.
- (2) Add Tech Order number containing instruction for work being performed.
- (3) Add any other pertinent information.

3.19. Workload Control Methods. For each workload requirement, it is necessary to set up a means of identification for allocation of materiel, reporting labor used, and accounting for sales of production. These accounts are basically established by workloading through assignment of control numbers. There are two types of control numbers: permanent (all numeric) and temporary (an alpha prefix and 4 numeric). When a job designator is assigned, the combination of control number and job designator is called a production number.

3.19.1. Permanent Production Numbers.

3.19.1. **(AFSC)** Any workload requirement negotiated and/or driven by EXPRESS, of a continuing duration, and counted in separate increments and processes, will have a permanent production number assigned. Workloads usually included under this concept are major end items, exchangeables (PME included), and long flow time end items.

3.19.1.1. **(Added-AFSC)** Material Standards. Each workload assigned a permanent production number established in G004L for control of the workload must be evaluated for the component materiel items to be used in the repair process. Material standards must be prepared and input into the G005M system. Ensure the expense code is overridden to indirect for bench stock items in G005M. These standards are an integral part of the UCA System in that these standards provide a means to compute an EISP.

3.19.1.2. **(Added-AFSC)** Labor Standards. Labor standards for workloads assigned a permanent production number will be input into E046B (reference Volume 3 Chapter 1 of this instruction). MDS/PDM labor standards are input to G097.

3.19.2. Temporary Production Numbers.

3.19.2. **(AFSC)** Temporary production numbers are established for all AFMC Form 206 or AFSC Form 206 requirements. One-of-a-kind, one-time requirements, workloads of very short duration, and manufacture are the types of work authorized for customers under this concept. The AFMC Form 206 or AFSC Form 206 is established through G004L. The initiator will enter all element values from Request Number in the left column to Job Designator in the right column and forward for Funds Certification. When approved, the AFMC Form 206 or AFSC Form 206 is sent to Workloading/WTC. The system will automatically assign a Control Number. Workloading/WTC will forward the AFMC Form 206 or AFSC Form 206 to the appropriate planning organization for additional processing.

3.19.2.1. **(Added-AFSC)** An A- prefixed temporary control number is applied to job orders covering technical assistance requirements off base (i.e., TDY). The costs charged to these job orders will include direct labor, direct materiel, other direct costs, and the applicable overhead. The work must be done outside the base/station on which the depot is located. An exception, which allows use of an A-prefixed job order for work performed on the base/station, is when that work is performed by personnel on TDY from another ALC. Only one A- prefixed job order will be established for each area technical assistance request. Personnel from supporting ALC RC/CCs will be loaned to the responsible production RC/CC. All A- prefixed job orders must contain a valid CAI, MDS, or NSN as the EIL.

3.19.2.1.1. **(Added-AFSC)** For normal TDY job orders, the JOQ should be the total number of manhours required for the TDY requirement. The labor operation on the AFSC Form 237 must reflect a valid production RC/CC, operation number 00001, BSPI of S, the operation occurrence of 001 and cost (ODC) will include travel and per diem costs, and the cost of any materiel requisitioned in support of the TDY not supplied by the host unit.

3.19.2.1.2. **(Added-AFSC)** For TDY job orders where a special unit job sales price is negotiated or established, the following procedure should be used for establishing the labor standard and other direct cost. The ALC receives several work requirements for support to which a unit job sales price should be applied. Among these are special projects, FCFs where the ALC provides a pilot to another facility including contract sites, and other similar applications. The job order records can be set up by OBW from processing the AFMC Form 206 or AFSC Form 206 initiation and processing of the support AFSC Form 237 and forwarding both directly to the administrative control desk. The unit sales price may be negotiated or established by including the travel, per diem, and token labor. (**Note:** Overhead labor is included in the RC/CC rates). The JOQ on the AFMC Form 206 or AFSC Form 206 must be a minimum of 00001. The AFSC Form 237 must reflect a production RC/CC, operation number 00001, the batch single processing indicator of S, and the operation occurrence must be 001 with the operational standard hours of 1.0. To complete the AFSC Form 237, enter the header data, compute the ODC, and input. Example: A negotiated job cost of \$900 has been accepted. The RC/CC rate is \$30 per hour. Multiply the operation standard hours (OSH) (1.0) times \$30 (RC/CC rate) = \$30. Job cost \$900 less the operation dollars (\$30) = \$870. This value is entered in the ODC block. Labor exceptions will not be processed for jobs using the job cost concept unless personnel are direct labor assigned.

3.19.2.2. **(Added-AFSC)** C Prefix. A C-prefixed temporary control number will be used to accumulate production costs to a specific customer account code for an area, base/tenant customer for PME only. The CAI must be used for all C-prefixed control numbers. To accumulate support labor hours, the C-prefixed production number must always be contained in the origin production number field of the G004L output tape for G004L processing.

3.19.2.3. **(Added-AFSC)** M Prefix. An M-prefixed temporary control number will be used for the overwhelming majority of manufacture work. Manufacture in support of suggestion items and tools/equipment for use within the ALC will be accomplished because of initiation of an AFMC Form 206 or AFSC Form 206 for that manufacture.

3.19.2.4. **(Added-AFSC)** T-Prefix. This prefix will be assigned to all temporary repair work done on base within the ALC shop and all off base modification programs under serial number control.

Section 3D – Planning Procedures.

3.20. Planning Procedures. HQ AFSC will ensure planning procedures are developed and implemented for the following:

3.20.1. Address Tables.

3.20.1. **(AFSC)** To ensure proper distribution of data system products, establish address tables for maintenance IET (maintenance planner) and tenant organizations in G004L. Timely updates upon personnel changes must be accomplished. The planning organizations will maintain the Planner Address Table (PAT).

3.20.2. Planning Priorities.

3.20.2. **(AFSC)** The priority code is used to rank different requirements and to provide processing priority for backlogged requests. Priority code may consist of 01 through 15 with 01 being the highest priority. For depot generated support requirements worked under temporary job orders, priority 01 will not be used if the scheduled completion date of the end item is more than eight days away (reference AFI 23-101 for identification of priority codes).

3.20.3. Backlogs.

3.20.3.1. **(Added-AFSC)** Backlogs of AFMC Forms 206 or AFSC Forms 206 may exist for any workloading or planning organizations. Workloading backlog/control number assignment/backlog of work requests is listed on the G004L-G5B report. The planning backlog of temporary job requests is shown on the G004L-G5C listing. These backlogs occur when workloading or planning technicians accept work requests, and other pressing negotiated requirements override the workload or planning effort. Ranking of the backlogged requests will be by priority and delivery date.

3.20.3.2. **(Added-AFSC)** Production delay codes must be input by workloaders for any backlogged temporary work requests with overdue delivery dates in workloading and by

production controller (schedulers) for any temporary jobs where the JOQ has not been completed by the delivery date. Production delay codes will also be input for permanent JONs except for MISTR, serialized, and engine workloads, and will be input for permanent JONs when a scheduled or negotiated completion date has not been met, or as soon as it is known that the JON quantity cannot be completed by the scheduled date of completion. The production delay codes are necessary to provide feedback to the customer and to internal management units. These codes are input by the production controller (scheduler) with a transaction in G004L Temporary JON Master Maintenance Screen.

3.20.4. Work Authorization Documents (WADs).

3.20.4.1. (Added-AFSC) AFSC Form 600 transaction is used to establish the G004L master record for all workloads on which a permanent production number is used. This form is computer generated and one copy may be maintained in the jacket file.

3.20.4.2. (Added-AFSC) End items selected for working on a preplanned basis must be of sufficient volume and have a predictable work content to justify the establishment of the required planning data and labor standards. There are certain types of workload which due to their generation sources or inherent support systems must be worked on a preplanned basis. These include items worked under Program Depot Maintenance Scheduling System (G097); MISTR, (G019C); PME (G004L); etc., where use of a permanent control number is a system requirement. A production number will be effective and valid if the item and type of repair is required regardless of when the production number is established in relation to the beginning or end of the FY. There are different specified applications of the production number for different types of end items and controls essential to workload processing. Like end items worked under a serial number control concept, but for a different customer, require only one production number to be opened. A non-serialized controlled like end item requires a separate production number to be opened for each customer using a different project order. The PCN will be different and the FCRN may be different. The source for the FCRN and PCN identity is the workloader. This match is made through use of the proper PCN code. The following are specific line items requiring separate work authorizations for each job designator level of work:

3.20.4.2.1. (Added-AFSC) Each line-item stock number negotiated and accepted for work in the MISTR system.

3.20.4.2.2. (Added-AFSC) Project directive workloads for which there is a recurring production requirement on each MDS of aircraft, aircraft engines, missiles, or inertial guidance system; and OMEI identified to a stock number.

3.20.4.2.3. (Added-AFSC) Base and tenant support requirements by MDS or NSN.

3.20.4.2.4. (Added-AFSC) Each line item meeting the programmed criteria regardless of the type of source of generation.

3.20.4.3. (Added-AFSC) AFSC Form 600 can be used for non-MISTR processing.

3.20.4.4. **(Added-AFSC)** Temporary Workload Forms. An AFMC Form 206 or AFSC Form 206 is initiated by the customer of the CSAG and processed by the workloader (reference Figure 3.1.). The AFMC Form 206 or AFSC Form 206 is sent to the responsible planning organization for processing and the IET (maintenance planner) prepares an AFSC Form 237 (reference Figure 3.2. and Figure 3.4.). Edit errors are rejected to the IET (maintenance planner) on the G004L-L3B, Daily Planner's List. Valid data input processed will be printed out as the official job master record (i.e., G004L-L3A) and included in the planning jacket. Details of the data element entries for AFMC Form 206 or AFSC Form 206 are in G004L. An AFMC Form 206 or AFSC Form 206 is processed by workloading to establish follow-on JONs in support of blanket requests for services/support.

3.20.4.5. **(Added-AFSC)** Temporary Labor and Material Plan. An AFSC Form 237 and AFSC Form 240, *Temporary Labor and Material Plan Addendum*, transaction is prepared by the IET (maintenance planner) to support approved AFMC Form 206 or AFSC Form 206 transaction customer requirements. Addenda to planned labor or materiel are authorized on M or T prefixed temporary job orders using AFSC Form 240 transaction when the JON status code is 0. The EISP will be recomputed on M prefix JONs (reference Manufacture section listed below). The EISP may be recomputed on T prefix (non-serialized) JONs until the EISP is greater than the customer's estimated cost. An example is: JOQ = 5, Inductions = 5 and Completions = 4. If the inductions are 5 and the completions are 5, the addendum will process validly; however, the EISP will not be updated. The PON on non-serialized JONs will be updated to the current FY and FQ when the AFSC Form 237 is submitted. However, the customer and DM workloading have an opportunity to review the JON and revise the assigned PON if deemed necessary. This revision can be accomplished via the Customer Release and File/Maintenance Transaction, however if a reject occurs, the IET (maintenance planner) will contact workloading to make correction.

3.20.4.6. **(Added-AFSC)** Planned Material. Planned materiel is an integral part of the UCA System. However, for temporary work requirements, the materiel needed for each job must be input into G004L with AFSC Form 237 transactions. For all additions to the original labor or materiel BOM, an AFSC Form 240 transaction is used. This input is used to compute job cost and sales rate/EISP for all temporary JONs. The G004L system uses the planned materiel to allow comparison of actual materiel costed to the JON. All materiel to be charged as direct materiel to a JON must have been included in the BOM on AFSC Form 237/AFSC Form 240 transactions for that JON. An alternate method to compute the materiel cost to a JON is the use of a BOMI = R as explained below. An AFSC Form 930 transaction may be used to change previously input transactions. Ensure the expense code is overridden to indirect for bench stock items in G005M or G004L.

3.20.4.7. **(Added-AFSC)** Direct Material Rate. A provision is made for using a standard RC/CC hourly materiel expense rate for computing the EISP on temporary JONs. This is done by use of the BOMI = R. If the BOMI = R, the materiel cost is computed by multiplying the total standard hours for each operation by the direct materiel rate for the applicable RC/CC. If the BOMI = M, only the cost of the materiel listed in the BOM portion of the AFSC Form 237/AFSC Form 240 transaction will be computed into the EISP. Caution must be used in selection of the BOMI because this entry cannot be file-maintained.

3.20.4.8. **(Added-AFSC)** Planned Labor. Labor requirements for temporary work requests must be input by the IET (maintenance planner) on AFSC Form 237/AFSC Form 240 transactions as labor operations for each RC/CC involved. This labor plan must be input into the G004L system for computation of hourly sales rates/EISP. An AFSC Form 930 transaction may be used to change previously input transactions.

3.20.4.9. **(Added-AFSC)** Manufacture.

3.20.4.9.1. **(Added-AFSC)** Local manufacture (i.e., M-Prefix) planning procedures have been divided into two categories determined by the first position of the PCN. Only reimbursement codes R and W apply to these planning procedures.

3.20.4.10. **(Added-AFSC)** A fixed EISP is the basic requirement of the procedures. To achieve this, a complete planning package, both labor and material, must be developed. Failure to completely plan any workload in the FY of funding, will result in the cancellation of the project order and return of funds to the customer.

3.20.4.11. **(Added-AFSC)** The IET (maintenance planner) will input all AFSC Form 237 transactions for labor and materiel requirements. This establishes the EISP.

3.20.5. Job Order Number (JON) Master.

3.20.5. **(AFSC)** The JON master record, established for each end item or other type workload requirement, provides the basis for management visibility. The source of assets to be repaired, the level of repair to be accomplished, who will do the repair, methods to be used, and the necessary tooling and skills required are items that the IET (maintenance planner) must know to ensure valid master record establishment.

3.20.6. End Item Sales Price (EISP)

3.20.6. **(AFSC)** Permanent Job Order EISPs. The G004L system contains an EISP file (i.e., SPM) at the control number/job designator level for permanent control numbered end items. At the end of each FY and on demand, this file is updated by the file generated by the SPG in the DMAPSIE system.

3.20.6.1. **(Added-AFSC)** New Item EISPs. When an AFSC Form 600 transaction is initiated for a new inventory item (i.e., new production number is established in the G004L master record), the IET (maintenance planner) will enter the estimated sales price on the form. The G004L system will then enter the production number, FCRN, and estimated price in the SPM. Consideration of the standard materiel and labor rates for each RC/CC involved must be made to determine this price. (Note: Serial number-controlled items are exempt.) This sales price remains with the new item until either the ALC approves a change for the item or the next annual SPG in the DMAPSIE computed EISP is established in the SPM. If the ALC approves, a quarterly update of the SPM can be accomplished by using the newly computed SPG in DMAPSIE EISP values to replace the existing values in the G004L SPM. This update will result in new JONs acquiring the approved EISP.

3.20.6.2. **(Added-AFSC)** New MISTR Item Procedures. When new JONs are entered into G004L with an induction transaction, the G004L JON establishment procedure will first access the Permanent JON Master (PJM) file for an existing PDN record (skeleton record). If the PDN exists, G004L sets the EISP and the FCRN of the new JON to the EISP and FCRN of the PDN record. If a PDN record does not exist, G004L finds the most recently created JON for the PDN. If the existing JON is found, G004L sets the EISP and FCRN of the new JON to the EISP and FCRN of the existing JON. If an existing JON is not found, the induction is rejected. G004L also checks to see if the PDN exists in the SPM with the FY of the established FY of the skeleton or existing JON. If the SPM record exists, then G004L sets the EISP and the FCRN of the new JON to the EISP and the FCRN of the SPM. For MISTR policy and procedures, reference AFMCI 23-112, *Management of Items Subject to Repair (MISTR)*.

3.20.6.2.1. **(Added-AFSC)** G004L-S1B. G004L versus SPG in DMAPSIE EISP Mismatch Report. This report will reflect those control number/job designator records contained in G004L for which SPG in DMAPSIE does not have an EISP. The MISTR monitor (i.e., workloader) will work with the budget analyst to research these records and work with the specific IET (maintenance planner) to determine the EISP. The IET will review the variance report and provide input to the workloader/budget analyst as requested.

3.20.6.2.2. **(Added-AFSC)** G004L-S1C. Deleted Control Number (CN)/Job Designator (JD) Records. This report will reflect those records in the SPG in the DMAPSIE which have been deleted from G004L. The MISTR monitor (i.e., workloader) will coordinate all actions required to delete the labor and materiel standards that created this condition. The MISTR monitor (i.e., workloader) will coordinate with IET (maintenance planner) and program management prior to deleting any CN/JD records.

3.20.6.2.3. **(Added-AFSC)** Processing of New MISTR Unit Repair Cost (URC). New MISTR items generated during the FY require the ALC planning function to determine an estimated price for each item. That estimate will be entered on an AFSC Form 600 transaction and forwarded to the G004L data system. The estimate is then made available to G019C on the following interface cycle. The recommended technique for determining the estimated repair price is identified below. **Note:** Once the price is input to the G004L data system on a permanent production number, it will not be changed without ALC commander/director approval.

3.20.6.2.4. **(Added-AFSC)** Process enough on a temporary production (T-prefix) number to determine the actual cost of repair and adequacy of labor and materiel standards for later establishment on a permanent production number.

3.20.6.2.5. **(Added-AFSC)** Establish the labor and materiel standards in the appropriate data systems. Using the G004C approved RC/CC rate less the direct materiel portion and the RC/CC labor standard, determine the dollar value for each RC/CC through which the end item is processed. Determine the direct materiel costs by NSN. Then summarize the extended labor and materiel values to a whole dollar amount. This value will be entered on an AFSC Form 600 and sent to G004L for input to the PJM and SPM files.

3.20.6.2.6. **(Added-AFSC)** For the purpose of determining materiel cost, reference the chapter defining cost codes and how they are applied.

3.20.6.3. **(Added-AFSC)** Sales Rates/EISPs. All end item production or services saleable to a customer must have a means to recover the cost thereof. For this purpose, an hourly sales rate or an EISP is used. On temporary JONs that are not serialized, the G004L system will use the planned labor and the BOM to compute the hourly sales rate or the EISP. The G004C system provides a table of the RC/CC approved rates to G004L for this purpose. The MDS rate is used for organic work. The G004L computed rate or EISP is based on the UOM being input as HR or EA. Depot field team job orders will always use an A-prefix temporary job order (i.e., not serialized) and will be priced at an EISP per standard hours with UOM of each. The cost of travel, per diem, and planned materiel will be added to the total job cost and input by an AFSC Form 237 transaction as other direct cost. The C-prefixed JONs are priced at a computer determined hourly rate and apply to all non-ALC owned PME. M-prefixed JONs are priced at an end item computer determined price only. DMAPS-DIFMS will compute labor summary and effectiveness.

3.20.6.3.1. **(Added-AFSC)** Drop-in-maintenance base assigned or chase aircraft, when serial number control is used, must have the ALC approved rate applied by input to the serial number master file. When accomplishing crash/battle damaged workload on a serialized basis, with either a permanent or T-prefixed temporary production number, the ALC approved hourly rate for that specific workload will be applied and entered into the serial number master file (reference AFMCI 65-101).

3.20.6.3.2. **(Added-AFSC)** Rate Computation. The G004L system will compute the cost of all nonserialized A, M, or T-prefixed JONs. A description of the elements and machine formulas is listed below. These computations provide an EISP or an hourly sales rate to the SPG in DMAPSIE at the end of the month. When any element affects the cost in a labor operation, or the materiel associated with an operation, or the JOQ is changed, the below computed elements will be recalculated for the given JON. When a labor operation is added, or when the associated RC/CC (an RC/CC rate) is changed, the current RC/CC rate will be extracted from the G004C funded RC/CC rate table for use in the calculations. All other computations will be performed with the RC/CC rate that was in effect at the time the labor operation was established on the temporary labor standard file which means that most labor costs will be calculated at the rates that prevailed when the job was opened in G004L.

3.20.6.3.2.1. **(Added-AFSC)** Computation Routines (Reference appropriate instruction).

3.20.6.3.2.2. **(Added-AFSC)** Reasons for Re-computation. Whenever any element that affects the cost of a job is changed by file maintenance, all the above computed elements will be recalculated for the given JON. When a labor operation is added through an addendum or when the associate RC/CC is changed by file maintenance, the current RC/CC rate will be extracted from the validation stack table for use in the calculations. All other computations will be performed with the RC/CC rate that was in effect at the time the labor operation was established on the temporary labor standard file which means that most labor costs will be calculated at the rates that prevailed when the job was planned and opened in G004L.

3.20.6.3.3. **(Added-AFSC)** Temporary JONs are restricted to one JON suffix per production number. For non-serialized JONs, the suffix is assigned normally when the AFSC Form 237 data is processed validly by G004L for A, M, and T-prefixed job orders. In this case, G004L assigns the suffix as the current FY, current FQ, and the last position from the reimbursement code. If the current calendar date is equal to or is later than the project order number (PON) (FY and FQ) on the Request Number Master (RNM), G004L assigns the suffix as the current FY and FQ. If the data is processed before the PON (FY and FQ) in the RNM, the AFSC Form 237 data will be rejected. An exception to the above allows G004L to assign a monthly suffix for C- prefix JONs. The non-serialized A, M, and T-prefixed JONs stay the same until the total JOQ is completed. These JONs are closed electronically when the completion value equals the JOQ. Serialized temporary JONs are normally T-prefixed and the suffix is assigned through the serialized master record. The normal serial numbered JONs remain in work until the end item is completed. The sales indicator in this case is C. Some end items, due to variance in work content such as base assigned aircraft or extremely long flow time, make it more desirable to create sales commensurate with the applicable project order period. The JON suffix created by the G004L system is input to the serialized JON master record. Each quarter, G004L will electronically create the applicable PON. This application will generate quarterly sales and is limited to the type 6 and 7 project orders. Recurring work for base tenant support will be accomplished using an S DPC and a T prefixed control number. These transactions will be assigned a QSI of M and a UOM of HR by the G004L system. The JON suffix will be computer assigned and updated each quarter with a new JON suffix and PON.

3.20.6.3.4. **(Added-AFSC)** Permanent JONs may have more than one suffix on a given production number at one time. The JON suffix (e.g., quarterly or monthly) is assigned automatically. When the G004L system receives a JON suffix that is new, it will create a new JON record using all the data on the previous JON or WAD and the new JON suffix.

3.20.6.4. **(Added-AFSC)** OMEI Pricing. The following method will be used to price the programs and specific jobs included in the category OMEI. The current method of computing sales prices in the G004C system will be continued. The published rate for OMEI, however, will identify the labor and burden rate per hour plus the average historical materiel rate, i.e., the same rate as currently published but with a breakout of the two elements. This will be used by the customer for planning purposes. Actual job pricing will be done in two phases.

3.20.6.4.1. **(Added-AFSC)** An examination and inventory (E&I) will be authorized and performed at the published rate per hour exclusive of the direct materiel portion of the rate.

3.20.6.4.2. **(Added-AFSC)** When the E&I has determined the amount of materiel required for the specific job, a repair job hourly rate will be computed. The project total expense materiel cost will be divided by the project DPSH and the resultant expense materiel rate per hour will be added to the published labor and burden rate per hour. This total rate for the job will be entered into the serial number master in the G004L system and the job will be completed and sold at this job rate. This method will be used whether the repair is performed on a permanent or temporary production number.

3.20.7. Base Tenant Support.

3.20.7.1. **(Added-AFSC)** All Base Tenant support should be IAW local Host Tenant agreements. Where differences occur between the Host Tenant agreements and CSAG policy and procedures, the Depot Maintenance Systems (DMS) Air Force Industrial Fund (AFIF) policy and procedures will take precedence. Whenever Host-Tenant agreements are initially set up or revised, maintenance personnel will be familiar with the CSAG procedures and will consider the procedures/policies in their agreement. Recurring work will be requested on a computer generated AFMC Form 206 or AFSC Form 206 by the tenant, and may involve either of two RC/CC rate EISP applications Bill of Material Indicators (BOMIs) either M or R. The Data Processing Code (DPC) will be S, and T prefix CN will be used. BOMI will be M or R, only one labor operation with OSH = 1.000 hour, RGC will be N and the JON Quarterly Sales Indicator (QSI) of M, and UOM of HR will be machine assigned. In the job quantity block, the originator will show the first quarter's labor hours requirement. The 309th AMARG/OBW will prepare AFMC Form 206 or AFSC Form 206 for each RC/CC doing work for that tenant and send the forms to the responsible Production Planning Office for preparation of the AFSC Form 237, *Temporary Labor and Material Plan*. For Base Tenant Support temporary jobs, the BOMI now becomes an RC/CC rate indicator and shows which rate is to be used to compute the EISP. When the BOMI = R, the EISP is computed using the RC/CC labor rate plus the RC/CC direct materiel rate. Any BOM list, when the BOMI = R, is not computed in the EISP. When the BOMI = M, the EISP is computed using the RC/CC labor rate plus the BOM list. If no BOM list exists, and the BOMI = M, the EISP will be computed using the RC/CC labor rate only. If a tenant support job is going to require an excessive amount of direct materiel which will not be covered by the RC/CC direct materiel rate, a separate AFMC Form 206 or AFSC Form 206 and AFSC Form 237 are prepared and materiel planned accordingly. In this situation, use RGC N and DPC N. If this type of tenant support jobs is recurring, consider making them permanent jobs with project order 7, RGC N, and DPC N. Temporary JONs with DPC S will not be automatically closed but will be updated each succeeding quarter by the computer. At the end of each quarter, G004L will reduce the JOQ to what has been completed and allow the JON to go to sales. G004L will then re-establish the production number with the next quarterly JON suffix. At the beginning of each quarter, the tenant will electronically initiate a new AFMC Form 206 or AFSC Form 206 to the workload technician depicting the new labor hours and dollar value requirement in the JOQ and estimated job total cost blocks. The workloader will then submit a computer generated AFSC Form 930 to file maintain the new JOQs for each JON set up for that tenant.

3.20.7.2. **(Added-AFSC)** Base tenant support JONs, T-prefix with DPC S, will use BOMI = R or M. When BOMI = R is used, the EISP is computed using the RC/CC labor rate plus the RC/CC direct materiel rate. When the BOMI = M is used, the EISP is computed using the RC/CC labor rate only.

3.20.7.3. **(Added-AFSC)** Tenant support jobs. Where it is known that the direct materiel rate will not cover excessive direct materiel required for the job, it should be put on a separate AFMC Form 206 or AFSC Form 206, and AFSC Form 237 transaction with materiel planned accordingly. These work requests should use RGC N and DPC N. If these type tenant support jobs are recurring, consideration should be made to making them permanent jobs with project order 7, RGC N, and DPC N.

3.20.7.4. **(Added-AFSC)** If a decision is made to make tenant support jobs permanent, then the appropriate SP/PMS should be informed.

3.20.8. Cost Class IV Type Workload (“S” JONs).

3.20.8. **(AFSC)** Reference AFMCI 65-101.

3.20.9. Serial Number Application.

3.20.9.1. **(Added-AFSC)** End items processed under serial number control may have either a temporary (i.e., T-prefix) or permanent production number assigned. A- or C-prefix numbers are not authorized. All negotiated end items will have a permanent production number assigned when serial number controlled. Normal application can be for aircraft, missiles, aircraft jet engines, and OMEI. Labor and materiel requirements are established accordingly.

3.20.9.2. **(Added-AFSC)** Serial Number Record File. It is important that the JON master and the serial number data be established before any production count is taken to preclude rejection. This file is established electronically. The responsible planning activity will establish, maintain, and change serial number data on the JON master for the ALC. If a reject occurs, the input transaction will be reflected on the G004L-L3B listing with an indication of the invalid entry. Correction will be made electronically with the correct data. If erroneous data is depicted on the G004L-L3F listing, the data will be corrected by inputting an AFSC Form 930 transaction. The G004L-L3F listing reflects transactions added to this file. This listing will be retained until a new one is received. The verification of data elements in this file is necessary as the key elements for costing and sales billing are contained on it and is extracted for use by the SPG in DMAPSIE and G004L production count editing.

3.20.9.3. **(Added-AFSC)** Input Data Elements.

3.20.9.4. **(Added-AFSC)** G097 Programmed Depot Maintenance Scheduling System (PDMSS). The serial number data on the JON master must contain an entry for each aircraft worked under G097. The JON suffix must be the same as the aircraft identification code in all three positions.

3.20.9.5. **(Added-AFSC)** Missiles and OMEI. These end items must have a separate JON suffix for each serial numbered item.

3.20.10. File Maintenance.

3.20.10.1 **(Added-AFSC)** Several files are maintained in the G004L system. An AFSC Form 930 transaction is input for file maintenance of data contained in the various files. Action codes with specific record identifying data will be used to overlay the desired data elements.

3.20.10.2. **(Added-AFSC)** Permanent Production Numbers.

3.20.10.2.1. **(Added-AFSC)** Labor standards for permanent production numbers do not reside in G004L but are contained in E046B and G097 or other systems.

3.20.10.2.2. **(Added-AFSC)** Material standards for permanent production numbers do not reside in G004L but are contained in G005M or other systems.

3.20.10.2.3. **(Added-AFSC)** Serial Number Data. Permanent production numbers must be established in the G004L JON master before input of the serial number data. Serial Number Record Maintenance via an AFSC Form 930 is input to update the serial number data on the JON master file.

3.20.10.2.3.1. **(Added-AFSC)** The control number/job designator must be previously established in the JON master file with a DPC equal to 2 or 9. There can be no duplicate serial numbers within a given JON.

3.20.10.2.3.2. **(Added-AFSC)** JON suffixes for G097 items will be all numeric and must correspond to the G097 aircraft identity code. Serialized items that are non-G097 involving supply, DPC 2, will have a JON suffix of all numerals. The last position, if DMISA, must be the Ownership Purpose Code (OPC). For serialized Air Force items, use 0. Other OPCs are Army-1, Marine4, Navy-5, Unassigned-O, and Air Force and other services-A. Serialized items that are non-G097 not involving supply, DPC 9, will have a JON suffix of all alpha or all numeric.

3.20.10.2.3.3. **(Added-AFSC)** The production section/scheduling designator must be on the production controller (schedulers) address table contained in G004L.

3.20.10.2.3.4. **(Added-AFSC)** The PCN must be on the PCN table in the validation stack reflected on G004L.

3.20.10.2.3.4.1. **(Added-AFSC)** The FCRN must be on the FCRN table reflected on the G004L.

3.20.10.2.3.5. **(Added-AFSC)** The completion date will be created by G004L on the day the end item completion is reported to G004L. The serial number record on the JON master will migrate to a JSC=1 at the end of month after the month in which the completion occurred.

3.20.10.3. **(Added-AFSC)** Temporary Production Numbers. The temporary production numbers reside in the G004L system. Electronic AFSC Form 240 and/or AFSC Form 930 are used for file maintenance.

3.20.10.4. **(Added-AFSC)** Other Direct Cost. These costs are travel cost and per diem in support of TDYs being performed. For materiel issued and requisitioned to the A-prefix job order number at the home station, the materiel must be entered in the BOM segment of the AFSC Form 237. A change in the other direct cost, a change in the number of labor hours, or a change to labor content or materiel requirements will cause the G004L system to re-compute a new hourly sales rate. Any change to labor, travel, or materiel cost must be entered into the G004L system by inputting an AFSC Form 930.

3.20.10.5. **(Added-AFSC)** Cancellation of work. There are two types of work cancellation. One type is deletion of the JOQ requirement. If this occurs while the job is still in planning, the IET

will input an AFSC Form 930 with a zero entered in the JOQ block. The second type is a reduction of the original requested JOQ. In this case, the IET (maintenance planner) inputs an AFSC Form 930 with control data and the revised quantity to be produced. The IET (maintenance planner) or production controller (scheduler) will contact workloading prior to reducing JOQ if completions and/or costs exceed requested cancellations that occur during the production process.

3.20.10.6. **(Added-AFSC)** Increased JOQ. All JOQ input with an AFMC Form 206 or AFSC Form 206 may be increased by the initiator only prior to the AFSC Form 237 input. Note: All requests for JOQ increases should be substantiated with proper documentation from workloader and maintained in the jacket file.

3.20.11. Bill of Material (BOM).

3.20.11.1. **(Added-AFSC)** Manufacture, overhaul, or repair workload must be evaluated for component materiel items to be used in the process and are known as Material Standards. These standards are an integral part of the UCA System and provide a means to compute an EISP. Each IET (maintenance planner) is responsible for creating and maintaining the required BOM for each production number assigned to their workload. The BOM is a descriptive and quantitative listing of planned materiel and components required to manufacture, overhaul, or repair a designated end item, assembly, or subassembly.

3.20.11.1.1. **(Added-AFSC)** The purpose of establishing a BOM is to plan for materiel in support of production maintenance workloads, initiate costing for the depot maintenance systems, and provide a mechanism to control materiel usage.

3.20.11.1.2. **(Added-AFSC)** Accurate materiel standards are mandatory. It is the responsibility of the IET (maintenance planner) to ensure accurate BOMs are established and maintained. This includes TO part number changes, replacement factors, occurrence factors, and units per assembly which are to be maintained and accurately updated on each BOM. BOMs that are analyzed to 70 percent or less accuracy should be investigated by the IET (maintenance planner) where necessary for the possibility of abnormal or excessive usage of components parts. Other possibilities are a significant increase in workload, materiel price increases, materiel price errors, or use of substitute materiel. Material usage shall be monitored continuously.

3.20.11.1.2.1. **(Added-AFSC)** BOMs for end items or components designated as classified (i.e., confidential, secret, or top secret) shall be entered into MIS as repair/overhaul BOMs only, not as 100 percent complete Illustrated Parts Breakdown (IPB) BOMs. End item/component data contained in D043A [e.g., Noun, NSN, part number (P/N), Cage Code, etc.] may be entered as part of a repair/overhaul BOM. Technical data identification (e.g., TOs, blueprints, drawings, etc.) of classified end items or components shall not be entered on a repair/overhaul BOM.

3.20.11.1.2.2. **(Added-AFSC)** IET (maintenance planner) may assign an Alternate IET (maintenance planner) to their BOMs so that changes can be made in case the owning IET (maintenance planner) is not available to change a BOM assigned to them for approved technical changes.

3.20.11.1.3. **(Added-AFSC)** There are different types of BOMs that are created. Information systems assist the IET (maintenance planner) in creating and managing the BOMs.

3.20.11.1.3.1. **(Added-AFSC)** The Planning BOM (P-BOM). A Planning BOM, is a BOM containing a P job designator established as a work area to allow a planner to build a static BOM that is never analyzed and is only used to create a BOM that will later be established under a valid G004L production number. P-BOMs are normally established when a negative response is received from Applications, Programs, Indentures (API) system (D200F). The materiel forecasting process is contingent on clean BOMs therefore use of P-BOMs can be beneficial to support the forecasting process. P-BOMs will be manually deleted by the owning planner once the actual BOM is created.

3.20.11.1.3.2. **(Added-AFSC)** The Permanent BOM. The Permanent BOM is created for permanent workload and can be created at component/end item level or aircraft level.

3.20.11.1.3.2.1. **(Added-AFSC)** Permanent BOMs located in approved MIS for permanent workloads/end items are repair BOMs that contain only a portion of the components/material that are required to complete an assembly. The Permanent BOM can be used as a major input into the Material Requirements Planning (MRP) process. The Permanent BOM can provide the composite database that identifies the material required for repair workload. The Permanent BOM can be used to calculate material requirements for a given maintenance workload

3.20.11.1.3.2.2. **(Added-AFSC)** The Permanent BOM must be created in conjunction with the setup of a new workload, PDN, and/or assembly. The permanent BOM must be created prior to an induction against the new workload/PDN.

3.20.11.1.3.3. **(Added-AFSC)** The Temporary BOM. The temporary BOM is created for temporary workload and can be created at component/end item level or aircraft level. These BOMs contain both direct and indirect components and/or materiel.

3.20.11.1.3.3.1. **(Added-AFSC)** Temporary jobs are not placed under configuration control and can be updated and managed as needed directly by the IET (maintenance planner).

3.20.11.1.3.3.2. **(Added-AFSC)** Temporary BOMs do not require periodic review.

3.20.11.1.3.4. **(Added-AFSC)** Indirect BOM. Indirect materiels are usually not part of the permanent BOM although they can be part of the BOM for visibility purposes if desired. Indirect materiel is not analyzed. Check with the planning section to determine the accepted practice regarding indirect materiels placed on permanent BOMs. For end items where a large percentage of components are planned as indirect, it may be beneficial to the planning function to carry indirect materiel on the BOM. The preferred method is to reclassify it as direct if visibility and control is desired.

3.20.11.1.4. **(Added-AFSC)** BOM Planning.

3.20.11.1.4.1. **(Added-AFSC)** The BOM is used to link materiel usage to the RC/CC where it is consumed. Components must be structured under the appropriate routing labor operation and corresponding RC/CC where they will be ordered.

3.20.11.1.4.2. **(Added-AFSC)** Setting the Production Analysis Quantity (PAQ). The PAQ is the quantity for a BOM that when reached triggers a quarterly usage analysis. IET (maintenance planner) must set and maintain the PAQ. Low volume workloads will have a lower PAQ while higher volume workloads may be set higher. The goal is to set the PAQ at a level to allow analysis to be performed at least twice a year. By default, analysis will be performed each year on the anniversary date of the BOM establishment.

3.20.11.1.4.2.1. **(Added-AFSC)** The IET/Maintenance Planner will adjust the Production Analysis Quantity (PAQ) in G005M annually to account for the new FY schedule for all workloads at the beginning of the fiscal year. The IET/Maintenance Planner will adjust the PAQ during the annual BOM review time frame to ensure adjustments are made prior to the next FY pricing. The IET/Maintenance Planner will ensure that their PAQ levels are set at 30%-50% of the FY schedule to allow G005M to perform the automatic calculations at least twice annually per 14.44.4.2. or the max G005M allows the PAQ to be adjusted if 30%-50% isn't possible due to system max already being met.

3.20.11.1.4.3. **(Added-AFSC)** Determine the Material Classification. The IET (maintenance planner) must make the determination of what is to be planned as direct and indirect by changing the materiel classification and cost code. Cost is not a factor in this determination. IETs can also do this when initially planning the materiel by assigning a cost code override. Material should be classified as direct whenever possible to facilitate the tracking of usage to the end item level. Costing analysis may be affected by materiel classification.

3.20.11.1.4.4. **(Added-AFSC)** Determine Interchangeability and Substitutability (I&S). There are physical and functional qualities which describe the intended use, operating conditions, tolerance and range, purpose, and capability of an item which are considered inherent to an item. I&S determination is critical to effective BOM development and maintenance, and to maximize parts supportability. IET (maintenance planner) will plan the least preferred item in an I&S group that will perform the intended function.

3.20.11.1.5. **(Added-AFSC)** BOM Review. Commodities - IETs (maintenance planners) must perform a complete, annual, formal BOM review on all permanent BOMs. Each review must validate the accuracy of BOM structure, correct components, UPA, replacement factors, occurrence factors, and I&S planning. All components as dictated by Tech Data will be reviewed. BOM reviews are not exclusively calendar-driven and should occur on an event-driven basis, such as changes to the work scope, materials, or when WCD reviews dictate. Each Complex shall develop a checklist for items reviewed on the formal BOM. Aircraft - IETs (maintenance planners) must perform a complete, formal BOM review during the PDM interval (IAW 00-25-4 Table 2-1 thru Table 2-4). IETs (maintenance planners) will also review and update the applicable BOM any time changes to the work scope, materials, or WCD review dictates. IETs (maintenance planners) will review errors generated in the system of record to ensure accuracy of the BOM. Each Complex shall develop a checklist for items reviewed on the formal BOM.

3.20.11.1.5.1. **(Added-AFSC)** MXG/CC or Director will ensure that formal BOM reviews are performed and documented on all permanent BOMs. Formally documented BOM reviews will be maintained electronically (e.g., Microsoft Word®, Excel®, or Access®). Printed copies may be made available for auditor/inspector review. The IET (maintenance planner) will make sure that a 'line by line' BOM review is performed periodically for each PDN assigned to their workload. BOM reviews should take place shortly after each quarterly analysis cycle. Each component item that will be part of the BOM must be established and maintained with the correct set of attributes to further identify the material classification. The Air Force Master Item Identification System helps to provide information to identify the material classification. Formally documented BOM reviews will be maintained electronically (e.g., Microsoft Word®, Excel®, or Access®), and can be displayed electronically or printed out (i.e., planning jacket file) to be made readily available for auditor/inspector review.

3.20.11.1.5.1.1. **(Added-AFSC)** The Component Part Number/NSN must be the primary part number currently used and coincide with the TO primary or alternate part number. Part numbers on the BOM not referenced in the TO must have a supporting and approved AFMC Form 202 or AFTO Form 252 in place.

3.20.11.1.5.1.2. **(Added-AFSC)** AAC V or X are terminal items to be used until stock is exhausted. Since the component is a terminal item, a substitute is required. The IET (maintenance planner) should research these items and work with the Equipment Specialist to find a suitable substitute before the item is discontinued by the supply chain.

3.20.11.1.5.1.3. **(Added-AFSC)** Alternate part numbers referenced in the TO must be referenced on the BOM as such.

3.20.11.1.5.1.4. **(Added-AFSC)** Quantity/UPA is the number of units that an end item will require of a part number. Verify the quantity against the most recent version of the TO for the end item. **Note:** If a component quantity is greater than 1 and each item needs to be dispositioned independently by the shop floor, multiple lines with a quantity of 1 must be listed until the total quantity is met. Components with a multiple quantity that do not require independent dispositioning by the shop floor can be listed on one line with the total quantity required.

3.20.11.1.5.1.5. **(Added-AFSC)** Replacement Factor, also known as Failure Factor, is the percentage at which a part is replaced (i.e., thrown away and bought new) as opposed to being refurbished. Replacement factors are computed based on actual materiel consumption. The variance between planned and actual usage/demand of materiel for a production number will be used to calculate BOM accuracy.

3.20.11.1.5.1.6. **(Added-AFSC)** Occurrence Factor is the percentage of time that each operation is selected for repair of an assembly.

3.20.11.1.5.2. **(Added-AFSC)** BOM Stock List Changes must also be researched, verified, and updated on the appropriate BOM.

3.20.11.1.5.2.1 **(Added-AFSC)** AAC V or X are terminal items to be used until stock is exhausted. Since the component is a terminal item, a substitute is required. The IET (maintenance planner) should research these items to find a suitable substitute before the item is discontinued by the supply chain.

3.20.11.1.5.2.2. **(Added-AFSC)** AAC Y is a component that has gone terminal and is no longer authorized for procurement. The IET (maintenance planner) should research these items and work with the Equipment Specialist (ES) to come up with a new replacement part number/NSN.

3.20.11.1.5.2.3. **(Added-AFSC)** When researching a stock number or adding a new component item, it is possible to interrogate the I&S database and display the total I&S family. The IET (maintenance planner) will add an I&S linked new substitute item to the BOM since the I&S grouping was completed by the ES via the updated drawing by the cognizant engineering authority. The IET (maintenance planner) will notify the engineer/ES through the '202' process if an I&S linked part does not appear to meet the requirements of the original part.

3.20.11.1.5.3. **(Added-AFSC)** Unplanned Issues. The IET (maintenance planner) should review unplanned issues and correct them on the BOM to ensure usage is captured correctly. If it is determined that materiel currently not planned on the BOM will be used on a recurring basis, action will be taken to add the materiel to the BOM.

3.20.11.1.5.4. **(Added-AFSC)** It is imperative that BOMs contain accurate data given that BOMs affect usage projections and yearly EISP development. It is strongly recommended that formally documented BOM reviews be performed to precede the SPG run that occurs at the end of January, in preparation for the Iterative Pricing Process for the next FY's EISP development.

3.20.11.1.5.5. **(Added-AFSC)** The IET (maintenance planner) will audit the BOM using the most current TOs, drawings, and D043 Master Item Identification Control System I&S information to verify that the correct components and component quantities are reflected on the BOM.

3.20.11.1.5.5.1. **(Added-AFSC)** Component Part Number/NSN must be from primary TO or as alternate/substitute I&S linked in D043. Part numbers on the BOM not referenced in the primary TO or I&S linked in D043A must have an approved AFMC Form 202 or AFTO Form 252.

3.20.11.1.5.5.2. **(Added-AFSC)** Primary, alternate, substitute, and interchangeable part numbers must be referenced on the BOM as such.

3.20.11.1.6. **(Added-AFSC)** Material Ordering. When ordering materiel not planned on the BOM, the requisition will go to the IET (maintenance planner) for review and approval. When planning assistance is not available for IET (maintenance planner) approval on a non-BOM item and the situation is a work stoppage, authorization must be obtained from the PSFC prior to requisitioning the materiel. This authorization must be provided to the IET (maintenance planner) for records purpose.

Section 3E – Scheduling and Control.

3.21. Scheduling. Scheduling within each ALC provides control of in-process workloads to allow timely completion of jobs. This function entails requisitioning/turn-in of production assets. Induction of the end item against an established control number opens the JON in G004L and the Defense Industrial Financial Management System (DIFMS) for cost accounting. DIFMS is the system of record for funding control and cost accounting. When the end item is inducted, WCD printed, and operation track points are sent to Time and Attendance (TAA), production can begin tracking labor, processing production completions of the planned operations, and materiel can be ordered through Automated Bill of Material (ABOM)/Naval Air Systems Command (NAVIR) Industrial Material Management System (NIMMS).

3.21.1. Production Support Concept. The exchangeable scheduler of a shop organization is a designated member of the Production support team. The scheduler assists with the determination of flow time, manpower allocation, shop-loading, and placement of production support technician (PST) to expedite the processing of components removed for repair by the support shops, assets into shops, control of holding area functions, and establishment of return points for items which are to be reinstalled. The scheduler provides the required support for the prototyping necessary to set up the production line.

3.21.1.1. **(Added-AFSC)** Relationship with Other Functions. The scheduling function depends upon support from the item management, production management, and supply areas as well as the coordination between the workload control organization, the planning units, the production shops, and applicable control centers.

3.21.1.2. **(Added-AFSC)** Workload Control. For Exchangeables/Missiles/OMEI areas, the production controller (scheduler) depends upon the production management team (i.e., SP, PMS, and ES) to provide identification of workload requirements through EXPRESS, as applicable, and PDMSS for aircraft. The production management team serves as the liaison between the customer and the production controller (scheduler) for matters concerning workload requirements and status of production.

3.21.1.3. **(Added-AFSC)** Planning. Scheduling depends upon the IET (maintenance planner) to provide the required work documents, labor and material identification, and standards. IET (maintenance planner) also identify and provide special tooling, etc., through coordination with Engineering, which enables the shop to repair end items or components. The production controller (scheduler) relies upon the IET (maintenance planner) to update the labor and material requirements when unpredictable work operations arise.

3.21.1.4. **(Added-AFSC)** Production. The production controller (scheduler) depends upon the production supervisor and the shop workers to identify unplanned parts requirements and labor operations. The production controller (scheduler) also relies upon production personnel for notification of labor operations and end items completed.

3.21.2. Cost Awareness. Each exchangeable scheduler must maintain proper accounting and reporting procedures. Fulfillment of the responsibility of production completion reporting will promote cost awareness. All materiel consumed on a JON must be charged to that JON. Variances within JONs will be discernible when erroneous charges are made. Schedulers must ensure that

the production support flight and other personnel in their area of control are knowledgeable of proper identification of items inducted, items completed, component items forwarded to support shops, materials issued, and labor used.

3.21.3. Shop Workload Sources.

3.21.3.1. Project Directive.

3.21.3.1. **(AFSC)** This workload consists of maintenance support of items such as aircraft, missiles, engines, and OMEI. Most of this work is predictable and therefore it can be negotiated. Planning for materiel and shop workloading can be determined from negotiations.

3.21.3.2. Management of Items Subject to Repair (Contract and Organic).

3.21.3.2. **(AFSC)** Exchangeable items must be produced on time. This workload is contained in the G019C system as negotiated workload. The organic workload is managed in EXPRESS. The Squadron Commander/Director is the single person accountable and responsible for assets in the production shop and for the assigned resources to accomplish Depot repairs.

3.21.3.2.1. **(Added-AFSC)** Line Support.

3.21.3.2.1.1. **(Added-AFSC)** Line support workload in most cases is identifiable as an end item for which some shops in the ALC have an established production process. Normally these items are removed from major end items such as aircraft, missiles, or engines. Job routed repair is not authorized if serviceable assets are available unless previously approved by the appropriate authority in the SCMW/PO. The end item materiel standard will reflect a 'remove and replace' concept. When it becomes apparent that serviceable assets cannot be made available for timely support, job routing will be accomplished with prior approval from the SCMW with the appropriate routing documentation and justification that will be maintained in the planning jacket file.

3.21.3.2.2. **(Added-AFSC)** O&A, Line Support. This workload in most cases is identifiable as an end item for which some shops in the ALC have an established production process. Normally these items are removed from major end items such as aircraft, missiles, or engines.

3.21.3.2.3. **(Added-AFSC)** Other Workload items in this category include all non-programmed workloads, i.e., area, base, contract, tenant support, software support, Cost Class IV, DMISA, and local manufacture. These categories by their inherent nature create a workload mix with different priorities and require actions by each production controller (scheduler) involved to ensure timely production without disrupting the production line. Proper processing of these workloads along with line production provides full line workloading of the shops.

3.21.4. Workload Control. HQ AFSC will ensure schedulers maintain control for all production items within their area. Control of production items status can be maintained by using the following:

3.21.4.1. Prescribed AFSC Forms for recording workload and asset control.

3.21.4.1.1. **(Added-AFSC)** AFSC Form 105, *Workload Record*. This form is initiated by the production controller (scheduler) to document the necessary information concerning schedule and production status of each end item processed through repair. This includes all items issued from or turned-in to supply by G004L OPR transactions, and support shop productions are also recorded on this form. PME items scheduled and processed are exempt from being recorded on AFSC Form 105. This form provides an auditable progressive inventory record of end items processed through the repair shops. Forms may be filed by JON, master NSN, or actual NSN sequence which is at the option of each scheduling activity. The form can be an electronic version approved by the OPR. Functional areas implementing electronic forms generated by information systems that incorporate existing forms obtain a written waiver to deviate from the form in any way from the OPR of the publication that prescribes the form. If approved, the system maintainer must ensure any electronic duplication of the form replicates to the highest degree possible the contents (wording), format (layout), and sequence (arrangement) of the official form (should be a mirror-like image). The accuracy of the electronic form is the responsibility of the system maintainer duplicating the official form. Forms management offices should be involved in electronic transaction projects to ensure forms are properly created IAW DAFMAN 90-161.

3.21.4.1.2. **(Added-AFSC)** This form provides an auditable progressive inventory record of end items processed through the repair shops. Forms may be filed by JON, master NSN, or actual NSN sequence which is at the option of each scheduling activity. This form will be filed IAW the applicable AFRIMS Depot Maintenance Records table and rule for audit compliance.

3.21.4.2. Product Quality Deficiency Report (PQDR) Exhibit Processing.

3.21.4.2.1. **(Added-AFSC)** Reference TO 00-35D-54. If the processing ALC has a MISTR workload established, the same control number may be used with a G job designator assigned. This designator will include the cost of the cause determination (analysis) and report preparation. If the processing ALC does not have an established MISTR workload, a temporary JON (i.e., AFMC Form 206 or AFSC Form 206) with a job designator G assigned will include the cost of the cause determination (analysis) and report preparation. An AFMC Form 206 or AFSC Form 206 must be issued by the SP/ES. No repair is authorized on G job designator. PQDRs will be worked as soon as possible before 'like' MISTR items to identify possible systemic deficiencies.

3.21.4.2.2. **(Added-AFSC)** To provide the proper audit documentation, a written notification of exhibit numbers with NSN must be provided to the ALC. This notice may be maintained centrally by the ALC QA or in the responsible production controller (scheduler) files as per local option. DD Form 2332, *Product Quality Deficiency Report Exhibit*, will accompany each exhibit sent to the ALC for processing. A copy of the tag and a communication notice (e.g., message or other) will suffice for audit documentation. No exhibit will be accepted by the ALC without the DD Form 2332.

3.21.4.2.3. **(Added-AFSC)** Any materiel deficiency detected by the ALC quality organization during the repair process should be reported according to TO 00-35D-54.

3.21.4.2.4. **(Added-AFSC)** When analysis of the PQDR exhibit determines that the TRC was not at fault, the work will be done by that ALC if a funded requirement exists. If there is a requirement, funding will be coordinated with the EXPRESS office and the item will be wash posted to the MISTR repair control number. If a funded requirement does not exist, the item will be turned into supply as a repairable asset. When analysis of the PQDR exhibit determines that the TRC was at fault (i.e., workmanship), the item is designated rework and will be turned in using the G job designator. The production controller (scheduler) will provide production with a WCD for rework. Rework will be tracked in TAA with the work JON X51112614000 which applies to all three ALCs.

3.21.4.3. Awaiting Parts (AWP).

3.21.4.3.1. **(Added-AFSC)** This is a holding account for non-serialized/serialized items awaiting parts. It is essential that this account be used to de-obligate customer funds for assets that were OWO and work has been stopped due to lack of parts. The de-obligation of funds releases that fund value to allow the induction for other assets that are supportable.

3.21.4.3.2. **(Added-AFSC)** The vehicle to evaluate resource supportability is the supportability module in EXPRESS. After passing the supportability module, repair requirements are entered into the D035K EXPRESS table and sent to J025A for funds applications.

3.21.4.4. Rob-back.

3.21.4.4. **(AFSC)** This is defined as the removal of an assembly, subassembly, or component from an end item inducted for maintenance and placed on another end item. If rob-backs are accomplished, the shop mechanic is responsible for providing production controller (scheduler) with the end item document numbers of the part/component involved. The production controller (schedulers) will file maintain the backorder to the designated end item in D035K.

3.21.4.5. WCDs.

3.21.4.5. **(AFSC)** The AFSC Form 959, AFSC Form 173, D012, or computer generated WCD. These documents are the only ALC approved WCDs. This document will be printed for each item inducted. A separate document may be required for different levels of repair on a specific stock number. The WCD is a record of all work performed on an end item and will be maintained in IAW the applicable AFRIMS Depot Maintenance Records table and rule for audit compliance.

3.21.4.6. Routed Order.

3.21.4.6. **(AFSC)** The AFSC Form 137 is for the identification of items being moved or components sent to support shops for repair.

3.21.4.7. Temporary Job Record.

3.21.4.7. **(AFSC)** The G004L-L3A document is produced from the AFMC Form 206 or AFSC Form 206; AFSC Form 237; and G004L transactions. WCDs are the official job record and are required for each end item.

3.21.4.8. Programmed Depot Maintenance Scheduling System (PDMS/G097).

3.21.4.8. **(AFSC)** Reports are provided for control of end items processed under this system.

3.21.4.9. Production Item Control. The scheduler must ensure proper documentation of production receipts and turn-ins are maintained.

3.21.4.9. **(AFSC)** The G004L-L2A daily listing provides visibility of all transactions and transaction errors. The G004L-L2A will be reconciled to the AFSC Form 105 or an electronic version approved by the OPR. Quantities by stock number and document number are recorded for both issues and turn-in transactions. The G004L system provides W-series products to show those stock number OPC relationships which require research for reconciliation. D035K and appropriate MIS systems provide a transaction history to aid in the reconciliation of the AFSC Form 105 or an electronic version approved by the OPR.

3.21.4.10. Awaiting Maintenance (AWM).

3.21.4.10. **(AFSC)** It is a delay status for items that are pre-positioned in the ALC awaiting maintenance. **Note:** This should not be confused with RWM delay code in ITS which is the upfront awaiting maintenance time from when the end item is inducted until the mechanic actually begins work.

3.21.5. Responsibilities. HQ AFSC will develop, implement, and maintain procedures to ensure schedulers accomplish the proper assessment and balancing of factors to include production manpower skills, available equipment, and the induction of workloads into production shops.

3.21.5. **(AFSC)** The production controller (scheduler) is responsible for accomplishing the proper assessment and balancing of factors including production manpower skills, available equipment, and the induction of workloads into production shops. Equally important, the production controller (scheduler) is responsible for ensuring that only authorized, funded EXPRESS driven, or negotiated workload is produced.

3.21.5.1. In Process Visibility.

3.21.5.1. **(AFSC)** The production controller (scheduler) is responsible for the accountability of end item assets in the proper accounts, i.e., AWM, AWP, and OWO. The production controller (scheduler) will assist with DIOH reconciliation when requested by the DLA-A/MSS. Reporting of completions will be made against the JON on which inducted. Production controller (scheduler) must use the various systems products to maintain visibility of those items within the shops for which they have direct workload responsibility. These products used along with end item production turn-ins and shop capacity enable the production controller (scheduler) to better control the production process and flow days.

3.21.5.2. Material and Production Items.

3.21.5.2. **(AFSC)** Material and Production Items. The production shop is directly responsible to provide parts requisitioning data to the production controller (materiel). Customer requirements coupled with the shops' capability dictate the scheduling time frame for production items. The production controller (scheduler) provides the surveillance, feedback, and notification of problems for resolution or for making higher-level management decisions.

3.21.6. Local Manufacture.

3.21.6. **(AFSC)** All local manufacture requires that AFMC Form 206, *Temporary Work Request*, or AFSC Form 206, *Temporary Work Request*, and AFSC Form 237, *Temporary Labor and Material Plan*, be processed by the G004L system before work can begin.

3.21.6.1. **(Added-AFSC)** Requests must be processed through the Supply Chain Management Wing (SCMW).

3.21.6.2. **(Added-AFSC)** High priority type items may be input to work before processing the AFMC Form 206 or AFSC Form 206 or AFSC Form 237. Required paperwork will be processed as soon as possible.

3.21.6.3. **(Added-AFSC)** Local Manufacture. The AFMC Form 206 or AFSC Form 206 gives the basic authority for manufacture. This type work is funded on type 6 or 7 project orders. The AFSC Form 237 or AFSC Form 240 provides the labor and materiel data required for costing. Work requests will be processed on a temporary JON using M control number prefix and K job designator. The UOM is normally EA. The computer will create an EISP for each unit of the JON quantity. Local manufacture for line support of a one-time requirement (i.e., non-recurring) on serialized workloads, when included in the work package negotiated with the ALC or approved by the PAO for O&A accomplishment, does not require the processing of an AFMC Form 206 or AFSC Form 206. This line support may be accomplished as a labor operation on the JON applicable to the end item and worked under the G097 system. A computer generated AFSC Form 137 or AFSC Form 173 may be used by the supporting shop for processing the manufacturing requirement. The analysis of unpredictable operations will also be used to determine recurrence and when applicable, will be used as the basis for preparation of AF Form 86, *Request for Cataloging Data/Action*.

3.21.7. Data Systems Interfaces. Scheduling is responsible for providing input to several data management systems to include:

3.21.7.1. D035K, Stock Control and Distribution/Central Material Locator System.

3.21.7.1.1. **(Added-AFSC)**. Receipts and turn-ins of production items and materiel from supply sources will be accomplished by input of the receipt acknowledgment (RA) or turn-in transaction to the MIS which passes the transactional data to D035K. Production item transactions are passed electronically from D035K to G004L.

3.21.7.1.2. **(Added-AFSC)** D035K, Stock Control and Distribution/Central Material Locator System. Receipts and turn-ins of production items and materiel from supply sources will be accomplished by input of the receipt acknowledgement (RA) or turn-in transaction to ITS/G337 or EPS/Appropriate MIS which passes to D035K. Production item transactions are passed electronically from D035K to G004L.

3.21.7.2. G019C, Management of Items Subject To Repair (MISTR) -Organic.

3.21.7.2. **(AFSC)** This system produces the MISTR consolidated schedule and is used to identify end item quantities for the quarterly MISTR drive.

3.21.7.3. G004L, Job Order Production Master System (JOPMS).

3.21.7.4. G337, Inventory Tracking System (ITS).

3.21.7.5. G402A, Exchangeables Production System (EPS).

3.21.7.6. D087X, Execution and Prioritization of Repairs Support System (EXPRESS).

3.21.7.7. G097, Programmed Depot Maintenance Scheduling System (PDMSS/G097).

3.21.7.8. **(Added-AFSC)** Lean Depot Maintenance System/G300 which is an additional data system used by production controller (scheduler) in the performance as stated in this area.

3.21.7.9. **(Added-AFSC)** Data Reliability. Scheduling depends upon the planning function to provide a valid means of reporting standard labor used and valid identification of materiel requirements to enable reporting for costing accurately. Revenue received from sales should equate to the cost of actual resources consumed on each JON. Daily management reports are available to the production controller (scheduler) to maintain data integrity. Erroneous transactions processed must be corrected upon receipt of the error listings.

3.21.8. HQ AFSC will develop procedures for the following:

3.21.8.1. Job Order Cancellation/Reduction.

3.21.8.1. **(AFSC)** The customer may determine that the quantity requested is more than needed or that total requirement must be cancelled. The change of the JOQ to the new value is accomplished electronically in G004L. When the JOQ is reduced to zero, the G004L system will assign job status code 3. If materiel has been received and will not be used, this materiel should be returned to supply before cancellation (reference AFMCI 65-101). Review all backorders for cancellations.

3.21.8.2. Suspended Temporary Jobs for Customer Job Order Release.

3.21.8.2. **(AFSC)** After the AFSC Form 237 is processed into G004L for a temporary job with the SOPI marked complete, if the resulting planned cost (EISP X JOQ) exceeds the estimated job total

costs entered by initiator of the AFMC Form 206 or AFSC Form 206, the job will go into suspense status with an S JON status code. While the job is in suspense, production asset and materiel transactions will reject from the D035K system. The Workloader must contact the initiator to accept cost over and above that originally planned. The Workloader submits a customer job order release to accept as is with planned costs moved to the estimated cost field to increase dollars allocated or decrease the job. The following jobs are exceptions and will not go into suspense when planned costs exceed estimated costs:

3.21.8.2.1. **(Added-AFSC)** C – Prefix JONs.

3.21.8.2.2. **(Added-AFSC)** M – Prefix JONs with R and W reimbursement code.

3.21.8.2.3. **(Added-AFSC)** T – Prefix JONs with S DPC.

3.21.8.2.4. **(Added-AFSC)** T – Prefix JONs serialized except those with DPC 7.

3.21.8.2.5. **(Added-AFSC)** Priority 1A transactions.

3.21.8.2.6. **(Added-AFSC)** A – Prefix JONs.

Section 3F – Scheduling Procedures.

3.22. Scheduling Procedures.

3.22.1. HQ AFSC will ensure procedures are developed for the following scheduling functions:

3.22.1.1. Data Processing Codes (DPCs).

3.22.1.1. **(AFSC)** AFMC Form 206 or AFSC Form 206 and AFSC Form 600 transactions will contain the applicable DPC as per the usage assignment. The production controller (scheduler) will use these codes as the basis for determining how and what to report to the G004L system. The DPC can be changed file maintained as shown in WAD edit extension.

3.22.1.2. JON Suffix Establishment.

3.22.1.2. **(AFSC)** The method of establishing inductions depends upon the DPC assigned to the production number and the type of work.

3.22.1.2.1. **(Added-AFSC)** Permanent Serialized. The suffix is established upon the input of Serialized Record Establishment.

3.22.1.2.2. **(Added-AFSC)** Permanent Non-serialized. The suffix is established upon input of the RA transaction for each JON period (monthly or quarterly).

3.22.1.2.3. **(Added-AFSC)** Temporary Serialized. The suffix is established upon input of serialized Record Establishment.

3.22.1.2.4. **(Added-AFSC)** Temporary Non-serialized. The suffix is established upon input of AFSC Form 237, with SOPI = C. C prefix production numbers automatically regenerate with a new suffix monthly. T-prefix production numbers with DPC S regenerated with new JON suffixes quarterly.

3.22.1.2.5. **(Added-AFSC)** If a monthly JON suffix has been established in a FQ, a quarterly JON suffix cannot be established in the same FQ. If a quarterly JON suffix has been established in a FQ, a monthly JON suffix cannot be established in the same FQ. If the EISP is greater than or equal to \$25,000, a monthly JON suffix must be used. If the EISP is less than \$25,000, a monthly or quarterly suffix may be used. Any transaction failing these edits will be rejected with asterisks over the JON.

3.22.1.3. Job Order Quantity (JOQ).

3.22.1.3. **(AFSC)** This quantity reflects the customers negotiated requirements for funding. The G004L system reflects a JOQ on all temporary production numbers.

3.22.1.4. Annual Customer Order Quantity.

3.22.1.4. **(AFSC)** This quantity reflects the customer's requirements for funding.

3.22.1.4.1. **(Added-AFSC)** Systems that provide a combination of data to determine the amount of customer funds used are G019C for exchangeables and G004L for customer order quantity (COQ) and inductions during the first three quarters of the FY.

3.22.1.4.2. **(Added-AFSC)**. The production controller (scheduler) must ensure that items that have been delivered to maintenance from supply are inducted by dates established by local FY Year End Close Out Procedures to satisfy the customer's requirement and obligate funds.

3.22.1.4.3. **(Added-AFSC)** UCA and G004L system procedures cause repair funds to be set aside against inducted work ordered by the customer.

3.22.1.4.3.1. **(Added-AFSC)** The customers repair funds are known as DPEM funds.

3.22.1.4.3.1.1. **(Added-AFSC)** These funds are projected and programmed by the ALC requirements.

3.22.1.4.3.1.2. **(Added-AFSC)** The customer's funds are considered 1-year funds in that these funds must be used to order work in the FY in which provided.

3.22.1.4.4. **(Added-AFSC)** To ensure customer's funds can be used to order work for MISTR items before FY end, the G004L system provides data from G019C reflecting fourth quarter input as an ACOQ.

3.22.1.4.4.1. **(Added-AFSC)** To determine customer funds, G004L fourth quarter inductions are compared to the ACOQ.

3.22.1.4.4.2. **(Added-AFSC)** Items inducted during the fourth quarter that are turned in unserviceable after 30 September and not inducted on an 'M' suffix JON before 31 December will result in unused FY funds.

3.22.1.4.4.2.1. **(Added-AFSC)** Unused FY funds are called fallout funds.

3.22.1.4.5. **(Added-AFSC)** The production controller (scheduler) must populate the ACOQ in the G004L, Permanent PDN Record Maintenance Screen to reflect actual inductions for the fourth quarter by the date established by local FY Year End Close-Out Procedures for all MISTR control numbers for assigned PSSD. The production controller (scheduler) will ensure the inducted quantity listed on the G004L/L2B report is populated and saved.

Figure 3.10. **(Added-AFSC)** Permanent PDN Record Maintenance Screen

Permanent PDN Record Maintenance		
PDN: 24561A		
Submit Query		
EB: 1560013345071FX	PSSD: MNMSSP	ACOQ:
Name: GDR	PCN: JJJJWGN	FY:
PD/PTC: MANECG	WTC: MANWNL	FUT FORM: 1680
FSC-INC: TG	ERRC: T	DPC: T PSC: T
PRE: 12	FCCC: A	G019C: Y

3.22.1.4.6. **(Added-AFSC)** At close of business 30 September, the G004L system will stabilize the ACOQ inductions and set the Remaining Annual Customer Order Quantities (RACOQ) values to 0 unless they are negative.

3.22.1.4.7. **(Added-AFSC)** Remaining Annual Customer Order Quantities (RACOQ). This quantity is electronically computed by subtracting inductions from ACOQ.

3.22.1.4.8. **(Added-AFSC)** From 1 September through 31 December, G004L produces the L2B product RACOQ listing in Production Section/Scheduling Designator (PSSD) sequence.

3.22.1.4.8.1. **(Added-AFSC)** This product is used by the production controller (scheduler) to monitor RACOQ quantities.

3.22.1.4.8.2. **(Added-AFSC)** It reflects only the production number for which the production controller (scheduler) is responsible and which have a RACOQ value other than 0.

3.22.1.4.8.3. **(Added-AFSC)** For permanent production numbers, the system reflects ACOQ during the fourth quarter only.

3.22.1.4.8.4. **(Added-AFSC)** From 1 October through 30 December, the L2B will only reflect RACOQs which have had non-serviceable turn-ins occur.

3.22.1.4.8.4.1. **(Added-AFSC)** These condition codes are: F, J, K, L, P, G, E, and H.

3.22.1.4.8.4.2. **(Added-AFSC)** If requirement exists, inductions to replace the non-serviceable turn-ins will be inducted using an annual JON 'M' in lieu of monthly/quarterly JON.

3.22.1.4.8.4.3. **(Added-AFSC)** M' JONs are only allowed in October, November, and December.

3.22.2. Scheduler's Jacket Files. HQ AFSC will ensure the scheduler maintains a jacket file on each temporary production number for which the scheduler is responsible for.

3.22.2. **(AFSC)** Production Controller (scheduler) Jacket Files. The scheduler will maintain a jacket file on each temporary production number for which the production controller (scheduler) is responsible. **Note:** Planner will provide file access to L3A and 206 screen print when requested. Contents of the jacket will include as a minimum:

3.22.2.1. **(Added-AFSC)** AFMC Form 206 or AFSC Form 206 screen print.

3.22.2.2. **(Added-AFSC)** AFSC Form 237 screen print and AFSC Form 240 (when applicable) (2 copies).

3.22.2.3. **(Added-AFSC)** Other backup documents as deemed necessary.

3.22.2.4. **(Added-AFSC)** Disposition of the jacket file will be: The production number and EII will be shown on the face of the jacket. The use of electronic storage is encouraged with the ability to print documentation on demand and. When storing digitally access to the Scheduling jacket file must be accessible by the scheduling function.

3.22.2.4.1. **(Added-AFSC)** When JON completions equal JOQ on the G004L-L2A report, the jacket file is maintained IAW paragraph 1.12.1. The exceptions on temporary workload are:

3.22.2.4.2. **(Added-AFSC)** C-Numbers.

3.22.2.4.3. **(Added-AFSC)** T-Numbers when DPC is S.

3.22.3. Inductions. HQ AFSC will ensure procedures are developed for inductions and methods used to establish them depending on the DPC assigned to the production number and the type of work involved.

3.22.3. **(AFSC)** These types of inductions and method used to establish them depend on the DPC assigned to the production number and the type of work involved.

3.22.3.1. **(Added-AFSC)** T-DPC and all permanent production numbers have the induction value established from a RA transaction.

3.22.3.2. **(Added-AFSC)** Temporary Production Numbers:

3.22.3.2.1. **(Added-AFSC)** N-DPC JON inductions and OWO balances are electronically established equal to JOQ when an AFMC Form 206 or AFSC Form 206 is processed to establish the production number.

3.22.3.2.2. **(Added-AFSC)** M-prefix with R and W reimbursement codes (i.e., first position of PCN) will establish inductions and OWO balances equal to JOQ when G004L is updated to reflect SOPI as C (i.e., complete).

3.22.3.2.3. **(Added-AFSC)** All other M-prefix production numbers establish JON inductions and OWO balances equal to JOQ when the AFMC Form 206 or AFSC Form 206 is processed to establish the production number.

3.22.3.2.4. **(Added-AFSC)** C prefix numbers with DPC P reflects inductions equal to completions as received.

3.22.3.2.5. **(Added-AFSC)** A DPC T and all other temporary production numbers have the induction value established from RA transactions.

3.22.4. Induction Transaction Processing. HQ AFSC will develop, implement, and maintain procedures for Induction Transaction Processing to include:

3.22.4.1. Receipt Acknowledgement Transaction Inductions.

3.22.4.1.1. **(Added-AFSC)** The RA transaction is used for all source production items inducted from supply (i.e., D035K), Nuclear Ordnance Commodity Management (NOCM), and for engines that are directly inducted into G004L. ITS electronically sends the RA transactions through G402A which feeds into the D035K system. The D035K system sends a tape daily to the G004L system. For engines and NOCM items, the RA transaction must be input directly to G004L.

3.22.4.1.2. **(Added-AFSC)** D035K edits the RA transaction for valid stock number, document number, production number, and quantity in transit to maintenance. If the JON suffix is missing or any of the above is in error, the input will reject with the appropriate error code. G004L edits the transaction for compatibility of pertinent data in the master files. Any reject will be error coded to identify the reason for reject. The error code will print out on the G004L-L2A report. When the reject appears on the G004L daily, D035K has been updated. To prevent a due in from overhaul/in Air Logistics Complex (DIOH/IN ALC) out-of-balance condition, correct the G004L data only and leave the D035K data unchanged. Reference instruction for G004L status advice codes and D035K status advice reject codes.

3.22.4.2. Maintenance/Supply Generated Transactions.

3.22.4.2.1. **(Added-AFSC)** Temporary Production number with DPC N, K, and U System inductions. All items generating from sources other than supply not having inductions posted automatically by the G004L system are reported by the system as each item or group of items is inducted. Valid and invalid inductions are reflected on the L2A report.

3.22.4.3. Misidentified Production Item Inductions.

3.22.4.3.1. **(Added-AFSC)** When a production item is received from supply and is truly misidentified, the following options/actions are available to the production controller (scheduler): Option 1 - turn-in misidentified; Option 2 - if a requirement exists and is repaired in the production controller (scheduler's) shop, coordinate with EXPRESS office for funding and then perform wash post to the correct control number.

3.22.4.4. Daily Verification of Production Transaction.

3.22.4.4.1. **(Added-AFSC)** Visibility of the end item induction/completions transactions, is reflected on the Daily Visibility and Cross-Referenced list (i.e., G004L-L2A).

3.22.4.5. Awaiting Maintenance (AWM).

3.22.4.5.1. **(Added-AFSC)** Purpose. This balance can be used for one purpose:

3.22.4.5.1.1. **(Added-AFSC)** Account for assets prepositioned into maintenance without obligation of customer funds and retain visibility of assets accounted for under DIOH in the D035K system. Not to be used for EXPRESS driven items.

3.22.4.5.1.2. **(Added-AFSC)** To allow de-obligation of customer funds when assets are OWO and work is discontinued for a period of time for whatever reason except AWP. This action will enable production controller (scheduler) to use the de-obligated funds for induction of other assets that the SP/PM has a requirement for. This process can be used for EXPRESS driven items.

3.22.4.5.1.3. **(Added-AFSC)** Restrictions.

3.22.4.5.1.3.1. **(Added-AFSC)** Assets can be inducted from supply directly to the AWM balance but cannot be returned directly from AWM to supply. Before returning the assets to supply, the assets must be transferred from AWM to OWO, using current JON suffix, then the D6 turn-in transaction processed to return the assets to supply.

3.22.4.5.1.3.2. **(Added-AFSC)** Refer to the ITS procedures in the ITS On-line Help menu using EXPRESS.

3.22.4.5.1.4. **(Added-AFSC)** Work is not to be performed on assets while in AWM status.

3.22.4.5.1.5. **(Added-AFSC)** The use of AWM is not applicable to serialized workloads and if attempted will appear on the G004L-L2A with asterisks over the JON.

3.22.4.5.2. (Added-AFSC) Procedures.

3.22.4.5.2.1. **(Added-AFSC)** Supply to AWM (Prepositioning). The use of the receipt transaction (D7/RB) transaction with a JON suffix will cause the D035K system to plus the DIOH value, decrease the IB1 (MW) value, and pass the transaction to G004L. The D7/RB transaction will cause G004L to plus the AWM field. This transaction will not affect the OWO, inductions, or remaining annual COQ.

3.22.4.5.2.2. **(Added-AFSC)** AWM to OWO. A D7/RC transaction with the current JON suffix and action suffix PK will be input to D035K and passed to G004L. The G004L system logic will minus the AWM value, plus the OWO and JON inductions values, and decrease the remaining ACOQ by the quantity indicated. The D035K system will not change any values in its record.

3.22.4.5.2.3. **(Added-AFSC)** OWO to AWM. A D7/RD transaction with a JON suffix and action suffix PK will be input to D035K and passed to G004L. The D035K system will not change any of its balance values in the G004L system minus the OWO value, plus the AWM, minus the JON induction value, and increase the remaining COQ. This transaction will also minus the values of the weekly induction, monthly induction, and quarterly induction fields.

3.22.4.6. Formal Awaiting Parts (AWP). Taken Off of on work order (OWO).

3.22.4.6.1. **(Added-AFSC)** Purpose. The purpose of the AWP balance is to decrease inductions/OWO due to lack of parts supportability and at a work stoppage. Assets in AWP status must be maintained in a secured area. This transaction is processed through D035 system by DLA personnel with a RBOG transaction.

3.22.4.6.2. (Added-AFSC) Restrictions:

3.22.4.6.2.1. **(Added-AFSC)** Assets cannot be moved from supply to AWP.

3.22.4.6.2.2. **(Added-AFSC)** Work is not to be performed while in AWP status.

3.22.4.6.2.3. **(Added-AFSC)** The use of AWP is not applicable to serialized workloads.

3.22.4.6.3. **(Added-AFSC)** Procedures. The following procedures identify production/supply transactions required for AWP processing (reference AFI 23-101 for detailed procedures). DLA will process a D7/RF transaction with a JON suffix and action suffix PK will be input to D035K and passed to G004L to move an item from OWO to AWP. This transaction will be passed by D035K without any change in the D035K balances. G004L will minus the OWO value, plus the AWP value, plus the RACOQ value, and minus the JON induction value by the quantity indicated. This transaction will also minus the values of weekly induction, monthly induction, and quarterly induction fields. **Note:** All transactions on G004L-L2A should be validated by the production controller (scheduler).

3.22.4.6.4. **(Added-AFSC)** AWP to OWO. Upon receipt of move notice (MN), the production controller (scheduler) will process a D7/RE transaction that will be input with a current JON suffix and action suffix PK to the D035K system and passed to G004L. D035K will not change any balances. G004L will minus the AWP value, plus the OWO, plus the JON induction, and decrease the RACOQ by the quantity indicated. Perform JON file maintenance in ITS. For EXPRESS items, it must be fully funded. **Note:** All transactions on G004L-L2A should be validated by the production controller (scheduler).

3.22.5. Job Order Number Status Codes. HQ AFSC will ensure processes for the following Job Order Number Status Codes are maintained:

3.22.5. **(AFSC)** The G004L JON master records will carry a status code which indicates the production status of each record.

3.22.5.1. Status Code = Blank.

3.22.5.1. **(AFSC)** There is no JON suffix. For permanent and temporary workload, a blank status code is established only at CN/JD level. For temporary workload, valid input of AFMC Form 206 or AFSC Form 206 Part II established the CN/JD and a blank status code on the appropriate master file.

3.22.5.2. Status Code = 0.

3.22.5.2. **(AFSC)** The JON is open and active. For permanent JONs, this status code is established when the first induction is processed. For temporary non-serialized JONs, the status code will be set at 0 when an AFSC Form 237 with the SOPI marked complete processes validly. For temporary serialized workload, the status code will be set at 0 when the transaction processes. On temporary workloads, when JSC=0, the G004L-L3A is produced for the production controller (scheduler) use. Completions, labor, and materiel transactions are allowed.

3.22.5.3. Status Code = 1.

3.22.5.3. **(AFSC)** The JON is completed and sold. The JOQ has been inducted and all items have been completed for temporary JONs. For permanent JONs, all inductions have been completed at or after the end of the JON period (month or quarter). For temporary JONs, this code will be assigned regardless of JON period during the end-of-month processing cycle in which completions equal JOQ. Trailing labor and materiel transactions are still authorized. Action C- prefix JONs will open with status code of 1 and are sold when they migrate to JSC 2 at the end of the month.

3.22.5.4. Status Code = 2.

3.22.5.4. **(AFSC)** The JON is closed. The code is assigned at EOM after the JON has been sold (i.e., SC=1 for a full month). No further actions are allowed. Trailing labor and materiel transactions are not allowed. MISTR JONs may be closed in G004L but remain open in DIFMS until all subordinate WCDs have been completed against the generating JON. Structured WCDs have disassemble, repair, and assembly WCDs. The repair WCDs are known as 'child' WCDs and

a 'parent' JON will remain open in DIFMS for cost accounting until all 'child' documents have been completed and consumed into a 'parent' item.

3.22.5.5. Status Code = 3.

3.22.5.5. (AFSC) The JON is cancelled. This code is assigned only at EOM. When this code applies to permanent JONs, it is assigned at the end of the JON period when the inductions, completions, and OWO balance are 0. When this code applies to temporary JONs, it is assigned at the EOM when the JOQ equals 0. Trailing labor and materiel transactions are not allowed.

3.22.5.6. Status Code = 7.

3.22.5.6. (AFSC) The JON is history. The JON will be kept on the appropriate G004L master file until the end of the quarter so appropriate data can be passed to interfacing systems.

3.22.5.7. Status Code = 8.

3.22.5.7. (AFSC) The JON is suspended. This applies to manufacture work accomplished on other than R or W reimbursement codes (i.e., first position of PCN). This status code is assigned on any processing day during the month when an AFSC Form 237 with the SOPI marked complete processes validly and the planned cost is greater than the estimated job total cost. A customer release (H1) transaction is required to return the JON to active status and labor and materiel transactions to be valid. When workload is released to work after being delay coded, an X entry will be input using an AFSC Form 930 by IET (maintenance planner) or production controller (scheduler) to remove delay codes from the pertinent record.

3.22.6. Defense Industrial Funds Management System (DIFMS). DIFMS will carry a status code which indicates the production status of each record.

3.22.6.1. (Added-AFSC) DIFMS JON Status Codes. The code values are:

3.22.6.2. (Added-AFSC) 1 = Open.

3.22.6.3. (Added-AFSC) 2 = Reopened.

3.22.6.4. (Added-AFSC) 3 = Closed.

3.22.6.5. (Added-AFSC) 6 = Canceled.

3.22.6.6. (Added-AFSC) 7 = Termination.

3.22.6.7. (Added-AFSC) 8 = Pending (No Customer Order).

3.22.6.8. (Added-AFSC) 9 = Purge.

3.22.6.9. **(Added-AFSC)** The DMAPS Conversion Engine (CONEN) provides a means for data transfer between the DMAPS suite of systems and the AF legacy systems. CONEN sends JON Status originated in G004L to DIFMS.

3.22.6.10. **(Added-AFSC)** G004L JON Status Code (JSC). 1, 2, 3 are sent as status code '1' (closed, awaiting trailing costs for thirty days) in G004L but remains in status code '1' (open) in DIFMS. G004L JON Status Code changes at the end of 30 days to JON Status Code '2' (financially closed).

3.22.6.10.1. **(Added-AFSC)** JONs may be closed in G004L but remain open in JOST and DIFMS until all started operations have been completed against the generating JON. Once JOST finds there are no open tasks in TAA (i.e., all tasks are completed), the JON is closed in JOST. The direct JON is closed in DIFMS after receiving the financial closed status from JOST (status code '3'). The JON cannot be financially closed in DIFMS without passing the JOST edits for JON closure.

3.22.6.10.2. **(Added-AFSC)** JONs that cancel as a result of unserviceable turn-ins or official AWP in G004L will not automatically close in DIFMS. Maintenance, OB, Financial Management Systems Branch (FMM), and Depot Maintenance Activity Group (FMRD) must work closely to ensure costs over \$2,500.00 are moved if possible.

3.22.6.10.3. **(Added-AFSC)** Insufficient communication between production and cost accounting may result in cancelled JONs being written off. When the DIFMS status code is changed to '7', activity terminated, the ALC absorbs the cost. A 'write off' should be a rare situation and must be approved in writing by the chief of cost accounting.

3.22.7. Priority Codes. Priority Codes have been established for use in scheduling workload.

3.22.7. **(AFSC)** Priority Codes. Priority Codes have been established for use in scheduling workload. This is a two-position code assigned by the initiator of the AFMC Form 206 or AFSC Form 206 or AFSC Form 600.

3.22.8. Production Delay Codes. Production delay codes may be input into G004L by the schedulers for any temporary jobs where the JOQ has not been completed by the customer delivery date.

3.22.8.1. **(Added-AFSC)** To release, the productions delay code should be replaced with an 'X' production delay code when the job is back in work.

3.22.8.2. **(Added-AFSC)** For visibility, production delay codes are reflected on the G004L G1A / G3A / G3B / G3F / G5C / G6A / L2A / L3B / L3C and L3G reports.

3.22.9. Authorized, Completed, and Acceptable Work. HQ AFSC will ensue production completion data use for the accumulation of standard cost for the ALC will only be complied on work that is authorized, completed, and acceptable.

3.22.9.1. **(Added-AFSC)** Production data obtained from production completion procedures are required for the accumulation of standard costs for the ALC and will only be compiled on work that is authorized, completed, and acceptable.

3.22.9.1.1. **(Added-AFSC)** Authorized Work. Authorized work is any production effort which can be supported by the appropriate work authorization document. The work requirement may originate from base tenant or from the MXSG (Cost Class IV)/routed work.

3.22.9.1.2. **(Added-AFSC)** Completed Work. Normally RC/CCs earn labor as operations are complete.

3.22.9.1.3. **(Added-AFSC)** Acceptable Work. Work is defined as acceptable when it has been completed and inspected as conforming to specifications. Acceptable work will not be interpreted to broaden or limit in any manner the QA functions. These functions will continue to be carried out IAW applicable directives.

3.22.9.1.4. **(Added-AFSC)** When direct labor is expended, whether in the process of determining condition status or in the performance of a task which does not necessarily result in the production of serviceable end items, this type of effort must either be authorized by one of the service job designators E, F, G, J, L, and T or by the combination job designator H for non-MISTR production.

3.22.9.2. **(Added-AFSC)** Supporting Production Documents.

3.22.9.2.1. **(Added-AFSC)** The determination that authorized, completed, and acceptable production has been performed will be supported by a WCD.

3.22.9.2.2. **(Added-AFSC)** Validation of WCDs. Work acceptance is indicated with a stamp and date by an authorized person on applicable work forms or source documents.

3.22.9.2.3. **(Added-AFSC)** Supporting documentation for production will be maintained IAW AFRIMS at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm> after production is completed.

3.22.10. Completion Transaction Processing. HQ AFSC will ensure proper end item reporting and input of receipt and turn-in documents is accomplished on time.

3.22.10. **(AFSC)** To ensure proper end item reporting, input of receipt and turn-in documents must be accomplished on time. The production reported to the JON master system by a supply or maintenance generated transaction in G004L will be used along with other G004L production to update the project order register and produce sales billing in DIFMS.

3.22.10.1. **(Added-AFSC)** Supply or Maintenance Generated Transaction in G004L (Completions). Direct input of a Turn-In/Supply/Maintenance generated transaction input to the G004L system is limited to engines, NOCM items, and manufactured items not sent to supply. All other production items are turned into supply (D035K) by use of a Turn-In/supply transaction, Material Request/Turn-In/Custody Receipt, to electronically update G004L from D035K. These

completions are input through remote devices to the D035K system. G004L is updated by tape interface. The update appears on the G004L-L2A data products.

3.22.10.2. **(Added-AFSC)** System Completions. All JON master records with inductions from non-supply sources including serial numbered items with DPC 9 on the master record will be reported to G004L. This production will include but will not be limited to items processed for area support, base support, central acquisition, and renovating testing.

3.22.10.3. **(Added-AFSC)** Verification of Production Transaction. Visibility of the end item completions transactions is reflected on the Daily Visibility and Cross-Referenced List (i.e., G004L-L2A). The production controller (scheduler) must verify all daily transactions by comparing the L2A and AFSC Form 105. Retain documents as required IAW AFRIMS at <https://www.my.af.mil/afirms/afirms/afirms/rims.cfm>.

3.22.11. HQ AFSC will develop, implement, and maintain processes and procedures for Exchange Component Item Control.

3.22.12. Production items repaired by the ALC in depot maintenance that are owned by a service activity other than the Air Force require special control for accounting purposes. HQ AFSC will develop, implement, and maintain processes and procedures for the processing of Other Services, Depot Maintenance Interservice Support Agreement (DMISA) production items.

3.22.12. **(AFSC)** Other Services, Depot Maintenance Interservice Support Agreement (DMISA), Production Item Processing. Production items repaired by the ALC in depot maintenance that are owned by a service activity other than the Air Force require special control for accounting purposes. The G004L system requires a separate production number to be established for each customer when the same stock numbered end item is repaired for other than the Air Force because the reimbursement code for each service is different and the end item accountability is maintained under different OPCs in the D035K system. The requisition transaction (i.e., supply transaction) for these items must carry the ownership purpose code in the OPC block. If the last digit of the job order suffix in the JON block is not the same as the entry in OPC block, the system will reject the transactions. It is imperative that the JON identity that is in the D7/RA transaction be maintained with the end item during the repair process so that production completion and materiel costs can be accurately charged to the appropriate JON. The proper identification is also necessary to maintain the correct DIOH/IN ALC relationship.

3.22.13. Rework (For Items Still in Maintenance). Rework is the labor to repair or replace failed materiel or end items, or to correct a work discrepancy, after the acceptability or completion of the work step (i.e., operation), or end item has been stamped on the WCD by production personnel. HQ AFSC will develop, implement, and maintain processes and procedures for Rework.

3.22.13. **(AFSC)** The following categories are not rework:

3.22.13.1. **(Added-AFSC)** Unavoidable periodic calibrations and adjustments.

3.22.13.2. **(Added-AFSC)** Work normally required to hand-fit or select-fit parts in an assembly. This type of work will be included in the labor standard by means of an occurrence factor.

3.22.13.3. **(Added-AFSC)** Work required repairing materiel received with existing defects or deficiencies which would require a PQDR or AFMC Form 202/AFMC Form 206 or AFSC Form 206. When completing an AFMC Form 202, reference AFMCMAN 63-1202, *Air Force Materiel Command Engineering Technical Assistance Request (ETAR) Process*, which enhances the AFSC implementation of AFMCMAN 63-1202 by defining the relationship between AFMC Form 202 work stoppage assignment and maintenance critical path management.

3.22.13.3.1. **(Added-AFSC)** 309 MMXG Navy D5 Demil Workload. Trouble Failure Inspection/Rejection Report (TFIRR) may be used by production personnel in-leu of AFMC Form 202 for Navy D5 Motor Non-conformance condition resolution IAW OD70694 Chapters 9.

3.22.13.4. **(Added-AFSC)** Work done because of incoming or preliminary diagnostic tests and inspections which are made to determine necessary repairs and replacements. When an item fails a particular step in a diagnostic test composed of several sequential steps, is then repaired, but subsequently fails a later step in that test, rework will not be charged unless the subsequent failure is attributed to a discrepancy in the earlier repair.

3.22.13.5. **(Added-AFSC)** Additional work performed as part of the most economical method of doing a job if substantiated by a process engineering economic analysis. The exclusion does not apply when the additional work is required to correct work previously done on an item.

3.22.14. Local Manufacture Procedures. HQ AFSC will develop, implement, and maintain Local Manufacture processes and procedures.

3.22.14. **(AFSC)** Local manufacture (i.e., M-prefix) planning procedures are divided into two categories. These categories are R or W and all others. The reimbursement code, which is the first position of the PCN, determines the category.

3.22.14.1. **(Added-AFSC)** When the reimbursement codes are R or W, the following procedures apply:

3.22.14.1.1. **(Added-AFSC)** When direct materiel is required, the jacket file furnished by the planning organization will be incomplete. The JON suffix and the Temporary Job Record (G004L-L3A) will not be included but the jacket file must be filed in the local manufacture awaiting materiel file. The jacket will remain incomplete until all the direct materiel is received and the IET (maintenance planner) indicates in G004L that planning is complete.

3.22.14.1.2. **(Added-AFSC)** The IET (maintenance planner) will provide the production controller (materiel) with a direct materiel list and the production controller (materiel) will order materiel at production number level using local manufacture procedures contained in Volume 3 Chapter 6.

3.22.14.1.3. **(Added-AFSC)** The planning activity is notified when all required materiel has been received. This is a key function as it is the only notification the IET (maintenance planner) receives on the availability of materiel.

3.22.14.1.4. **(Added-AFSC)** After the SOPI is changed to complete by the IET (maintenance planner), a JON suffix and G004LL3A is furnished and the jacket moved to the normal files. A JSC of zero will be assigned automatically and work can begin on these items. The JSC S is not applicable for M-Prefix JONs with reimbursement codes of R or W.

3.22.14.2. **(Added-AFSC)** When the reimbursement codes are other than R or W, the following procedures apply:

3.22.14.2.1. **(Added-AFSC)** The jacket file will not be forwarded to the production controller (scheduler) until the SOPI is marked complete. The JON suffix will already be assigned and the G004L-L3A will be included in the package.

3.22.14.2.2. **(Added-AFSC)** Material can be ordered and work can begin under normal procedures.

3.22.14.2.3. **(Added-AFSC)** Manufactured Items. Manufactured items will be turned-in according to DPC and special instructions.

3.22.15. Due In from Overhaul (DIOH)/In Maintenance Control. HQ AFSC will develop, implement, and maintain processes and procedures for production items subject to DIOH/In Maintenance Control.

3.22.15. **(AFSC)** General: Production items subject to DIOH/In Maintenance Control are those items with DPCs of T, 2, or X (excluding job designator K).

3.22.15.1. **(Added-AFSC)** All items enter the DIOH/In Maintenance balances at time of RA of property at MXSG and are reduced from these balances at the time of turn-in. The To and From in-transit systems in D035K control and account for assets enroute from DLA/Supply to MXSG, and from MXSG to DLA/Supply, and changes to these accounts are caused by maintenance production transactions entering the D035K system.

3.22.15.2. **(Added-AFSC)** The DIOH account is reflected as an M balance on the document transaction image. DIOH reductions are reflected as a minus (-) between the quantity and the M. Increases are reflected by a quantity preceding the M with no sign in between. DIOH/In Maintenance reconciliations identify this quantity as DIOH.

3.22.15.3. **(Added-AFSC)** The in-transit from DLA/Supply to MXSG is reflected as an MW balance on the daily document control register. Reductions contain a minus (-) sign, while increases contain no sign. The DIOH/In Maintenance reconciliation listing identifies this balance as in-transit to (INTR TO).

3.22.15.4. **(Added-AFSC)** The in-transit from FM MXSG to DLA/Supply is reflected as an MM balance on the daily document control register. Reductions contain a minus (-) sign while increases contain no sign. This balance is reflected on the DIOH/In Maintenance reconciliation listings as INTR FM.

3.22.15.5. **(Added-AFSC)** Production type transactions that do not change the DIOH, MW, or MM, balances will be reflected on the document control register with an asterisk between the quantity and the balance symbol.

3.22.15.6. **(Added-AFSC)** The keys to proper management to these balances are the document control register, the reject management products provided by the G004L system on a daily basis, the AFSC Form 105 or an electronic version approved by the OPR and the G004L-L2A report. Errors not corrected on a timely basis become extremely complicated, require excessive research, and consume an unnecessary number of labor hours to correct.

3.22.15.7. **(Added-AFSC)** G004L products specifically designed for DIOH/In Maintenance control include the following:

3.22.15.7.1. **(Added-AFSC)** G004L-W5C-W1-MWW, DIOH/In Maintenance Out-Of-Balance Records by PSSD. Minor sequence is stock number. This report identifies those stock numbers and associated JONs that are out of balance.

3.22.15.7.2. **(Added-AFSC)** G004L-W5D-W1-MWW. Erroneous Production Transactions by PSSD. Minor sequence is stock number. This report identifies production transactions that are rejected in G004L with a code indicating the reason for reject. Only those transactions related to out of balance records will be retained in the G004L transaction history file.

3.22.15.7.3. **(Added-AFSC)** G004L-W5B-W1-MWW. Maintenance Production History. Contains all transactions for the current week plus the same rejects described above by stock number. This product could prove useful in determining whether a reject has been corrected.

3.22.15.7.4. **(Added-AFSC)** Reject and Error Corrections. **Note:** These corrections can adversely affect D035K balances and should be only accomplished by a high level production controller (scheduler).

3.22.15.7.4.1. **(Added-AFSC)** An error on the RA which passed D035K edits but rejected in G004L. This type of rejection is usually caused by JON (i.e., control number, job designator, and JON suffix) error. A new RA with corrected information must be input with an action suffix of PK.

3.22.15.7.4.2. **(Added-AFSC)** Quantity on the RA exceeds the JOQ in G004L. If any portion of JOQ remains unissued in G004L, establish a new RA for that quantity and re-input with a PK action suffix. Prepare D6 for remaining quantity with 00000A CN/JD and JON suffix of 00A and return item to Supply. The new RA for the authorized quantity will bypass DIOH and post in G004L. The D6 turn-in for the remaining quantity after input will pass the G004L and reject. This

turn-in will reduce DIOH for the quantity unauthorized in G004L. Contact the DLA-A/MSS for assistance.

3.22.15.7.4.2.1. **(Added-AFSC)** RA is prepared and input in error on post post or wash post type issues. On action suffix PP or wash post (WP), no RA is needed. If one is submitted in error and rejects in G004L, it will require reversal with 000000 CN/JD and 000 JON suffix only if the NSN M condition code balance increased. If the RA was accepted in G004L, it will be reversed with the correct JON to reduce both DIOH and OWO. Both these reversals must be input by DLA-A/MSS.

3.22.15.7.4.2.2. **(Added-AFSC)** For other type production issue errors, the type of correction will depend on whether G004L rejects the transaction. When G004L rejects and OWO increase is required, the action suffix must be PK. If the transactions are duplicates and rejected in G004L, the reversal must have 000000 CN/JD (LZR input) and 000 JON suffix only if the NSN M condition code balance increased. Contact DLA-A/MSS.

3.22.15.7.4.2.3. **(Added-AFSC)** Post or wash post rejects in G004L. Prepare a duplicate copy of D7 with PK action suffix and resubmit after reason for reject is cleared.

3.22.15.7.4.2.4. **(Added-AFSC)** Turn-In Errors. Most common errors and required corrections are available in specific Figures/Tables not included here.

Table 3.3. **(Added-AFSC)** Common Errors.

Item	Error
1	D6 document is input more than one time.
2	If the duplicate transaction input reduced G004L, the transaction must be reversed by DLA-A/MSS using JON on original document.
3	If the duplicate transaction rejected in G004L, the transaction must be reversed by DLA-A/MSS and have 00000 CN/JD and 00A JON suffix to suffix to correct DIOH only.
4	D6 document is input but rejected in G004L. The cause of reject must be corrected and new inputs made with action suffix PK and correct JON. This will correct OWO only.
5	D6 document is input but items are not turned in. Either the items must be turned in or the transaction reversed by DLA-A/MSS. The advice code must be blank T on the reversal.
6	Process misidentified items. Paragraph 3.22.4.3.

3.22.15.8. **(Added-AFSC)** D035K Error Reject Codes. The error code will appear on the transaction history.

3.22.15.8.1. **(Added-AFSC)** G004L Supply Transaction Reject Codes.

3.22.15.8.2. **(Added-AFSC)** DIOH/In Maintenance Reconciliation/Inventory. Reference instruction in appropriate chapter of this instruction for detailed procedures and process narrative guidance which the ALCs will follow for audit compliance. Production controller (scheduler) and DLA-A/MSS will reconcile DIOH/OWO and in-transit records weekly. Those items that cannot be reconciled will be researched and inventoried as appropriate. PSF and/or production personnel may assist in this inventory under the direction and supervision of the responsible production controller (scheduler).

3.22.15.8.2.1. **(Added-AFSC)** Whenever a discrepancy cannot be resolved through records research, DLA will perform a joint Maintenance and Supply reconciliation of DIOH/OWO (reference AFI 23-101). DIC DF1 transactions will not be used to adjust DIOH/OWO balances.

3.22.15.8.2.2. **(Added-AFSC)** The production controller (scheduler) will be requested to accomplish the following:

3.22.15.8.2.3. **(Added-AFSC)** Provide a copy of AFSC Form 105 or an electronic version approved by the OPR for the 90 days preceding the count.

3.22.15.8.2.4. **(Added-AFSC)** Accompanied by the shop supervisor, physically count assets in shop, enter count in the right-hand corner of the form, date, and sign the form. The shop supervisor will sign the form as the MA authenticating official.

3.22.15.8.3. **(Added-AFSC)** The DLA-A/MSS person will reconcile data, research discrepancies, and prepare increase/decrease adjustments on unresolved discrepancies. If required, the appropriate Master Balance Record will be frozen and an in-warehouse special inventory conducted concurrently. Recounts will be conducted on adjustments exceeding \$10,000.

3.22.15.9. **(Added-AFSC)** DIOH/In Maintenance/In-transit Records for detailed procedures and process narrative guidance which the ALCs will follow for audit compliance). Corrections of in-transit balances and deletions of in-transit details will be made by DLA-A/MSS by file maintenance transactions.

3.22.15.9.1. **(Added-AFSC)** In-transits not cleared in seven days will be reviewed by DLA-A/MSS scheduling and action taken to correct all in-transit balances with unsupported details. Full documentation in support of these transactions will be maintained by the maintenance section. Complete coordination between DLA-A/MSS scheduling will be accomplished prior to processing of such actions. In-transit control will be a part of the self-inspection program for PFSCs.

Table 3.4. **(Added-AFSC)** Data Processing Codes

Data Processing Codes (DPCs). All opening AFMC Form 206 or AFMC Form 206 and AFSC Form 600 will contain the applicable DPC as per the usage assignment described below. The production controller (scheduler) will use these codes as the basis for determining how and what to report to the G004L system.	
Item	Description

1	Code 2 signifies that production for serial numbered end items will be reported through the D035K system to the End Item Production segment of the G004L data system by a supply transaction. Reference DPC 9 for those serial numbered items in repair group category H and L requisitioned from supply on a supply transaction.
2	Code 6 signifies the workload is on a serialized JON to be sold at the unit price entered in an AFMC Form 206 or AFSC Form 206. JON completions will be reported to the G004L system by a maintenance generated transaction.
3	Code 7 signifies a serialized workload to be limited to the cost entered in block 14 (Estimated Job Total Cost) of the AFMC Form 206 or AFSC Form 206. JON completions will be reported to the G004L system by a maintenance generated transaction.
4	Code 9 signifies that production for serial numbered end items will be reported to the end item production segment of the G004L system by a maintenance generated transaction. Those serial numbered items in repair group category H and L requisitioned from supply by a supply transaction must have inductions reported to the G004L system by a maintenance generated transaction and items turned in to supply by a supply transaction.
5	Code K signifies that production will be reported directly to the end item production segment of G004L by a supply transaction. DPC K applies only to complete aircraft engines, gas turbine engines, and engine gearboxes at the overhaul ALCs.
6	Code N signifies that production will be reported to the end item production segment of the G004L system by a maintenance generated transaction.
7	Code S signifies the workload is a T-prefix tenant support JON which is of a continuous nature and is reinitialized at the beginning of each quarter. Production will be reported to the G004L system by a maintenance generated transaction. The G004L system will assign QSI=M and UOM=HR to these transactions.
8	Code T signifies that production will be reported through D035K to the end item production segment of G004L by a supply transaction and applies to base support (DIOH and local manufacture) item records maintained in the D035K system except those items that are controlled and reported by serial number or items with a job designator F, L, M, N, or T.
9	Code U means that production will be reported directly to the end item production segment of G004L by supply transaction to update the supply transaction IN Maintenance (IN-MA) balance. DPC U will be used for Nuclear Ordnance Commodity Management (NOCM) items [materiel management code (MMC) CM or federal supply group (FSG) of 11] that require turn-in to special weapons supply. NOCM items not requiring turn-in to special weapons supply will have DPC N. DPC U is used for manufactured items returned to a customer when not processed through the D035K system.

10	Code X signifies that production may be reported by either supply transaction or maintenance generated transaction. This code applies only to XD items that are engine components and are being worked as MISTR items. The 971 will be used to report engine components that are removed from an engine reparable (card code R) and returned to an engine serviceable or condemned (card code S). If the item also generates as reparable from the field, supply transaction will be used to request the item from D035K (document identifier D7) and to turn in the item to D035K (document identifier D6). The D035K system will pass these transactions to the end item production segment of G004L by a daily tape. However, the majority of MISTR items are not engine components so the DPC will remain T. (Only supply transactions reporting through D035K to the end item production segment of G004L is allowed.) Also, code X applies only to the engine TRCs (OCALC).
Note: DPC changes are authorized when no inductions have been made. The following conditions apply: a. If the code indicates a supply sourced item, the data code may be changed to reflect a non-supply source if IN/MA balance is zero. b. If the code indicates a non-supply sourced item, the data code can be changed to a supply source. c. If the code indicates serial number control, the data code cannot be changed to non-serial number control. d. If the code indicates non-serial number control, it cannot be changed to indicate serial number control unless the JON suffix is blank (applicable to both temporary and permanent control numbers).	

Table 3.5. **(Added-AFSC)** Ownership Purpose Codes.

Item	Code
A	Air Force and other services
1	Army
4	Marine
5	Navy
0	Unassigned

Note: Code 0 is used as the last position of the JON suffix for Air Force items worked under serialized control and issued from supply stock. The JON master record must contain DPC 2.

Table 3.6. **(Added-AFSC)** Production Delay Codes. The PDC is a one position alpha code which denotes a delay in processing work requirements or item production within the shops.

Code	Descriptions
A	Lack of Technical Data
B	Equipment (Lack, broken, or saturated)

C	Lack of Shop Capability
D	Higher Priority Work
E	Planning Backlog
F	Item Complete-Hold for Reassembly
G	Insufficient Manpower
K	Awaiting Maintenance (Production Backlog)
L	Workload Leveling
M	Awaiting Parts Status
N	Parts/Material Not Available
O	Assets Not Available
P	Work Now Completed
Q	Backlog
R	Skills Not Available
X	Back in Work
Z	Revised Requirement

3.22.15.9.2. **(Added-AFSC)** Production delay codes are input with a G004L transaction by workloader or production controller (scheduler).

3.22.15.9.3. **(Added-AFSC)** To input a delay code for temporary JON, complete a G004L transaction and use as follows:

Delay Code for Temporary JON.

Position Used	Entries
2	Control Number
3	Job Designator
12	Production Delay Code (PDC)

3.22.15.9.4. **(Added-AFSC)** To input delay code for a Permanent JON, complete a G004L transaction and use as follows:

Delay Code for Permanent JON.

Position Used	Entries
2	Control Number
3	Job Designator
4	JON Suffix
8	Production Delay Code (PDC)

3.22.15.9.5. **(Added-AFSC)** To input a delay code for backlogged Part II of AFMC Form 206 or AFSC Form 206, workloaders will prepare an AFMC Form 206 or AFSC 206, Part II as follows:

Delay Code for Backlogged Part II of AFMC Form 206, or AFSC Form 206.

Position Used	Entries
27	Request Number of Original/Corresponding Part I.
28	Appropriate Delay Code (A Thru E, T, V or W)
35	Workloader's Signature
36	Approving Official's Signature

3.22.15.9.6. **(Added-AFSC)** When workload is released to work after being delay coded, an X entry will be input using an AFSC Form 930 by IET (maintenance planner) or production controller (scheduler) to remove delay codes from the pertinent record.

3.22.16. Production Item Cost Codes.

3.22.16. **(AFSC)** These transactions are for the issue of items for depot repair and for turn-in of these items after completion of repair. Production items which are returned in non-serviceable condition are also coded as production turn-in transactions. Transactions bearing production cost codes will not result in charges or credits for inclusion in actual materiel cost accumulation.

Table 3.7. (Added-AFSC) Production Item Cost Codes.

Cost	Description
F	Quality Control of Prototype Analysis. For the issue of items for QA, inspection, analysis, UR exhibits, prototype analysis, and the return of items previously issued for these purposes. This code will be used along with the appropriate production RC/CC code. Items removed from the production line for quality analysis and return to line will be turned in under the P rather than the F code.
P	Production. For the issue of reparable, TOC, or incomplete assets to be made serviceable or issue or serviceable assets with job designator R, resulting with the turn-in of serviceable, TOC, incomplete, and condemned assets.
H	Disassembly or Renovation Testing. For the issue of recoverable assets for disassembly or reclamation and the return of reclaimed components. This code will apply to the issue of assets for renovation proof testing purposes and for the turn-in of the remaining items following the test evaluation.
V	Production Correction. For the return of production items that are received misidentified as to stock number or condition. (Incorrect item is turned in as a V cost code under control number of item originally requested. Correction issue is on a P, F, or H cost code, as appropriate.).

Table 3.8. (Added-AFSC) Material Cost Codes. These codes are used by the IET (maintenance planner) during the preparation of the BOM segment and BOM Adjustment (G005M). Materials

are classified as investment and expense. Investment materiel includes all recoverable assemblies, installed equipment items, and modification kits acquired from investment (CP) appropriation. Expense materiel consists of all materiel and parts used in maintenance not categorized by investment or production cost codes.

Special purpose codes X and Z are established for unusual issue/turn-in requirements

Cost	Description
E	EXCHANGE MATERIAL - Planned. For the issue of planned serviceable recoverable materiel on an exchange basis to replace like unserviceable items. For the turn-in of these unserviceable items, the return of excess serviceable items originally issued under the E cost code, and the return of items received under this code which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.
J	EXCHANGE MATERIAL - Unplanned. For the issue of unplanned serviceable recoverable materiel on an exchange basis to replace like unserviceable items. For the turn-in of these unserviceable items, the return of excess serviceable items originally issued under the J cost code, and the return of items received under this cost code which was misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.
V	EXCHANGE MATERIAL - Maintenance of MXSG Equipment. For the issue of direct serviceable recoverable materiel on an exchange basis for repair of MXSG shop and test equipment. For the turn-in of unserviceable recoverable items generated from exchange, the turn-in of excess serviceable items originally issued under Y cost code, and the return of items received under this cost code which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action. Y cost code is not used for materiel planning.
M	NONEXCHANGE MATERIAL – Missing, Excess, or Initial Installation Components. For issue of serviceable recoverable materiel on other than an exchange basis. This includes issues for initial installation, modification (other than modification kits), and the replacement of missing recoverable components on items received in an incomplete condition. For the turn-in of recoverable items on other than an exchange basis. This includes turn-in of dissimilar or obsolete recoverable items replaced by serviceable recoverable items issued on a non-exchange basis, and the turn-in of excess serviceable items originally issued under the M cost code. Turnins will also include the return of items received under this cost code which were misidentified as to stock number, when depot supply initiates warehouse denial (reversal action). This does not include the installation or removal of items covered by the T cost code.
T	AF Form 2692, <i>Aircraft/Missile Equipment Transfer/Shipping Listing</i> , Items. For the issue of items for reinstallation and for the issue of AF Form 2692, items to replace items previously removed and not reinstalled. For the turn-in of recoverable components removed and the turn-in of aircraft items recorded on AF Form 2692, that were removed and not reinstalled, and the return of items received under this cost code

	which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.

D	Modification Kits. For the issue of modification kits which change the configuration or operating capability of an end item. This includes overhaul kits, TCTO kits, etc., which serve to facilitate repair or maintain the serviceable status of an end item. Investment items removed and not replaced due to modification will be turned in under cost code M. For the turn-in of modification kits originally issued under the D cost code that are intact and excess to immediate requirements, and the return of items received under this code which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.
A	Expense Material - Planned. For the issue of planned serviceable expense materiel for use in depot maintenance, repair, modification, assembly or manufacture operations. For turn-in of excess serviceable materiel originally issued under the A cost code, and for the return of items received under this cost code which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.
R	Expense Material - Unplanned. For the issue of unplanned serviceable expense materiel for use in depot maintenance repair, modification, assembly, or manufacture operations. For the turn-in of excess serviceable expense materiel originally issued under the R cost code, and for the return of items received under this cost code which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.
W	Expense Material – Maintenance of MXSG Equipment. For the issue of direct serviceable expense materiel for repair, modification, assembly, and manufacture of MXSG shop and test equipment. For the turn-in of excess serviceable expense materiel originally issued under W cost code, and for the return of items received under this cost code which were misidentified as to stock number when depot supply initiates warehouse denial (reversal) action. Cost code W is limited to the request/turn-in of direct materiel and is not to be used for materiel planning.
N	Expense Material, Non-applicable to Repair Cost. For the turn-in of serviceable expense materiel removed as excess from assets which are undergoing maintenance, and for the turn-in of removed unserviceable items specifically requested by base support. It includes removed serviceable, unserviceable expense materiel of a dissimilar, obsolete, or alien nature (See Note 1).

L	Expense Material – Indirect or Overhead. For the issue of expense materiel for use as indirect or overhead materiel. Identify these issues to appropriate accounts by entry of the applicable U account in the (CN) space on materiel document. For turn-in of excess serviceable and excess expense materiel originally issued under the L-cost code for the return of items received under this cost code which was misidentified as to stock number when depot supply initiates warehouse denial (reversal) action.
X	Expense Material – Free Issue. For the issue of stockfund and non-stockfund (CP) expense materiel without charge to DMBA for use in depot maintenance repair, modification, assembly, or manufacture operations. For turn-in of expense materiels previously issued under cost code X. This code applies to expense materiel direct and indirect, such as NSG11 and NSG13 from sources other than AF stock divisions, and AF stock fund division materiel issued without charge (See Note 3).
Z	Customer Furnished Material. Material furnished by customer is to be included in the depot maintenance work as specified by the customer. Cost will be determined by the customer, and accountability maintained as directed by the customer. The customer's determination of costs will be based on current standard catalog price or acquisition price for non-catalogued items. Customer furnished materiel will be costed as an unfunded direct materiel cost. Any residue of customer furnished materiel upon completion of the job order will be disposed of as directed by the customer. Inventory abandoned by the customer and not immediately turned over to the supply system for disposal should be charged to inventory and credited to the general and administration expense account, gains or losses from physical inventory.
Note: 1 – The N cost code will not be used for the turn-in of serviceable expense items initially issued under expense materiel cost codes A, R, L, or W or special purposes code X; or the turn-in of expense materiel received in other than serviceable condition or misidentified as to NSN. 2 – Two items returned under this cost code will not be considered for credit by the Air Force Stock Fund Divisions. The N cost code with U-prefixed control number will be used for the turn-in of unserviceable indirect materiel issued with L cost code when the turn-in is requested by base supply. The U-prefix control number with N-cost code will cause a reject to DMAPSDIFMS and will require delete action and subsequent reconciliation with DMAPS-DIFMS. 3 - Cost code X materiel will not be distributed to production as funded expense. However, the DMAPS-DIFMS products will report these transactions as direct, indirect GS, SS and investment, and accumulates non-funded expense materiel costs for materiel usage analysis. Requisitions for cost coded X materiel from stock funds will carry reimbursement code Y	

Figure 3.9. (Added-AFSC) Depot Maintenance Type Transaction Code/Cost Code/Job Designator/Cross Reference Table (D035).

Mechanical assignment of columns 3 and 7 is based upon job designator and cost code of the input transaction (D6, D7, and DG, except D6AN/D7H, D6AN/D7AN, and D6AN/D7AN) in accordance with this table. Data contained in this table are furnished by AFMC/DCS Maintenance and will be revised only upon direction of AFMC/DCS Maintenance.

Col 3	Col 7	Job Desg Col	Cost Code Col	Col 3	Col 7	Job Desg Col	Cost Code Col
A	C	Blank	Blank	A	N	Blank	Blank
A	F	Blank	Blank	A	X	Blank	M,N
A	M	A,B,C	A,D,M, N,R,T, X,Z	G	M	F	H,V
A	M	D,E	A,D,M, N,R,T,X	G	Blank	Blank	F
A	M	F	A,R,X	L	P	C,Q	P,V
A	M	G	A,E,J,R				
A	M	H	A,M,N, R,X,D,Z	L	R	L	H,V
A	M	I	A,D,M, N,R,T, W,X,Z	M	P	A,B,R	P,V
A	M	K	A,M,N, R,W,X,Z	M	P	G,E	F,V,P
A	M	M	A,D,M, N,R,T,Z	M	P	J	P,V
A	M	N	A,D,M, N,R,T, X,Z	N,Q R	Blank M	Blank A,B	Blank E,J,Y
A	M	Q	A,D,M, N,R,T, W,Z	R R	M M	C,H,I Q,D,E, M	E,J,Y EJ
A	M	R	A,N,R, EJ	R	M	N	EJ
A	M	T	A,M,N, R,W,Z	Z	P	T K	P,V
A	M	Blank	L,W,X, Y				

Note 1: When X cost code is used on D7 transactions, a Y credit indicator must be entered in column 69 to assure free issue. Column 69 must contain numeric 2 for manufacture P/N item issues.

Note 2: Direct material will be issued to production RCCs only.

D035 Status, Advice, and Reject, Transaction Codes:

Table 3.10. (Added-AFSC) D035K Status, Advice, and Reject, Transaction Codes.

Code	Description
BB	Item backordered. Place status receipt in suspense pending receipt of new status receipt or materiel.

BG	Back order item. Stock number changed due to stocklist change processing. Adjust records accordingly and place in backorder suspense file.
BH	Cancellation of backorder due to supply of substitute or interchangeable item. Purge backorder (BB) suspense file of matching receipt and destroy both advice/status receipts.
BI	Item backordered in I&S family.
BJ	Backorder item. Unit of issue and/or quantity changed due to stock list change (SLC) processing. Adjust records as necessary and place in backorder suspense file.
BM	Notice of issue action from another DLA-A/MSS or from depot supply for DLA-A/MSS line issue requests. Advice/status receipt will be held in suspense pending receipt of materiel. When materiel is received, the BM status receipt will be removed from file and destroyed.
BP	Item on backorder or acquisition for direct delivery. Shipping action delayed. Revised estimated shipping date.
BQ	Deferred issue backorder canceled as requested by customer. Match to BB advice/status suspense file and pull matching receipt. Destroy BQ and matching backorder receipt.
BW	Deferred issue backorder status. Quantity still remaining on backorder after partial backorder release or no release action. Place backorder suspense file; destroy original backorder receipt.
BY	Assets on hand (partial or total) status to support deferred issue backorders after normal off base receipt and mechanical backorder release processing from SP. (Notification of long supply materiel received in depot supply.)
BZ	Deferred issue backorder quarterly asset availability status. The quantity indicated is available or on backorder, whichever is smaller.
B7	Unit price change. The latest unit price for the item.
C(Blank)	Rejected. Material condition code of transaction is invalid. Prepare new input transaction with correct condition code and re-input.
CA	Item requested is rejected. Explanation for rejection is stated in the remarks block.
CB	Requisition rejected. Initial requisition requested cancellation of that quantity not available for immediate release. This code is specifically applicable in response to requisitions submitted with advice codes 2C and 2J.
CC	Deferred issue backorder canceled as a result of source of supply cancellation of depot supply deferred issue MISSTRIP requisition. Remove BB status receipt from suspense file and destroy both receipts. Also assigned to issue requests submitted for items coded critical and assets are not available. When cancellation occurs as a result of this criteria, second space in the action suffix will also contain a C.
CD	Canceled due-out to unit of issue not converted by computer. The new unit of issue is shown in the action suffix. Review the initial requirement, remove BB status receipt from suspense file and re-requisition the item using the document number and the unit of issue if requirement still exists.

CE	Item requested is an item of equipment and not authorized for DLA-A/MSS stock.
CF	Rejected. Erroneous job designator category code, document identifier, type transaction code, or demand code. Correct erroneous elements of data and resubmit request.
CG	Rejected. Item is non-stocklisted (JCD). Unable to identify requested item. Re-requisition and furnish correct NSN or part number (including reference to appropriate publication or drawing), or end item application and justification of usage. This status manually assigned. Status manually prepared and mailed to the customer.
CH	Item requested is not authorized for use by the customer submitting the request.
CJ	Rejected. Items requested are coded JCD, JCR, JCK or the exception requisition code is N and no advice code in local request.
CK	Backorder item. Canceled receipt of DD 1348, <i>DoD Single Line Item Requisition System Document</i> , (Mechanical), and CK status. The BB status will be removed from suspense and destroyed and the NHA, component, or kit will be requisitioned.
CL	Backorder item. Canceled by receipt of DD Form 1348. CL status or source category to JCR (breakdown into) during SLC processing. The BB status will be removed from suspense and destroyed. Re-requisition component parts if practicable.
CM	Regulated or classified item requiring specific elements of data. CN Backorder is cancelled due to a SLC of the ERRC from C, T, L, or P to N, S, or U or from N, S, or U to C, T, L, or P.
CO	Rejected. Item has been identified as a Care of Supplies in Storage (COSIS) item.
CP	Information received from source of supply that the item would no longer be procured. Check for substitute that can be used and submit new requisition for substitute stock number. This status is manually assigned and mailed to the customer.
CR	Quantity requested appears excessive. Recheck validity of requirements and resubmit.
CS	Deferred issue backorder cancellation. Quantity indicated (canceled) is greater than the quantity on backorder.
CT	Rejected. Denial as a result of a special inventory
CU	Backorder item. Canceled by receipt of DD Form 1348-1A CU status. Remove BB status from suspense file and destroy. Re-requisition appropriate repair kit.
CX	Rejected. Base Service Store item.

CZ	Deferred issue backorder canceled. Request for backorder release from depot maintenance with no matching deferred issue backorder detail record.
DD	Transaction NSN is unmatched to DIFM suspense NSN and all I&S stock numbers controlled. Check document number for transposition of digits. Then correct or contact OPR for new document number. Prepare new input after error is detected and retransmit.
DH	Quantity of turn-ins transaction that exceeds the DIOH balance recorded in D035K.
DT	Duplication of transaction.
ED	Rejected. Invalid document number and day received. Correct quantity field and re-input.
EI	Document not showing in D035K.

EQ	Rejected. Correct quantity field and re-input.
ES	Quantity in the INT (in-transit) card is greater than the suspense detail record.
FC	Rejected. Depot maintenance D7 repost requests containing cost codes A, R, N, W, or L for ERRC codes C, T, L, S, and U items, or cost codes B, D, E, J, M, T, or Y for ERRC code N or P.
F(Blank)	Rejected. Format of input transaction is incorrect. Check input document for missing elements of data, errors, invalid routing identifier (that is F*B on a replenishment request), invalid document identifier (when all three positions are manually assigned), type transaction code (when manually assigned), ownership and purpose code and project code. When error is detected, prepare a new input document with the correct date elements and re-input.
FH	Rejected. Input RC/CC unmatched on D035K organization table. Correct and reinput.
FJ	Rejected. Used wrong delivery priority of 1, 2, or 3.
FK	Rejected. Local request is a duplicate.
FL	Item delayed. Supply action being continued. Controlled exception has been generated to the depot supply component for review of the transaction. Normal reasons for FL status card are that the stock number is not recorded on the base support master record; the requested item requires review by the depot supply SP, etc. Retain this receipt in suspense pending receipt of status indicating final action taken by depot supply.
FR	Canceled Invalid MICAP requirement.
FS	Rejected. Floating stock quantity over floating stock authorization.
FZ	Rejected. Force or activity designator used in supply transaction is lower than the one in the organization detail record.

II	Warehouse denial processed.
II	Fill or kill (2C/2J) suspended. Partial or total quantity available; however, the master balance record contains a freeze/blockage code.
I()	Request for issue (other than 2C/2J suspended). Partial or total quantity available; however, the master balance record contains a freeze/blockage code. Issue will be released when freeze/blockage code removed.
JN	Rejected. Job Order Number (JON) missing or invalid.
MI	Rejected. Request for other than serviceable.
N	Rejected. NSN not in D035K.
NB	Rejected. No backorder detail record.
ND	Rejected. No DIFM/DOTM on file.
NN	Rejected. Erroneous MICAP identity. If first space in the Rq of Del Date is 9, the second and third spaces must be 99. If first space in the Rq of Del Date is N or E, the second and third spaces must be AA, AB, AC, AD, AE, AF, AG, AH, AM, or AY.
TW	Rejected. Demand suffix of M must be entered in demand suffix.
U(Blank)	Rejected. Invalid Unit of Issue.
UM	Rejected. Invalid Unit of Issue.
WR	Rejected. Invalid input from sending remote station. Normally, the SSC designator code is not compatible with the functional code or PSSD.
WW	Rejected. Turn-in quantity exceeds the DIOH quantity (M condition code balance in D035K) or the D7 receipt acknowledgement is greater than the in-transit to maintenance quantity (Y condition code balance in D035K).
P(Blank)	Transaction quantity exceeds item record balance. Quantity that could be processed has been posted to decrease the SSC detail record balance. Partial or total quantity which was not posted is rejected and shown. This status may be received in response to a turn-in from the production controller (PST) to depot supply. When this status receipt is generated, the SSC details balance is frozen with a numeric 1 blockage.
2B	Requested item only will suffice. Do not substitute or interchange.
2C	Do not backorder. Reject all unfilled quantity not available. Suitable substitute acceptable.
2D	Furnish exact quantity requested; i.e., do not adjust to unit pack quantity.
2F	Item known to be coded 'obsolete' but still required for immediate consumption.
2J	Do not substitute or backorder any unfilled quantities.
2N	Item required in one continuous length as expressed in quantity and unit of issue.

6C	If unable to ensure availability before expiration of priority, reject and furnish a supply source from which purchase may be made.
6N	Item is required for an AWP end item.
6Z	Routed repair replacement requirement (fill or kill) (for AFRAMS only).

Table 3.11. (Added-AFSC) G004L Message Codes/Purpose Message.

Codes	Purpose
*A	Denotes a manual production count transaction which was rejected because it was processed against a JON with a PCI equal to A.
ERR*	Denotes a transaction has data element error.
ERR-D	Denotes that the control data (request number, CN/JD, operation number, JON, etc.) is duplicate of a record already on a master file in the G004L system. The master record which this transaction duplicates is printed for visibility so that analysis can be accomplished to determine if just the control data duplicated on the entire transaction duplicates the master record already in the file. The master record which has the same control data as the rejected transaction will appear on the product with a REF-D message code. Those transactions which completely duplicate an existing record need no further action. Those which duplicate only the control data must be corrected by assigning no duplicative data.
ERR-F	Denotes that an AFSC Form 237 C transaction was submitted in a calendar time frame that is prior to the project order period indicated on the request number master file as input on the AFMC Form 206 or AFSC Form 206. The AFSC Form 237 C transaction cannot be input until the project order period is equal to the processing period of the AFSC Form 237 C transaction. ERR-I denotes an erroneous transaction in an attempt to update a JON Master Record.
ERR-J	Denotes an erroneous JOQ change to a DIOH-related record which would decrease the JOQ value below the JON induction balance (AFSC Form 930 transaction).
ERR-U	Denotes a transaction was processed which was unmatched to the JON Master files.
ERR-B	Denotes a valid AFMC Form 206 or AFSC Form 206 B transaction processed which established a temporary JON Master Record. EST-C denotes a valid AFSC Form 237 transaction was processed which established a temporary JON Master Record only after AFMC Form 206 or AFSC Form 206 was valid as EST-B.
EST-F	Denotes a valid AFSC Form 600 transaction processed and established in the permanent JON Master (PJM) Record. EST-G denotes a valid transaction processed which set up a serialized JON Master Record (G transaction).
EST-P	The first valid induction has been made to open a new permanent JON.
CHG-A	Addendum has been processed and changed the EISP. It appears on the L2A report with pound signs over the EISP.
CHG-D	Denotes a deletion transaction (H6/H8) which processed against a JON Master Record.

CHG-H	Denotes an AFSC Form 930 transaction was processed which changed data in the Master Record (# over data element denotes a change in that element).
CHG-M	Denotes that the element with #s over it has been mass changed.
REF-A	Denotes a valid AFMC Form 206 or AFSC Form 206, part I (A transaction) processed which establish Request Number Master Record.
REF-B	Denotes a valid transaction was processed to a temporary JON Master Record.
REF-D	Denotes a master record which has had a transaction attempt to duplicate the control data for this record. The transaction was rejected with an ERR-D message. The master record is printed for visibility so that the initiator of the transaction can determine if the input transaction completely duplicates this record or whether just

Table 3.12. (Added-AFSC) Supply Transaction/Error Codes (G004L-L2A).

Code	Error Code	Description
L	C	Purpose: This supply transaction was rejected because its JON (CN/JD/JON suffix) had been closed.
		Cause: The JON in the original supply transaction may be wrong.
		Action: If the JON is wrong, obtain the production controller (scheduler) suspense file copy of the rejected supply transaction, correct JON (including CN/JD and suffix), and change the action suffix to PK. The document identified, document number, condition code, cost code, stock number, and quantity must be identical to these elements in the rejected supply transaction. Input this correction to D035K in G402A.
L	N	Purpose: This supply transaction was rejected because the completion had already been reported against the serial number in the transaction.
		Cause: This condition was identified by the current serial number master showing JON is closed.
		Action: Research must be initiated to ensure the correct serial number and JON was reported. If the correct number was reported and the serial number was completed by the turn-in of this transaction, the MA G004L system monitor must be notified immediately to help resolve any problem resulting from the incorrect posting to the serial number master and the end item master.
L	E	Purpose: This code indicates that some data element in the end item master record is in error and, therefore, this transaction was rejected. For reference purposes, the data on the master record for this JON will also be printed as a 2 and ERR* reason code on the Daily End Item Production Account Visibility and Cross-Reference Listing (G004L-L2A).
		Cause: In most cases the FCRN or PCN is invalid.
		Action: Call the workloader for assistance in correcting the master record. When the record is corrected, re-input the rejected transaction with Action suffix.

L	J	Purpose: This supply transaction rejected because its quantity would have made the production issued exceed the job order quantity.
		Cause: Either the JON on the supply transaction D7 issue transaction was wrong or the original JOQ was wrong.
		Action: If the JON was wrong, obtain the scheduler's suspense file copy of the rejected supply transaction, correct the JON, and change the action suffix to PK. The document identifier, stock number, quantity, condition code, and cost code must, be identical to the rejected transaction. Input the corrected supply transaction through D035K to G004L. A temporary JOQ cannot be increased once a job has a JON assigned. If the JOQ is wrong, the workloader to adjust the JOQ. After G004L-L2A is received by the production controller (scheduler) to show that the correction processed, prepare and input a supply transaction correction (action suffix PK) as above.
L	K	Purpose: This supply transaction rejected because the master record for this JON has a DPC that doesn't allow supply transaction processing. Cause: Either the wrong JON was used in the supply transaction, or the wrong DPC was put on the WAD when it was opened. Action: If the JON was wrong, the production controller (scheduler) is to correct the JON and change the action suffix to PK. This is input in G402A through D035K to G004L. If the DPC was wrong, contact the workloader to change the DPC on the master record. When the production controller (scheduler) receives the G004L-L2A indicating the DPC has been changed, process the corrected Supply transaction (action suffix PK) as above.
L	S	Purpose: This Supply Generated transaction rejected because its' stock number didn't match the stock number in the master file for this JON. Cause: Either the wrong JON or stock number was reported on the item master record has the wrong stock number. Action: If the JON was wrong, obtain the production controller (scheduler's) suspense file copy of the rejected Supply Generated transaction, correct the JON and change the action suffix to PK. Make sure that the remaining data are not changed and input the correction to G004L. If the end item master stock number is wrong, contact the workloader to change the stock number. After the production controller (scheduler) receives the G004L-L2A indicating that the stock number has been changed, change the action suffix to PK and input to G004L. However, if the stock number of the Supply Generated transaction is incorrect (and the stock number in the end item master is correct), notify the DLA-A/MSS about this error. The DLA-A/MSS will have to process a reversal for the incorrect stock number. The action suffix on these transactions won't be a PK but will agree with the original transaction. Since the original transaction rejected in G004L, the

		reversal must have a PDN of 000000 so it will reject in G004L. When the reversal with the PDN of 000000 appears as a reject on the G004L-L2A, re-input the Supply Generated transaction with the correct stock number. Don't use action suffix of PK.
L	U	Purpose: This Supply Generated transaction rejected because the JON is not in the master file. Cause: Either the JON was wrong, or the WAD hasn't been opened. Action: If the JON was wrong, obtain the production controller (scheduler's) suspense file copy of the rejected Supply Generated transaction, correct the JON and change the action suffix to PK. Make sure that none of the remaining data is changed and input the corrected Supply Generated transaction to G004L. If the WAD has not been opened, ask the IET (maintenance planner) to prepare a proper WAD to establish a master file record. After the receipt of the G004L-L2A showing that the WAD has been opened, change the action suffix on the production controller (scheduler's) suspense file copy to PK, and input the correction as above.
L	W	Purpose: This Supply Generated transaction turn-in rejected because its quantity exceeded the Supply Generated transaction OWO balance in the end item master file. Cause: The quantity on the Supply Generated transaction, the JON, or the Supply Generated transaction OWO balance was wrong. Action: If the JON was wrong, obtain the production controller (scheduler's) suspense file copy of the rejected Supply Generated transaction, correct the JON, and change the action suffix to PK. Make sure that none of the remaining data has been changed and input the corrected Supply Generated transaction to G004L. If the Supply Generated transaction OWO balance is in error, research the D035K, G004L, DD Form 1348-1A to find the issue receipt acknowledgement issue that wasn't processed to G004L. Input the missing receipt acknowledgement in G402A through D035K to the end item segment of G004L. Then obtain the production controller (scheduler's) suspense file copy of the rejected turn-in and change the action suffix to PK and input it as above. However, if the quantity on the rejected Supply Generated transaction was wrong notify the DLA-A/MSS of this error. The DLA-A/MSS will have to process a reversal for the original incorrect quantity and a correction for the correct quantity.
L		Purpose: This Supply Generated transaction rejected because the JON is wrong. Cause: Either the JON on the Supply Generated transaction is quarterly or monthly and the opposite type of JON is already established, or the Supply

		Generated transaction has a quarterly JON and the EISP is \$25,000 or more which requires a monthly JON. Also, it may be that the third position of the JON suffix doesn't match the OPC on the Supply Generated transaction. Action: If the Supply Generated transaction has a JON opposite of the JON already established or the EISP is \$25,000 or more requiring a month JON, obtain the production controller (scheduler's) suspense file of the rejected Supply Generated transaction. Correct the JON and change the action suffix to PK. Input the corrected Supply Generated transaction through D035K to G004L. If the OPC is correct on the Supply Generated transaction and the last position of the JON suffix is wrong, obtain the production controller (scheduler's) suspense file of the rejected Supply Generated transaction. Correct the JON and change the action suffix to PK. Input the corrected Supply Generated transaction through D035K to G004L. If the JON suffix is correct and the OPC is wrong, prepare a D6 with the PDN of 00000A, the wrong O/P, and corresponding JON suffix. Input the D6 through D035K to G004L. Attach the D6 shipping stuffer and the material to supply. Reorder the asset using the correct OPC and JON. Notify DLA-A/MSS for assistance.

Table 3.13. (Added-AFSC) Material Condition Codes.

Code	Description	Definition
A	Serviceable balance (issued without qualification)	New, used, repaired, or reconditioned materiel which is serviceable and assumable to all customers without limitation or restriction.
B	Serviceable balance (assumable without qualification)	New, used, repaired, or reconditioned materiel which is serviceable and assumable for its intended purpose but which is restricted from issue to specific units, activities, or geographical areas by reason of its limited usefulness or short service life expectancy.
C	Serviceable balance (priority balance)	Items which are serviceable and assumable to selected customers but which must be issued prior to issuing materiel condition coded A and B to avoid loss as a usable asset.
D	Technical Order Compliance (TOC) balance	Serviceable materiel which requires test, alteration, modification, conversion, or disassembly. This does not include items that must be inspected or tested immediately prior to issue.

E	Unserviceable balance (limited restoration)	Material which involves only limited expense or effort to restore to serviceable condition which is accomplished in the storage activity where the stock is located. May be issued to support ammunition requisitions coded to indicate acceptability of usable condition E stock.
F	Unserviceable balance (reparable)	Economically reparable materiel which requires repair, overhaul, or reconditioning. Includes reparable items that are radioactively contaminated.
G	Unserviceable balance (incomplete)	Material requiring additional parts or components to complete the end item prior to issue.
H	Unserviceable (no balance) (condemned)	Material determined to be unserviceable and is uneconomical to repair. Includes condemned items that are radioactively contaminated.
J	Suspended balance (in stock)	Material in stock that has been suspended from issue pending condition classification or analysis, where the true condition is not known.
K	Suspended balance (returns)	Material returned from customers or users and awaiting condition classification.
L	Suspended balance (litigation)	Stocks held pending litigation or negotiation with contractors or common carriers.
M	Suspended in work balance (due-in from overhaul - DIOH)	Material identified on inventory control records but which has been turned over to a maintenance facility or contractor for processing.
P	Unserviceable balance (reclamation)	Material determined to be unserviceable or uneconomically reparable as a result of physical
		inspection, teardown, or engineering decision. Item contains serviceable components or assemblies to be reclaimed.
Q	Suspended balance (Material Deficiency Report - EI exhibit)	EI exhibits returned by customers/users as directed by the SP as a result of reported materiel deficiency.
R	Suspended balance (reclaimed items awaiting condition determination)	Assets turned in by reclamation activities which do not have the capability to determine the materiel condition.
X	Unserviceable balance (SP hold)	Unserviceable materiel placed in condition X by inter-condition transfer only, as directed by the SP (reference AFI 23-101 for further definition, control, and handling).
Y		In-transit to Maintenance
Z	Condition A, B, C	In-transit from Maintenance
Z1	Condition E, F, G, J, K, L	In-transit from Maintenance

Z2	Condition H, P, S	In-transit from Maintenance
Z3	Condition D, Q, R	In-transit from Maintenance

Table 3.13. (Added-AFSC) Type of Work, Position 5 of PON and WAD Edit Notes.

Type	Meaning
1	Aircraft
2	Missiles
3	Engines
4	MISTR
5	Other Major Ends Items
6	Other System Manager/Item Manager (SM/SP) Workload
7	Non-SM/SP Directed Workload
Note: Types 1, 2, and 5 require serialized reporting (DPC 2 or 9). Types 6 and 7 may have serialized reporting. Types 3 and 4 may not have serialized reporting.	

Table 3.14. (Added-AFSC) End Item Identity Configuration Numbers.

Code	Meaning
1	Mission Design Series; used for aircraft, missiles and engines.
2	BPO; Blanket Process Order; used for item control numbers on PME and non-PME Cost Class 4 work.
3	NSN; NC or ND; National Stock Numbers: Non-cataloged or Non-listed numbers.
4	K-numbers for Kits; L – numbers, and Part Numbers CAI; Customer Account Identity; used on C- prefix work.

3.22.17. JON Suffix Edit for Permanent JONs. HQ AFSC will develop, implement, and maintain procedures for JON Suffix Edit for Permanent JONs.

3.22.17.1. **(Added-AFSC)** JON Suffix Edit for positive induction transactions (J/R and D7 transactions) against permanent JONs.

3.22.17.2. **(Added-AFSC)** To prevent the induction of assets against a JON for a prior period, apply the following edits:

3.22.17.2.1. **(Added-AFSC)** If the JON suffix is all alpha or all numeric, the JON record must carry a DPC 2 or 9 (serialized). The exception to this rule is when the suffix is all-numerical because a DMISA job is involved (reimbursement codes of G, H, I, or N and ownership purpose codes of 1, 4, or 5).

3.22.17.2.2. **(Added-AFSC)** Those transactions with alpha or numeric JON suffixes and DPC of 2 or 9 will not have the suffix edited. Those with numeric JON suffix and a reimbursement code of G, H, N, or I will have the FY and quarter edit applied as reflected below. Those transactions with an all-numerical suffix and other than above will be rejected with ‘*’ over the JON.

3.22.17.2.3. **(Added-AFSC)** If the JON suffix is alphanumeric, the edits below are applied:

3.22.17.2.3.1. **(Added-AFSC)** If a monthly JON suffix has been established in a fiscal quarter, a quarterly JON suffix cannot be established in the same fiscal quarter. If a quarterly JON suffix has been established in a fiscal quarter, a monthly JON suffix cannot be established in the same fiscal quarter for the same end item.

3.22.17.2.3.2. **(Added-AFSC)** If the EISP is greater than or equal to \$15,000, a monthly JON suffix must be used. If the EISP is less than \$15,000, a monthly or quarterly suffix may be used. Any transaction that fails these edits will be rejected with ‘*’ over the JON.

Table 3.15. (Added-AFSC) JON Suffix Edit for Permanent JONs

If As of Month is Then FY/FQ of JON suffix must be: _____ when (Note: CFY=current fiscal year, PFY=previous fiscal processing year)	
Oct CFY/1 or A or PFY and an M in the second position (for replacement of nonserviceable assets only)	
Nov CFY/1 or B or PFY and an M in the second position (for replacement of nonserviceable assets only)	
Dec CFY/1 or C or PFY and an M in the second position (for replacement of nonserviceable assets only)	
Jan CFY/2 or D	
Feb CFY/2 or E	
Mar CFY/2 or F	
Apr CFY/2 or G	
May CFY/3 or H	
Jun CFY/3 or I	
Jul CFY/4 or J	
Aug CFY/4 or K Sep CFY/4 or L	

3.22.17.2.3.3. **(Added-AFSC)** This edit will be applied to all positive induction transactions (D7/244 transactions, J and R/Maintenance generated transaction with permanent control numbers.

Table 3.16. (Added-AFSC) Computer Assignment of Production Count Indicator (PCI) for Temporary JONs.

JON Prefix	PCI Assigned
A	A
C	M

M	As Input
T (Serialized)	M
T (Nonserialized)	As Input
T (DPC S)	A

3.22.18. HQ AFSC will develop, implement, and maintain procedures for D035 System edits against 244 transactions.

3.22.18.1. **(Added-AFSC)** Material Transactions. (Type trans code must not equal P).

3.22.18.1.1. **(Added-AFSC)** Permanent Control Numbers: Must match G004L on nine positions if JON Classification Code (JCC)=A; six positions if JCC=B.

3.22.18.1.1.1. **(Added-AFSC)** D6 transaction: JON status code (JSC) must be 0, 1, Z, or D.

3.22.18.1.1.2. **(Added-AFSC)** D7 transaction: JSC must be 0 or 1.

3.22.18.1.2. **(Added-AFSC)** Temporary Control Numbers: Must match G004L on CN/JD.

3.22.18.1.2.1. **(Added-AFSC)** D6 transactions: no edit on JSC.

3.22.18.1.2.2. **(Added-AFSC)** D7 transactions: JSC must be 0 or 1. Edits do not apply to backorders. Above edits do not apply to backorders.

3.22.18.2. **(Added-AFSC)** Production Item Transactions. (Type Trans code is P and M for DF1).

3.22.18.2.1. **(Added-AFSC)** Permanent JONs: Must match G004L on nine positions and JSC must not equal D.

3.22.18.2.1.1. **(Added-AFSC)** All D6 or DF1 (+ or -).

3.22.18.2.1.2. **(Added-AFSC)** D7 reversals.

3.22.18.3. **(Added-AFSC)** Permanent JONs: D7 positive transactions may match G004L on all nine positions.

3.22.18.3.1. **(Added-AFSC)** If matched, JSC must not equal 'D' or '1' and the transaction must pass the JON suffix edit (reference AFI 21-103 for Priority Codes).

3.22.18.3.2. **(Added-AFSC)** If unmatched, must match on CN/JD and pass JON suffix edit. The JSC is not examined.

3.22.18.4. **(Added-AFSC)** Temporary JONs: Must match on CN/JD. The JSC will never be blank. A 125 must be input into G004L so that JSC will become 0. Assets or materiel cannot be drawn out of supply until JSC is 0.

3.22.18.4.1. **(Added-AFSC)** JSC 0 is an active JON.

3.22.18.4.2. **(Added-AFSC)** JSC 1 is a completed JON.

3.22.18.4.3. **(Added-AFSC)** JSC D is a deleted JON.

3.22.18.4.4. **(Added-AFSC)** JSC Z is a cancelled JON.

3.22.18.5. **(Added-AFSC)** Additive Production Item Edit. The transactions (D6) for production items will also be edited to contain PSSD in the organization identify field for cost codes P, F, H, or V (position 79). Transactions without a nine in position 34 will cause an 'F' coded reject.

Table 3.17. (Added-AFSC) D035K JON Suffix Edits Supply Production Transactions.

3d Position =		OPC must =	
If	O	Then	A
If	A	Then	A
If	1	Then	1
If	4	Then	4
If	5	Then	5

3.22.19. Data System Products.

3.22.19.1. Reports are prepared daily, weekly, monthly, quarterly, and as required.

3.22.19.1. **(AFSC)** Data Products. Reports are prepared daily (D), weekly (WK), monthly (MO), quarterly (QTR), and as required (AR). A listing of G004L products is as follows:

FILE ID/PCN/RCS	Full Title	Freq
A-G004L-A2X-D1-MAA	ALPA2 Control List	D
A-G004L-A3X-D1-MAA	ALPA3 Control List	D
A-G004L-A4X-D1-MAA	ALPA4 Control List	D
A-G004L-A5X-D1-MAA	ALPA5 Control List	D
A-G004L-B1X-D1-MAB	ALPB1 Control List	D
A-G004L-B2X-D1-MAB	ALPB2 Control List	D
A-G004L-D1X-D1-MAA	ALPD1 Control List	D
A-G004L-D2X-D1-MDD	ALPD2 Control List Part 1	D
A-G004L-D2X-D1-MDD	ALPD2 Control List Part 2	D

A-G004L-E1A-RO-MAE	Validation Stack Visibility List	AR/WK
A-G004L-E1B-RO-MAE	Validation Stack (on Microfiche)	AR/WK
A-G004L-E1X-RO-MAE	ALPE1 Control List	AR/WK
A-G004L-E2X-RO-MAE	ALPE2 Control List	AR/WK
A-G004L-E3A-E3-ME3	Mass Change Error List	QTR/AR
A-G004L-E3X-E3-ME3	ALPE3 Control List	AR
A-G004L-F1X-W1-MFF	ALPE1 Control List	MO

A-G004L-F3A-M1-MFF	Maintenance Earned Hours Analysis RCS: LOG-MA (M) 8101	MO
A-G004L-F3B-M1-MFF	Monthly Production Count Summary List	MO
A-G004L-F3C-M1-MFF	Cost Class 4 labor hours Summary by List Performing RC/CC, Part 1, and by Requesting Organization, Part 2	MO
A-G004L-F3X-M1-MFF	ALPF3 Control List	MO
A-G004L-G1A-W1-MGG	JON Master List JON Sequence	WK/MO
A-G004L-G1X-W1-MGG	ALPG1 Control List	WK/MO
A-G004L-G2X-W1-MGG	ALPG2 Control List	MO
A-G004L-G3X-W1-MGG	JON Master/Temp Lbr Std/Valid End Item Production	WK/MO
A-G004L-G3A-W1-MGG	JON Master/Temp LSM/Temp BOM PSSD Seq	WK/EOM
A-G004L-G3B-W1-MGG	JON Master List Stock Number Sequence	WK/MO
A-G004L-G3D-W1-MGG	Temporary Workload Status by PCN/JON (Totals by PCN)	WK/MO
A-G004L-G3F-W1-MGG	AFMC Form 206 or AFSC Form 206 work ALCXX by RSC: LOG-LO (AR) 8211 PCN/Req No. (Totals by PCN)	WK/MO
ALCXX by Req No. RSC: LOG-LO (AC) 8211		
A-G004L-G3X-W1-MAG	ALPG3 Control List	WK/MO
A-G004L-G5A-W1-MGG	Temporary Production Number Deletions/and Permanent Production Number Deletions	MO
A-G004L-G5B-W1-MGG	Temporary Work Loading/CN Assignment Backlog of Job Request	WK/MO
A-G004L-G5C-W1-MGG	Planning Backlog of Temporary Job Request	WK/MO
A-G004L-G5D-W1-MGG	Planning Backlog of Temporary Request	WK/MO
A-G004L-G5E-W1-MGG	Temporary Workloads by PCN/RC/CC (Summary line by PCN)	WK/MO

A-G004L-G5F-W1-MGG	Planned Temporary Workloads by PSSD/RC/CC	WK/MO
A-G004L-G5G-W1-MGG	G- and H- coded Items	MO
A-G004L-G5H-W1-MGG	Status of 72-10 Exchangeables/MISTR Items by MMC/Item Manager Code (IMC)	WK/MO
A-G004L-G5I-W1-MGG	Status of 72-10 Exchangeables/MISTR Items by PSSD	WK/MO
A-G004L-G5J-W1-MGG	Planned Temporary Workloads by RGC/RC/CC	WK/MO
A-G004L-G5K-W1-MGG	Planned Temporary Workloads by RC/CC/PSSD	WK/MO
A-G004L-G5X-W1-MGG	ALPG5 Control List	WK/MO
A-G004L-G6A-W1-MGG	Responsibility Scheduler's Review List	WK
A-G004L-G6X-W1-MGG	ALPG6 Control List	WK
A-G004L-G7X-W1-MGG	ALPG7 Control List	WK
A-G004L-H1X-M1-MHH	ALPH1 Control List	WK
A-G004L-K1X-D1-MLK	ALPK1 Control List	D
A-G004L-L2A-D1-MAA	Visibility and Cross Reference List	D
A-G004L-L2B-D1-MAA	RACOQ Listing – EOY (Sep-Dec)	D
A-G004L-L2C-D1-MAA	Daily Valid/Invalid Production Count	D
A-G004L-L2D-D1-MAA	Month-to-Date Transaction/Error Analysis Report	D
A-G004L-L2E-D1-MAA	AFSC Form 600A Listing	D
A-G004L-L3A-D1-MAA	All 2G Control List	D
A-G004L-L3B-D1-MAA	Temporary Job Record	D
A-G004L-L3C-D1-MAA	Daily Planner's List	D
A-G004L-L3F-D1-MAA	Serial Number Listing Parts 1 and 2	D
A-G004L-L3G-D1-MDA	Workloader's Review List- Permanent/Temporary Workloads	D
A-G004L-L3X-D1-MAA	ALPL3 Control List	D
A-G004L-L4A-D1-MAA	Reduced Temporary Job Report L4A	D
A-G004L-S1A-SP-MAE	EISP F/M Report	AR
A-G004L-S1B-SP-MAE	EISP Mismatch (Not in Sales Price Generator (SPG) in DMAPSIE)	AR
A-G004L-S1C-SP-MAE	EISP Mismatch (Not in G004L)	AR
A-G004L-W3A-W1-MWW	DIOH/In Maintenance Summary List (Exempt from	WK
Assignment of RSC by AFR 178-7		
A-G004L-W3B-W1-MWW	Maintenance Production History	WK/MO/ AR

A-G004L-W3C-W1-MWW	Maintenance Production History	WK/MO/ AR
A-G004L-W5A-W1-MWW	DIOH/In MA Out of Balance Supply Manager Sequence	WK
A-G004L-W5B-W1-MWW	Erroneous Production Transaction by SMC	WK
A-G004L-W5C-W1-MWW	DIOH/In MA Out of Balance PSSD/SN Sequence	WK
A-G004L-W5D-W1-MWW	Erroneous Production Transactions PSSD/SN Sequence	WK
A-G004L-W5E-W1-MWW	Non MISTR Asset Availability PSSD SM/SN Sequence	WK
A-G004L-W5E-W1-MWW	PS/SD Division DIOH/In Maintenance (Exempt from assignment of RCS by Out of Balance Recap IAW AFR 178-7)	WK

3.22.19.2. HQ AFSC will ensure data system reports are produced and disseminated to all appropriate shops and personnel.

3.22.19.2. (AFSC) G004L-E3A. Mass Change Error List.

3.22.19.2.1. (Added-AFSC) Specifications. This data is provided only when mass changes which contain invalid data are processed, or the quantity exceeds table capability.

3.22.19.2.2. (Added-AFSC) Purpose. This list provides visibility of change problems requiring immediate action to correct. Reorganization or re-designation of identity is the normal situation for use of mass changes. This necessitates valid table or file establishment to enable the production reporting to be accomplished.

3.22.19.2.3. (Added-AFSC) Action. Research the erroneous data, determine who is responsible for correction, and ensure the timely submission of the proper transactions. The above will be coordinated with the appropriate organization.

3.22.19.3. (Added-AFSC) G004L-F3B: Monthly Production Count Summary List.

3.22.19.3.1. (Added-AFSC) Specifications. The Monthly Production Count Summary List (F3B) is produced at the end of the month. It is listed in RC/CC, FC, JON, and operation number (ON) sequence.

3.22.19.3.2. (Added-AFSC) Contents. The F3B report shows number of operations completed, operation standard hours, and earned hours for each operation against which production count was processed through the G004L system during the previous month. The earned hours are computed by multiplying the operations completed times the operation standard hours. An earned hour total is also shown for each FC within an RC/CC, and for each RC/CC.

3.22.19.3.3. **(Added-AFSC)** Purpose. Maintenance management uses the F3B report to determine RC/CC activity in terms of workload done as compared to workload planned.

3.22.19.4. **(Added-AFSC)** G004L-G1A: JON Master List by JON/FY.

3.22.19.4.1. **(Added-AFSC)** Specifications. The G1A report is produced weekly and at EOM in JON sequence.

3.22.19.4.2. **(Added-AFSC)** Contents. The G1A list shows all records from the PJM and the TJM. The records may be inactive production numbers without a JON suffix, or they may be active JONs in various stages of completion, as shown by the JON status code. This list will also show the financial (FCRN, PON, PCN, EILS) and identification data (EII, DPC, JON Status Code, PSSD, SOPI, etc.) associated with each JON as well as the quantitative data for each JON (inductions, completions, OWO balances, and JON).

3.22.19.4.3. **(Added-AFSC)** Purpose. The G1A identifies all JONs currently in use. This is helpful in assigning CN/JD for new workloads, as well as a convenient cross-reference to learn the status of a job when only the CN/JD or JON is known.

3.22.19.5. **(Added-AFSC)** G004L-G3A: JON Master, Temp LSM, Temp BOM.

3.22.19.5.1. **(Added-AFSC)** Specification. The G3A is an on-line/microfiche report. Its sequence is PSSD, JON, and ON.

3.22.19.5.2. **(Added-AFSC)** Contents. The G3A consists of all records from the PJM, TJM, Temporary Labor Standard Master (LSM), and Temporary BOM files.

3.22.19.5.3. **(Added-AFSC)** This report provides the production controller (scheduler) information on the status of jobs for which they are responsible.

3.22.19.5.4. **(Added-AFSC)** G004L-G3B: JON Master by EII.

3.22.19.5.4.1. **(Added-AFSC)** Specifications. The G3B is a weekly/monthly summary report. It is sequenced by Stock Number and JON.

3.22.19.5.4.2. **(Added-AFSC)** Contents. The G3B report shows all records from the PJM and TJM. The records may be inactive production number without a JON suffix or they may be active JONs in various stages of completion, as shown by the JON status code. This list will also show the financial (FCRN, PON, PCN, EILS) and identification data (EII, DPC, JON Status Code, PSSD, SOPI, etc.). Associated with each JON as well as the quantitative data for each JON (inductions, completions, OWO balance, and JOQ).

3.22.19.5.4.3. **(Added-AFSC)** Purpose. The G3B identifies all JONs that are currently in use. This is a convenient cross-reference to find out the status of a job where only the stock number/EII is known.

3.22.19.6. (Added-AFSC) G004L-G3D: Temporary Workload Status List by PCN/JON.

3.22.19.6.1. (Added-AFSC) Specifications. The G3D report is an on-line/paper summary report. It is sequenced by PCN and JON, and distributed to MXSG personnel at local option.

3.22.19.6.2. (Added-AFSC) Contents. The G3D report will show the status of all A- and C- prefix JONs, local manufacture (M-Prefix), and non-serialized temporary T-Prefix JONs. Each line item will also show end item, earned hour, and cost data in three categories (i.e., planned, completed, and remaining) as well as the number of end items inducted. This quantitative data will also be summarized to PCN level.

3.22.19.6.3. (Added-AFSC) Purpose. The G3D is to provide the status of all A - and C- prefix JONs, manufacture (M-Prefix Jobs) and non-serialized temporary (T-Prefix) JONs. The data is sequenced and summarized by PCN to help maintenance workloaders determine whether to accept or to reject new job requests (AFMC Form 206 or AFSC Form 206).

3.22.19.6.4. (Added-AFSC) Action. The report is primarily for use by workloaders, however, it is valuable to the IET (maintenance planner) to assess skill availability on new requirements and to determine if the delivery dates on new requests can be met.

3.22.19.7. (Added-AFSC) G004L-G3F: Temporary Work at XX/ALC.

3.22.19.7.1. (Added-AFSC) Specifications. This product is produced and is sequenced by ALC, PCN, and Request Number. It contains a page break by ALC. The report is distributed weekly/end of month to MXSG Squadrons.

3.22.19.7.2. (Added-AFSC) Contents. The date of the transaction affecting the system record is shown. A summary total by PCN is displayed and contains the planned total units and hours with expense materiel, DMS, CSAG-M monthly production quantity, total completions to date, current quarter earned hours, and the remaining planned units and hours.

3.22.19.7.3. (Added-AFSC) Purpose. To provide visibility of temporary work requirements after planning has been complete and display work planned or in process by PCN.

3.22.19.7.4. (Added-AFSC) Action. The hourly data are used to match to the PLA hours to maintain dollars status related to budgeted dollars for the PCN. The dollar cost for each request may vary from the anticipated cost and the obligated dollar value may require update. The delivery dates are checked to ensure timely support for requirement levied by each request.

3.22.19.8. (Added-AFSC) G004L-G5A: Temporary Production Number Deletions/and Permanent Production Number Deletions.

3.22.19.8.1. (Added-AFSC) Specifications. The G5A is sequenced by production number.

3.22.19.8.2. (Added-AFSC) Contents. The product displays those temporary production numbers that have been deleted from the JON master file. At end of month, those numbers deleted will have

carried status code 7 with no Quarterly Serviceable Completions (QSC) or Quarterly Condemnations (QC). At the end of the quarter, all temporary numbers with status code 7 will be deleted regardless of QSC or QC.

3.22.19.8.3. **(Added-AFSC)** Purpose. To be used by OBW to maintain the temporary control number deck.

3.22.19.8.4. **(Added-AFSC)** Action. Workloading will use the G5A list to file maintain the Temporary Control Number Assignment Cards.

3.22.19.9. **(Added-AFSC)** G004L-G5C: Planning Backlog of Temporary Job Requests.

3.22.19.9.1. **(Added-AFSC)** Specifications. The G5C is sequenced by PO/PTC, priority, delivery date, and request number with a page break by PO/PTC.

3.22.19.9.2. **(Added-AFSC)** Contents. This report will show one line item for each B transaction that has processed validly but has not received a corresponding C transaction (AFSC Form 237 header segment with the same production number). The report will display all the data from AFMC Form 206 or AFSC Form 206, parts 1 and 2 if a full PO/PTC has been entered by the workloader that data will be shown and will be the primary sequence (major key) of the report. If the workloader only entered the planning section, the G004L system will develop that into a temporary PO/PTC like MA EXX where the planning section is substituted for the underscore (_). In this case, the appropriate IET (maintenance planner) must enter his/her actual PO/PTC in the header segment of and produce a temporary job record (G004L-L3A).

3.22.19.9.3. **(Added-AFSC)** Purpose. This list identifies all AFMC Forms 206 or AFSC Forms 206 that represent a backlog for individual IET (maintenance planner) and the planning function. This data will also be printed in the sequence that the job request should be processed; that is, priority, delivery date, and request number (within each PO/PTC).

3.22.19.9.4. **(Added-AFSC)** Action. This list is used by the planning unit supervisor and item IET (maintenance planner) to determine which request should have the labor and materiel requirements planned next. It is provided as of the end of the week and contains those requests that OBW has accepted and given control number assignment. The delivery date and priority of the requirement are used to determine the ranking sequence. Data reflected from parts 1 and 2 of accepted, valid AFMC Forms 206 or AFSC Forms 206 are listed for each request number. A Status of Planning Indicator (SOPI) column has been added to the G004L-G5C product. When the AFSC Form 237 is checked as incomplete by the IET (maintenance planner), an 'I' will appear in the SOPI column.

3.22.19.9.5. **(Added-AFSC)** This record will remain on the G004L-G5C until completed planning action is submitted. A blank in the SOPI column will indicate no planning action has been taken.

3.22.19.10. **(Added-AFSC)** G004L-G5G: G and H Coded Items.

3.22.19.10.1. **(Added-AFSC)** Specifications. The G5G report is sequenced by POPTC/JON with a page break by PO/PTC.

3.22.19.10.2. **(Added-AFSC)** Contents. Condition code G means reparable incomplete, and it is used when an end item cannot be made serviceable due to a prolonged parts shortage. Condition Code H means condemnation. Both codes mean that maintenance cannot be paid for the end item on straight job designators including MISTR work with a job designator.

3.22.19.10.2.1. **(Added-AFSC)** The G5G report will show data on completed JONs when the JON has had one or more turn-ins with a G or H condition code. The G5G report will also show the computed condemnation factor using the following formula: $\text{Condemnation Factor} = (\text{H Code Turn-Ins}) / (\text{H Code Turn-Ins} + \text{JON Completions})$.

3.22.19.10.3. **(Added-AFSC)** Purpose. The purpose of the G5G report is to display the G coded turn-ins for better control in maintenance. This report will also aid the IET (maintenance planner) in developing a more accurate condemnation factor.

3.22.19.10.4. **(Added-AFSC)** Action. The IET (maintenance planner) will use the computer developed condemnation factor to evaluate the adequacy of the labor standards and update as required to ensure a breakeven position between cost and end item prices. The workloading control technicians will use the G code data to determine the appropriate action required to ensure a viable financial status for the end items. Negotiation with the SP and production controller (scheduler) may be desired to maintain asset availability and proper shop workloading. In some cases, sales for G code items may be negotiated.

3.22.19.11. **(Added-AFSC)** G004L-G5H: Status of 72-10 Exchangeable/MISTR Items by MMC/IMC. This listing is furnished to the appropriate MM and produced weekly and at the end of the month. This product displays the same data as the G5I except the sequence is MMC/IMC.

3.22.19.12. **(Added-AFSC)** G004L-G5I: Status of 72-10 Exchangeables/MISTR Items for PSSD.

3.22.19.12.1. **(Added-AFSC)** Specifications. G004L-G5I report will be produced weekly and at the end of the month online.

3.22.19.12.2. **(Added-AFSC)** Contents. This report summarizes the supply and maintenance generated transactions. It also shows the status of the supply and maintenance generated transaction OWO balances.

3.22.19.12.3. **(Added-AFSC)** Purpose. This report is used for review to ensure the data are compatible with the 72-10 exchangeable/MISTR checklist for the applicable engine/MDS. The report is also used to verify that the data are compatible with the Daily End Item Production Account Visibility and Cross-Reference List, G004L-L2A data.

3.22.19.13. **(Added-AFSC)** G004L-G5K: Planned Temporary Workloads by RC/CC/PSSD.

3.22.19.13.1. **(Added-AFSC)** Specifications. This product is sequenced by RC/CC and PSSD.

3.22.19.13.2. **(Added-AFSC)** Contents. This report shows planned hours, earned hours, and remaining hours for JONs overdue and for JONs due in the next 30, 60, 90, and over 90 days.

3.22.19.13.3. **(Added-AFSC)** Purpose. To provide visibility of planned Temporary Workloads (JON status code 0) by RC/CC this will be summarized by RC/CC, Production Flight, Squadron, Group, and ALC.

3.22.19.14. **(Added-AFSC)** G004L-G6A: Responsible production controller (scheduler) Review List.

3.22.19.14.1. **(Added-AFSC)** Specifications. The G6A is a weekly product sequenced by PSSD and JON.

3.22.19.14.2. **(Added-AFSC)** Contents: The G6A reports reflect the following information in JON sequence:

Figure 3.18. (Added-AFSC) G6A JON Sequence.

Current status code. Data record established End item identity.

Data processing code.
Date of last action.

Production delay code.
JON inductions/job order qty/JON completions.
JON earned hours.
Monthly earned hours.
Total planned hours.

Remaining hours.
Reasons for review.
Permanent JON summary.
Non-programmed JON summary.

3.22.19.14.3. **(Added-AFSC)** Purpose. Provide a report that will identify JONs that require attention and provide a review of total hours for JONs inducted into the production section.

3.22.19.15. **(Added-AFSC)** G004L-L2A: Daily End Item Production Account Visibility and Cross-Reference List.

3.22.19.15.1. **(Added-AFSC)** Specification. This report is produced in PSSD JON and/or EII card code sequence.

3.22.19.15.2. **(Added-AFSC)** Contents. This product shows all transactions submitted for G004L processing. All valid transactions appearing on the report will display a message indicating the type of action taken. All invalid transactions will have the appropriate error code displayed, and if applicable, will have * indicators placed over the field(s) in error. Each valid and invalid transaction appearing on this report will trigger printing of the matching master record after all transactions for the JONs have been processed. It will display erroneous transactions generated, AFSC Form 930 transaction action codes 2, 3, 6, 7, or 8 (card code H), and interrogation transactions (card code T) which were submitted for processing against the master record. Each line on the report will display the reason for printing the entry. CHG will prefix the reason on those entries printed because a data overlay (AFSC Form 930 H transaction), or a PSSD/PO/PTC mass change has been processed against the master record. This entry displays the JON master record as it appears after the valid processing and update of the record. The fields that were changed on the record will be flagged by a # sign for facilitating verification of the change action. ERR will prefix the reason for erroneous entries, either a master record of an H or T type transaction, which was to have been processed against the JON master.

3.22.19.15.3. **(Added-AFSC)** Purpose. To provide production controller (scheduler) visibility of all valid and invalid transactions that affect production items for which they are responsible.

3.22.19.16. **(Added-AFSC)** G004L-L2B: RACOQ Listing-EOY.

3.22.19.16.1. **(Added-AFSC)** Specifications. The L2B is produced daily from September until 31 December.

3.22.19.16.2. **(Added-AFSC)** Contents. The L2B contains a list of Permanent Non-serialized control numbers with RACOQ not equal to zero.

3.22.19.16.3. **(Added-AFSC)** Purpose. The report is used to provide visibility of items that need to be inducted to satisfy the customer's requirements during year-end-closing-out processing.

3.22.19.17. **(Added-AFSC)** G004L-L2C: G004L-L2C: FEMs Valid and Invalid Transactions.

3.22.19.17.1. **(Added-AFSC)** Specifications. The L2C report is produced daily. It is sequenced by RC/CC, FC, JON, and ON.

3.22.19.17.2. **(Added-AFSC)** Contents. The L2C report displays valid and invalid FEMs transaction records and is sequenced by RC/CC/FC/JON/CN. The report also depicts production count source message. Count attempted for serialized workload without an induction will reflect asterisks over the JON.

3.22.19.17.3. **(Added-AFSC)** Purpose. The L2C is prepared for review and correction of errors for re-input to the system.

3.22.19.18. **(Added-AFSC)** G004L-L2D: Month to Date Transaction Error Analysis.

3.22.19.18.1. **(Added-AFSC)** Specifications. The L2D product is produced on-line/paper daily.

3.22.19.18.2. **(Added-AFSC)** Contents. The L2D displays, daily, the number of valid and invalid opening WADS, supply and maintenance generated transactions, and production count transactions. These quantities will be broken out by product group and a percent in error will be computed for each input.

3.22.19.18.3. **(Added-AFSC)** Purpose. This report is to be used by management in ALC for transaction analysis.

3.22.19.19. **(Added-AFSC)** G004L-L3A: Temporary Job Record.

3.22.19.19.1. **(Added-AFSC)** Specifications. The L3A report is produced daily. Its sequence is PO/PTC/JON/RC/CC/FC/ON with a page break by PO/PTC/JON. This product is produced when AFSC Form 237 has been processed validly and SOPI=C. A new L3A is produced when an LSM or BOM addendum or certain file maintenance transactions process.

3.22.19.19.2. **(Added-AFSC)** Contents. This list shows all established data elements, labor operations, and materiel requirements for temporary JONs (Non-PME).

3.22.19.19.3. **(Added-AFSC)** Purpose. This listing is used for record of new workloads or changes in existing workloads. Space is provided for signature/stamps as required for verification of work done.

3.22.19.20. **(Added-AFSC)** G004L-L3B: Daily Planner's List.

3.22.19.20.1. **(Added-AFSC)** Specifications. The L3B report is produced daily. The sequence is PO/PTC, JON, ON. The report will portray all valid/invalid transactions from AFSC Form 237 and AFSC Form 600 transactions, AFSC Form 930 transaction changes, and Part II of AFMC Form 206 or AFSC Form 206. Likewise, the L3B report is produced because of the annual input of the FCRN mass change action to the PJM record by AFSC, Maintenance Cost Accounting, and the daily match of the PCN in the master JON record against the PCN table in the validation stack in G004L.

3.22.19.20.2. **(Added-AFSC)** Contents. This report is structured with three tiers of data. One tier reflects AFSC Form 237 header and AFSC Form 600 transaction additions as well as AFSC Form 930 transaction changes to these data. The second and third tiers will contain LSM and BOM transactions input by AFSC Form 237 as well as AFSC Form 930 transaction changes to these data.

3.22.19.20.3. **(Added-AFSC)** Purpose. The listing provides the IET (maintenance planner) a printout of all transactions rejected or processed resulting from processing of AFSC Form 237, AFSC Form 600, or AFSC Form 930 transactions. For permanent JONs, the listing tells the IET (maintenance planner) that labor and materiel standards can now be submitted. If the L3B is produced because of the annual FCRN mass change action, it will inform record under his/her jurisdiction for the subsequent year. However, processing the input document could produce an

error message. If the PCN in the JON master record is not on the validation stack during the daily match, an error message will be reflected for the PCN on the L3B product.

3.22.19.20.4. **(Added-AFSC)** Action. The IET (maintenance planner) must correctly input errors by pulling the suspense copy of the input data and verifying the entry on the list as being what should be contained; that is, rate, serial number, JON, EII, DPC, etc. If an FCRN change is reflected, this is for information only. No action is required. If an FCRN error is reflected because of the mass change action by AFSC, contact workloading personnel for corrective action. If a PCN error is reflected because of the daily mechanical match and the JON record is required, contact OBWW for reentry of the PCN to the validation stack. If the production number is not required, initiate deletion action on the permanent production number, immediate corrective action is required. Errors in data fields affecting EISP can result in an erroneous computation by the G004L system. This incomplete data will be forwarded to the customer by the G004L-L3C product. To avoid this, the IET (maintenance planner) should input the initial AFSC Form 237 and addenda with the incomplete planning status block checked, until the IET (maintenance planner) is sure all entries are valid. Planning completed can then be input with an additional addendum.

3.22.19.21. **(Added-AFSC)** G004L-L3F: Serial Number Record Listing.

3.22.19.21.1. **(Added-AFSC)** Specification. The L3F report is produced daily. Part 1 sequence is by JON and serial number. Part 2 of the report is sequenced by PON and serial number.

3.22.19.21.2. **(Added-AFSC)** Contents. The product contains all serialized controlled workload being done on DPCs 2, 6, 7, 9.

3.22.19.21.3. **(Added-AFSC)** Purpose. The L3F provides the visibility of valid serial number records and JON cross-reference which allows production count for serial number-controlled end items.

3.22.19.22. **(Added-AFSC)** G004L-S1A: EISP File Maintenance Report.

3.22.19.22.1. **(Added-AFSC)** Specifications. This report is produced on-line/paper.

3.22.19.22.2. **(Added-AFSC)** Contents. The S1A report reflects the new EISP and new FCRN by CN/JD and FY.

3.22.19.22.3. **(Added-AFSC)** Purpose. The purpose of the report is to reflect all EISP changes input or those changed by the end-of-year overlay.

3.22.19.22.4. **(Added-AFSC)** Action. Review this report to ensure the changes input were done properly. If an input was made to change an EISP or FCRN, and the change does not print out on the S1A report, it will have shown on either the S1B-S1C report. Those reports will then be reviewed and action taken.

3.22.19.23. **(Added-AFSC)** G004L-S1B: G004L versus Sales Price Generator (SPG) in DMAPSIE EISP Mismatch Report.

3.22.19.23.1. **(Added-AFSC)** Specifications. This report is produced on-line/paper.

3.22.19.23.2. **(Added-AFSC)** Contents. The S1B report reflects the EII, PO/PTC, DPC, date established, date of last action, EILS, EISP, JON induction, source code, and FCRN.

3.22.19.23.3. **(Added-AFSC)** Purpose. The purpose of this report is to reflect the JON of any item where an attempt was made to change the EISP of a record found in G004L, but no EISP was received from SPG in DMAPSIE. When the G004L picks up new EISPs from SPG in DMAPSIE at the end-of-year overlay, it will pick up only those changes that were in SPG in DMAPSIE before annual overlay prices were established. Any production numbers opened in G004L after this time will appear on the S1B report, not in SPG in DMAPSIE.

3.22.19.23.4. **(Added-AFSC)** Action. For these items, immediate action is required to provide an input to the SPM.

3.22.19.24. **(Added-AFSC)** G004L-S1C. S1B/S1C: G004L -VS- DDS EISP Mismatch Report.

3.22.19.24.1. **(Added-AFSC)** Specifications. This report is produced on-line. It is issued when an EISP change has been input during the end of the FY overlay and the records were found in the SPG in DMAPSIE but the CN/JD is not found in G004L. The report is in CN/JD sequence and shows the applicable EISP.

3.22.19.24.2. **(Added-AFSC)** Contents. The S1B/S1C report reflects CN, JD, JON SUF, FCRN, EISP, FYI, FUT FCRN, End Item Identity, POPTC, DPC, Date ESTAB, EILS, JONI, JSC, and error messages.

3.22.19.24.3. **(Added-AFSC)** Purpose. The purpose of this report is to reflect the mismatched sales between the DDS system and G004L. Records from DDS that do not have a matched control number/job designator in G004L are flagged as such. Records that are on the G004L without a matching EISP in DDS are flagged as well.

3.22.19.25. **(Added-AFSC)** G004L-W3A: DIOH/In Maintenance Summary List.

3.22.19.25.1. **(Added-AFSC)** Specifications. This report is produced weekly and reflects a status summary of the DIOH records on the end item master file.

3.22.19.25.2. **(Added-AFSC)** Contents. The list reflects the following:

Figure 3.19. (Added-AFSC) G004L-W3A List.

- | |
|--|
| <ol style="list-style-type: none"> 1. Total number of supply-oriented JONs on the end item master. 2. Number of G004L stock numbers/OPC unmatched to the D035K system. 3. of G004L stock numbers/OPC with no long master in the D035K system. 4. Number of G004L stock numbers which should be changed to be compatible with D035K system. |
|--|

5. Total number of G004L stock number/ownership purpose code (OPC) whose IN-MA equaled DIOH for stock number/OPC in D035K system.
6. Total number of G004L stock numbers/OPC whose IN-MA did not equal DIOH for stock number/OPC in D035K system.
7. Percentage of G004L records in balance at the stock number/OPC level.
8. Percentage of G004L records out-of-balance at the stock number/OPC level.
9. Total number of supply generated JONI/NONC erroneous transactions suspended.
10. Total number of maintenance generated JONI/JONC erroneous transactions suspended.
11. Percentage of JONs with stock number/POC out-of-balance by group.

3.22.19.25.3. **(Added-AFSC)** Purpose. To indicate the number and percentage of out of-balance records between the IN-MA G004L and DIOH D035K.

3.22.19.26. **(Added-AFSC)** G004L-W3B: Maintenance Production History by SN.

3.22.19.26.1. **(Added-AFSC)** Specifications. The W3B is produced weekly and at end of-month. The sequence is SN/OPC/JON and D035K date.

3.22.19.26.2. **(Added-AFSC)** Contents. This product reflects all valid maintenance production transactions that have appeared in the G004L-L2A. It also reflects, in the same sequence, valid and invalid production transactions that have appeared in the G004L-L2A.

3.22.19.26.3. **(Added-AFSC)** Purpose. This product is used in researching transactions that need correction to determine whether a document was input to the system, and for any other purpose required in maintaining records in balance between D035K and G004L. It may also be used by scheduling personnel to reconcile AFSC Form 105(or an electronic version approved by the OPR) balances.

3.22.19.27. **(Added-AFSC)** G004L-W3C: Maintenance Production History by PSSD.

3.22.19.27.1. **(Added-AFSC)** This product reflects the same data as the W3B except the sequence is by PSSD/JON.

3.22.19.28. **(Added-AFSC)** G004L-W5A: DIOH/IN-MA In Maintenance Out-of-Balance Records by SMC/EII Sequence.

3.22.19.28.1. **(Added-AFSC)** Specification. The W5A report is produced weekly and is sequenced by depot supply class manager code, stock number, ownership purpose code, and JON.

3.22.19.28.2. **(Added-AFSC)** Contents. This product is produced to portray those JON records whose summarized IN-MA balances do not match the DIOH balance for the same stock number/OPC. The report may reflect that D035K has changed the stock number but that has the old SN recorder. The report also identifies by JON those stock number/OPC records which have no D035K record. It also identifies those JONs which are unmatched by SN/OPC to D035K. These are reflected by the message 'No record in D035K'.

3.22.19.28.3. **(Added-AFSC)** Purpose. This listing is a reference document to aid communication between the production controller (scheduler) and supply personnel.

3.22.19.29. **(Added-AFSC)** G004L-W5B: Erroneous Production Transactions, by SMCISN Sequence.

3.22.19.29.1. **(Added-AFSC)** Specifications. This report reflects all G004L erroneous production transactions. The report is sequenced to immediately follow the W5A report within supply manager class code.

3.22.19.29.2. **(Added-AFSC)** Purpose. This report will be used to help reconcile the DIOH/IN-MA balances.

3.22.19.30. **(Added-AFSC)** G004L-W5C: DIOH/IN—MA In Maintenance Out-of-Balance Records by PSSD.

3.22.19.30.1. **(Added-AFSC)** Specifications. The W5C report is produced weekly and is sequenced by production section, scheduling designator, end item identity, ownership purpose code, and job order number.

3.22.19.30.2. **(Added-AFSC)** Contents. This report reflects those JON records whose summarized IN-MA balances do not match the DIOH balance for the same stock number/OPC. Balances in transit to MA and Supply are also shown as well as individual OWO, AWM, and AWP balances by JON.

3.22.19.30.3. **(Added-AFSC)** Purpose. This report is to be used by scheduling personnel and Supply personnel in reconciliation of out-of-balance conditions.

3.22.19.31. **(Added-AFSC)** G004L-W5D: Erroneous Production Transactions by PSSD Report.

3.22.19.31.1. **(Added-AFSC)** Specifications. This report is produced weekly and is sequenced to immediately follow the W5C report within PSSD.

3.22.19.31.2. **(Added-AFSC)** Contents. All erroneous production transactions which have been suspended by the G004L system are reflected on this report until corrected or deleted.

3.22.19.31.3. **(Added-AFSC)** Purpose. This report will be used to assist in reconciling the DIOH/IN-MA balances.

Table 3.20. (Added-AFSC) Supporting Systems and Directives.

System	System Title	Directive
D012	Management, Planning and Control System (MPCS)	Pending
D035K	Retail Stock Control and Distribution Central Material Location	

D046	Base Account Screening Exercise System	DAFI 23-101
D071	Stock Number User Directory	Volume 3, Chapter 6 of this Supplement
D087X	Execution and Prioritization of Repair Support System (EXPRESS)	Volume 3, Chapter 6 of this Supplement
D143B	Central Edit, Index, and Routing Subsystem	Volume 3, Chapter 6 of this Supplement
D143C	Air Force/FLIS Edit and Routing System	AFI 23-101
SPM	Service Parts Management with the Directive of AFMCI 23-105	
E046B	Labor Standard Mechanization System	Volume 3, Chapter 1
G004C	Workload Programming, Planning, and Control	AFMCI 65-101
G004L	Job Order Production Management System	Volume 3, Chapter 3
G005M	Depot Maintenance Material Support System	Volume 3, Chapter 6
G019C	MISTR Requirements, Schedules, and Analysis System	
G020	Mechanized Scheduling and Control System	Local Directive
DMAPSDIFMS	DMAPS-DIFMS Depot Maintenance Accounting and Production System - Defense Industrial Financial Management System	AFMCI 65-101
SPG/DMAPSIE	Sales Price Generator System (SPGS) in DMAPSIE	AFMCI 65-101
G097	Programmed Depot Maintenance Scheduling System (PDMSS)	
G337	Inventory Tracking System (ITS)	
G300	Lean Depot Maintenance Systems	

3.22.19.32. (Added-AFSC) Supporting Systems and Functions.

3.22.19.32.1. (Added-AFSC) D012 - Make IT–Management Planning and Control System. The 78th ABW/SC at WR-ALC is using D012 to provide the following functions: Quote/Order Processing, Processing Planning, Bill of Materials, Shop Floor Control (Labor Tracking, Quality), and Resources Control (Inventory, Shipping). D012 is not used by the Air Force (3 sites), Navy (1 site), and Private Industry.

3.22.19.32.2. (Added-AFSC) D035K - Retail Stock Control and Distribution (SC&D) Central Material Location. The Retail SC&D system is designed to improve materiel management and customer support through standardization of distribution decisions and depot processes and provide rapid and positive response to logistics demands.

3.22.19.32.3. **(Added-AFSC)** D046 - Base Account Screening Exercise System Interrogations. The D046 interrogation process is designed to provide an interrogation capability by stock number and by Federal Supply Class Manufacturer (FSCM)/reference number for data maintained in:

Figure 3.21. (Added-AFSC) FSCM Items.

1. The Master Item Identification Control System (D043)
2. The Interchangeability and Substitutability Data Maintenance System (D097)
3. Defense Logistics Services Center (DLSC) files when the NSN or FSCM/reference number is not resident in the D043 system and with selected option codes
4. The Base Account Screening Exercise System (D046)
5. The Stock Number User Directory (SNUD) System (D071). It affords a means of obtaining current stock number related management data on a five-day-a-week basis and current FSCM/reference number related data and SNUD user registration data once a week.

3.22.19.32.4. **(Added-AFSC)** D071 - Stock Number User Directory (SNUD). The SNUD is an ALC-operated data system which provides selective automatic distribution of stock number-oriented management data. It is a means of associating stock numbers with stock record account numbers (SRANs) or assigned user account numbers to provide tailored automatic distribution of management data to meet the individual needs of each user registered in SNUD. This tailoring is based on user established interest in a specific stock number and type of management data registration established by the user, with selection of required transactions being accomplished electronically by SNUD. The need for manual research of reference documents, such as stocklists, machine listings, etc., to keep base records current has been minimized.

3.22.19.32.5. **(Added-AFSC)** D087X – Execution and Prioritization of Repair Support System (EXPRESS). EXPRESS, an automated tool to support Pacer Lean, performs the following functions: Prioritization of Aircraft Repairables (PARS); EXPRESS Prioritization Processor (EPP) and the supportability module. EXPRESS provides a single integrated priority list of all repair requirements. At an ALC, determines the ability of existing resources to support repair actions and provides the data and the mechanism to move item into repair. The source of repair/supply uses a mathematical model in PARS to prioritize repair and distribution of assets to the users from the source of the CSI. PARS take into account base flying activity, asset position, and the corporately established aircraft availability goals. EPP sets priorities for the repair of items which are not addressed in PARS and combines all priorities into a single integrated list for each repair shop. Assets which do not have aircraft availability goals are prioritized using Deepest Hole logic to try to fill the most critical need. EPP also provides the prioritized list to the distribution module, which identifies propositioning actions for serviceable parts as they come out of repair. The supportability module takes the prioritized repair list from the EPP and determines whether the required items can be repaired based on four evaluation criteria: Carcass availability, repair parts availability; repair funds availability and repair resources availability. Items which meet all these criteria are entered onto the D035K EXPRESS table for transfer to the shop. Items which fail one or more of these criteria are identified to Shop PRO, where workload managers can resolve supportability constraints.

3.22.19.32.6. **(Added-AFSC)** D143B - Central Edit, Index and Routing Subsystem. The D143B system is a key feature of the Air Force Recoverable Assembly Management System (AFRAMS). It is designed to provide all using systems with current and consistent management data for all stock numbers for which the ALC has AF item management (wholesale) responsibility [D032, Stock Control and Distribution System (SC&D)] and all stock numbers applicable to the local special support system (D034A). The D1438 subsystem verifies SRANs and routes incoming products to appropriate data systems and ALCs.

3.22.19.32.7. **(Added-AFSC)** D143C – Air Force/Federal Logistics Information System (FLIS) edit and routing system (AFERS). Provides the ALC with a single source for the input and routing of materiel identification data destined for Air Force, Defense Logistics Services Center (DLSC), and other services or agencies and cataloging systems participating in the Federal Logistics Information System (FLIS). DLSC/FLIS is also a source of input transaction to D143C. D143C has one job that runs at all 3 ALCs to handle the D143C Key plus input. All other batch jobs, including all interface processing, run only at WPAFB, Monday through Friday.

3.22.19.32.8. **(Added-AFSC)** SPM – Requirement Data Bank. The Requirements Data Bank (RDB) system comprises a set of major logistics processes and models integrated by a large relational database. (RDB) automates and integrates the Air Force materiel requirements determination process which computes procurement and repair requirements for spares, repair parts, and major equipment items. RDB uses a planning period of 38 quarters and re-computes quarterly. The RDB is the repository of detailed information showing the indentured application of every individual part of each aircraft type or end item. Within this structure the system holds the historical and planning data needed to support computation of quantities for buy and repair. The data includes: Past and projected weapon system operating programs, future readiness goals, maintenance and modification schedules, item failure rates and condemnations. Data query, modeling, and management report generation are on-line.

3.22.19.32.9. **(Added-AFSC)** E046B - Labor Standard Mechanization System. The E046B system provides the capability to set up and maintain labor standards for the ALC within the Air Force Materiel Command.

3.22.19.32.10. **(Added-AFSC)** G004C - Workload Programming, Planning, and Control. The G004C system reflects the capability of the MXSG to perform all assigned workloads. This effort is supported by ALC/OBWW and the MXSG Resource Management Section (OBW) and Maintenance Industrial Fund Cost Section (ACFCI) at the various ALCs. The primary effort within OBW is the planning of depot level maintenance workloads to efficiently use available resources while satisfying the needs of its customers. This effort supports the MXSG customer negotiations process and allows a determination as to which of the stated workload requirements can be supported by the MXSG. This system provides the mechanized data in which the workload and resource posture is portrayed for the current plus four years.

3.22.19.32.11. **(Added-AFSC)** G004L – Job Order Production Master System. Provides the basis for job order costing by end item identity. The system accounts for end items input to work, accumulates hours earned during the repair process, outputs these hours to other data systems for computation of effectiveness, creates work-in-process records, and accumulates production units

completed for output to SPG in DMAPSIE at the job order level which results in revenue to offset costs incurred. The system provides many data products for use at different levels of management. **Note:** These products track production and how earned hours.

3.22.19.32.12. **(Added-AFSC)** G005M - Depot Maintenance Material Support System. The G005M system is used to store, update, and retrieve data on standard Bills of Material, developed by IET (maintenance planners), in direct support of items repaired by the ALC.

3.22.19.32.13. **(Added-AFSC)** G019C - MISTR Requirements, Schedules, and Analysis. (MISTR = Management of Items Subject to Repair). The purpose of the G019C system is to provide the SP and SOR ALC with management information needed to respond to the short repair turnaround time required by the depot repair cycle. The system is used to schedule items for repair and monitor.

3.22.19.32.14. **(Added-AFSC)** G020 – Mechanized Scheduling and Control System. To provide maintenance with scheduling and analysis data on reparable items.

3.22.19.32.15. **(Added-AFSC)** DMAPS-DIFMS Depot Maintenance Accounting and Production System - Defense Industrial Financial Management System. G097 – Programmed Depot Maintenance Scheduling System (PDMSS). The USAF standard project management information system, which facilitates planning, tracking, scheduling and execution, and performance measurement activities for programmed/unprogrammed Depot Maintenance Workload at Air Logistics Complexes (ALCs). The defense depot maintenance council Joint Policy Coordinating Group-Depot Maintenance (JPCG-DM) requirements supported by PDMSS include: Facilitate workflow scheduling by operation and major job, optimize resource allocation, manage capacity and labor utilization more effectively, facilitate competitive positioning, and strengthen performance measurement visibility.

3.22.19.32.16. **(Added-AFSC)** G336 – Maintenance Workload Management System (MWMS). Provides personnel in the Production Groups the capability to establish and file maintain both the permanent workload requirements master records and the temporary work authorization records necessary to validate and authorize the accomplishment of workloads. IT also provides capability to electronically initiate, coordinate, and track current quarter renegotiations and quarterly negotiations. In addition, IT provides the capability to electronically initiate planning documents and file maintain existing planning data. Each of these transactions can be electronically transferred from one ALC to another along with data retrieval and data updates. MWMS was designed, written, and implemented by the systems prototype laboratory at OO-ALC.

3.22.19.32.17. **(Added-AFSC)** G337 – Inventory Tracking System (ITS). Tracks repairable end items from time of induction to time of turn-in. IT assigns item tracking number to all parts as they come in and subsequently tracks them through disassembly, repair, and assembly. The system provides management information to all levels of management and provides inventory control. G337 legacy will be decommissioned upon full implementation of the G337 technical refresh (FY04).

3.22.20. Control of Manufacture. HQ AFSC will develop, implement, and maintain processes and procedures for the control of manufacture of items at the ALCs. Items to be manufactured must meet one of the following criteria:

3.22.20.1. Organic accomplishment is necessary for the Air Force to maintain an in-service depot maintenance capability for mission-essential items.

3.22.20.2. Acquisition of the part from a commercial source will result in higher cost to the Air Force.

3.22.20.3. The product or service is not available through inter-service or other Federal agencies.

3.22.20.4. Acquisition from private commercial sources will disrupt or materially delay an Air Force program.

3.22.20.5. A satisfactory commercial source is not available and cannot be developed in time to provide the part when needed.

3.22.21. G004L Computation Costs. HQ AFSC will ensure the ALCs properly compute cost for the following:

3.22.21.1. Expense Material Cost.

3.22.21.1.1. **(Added-AFSC)** To compute the Expense Material Cost (EMC) for an operation (for all operations with cost code A), multiply the Stocklist Price (SLP) times the Material Quantity (MQ), then summarize the results up to operation number level (there can be multiple different items of material for any given operation).

$$\text{EMC} = \text{SLP} \times \text{MQ}$$

3.22.21.2. Investment Material Cost.

3.22.21.2.1. **(Added-AFSC)** To compute the Investment Material Cost (IMC) for an operation (for all operations with cost code M/D/T/X/Z), multiply the SLP times the MQ, then summarize the results up to operation number level. If the Cost code is E, use the average repair cost in the same formula. In both cases, the product may contain up to six-dollar positions and two cents' positions. Transactions exceeding these limits will be error coded and output on listing.

If the cost code is M/D/T/X/Z:

$$\text{IMC} = \text{SLP} \times \text{MQ}$$

If the cost code is E:

$$\text{IMC} = \text{Average Repair Cost} \times \text{SLP} \times \text{MQ} \text{ (Round to two decimal places)}$$

3.22.21.3. Budgeted Labor Cost.

3.22.21.3.1. **(Added-AFSC)** To compute the BLC for an operation (the cost of the labor required for completing that operation on all end items in the JOQ), multiply the Operation Count Limit (OCL) times the Operation Standard Hours (OSH), and multiply the result times the rate (from G004C) for the RC/CC. The product may contain up to six-dollar positions and two cents' positions. Transactions exceeding these limits will be error coded and output on a listing.

$$\text{BLC} = \text{OCL} \times \text{OSH} \times \text{RC/CC Rate}$$

3.22.21.4. EISP.

3.22.21.4.1. **(Added-AFSC)** To compute the EISP (the EISP is needed on all WADS with UOM = EA), summarize the Expense Material Cost (total EMC) for the job; summarize the BLC for the job; add these two totals to the Other Direct Cost (ODC), and divide the result by the JOQ. The product may contain up to six-dollar positions and two cents' positions. Transactions exceeding these limits will be error coded and output on listing. If BOMI = M.

$$\text{EISP} = (\text{EMC} + \text{BLC} + \text{ODC}) / \text{JOQ} \text{ If BOMI} = \text{R, the BLC must include the RC/CC direct material rate (Basic RC/CC Rate} + \text{Direct Material Rate) EISP} = \text{BLC} + \text{ODC}$$

3.22.21.5. End Item Hourly Rate.

3.22.21.5.1. **(Added-AFSC)** To compute the End Item Hourly Rate (EIHR needed on all WADS with UOM = HR), add the total expense materiel cost (EMC), the total labor cost (BLC), and the ODC. Divide this sum by the total standard hours (TSH) for the job, round the result to whole dollars, rejecting any job with over three significant digits. Also, round the results to three decimal positions.

$$\text{HSR} = (\text{EMC} + \text{BLC} + \text{ODC}) / \text{TSH}$$

3.22.21.6. End Item Labor Standard.

3.22.21.6.1. **(Added-AFSC)** To compute the end item labor standard, divide the total standard hours for the job by the JOQ, round the result to two decimal positions.

$$\text{HSR} = (\text{EMC} + \text{BLC} + \text{ODC}) / \text{TSH}$$

3.22.21.7. Standard Expense Material Cost.

3.22.21.7.1. **(Added-AFSC)** To compute the standard expense materiel cost for an operation, divide the total EMC for the operation by OCL for operation, round the result to three decimal positions.

$$\text{EILS} = \text{TSH} / \text{JOQ}$$

3.22.21.8. Standard Investment Material Cost.

3.22.21.8.1. **(Added-AFSC)** To compute the SIMC for an operation, divide the total IMC for the operation by the OCL for the operation, round the result to three decimal positions.

$\text{SIMC} = \text{IMC} / \text{OCL}$

3.22.21.8.2. **(Added-AFSC)** Standard Expense Material Cost (SEMC). To compute the standard expense material cost for an operation, divide the total EMC for the operation by OCL for operation, round the result to three decimal positions.

$\text{SEMC} = \text{EMC} / \text{OCL}$

3.22.21.9. End Item Identity.

3.22.21.9. **(AFSC)** End Item Identity (EII) Configuration. The G004L system edits each EII relative to the RGC, and JD. These identities relate to type of end item and funds source.

3.22.21.9.1. **(Added-AFSC)** The end item stock number, MDS, or technical assistance identities (customer account identity) description must be entered in the FSC/stock number blocks of each WAD. The accuracy and correct application of these entries are essential to the continued integrity of the data system and end item production reporting to DoD. The finite structuring of this entry is such that if an erroneous entry is made in any of the designated fields, the computer cannot adequately interpret and provide useful data.

3.22.21.9.2. **(Added-AFSC)** The MDS entry must match the established Air Force approved MDS table of standard configurations. The establishment and maintenance of the MDS master file is the responsibility of the ALC. This MDS validation table must include each MDS end item in work in the depot, or to be input on future program. System OPR will maintain the table of acceptable MDS identities in the G004L system in coordination with ALC. Locally assigned identities will not be entered in the MDS master file or on the WAD. However, if two or more WADs have the same MDS, the noun entry (8 alphas or numeric) may be used to identify each separately by customer, etc.

3.22.21.9.3. **(Added-AFSC)** Each WAD that is prepared for an end item or group of items will reflect entries in the class code and stock number block as prescribed.

3.22.22. Process Narratives. HQ AFSC will ensure process narratives are developed for the following:

3.22.22.1. Due In from Overhaul (DIOH) Reconciliation Process.

3.22.22.1. **(AFSC)** DIOH Reconciliation Process Narrative.

3.22.22.1.1. **(Added-AFSC)** The Air Logistics Complexes (ALCs) utilize a variety of production management reports, maintenance information systems (MISs), and D035K to manage organic depot maintenance processes, such as maintenance scheduling and financial management. The

DIOH On Work Order (OWO) Reconciliation process is documented in this instruction. The DIOH Reconciliation process involves two organizational entities: Defense Logistics Agency-Aviation (DLA-A) and the organic depot repair activity. MISs range from AF standard systems to systems unique to a single ALC. The production controller (scheduler) is responsible for keeping the DIOH in balance between the following systems: D035K, G402A, G004L, Impresa, LDMS/G300 and ITS/G337. The tracking and control of exchangeable items is accomplished through the materiel management system D035K DIOH program as the supply accountable property system of record (APSR), but G004L is the accountable maintenance financial system.

3.22.22.1.2. **(Added-AFSC)** The DIOH Reconciliation process is a systematic approach to determining the correct decision regarding the mismatch of balances between the aforementioned systems. The three ALCs have established a weekly reconciliation process to determine out of balance quantities for AF owned/managed supply accountable items in the organic depot repair cycle, i.e., DIOH and OWO. More specifically, the reconciliation is focused on balances between the materiel management system (D035K) and the various MISs at the ALCs.

3.22.22.1.3. **(Added-AFSC)** By using this process, one can identify, research, formulate, correct, and verify that correct balances are maintained. The DIOH Reconciliation and correction process is a five-step systematic approach to determining the correct decision regarding balances:

3.22.22.1.3.1. **(Added-AFSC)** Identify the type of error: The first step to identifying DIOH out of balances is to access the G004L L2A report. Erroneous transactions that could affect the balances initially appear on this report. This report should be worked daily and reconciled to the AFSC Form 105, *Workload Record*, IAW the appropriate DMM. Corrections to rejected transactions should eliminate a DIOH out of balance. The DIOH out of balance will appear on the weekly G004L W5C report.

3.22.22.1.3.2. **(Added-AFSC)** Research and gather information: Researching DIOH out of balances is the process of using various production systems to obtain information and support for any correcting transactions. Systems used to research out of balance errors may include G004L, D035K, G402A, Impresa, LDMS, and ITS/G337. Other reporting tools are used, as required, such as Center of Parts Activity (COPA) and the manual record (AFSC Form 105).

3.22.22.1.3.3. **(Added-AFSC)** Formulate the process of correction: The process of correction is the analytical process of evaluating the information gathered and analyzing it to determine the cause and corrective course of action. In most cases, it requires that a comparison of the AFSC Form or an electronic version approved by the OPR with the G004L L2A/W5C reports and D035K to ensure that all transactions have processed correctly in each of the systems.

3.22.22.1.3.4. **(Added-AFSC)** Correct the out of balance: Correcting the DIOH out of balance is the process of finding, creating, and processing a transaction in one of the aforementioned systems to bring that system or systems back into balance. This correction may require support from DLA-A with the use of an AFSC Form 94, *DIOH Out of Balance Reconciliation Worksheet*, and/or Report of Survey (ROS) with the use of an AFSC Form 94.

3.22.22.1.3.5. **(Added-AFSC)** Verify the correction: Verifying the DIOH error correction achieves accurate accounting by comparing the balances in all the affected systems after the correction or corrections have been processed.

3.22.22.1.4. **(Added-AFSC)** This process flow narrative addresses the daily/weekly data reconciliation process between D035K and key production systems relevant to organic depot repair activity. It is incumbent upon the production controller (scheduler) to follow this process to keep DIOH balanced between the systems and ensure paper record (AFSC Form 105) are kept up to date.

3.22.22.2. In-Transit Reconciliation Process.

3.22.22.2. **(AFSC)** In-Transit Reconciliation Process Narrative.

3.22.22.2.1. **(Added-AFSC)** This process flow narrative addresses the weekly data reconciliation of the DIOH transactions with outstanding in-transits to and from maintenance greater than seven days. This process details the reconciliation process between D035K and the maintenance information systems (MISs) for outstanding in-transits. It is incumbent upon the production controller (scheduler) to follow this process to ensure audit compliance with item accountability. Inductions and completions of production end items from supply sources will be accomplished by a D7M RA-CL, receipt acknowledgement or turn-in transaction, or by a D6M_T in ITS/G337, Impresa, LDMS or appropriate MIS which passes to D035K. Once an end item is receipted back into supply, there will be a D6M RT in D035K.

3.22.23. **(Added-AFSC) DIOH Reconciliation Process**

3.22.23.1. **(Added-AFSC)** This process flow narrative addresses the daily/weekly data reconciliation process between D035K and key production systems relevant to organic depot repair activity. It is incumbent upon the production controller (scheduler) to follow this process to keep DIOH balanced between the systems and to ensure paper/electronic records (AFSC Form 105) are kept up to date. The production controller (scheduler) will at a minimum:

3.22.23.2. **(Added-AFSC)** Pull the L2A report daily from the G004L system for the Production Section Scheduling Designator (PSSD) assigned.

3.22.23.2.1. **(Added-AFSC)** If there is a L2A report for the day. Further research must be taken to compare the L2A report to the AFSC Form 105 to ensure the transactions contain all the correct data elements. Data elements to include but are not limited to Production Number (PDN), Job Order Number (JON), National Stock Number (NSN), End Item Document Number (EIDN), and quantity.

3.22.23.2.1.1. **(Added-AFSC)** If above data elements match from the AFSC Form 105, then annotate 'no corrections required' on the L2A report, sign, and date.

3.22.23.2.1.2. **(Added-AFSC)** On the AFSC Form 105 click or check L2A box after the G004L-L2A report is verified that the transaction contains all the correct data elements.

3.22.23.2.2. **(Added-AFSC)** If there are errors that exist on the L2A report the production controller (scheduler) will:

3.22.23.2.2.1. **(Added-AFSC)** Verify all reject and error corrections in the effected systems and attach supporting documentation to the L2A report that shows the reject or error.

3.22.23.2.2.2. **(Added-AFSC)** Determine if above data elements match from the AFSC Form 105.

3.22.23.2.2.3. **(Added-AFSC)** File the L2A report (either paper or electronically) within the immediate work area for quick access.

3.22.23.2.2.4. **(Added-AFSC)** Retain documentation (e.g., L2A report, AFSC Form 105, etc.) either paper or electronically IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.2.2.5. **(Added-AFSC)** If corrections had to be made, annotate them on the L2A report once all corrections and documentation have been completed, with the corrective action taken, sign, and date. Retain documentation (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.2.3. **(Added-AFSC)** If there is no L2A report, which means there are no system transactions for the day prior, the production controller (scheduler) will:

3.22.23.2.3.1. **(Added-AFSC)** Attest by signing and dating the locally approved DIOH worksheet, that there was not a L2A report for that specified PSSD and date.

3.22.23.2.3.2. **(Added-AFSC)** File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.3. **(Added-AFSC)** Pull the W5C report weekly from the G004L system for the Production Section Scheduling Designator (PSSD) assigned.

3.22.23.3.1. **(Added-AFSC)** If out of balances are listed on the W5C report, done by a comparison between the prior week's report and the current week's report, and are seven days or older, the production controller (scheduler) will research the out of balance using the various production systems to obtain information to identify where the out of balance exists.

3.22.23.3.1.1. **(Added-AFSC)** If the out of balance is because of an in-transit to maintenance, see Receipt Acknowledgement section for further guidance.

3.22.23.3.1.2. **(Added-AFSC)** If the out of balance is because of an in-transit to supply, see Receipt Transaction (RT)/Turn-In section for further guidance.

3.22.23.3.1.3. **(Added-AFSC)** If the MIS is out of balance, the production controller (scheduler) will determine which of the MIS is out of balance knowing that D035K is the APSR.

3.22.23.4. **(Added-AFSC)** If the out of balance exists from an errant sale of inputting an incorrect NSN, PDN/JON, and/or end item document number, the production controller (scheduler) will submit AFSC Form 94 to request a transaction reversal in D035K. A request for a transaction reversal in D035K that contains the following minimum information: document identifier code (DIC) (i.e., D6M), document number, quantity, PDN/JON, erroneous date of transaction, and condition code. Retain a copy of the AFSC Form 94.

3.22.23.4.1. **(Added-AFSC)** DLA-A will accomplish the necessary transaction in D035K.

3.22.23.4.2. **(Added-AFSC)** DLA-A will return AFSC Form 94 with action taken.

3.22.23.4.3. **(Added-AFSC)** Production Controller (scheduler) will verify the reversal in the MIS, re-input the correct transaction in the appropriate MIS, verify all corrections, and attach supporting documentation to the W5C report.

3.22.23.4.4. **(Added-AFSC)** Once all corrections and documentation have been completed, annotate on the W5C report the corrective action taken, sign, and date. File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.5. **(Added-AFSC)** If there is no W5C report, which means there are no system imbalances and the production controller (scheduler) is in balance with the systems, the production controller (scheduler) will:

3.22.23.5.1. **(Added-AFSC)** Attest by signing and dating the AFSC Form 011 worksheet, that there was not a W5C report for that specified PSSD and date.

3.22.23.5.2. **(Added-AFSC)** File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.6. **(Added-AFSC)** Reconcile the AFSC Form 105 to the MIS to ensure all match. If the AFSC Form 105 does not match with the MIS, the production controller (scheduler) will research and determine if the AFSC Form 105, or MIS is out of balance.

3.22.23.6.1. **(Added-AFSC)** Make appropriate corrections to the AFSC Form 105 or take corrective action in the appropriate MIS.

3.22.23.6.2. **(Added-AFSC)** Production Controller (scheduler) will verify all corrections and attach supporting documentation to the W5C report.

3.22.23.6.3. **(Added-AFSC)** Once all corrections and documentation have been completed, annotate on the W5C report the corrective action taken, sign, and date. File this documentation

(either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.7. **(Added-AFSC)** Review the W5C report to identify out of balance conditions. Research compared to D035K to determine if the M balance is too high or too low in comparison to what is on work (OWO), Awaiting Maintenance (AWM), or Awaiting Parts (AWP) in the MIS.

3.22.23.7.1. **(Added-AFSC)** If the M balance against a NSN in D035K needs to be adjusted, the production controller (scheduler) will complete an AFSC Form 94.

3.22.23.7.2. **(Added-AFSC)** Send the AFSC Form 94 to DLA-A and retain a suspense copy on file. Follow up with DLA-A within five calendar days on status.

3.22.23.7.3. **(Added-AFSC)** DLA-A will accomplish the necessary adjustments in D035K.

3.22.23.7.4. **(Added-AFSC)** DLA-A will notify the production controller (scheduler) by completing the AFSC Form 94 with the action taken.

3.22.23.7.5. **(Added-AFSC)** Production controller (scheduler) will verify all corrections in the appropriate MIS and attach supporting documentation to the W5C report.

3.22.23.7.6. **(Added-AFSC)** Once all corrections and documentation have been completed, annotate on the W5C report the corrective action taken, sign, and date. Close out the report by filing it (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.23.8. **(Added-AFSC)** It is incumbent upon the production controller (scheduler) to keep the systems balanced as well as keeping AFSC Form 105 in line with the MIS and D035K. Whenever adjustments are made in the MIS and D035K, which affect an AFSC Form 105, the production controller (scheduler) must make the appropriate corrections on the form in question. It is incumbent upon the production controller (scheduler) to ensure that all assets OWO end item document numbers match in the MIS and D035K as well as on the forms.

3.22.23.9. **(Added-AFSC)** To ensure audit compliance, the production controller (scheduler) will retain records (either paper or electronically) of the G004L L2A/W5C reports that are worked on a daily and weekly basis, respectively, and AFSC Form 105 as back up records IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance. If a production controller (scheduler) is reassigned or moved from the PSSD in question, the workload moved to another PSSD, or the workload is terminated, the records must be retained or accompany the workload in question. All files will be retained (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance. All records must be available if requested by an auditor.

3.22.24. **(Added-AFSC) Receipt Acknowledgement (RA).**

3.22.24.1. **(Added-AFSC)** When conditions exist due to an in-transit to maintenance, the production controller (scheduler) will at a minimum:

3.22.24.2. **(Added-AFSC)** Pull the G402A RA Suspense or LDMS In-transit listing weekly.

3.22.24.2.1. **(Added-AFSC)** Use one of the above reports to determine if there are any transactions older than seven days for the Production Section Scheduling Designator (PSSD) assigned.

3.22.24.2.2. **(Added-AFSC)** If there are no items greater than seven days, the production controller (scheduler) will annotate on the G402A RA Suspense or LDMS In-transit listing 'No RAs to clear over seven days' for week of, using the date of that week, sign, date. File the G402A RA Suspense or LDMS In-transit listing (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.3. **(Added-AFSC)** If there are items on the G402A RA Suspense or LDMS In-Transit listing that are greater than seven days old, the production controller (scheduler) will:

3.22.24.3.1. **(Added-AFSC)** Perform a physical search to determine if the item has been delivered to the shop and collaborate with Defense Logistics Agency-Aviation (DLA-A) when appropriate.

3.22.24.3.2. **(Added-AFSC)** If the item is located, the production controller (scheduler) will clear the RA (D7M-RA-CL) in the appropriate MIS and attach the applicable L2A or applicable D035K RINA screenshot to the G402A RA Suspense or LDMS In-transit listing and sign, date. File the G402A RA Suspense or LDMS In-transit listing (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.3.3. **(Added-AFSC)** If the missing item is not located, the production controller (scheduler) will complete either an AFSC Form 94 to notify DLA-A of the missing item or a Web Supply Discrepancy Report (WebSDR) to notify Defense Logistics Agency-Depot Distribution (DLA-DD) of the missing item.

3.22.24.3.3.1. **(Added-AFSC)** The production controller (scheduler) will retain a suspense copy of the AFSC Form 94 or WebSDR.

3.22.24.3.3.2. **(Added-AFSC)** Follow up with DLA-A or DLA-DD within five calendar days on the status of the missing item.

3.22.24.3.3.3. **(Added-AFSC)** Verify the corrections in the appropriate MIS, attach supporting documentation to the G402A RA Suspense or LDMS In-transit listing, annotate on the G402A RA Suspense or LDMS In-transit listing the corrective action taken, sign, date. File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.4. **(Added-AFSC)** If there is no G402A RA Suspense or LDMS In-transit listing to pull, the production controller (scheduler) will:

3.22.24.4.1. **(Added-AFSC)** Attest by signing and dating the AFSC Form 010 that there was no G402A RA Suspense or LDMS In-transit listing to pull for that specified PSSD and date.

3.22.24.4.2. **(Added-AFSC)** File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.5. **(Added-AFSC)** Pull the Center of Parts Activity (COPA) DIOH D7M In-Transit with no RA report.

3.22.24.5.1. **(Added-AFSC)** If there are no items greater than seven days, the production controller (scheduler) will annotate on the COPA DIOH D7M In-Transit report 'No RAs to clear over seven days' for week of, using the date of that week, sign, date. File the COPA DIOH D7M In-Transit report and retain (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.6. **(Added-AFSC)** If there are items on the (COPA) DIOH D7M In-Transit report that are greater than seven days old, the production controller (scheduler) will:

3.22.24.6.1. **(Added-AFSC)** Perform a physical search to determine if the item has been delivered to the shop and collaborate with Defense Logistics Agency-Aviation (DLA-A) when appropriate.

3.22.24.6.2. **(Added-AFSC)** If the item is located, the production controller (scheduler) will clear the RA (D7M-RA-CL) in the appropriate MIS and attach the applicable L2A or applicable D035K RINA screenshot to the G402A RA Suspense and sign, date. File the G402A RA Suspense or LDMS In-transit listing (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.6.3. **(Added-AFSC)** If the missing item is not located, the production controller (scheduler) will complete either an AFSC Form 94 to notify DLA-A of the missing item or a Web Supply Discrepancy Report (WebSDR) to notify Defense Logistics Agency-Depot Distribution (DLA-DD) of the missing item.

3.22.24.6.3.1. **(Added-AFSC)** The production controller (scheduler) will retain a suspense copy of the AFSC Form 94 or WebSDR.

3.22.24.6.3.2. **(Added-AFSC)** Follow up with DLA-A or DLA-DD within five calendar days on the status of the missing item.

3.22.24.6.3.3. **(Added-AFSC)** Verify the corrections in the appropriate MIS, attach supporting documentation to the G402A RA Suspense or LDMS In-transit listing, annotate on the G402A RA Suspense or LDMS In-transit listing the corrective action taken, sign, date, and file this

documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.7. **(Added-AFSC)** If there is no COPA DIOH D7M In-Transit with no RA report to pull, the production controller (scheduler) will:

3.22.24.7.1. **(Added-AFSC)** Attest by signing and dating the AFSC Form 009 that there was no COPA DIOH D7M In-Transit with no RA report for that specified PSSD and date.

3.22.24.7.2. **(Added-AFSC)** File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.24.8. **(Added-AFSC) Mis-Identified Asset.**

3.22.24.8.1. **(Added-AFSC)** If an incorrect item (misidentified) is delivered to the shop, the production controller (scheduler) will:

3.22.24.8.2. **(Added-AFSC)** Clear the RA Suspense in the appropriate MIS.

3.22.24.8.3. **(Added-AFSC)** Identify the correct national stock number (NSN) for the item. For further assistance consult the Supply Planner (SP), Engineering, or Equipment Specialist (ES).

3.22.24.8.4. **(Added-AFSC)** Process a DF1 in G402A (EPS) or LDMS for the misidentified item to correct the balance.

3.22.24.8.5. **(Added-AFSC)** Determine if the shop will retain or return the misidentified item.

3.22.24.8.5.1. **(Added-AFSC)** If the misidentified item is to be returned to supply, a D6M transaction will be processed using the correct NSN.

3.22.24.8.5.2. **(Added-AFSC)** If the item is retained for repair, the item will be put on work order (OWO) in accordance with this chapter.

3.22.24.8.6. **(Added-AFSC)** Verify corrections in the appropriate MIS and attach supporting documentation to the G402A RA Suspense or LDMS In-transit listing. Annotate on the G402A RA Suspense or LDMS In-transit listing corrections and documentation has been completed with the corrective actions taken, sign, date. File and retain the G402A RA Suspense or LDMS In-transit listing and supporting documentation (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.25. **(Added-AFSC) Receipt of Turn (RT) Turn-In.**

3.22.25.1. **(Added-AFSC)** When conditions exist due to an in-transit to supply, the production controller (scheduler) will at a minimum:

3.22.25.2. **(Added-AFSC)** Pull the Center of Parts Activity (COPA) DIOH D6M In-Transit with no RT report for the Production Section Scheduling Designator (PSSD) assigned.

3.22.25.2.1. **(Added-AFSC)** Determine if the in-transit is greater than seven days old.

3.22.25.2.2. **(Added-AFSC)** If there are no in-transit receipts (D6M RT) pending processing by DLA-DD greater than seven days old, the production controller (scheduler) will annotate on the report No RTs pending to clear over seven days' for week of (use the date of that week), sign, date. File the report and retain (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.25.3. **(Added-AFSC)** If there are in-transits on the report which are seven days or older, the production controller (scheduler) will perform a physical search within the shop to validate that the item was handed off to DLA-A/DLA-DD to return to supply. Production Controller (scheduler) will also work with DLA-A/DLA-DD to search for the missing item to see if the item is still awaiting processing in any of the various DLA staging areas.

3.22.25.4. **(Added-AFSC)** If the missing item is located, the production controller (scheduler) will work with DLA-A/DLA-DD to have the item processed and monitor the transaction history in D035K for the RT.

3.22.25.5. **(Added-AFSC)** Once the RT is verified in D035K, the production controller (scheduler) will attach the D035K RINA screenshot to the report and annotate on the report the corrective action taken, sign, date. File the report and retain (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.25.6. **(Added-AFSC)** If the missing item is not located, the production controller (scheduler) will complete an AFSC Form 94 to notify DLA-A of the missing item or a WebSDR to notify DLA-DD of the missing item. The production controller (scheduler) will:

3.22.25.6.1. **(Added-AFSC)** Retain a suspense copy of the AFSC Form 94 or the WebSDR.

3.22.25.6.2. **(Added-AFSC)** Follow up with DLA-A or DLA-DD within five calendar days on the status of the missing item.

3.22.25.6.3. **(Added-AFSC)** If the item has been found, the production controller (scheduler) will ensure the receipt is input into the appropriate MIS, attach supporting documentation to the report, annotate on the report the corrective action taken, sign, date. File documentation and retain (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.25.6.3.1. **(Added-AFSC)** If the missing item is still not located after all exhaustive research has been completed, the production controller (scheduler) will submit the original AFSC Form 94 with documentation of the research conducted to notify DLA-A of the missing item and request to

drop the in-transit to supply balance. The production controller (scheduler) will retain a suspense copy of the AFSC Form 94 pending action taken by DLA-A.

3.22.25.6.3.2. **(Added-AFSC)** Production Controller (scheduler) Scheduler will follow up with DLA-A within five business days on status.

3.22.25.6.3.3. **(Added-AFSC)** DLA-A will accomplish the necessary transaction in D035K.

3.22.25.6.3.4. **(Added-AFSC)** DLA-A will notify the production controller (scheduler) by completing the AFSC Form 94 with the action taken.

3.22.25.6.3.5. **(Added-AFSC)** Production Controller (scheduler) Scheduler will verify the transaction in D035K and attach the D035K RINA screenshot to the report and annotate on the report the corrective action taken, sign, date. File the documentation and retain (either paper or electronically) IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.25.7. **(Added-AFSC)** If there is no (COPA) DIOH D6M In-Transit with no RT report for the week, the production controller (scheduler) will:

3.22.25.7.1. **(Added-AFSC)** Attest by signing and dating the AFSC Form 008 that there was not a Center of Parts Activity (COPA) DIOH D6M In-Transit report for that specified PSSD and date.

3.22.25.7.2. **(Added-AFSC)** File this documentation (either paper or electronically) and retain IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) for audit compliance.

3.22.26. **(Added-AFSC)** Supply Inventory held for Repair by Organic Depot Maintenance.

3.22.26.1. **(Added-AFSC)** This guidance provides details in conducting the annual 100% inventory, and the required documentation to support it. This guidance applies to the inventory process for Air Force owned assets undergoing maintenance, repair and overhaul (MR&O) by the Air Force Sustainment Center's (AFSC) Air Logistics Complexes (ALC) depot maintenance activities.

3.22.26.2. **(Added-AFSC)** AFSC/A4M will provide oversight of the annual 100% inventory execution and ensure the required supporting documentation is maintained. AFSC/A4M will provide the baseline inventory list to the Air Logistics Complexes (ALC). The baseline is a list of all assets undergoing MR&O at the ALCs. These assets are tracked in D035K as condition code "M" and in the maintenance information systems as OWO, AWM and/or AWP status.

3.22.26.3. **(Added-AFSC)** The ALCs will task the maintenance activities with the inventory requirements and the baseline list. The inventory reporting dates will also be provided to the groups. This inventory will be a floor-to-book inventory. D035K is the "book", and the maintenance shops/maintenance information systems (MIS) will be the "floor". The Inventory

Count Sheet will be used to conduct and document the inventory for each individual item. If there are multiple NSNs undergoing the count, the additional NSNs may be attached to the form.

3.22.26.4. **(Added-AFSC)** All assets on the baseline inventory list will be physically counted and documented on an AFSC Form 400.

3.22.26.5. **(Added-AFSC)** For assets that are out-of-balance (OOB), another count will be conducted and transactional research will be performed to determine if an asset was inducted, sold, or misidentified after the baseline inventory list was provided. Inducted assets will show a D7M receipt acknowledgment (RA clear), and a sold will show a D6M with a minus the M (-M) and a Z in-transit.

3.22.26.6. **(Added-AFSC)** If the NSN is still out of balance, an AFSC Form 94, *Inventory Research Worksheet*; will be initiated to indicate the research actions taken and results of research actions.

3.22.26.7. **(Added-AFSC)** The AFSC Form 94 will be signed by the appropriate level of leadership (Flight Chief, Squadron CL Group DD, or Complex CC) depending on the cost of the asset. **Note:** the approval is certifying that complete and adequate research has been accomplished and there is no reason to believe there is theft, fraud and misdemeanor.

3.22.26.8. **(Added-AFSC)** Once the AFSC Form 94 has been signed, it will be given to DLA-A to make the adjustments to the appropriate condition code in D035K.

3.22.26.9. **(Added-AFSC)** All supporting documentation will be maintained for two years with the scheduling documentation in accordance with the depot maintenance records retention rule.

CHAPTER 4

SUNSHADE MANAGEMENT

4.1. Purpose. This instruction outlines overall management responsibilities for aircraft sunshades, crew shelters and portable/inflatable shelters. Additionally, it provides guidance and a standardized approach to procure and sustain these equipment items.

4.1.1. Aircraft sunshades and other shelter types as defined below and addressed in this instruction are considered equipment items for accountability purposes and will be tracked/ accounted for on appropriate documents on a Custodian Inventory Report (CIR) and managed IAW DAFMAN 23-122, *Materiel Management Procedures*.

4.1.2. These assets do not require an equipment authorization because sunshades are not required support equipment for the weapons system. These assets are the responsibility of the owning organization.

4.1.3. HQ AFSC will ensure all other applicable organizations with appropriate subject matter expertise are involved in the procurement, installation, repair, sustainment, and replacement of these assets.

4.2. Definitions.

4.2.1. Aircraft Sunshades. Structure with the sole purpose of providing minimal protection for personnel from the elements (sun, wind, rain, snow, etc., excluding lightning) with a roof and a maximum of two sides.

4.2.1.1. Aircraft sunshades are not considered as temporary or relocatable facilities associated with Military Construction (MILCON) projects. Procedures for temporary or relocatable facilities associated with MILCON projects are contained in Department of the Air Force Instruction (DAFI) 32-1020, *Planning and Programming Built Infrastructure Projects*. Relocatable buildings are designed to be readily erected, disassembled, stored, moved, and reused to meet a short-term requirement for facilities due to either transitory peak requirements or urgent requirements pending approval, such as construction of facilities via normal military construction programs. According to DAFI 32-1020 the terms temporary and relocatable are interchangeable. Furthermore, DAFI 32-1020 provides guidance on satisfying interim facility requirements using relocatable or temporary facilities. Aircraft sunshades are not incident or interim to a MILCON project, nor are they in place to meet a temporary requirement; therefore, the terms temporary or relocatable as used in DAFI 32-1020 do not apply to aircraft sunshades.

4.2.1.2. Aircraft sunshades are not intended to replace aircraft maintenance hangars and as such there is no requirement associated with aircraft specifications or square footage allowances contained in DAFMAN 32-1084, *Standard Facility Requirement*.

4.2.2. Crew Shelters. Any portable or prefabricated structure placed inside, under or erected to support activities within an aircraft sunshade, hangar, hardened aircraft shelter or protective

aircraft shelter. These should not be confused with other shelters that are designed for personnel protection only (e.g., End-of-Runway shacks).

4.2.3. Portable/Inflatable shelters. A structure constructed with connected layers of membrane using pressurized air to produce a structure which covers limited areas (e.g., cargo aircraft engine, open fuel tanks) of an aircraft or equipment.

4.2.4. Stress Tension Shelter. A structure with fabric membrane in tension over a ridged frame.

4.2.5. Allied support: Utilities (e.g., electrical, water, air, Communications (COMM), etc.) provided up to a stub at each aircraft sunshade. Utilities are real property assets. Installation of new utility services carries a work classification of construction.

4.3. Responsibilities.

4.3.1. HQ AFSC will:

4.3.1. (AFSC) The ALC will:

4.3.1.1. Ensure standardized processes and procedures are developed, implemented, and maintained to support aircraft sunshade management.

4.3.1.2. Review all plans for procurement, installation, and sustainment of aircraft sunshades for initial procurement or modifications (e.g., lighting, power, compressed air, COMM, etc.) to existing aircraft sunshades with assistance from the submitting Air Base Wing (ABW) Operations (OS)/Civil Engineering (CE)/Safety (SE) offices.

4.3.1.3. Develop weather event baseline criteria if not previously developed so an organization can procure an acceptable aircraft sunshade suitable to its specific location. Consider annual days of sun, average wet bulb globe temperature, annual rainfall, and annual snowfall, Ultraviolet index, snow load, snow removal capability, wind sustainment requirements and temperatures that may affect work-rest cycles and overall productivity, etc.

4.3.1.4. Coordinate with the submitting ABW OS/CE/SE offices and proper civilian airport authorities when applicable prior to approving the procurement or installation of aircraft sunshades.

4.3.1.5. Approve/disapprove submitted request(s) based on information contained under the owning organization responsibilities section of this chapter.

4.3.1.6. Provide direction on the specific types and sizes of aircraft sunshades to use for each application.

4.3.2. Owning Organization.

4.3.2.1. The owning organization is the group level or equivalent organization responsible for the planning, funding, procurement, installation, maintenance, and lifetime sustainment of the aircraft sunshade including any installed utilities (e.g., lighting, obstructions in front of lighting, electrical, COMM, etc.) included in the project scope.

4.3.2.1.1. **(Added-AFSC)** As a minimum, the owning organization will:

4.3.2.1.1.1. **(Added-AFSC)** Ensure inspection of structural supports for signs of corrosion, excessive movement, cracking, or damage; lateral bracing for signs of corrosion, loosening, cracking, missing hardware, or fatigue damage, particularly at the connections; structural anchorage for signs of loosening and cracking around anchorage points on apron.

4.3.2.1.1.2. **(Added-AFSC)** Foreign Object, cleanliness and serviceability of installed safety markings.

4.3.2.1.1.3. **(Added-AFSC)** Lighting (if installed) for security and serviceability.

4.3.2.1.1.4. **(Added-AFSC)** Electrical system equipment, including electrical panels, receptacles, lighting systems, solar panels and conduit (if installed) for security and serviceability.

4.4. New Procurements.

4.4.1. HQ AFSC will ensure the owning organizations:

4.4.1. **(AFSC)** The ALC will ensure the owning organizations:

4.4.1.1. Develop plans for purchase, installation, acceptance, and sustainment then submit to ALC/ABW for plan approval. If the owning organization intends to request allied support, the owning organization should include these costs in the forecast. If allied support is required submit an AF Form 332, *Base Civil Engineer Work Request*, to Civil Engineering Customer Service.

4.4.1.2. Use DAFMAN 65-605V1, *Budget Guidance and Technical Procedure*, to determine correct appropriation for procurement and installation of aircraft sunshades or crew shelters described in this publication.

4.4.1.3. Use strategic sourcing, if available, for standardization and to leverage buying power from an enterprise perspective.

4.4.1.4. Consider all facets of aircraft sunshade sustainment; all applicable installation functional areas (CE [e.g., Community Planner], Airfield Management, Comm, SE, Medical, etc.) are involved in the siting and selection process and is approved by the installation's facility board prior to solicitation and procurement.

4.4.1.5. Use retro reflective beads for all apron, taxiway, and taxi lane markings near aircraft sunshades IAW Unified Facilities Criteria (UFC) 3-260-04, *Airfield and Heliport Marking*,

Unified Facilities Guide Specifications (UFGS) 32-17-23, *Pavement Markings*, and AFMAN 32-1040, *Civil Engineering Airfield Infrastructure Systems*.

4.4.1.6. Use reflective markings on corner structural supports regardless of lighting used.

4.4.1.7. Perform an evaluation of all proposed sunshade installation plans to ensure requirements in UFC 3-260-01, *Airfield and Heliport Planning and Design*, are met. If waivers are required, those waivers must be approved prior to contract award of the sunshade.

4.4.1.8. Install obstruction lights on aircraft sunshades that penetrate an airfield imaginary surface defined in UFC 3-260-01 IAW UFC 3-535-01, *Visual Air Navigation Facilities*, and conform to requirements contained in AFMAN 32-1040.

4.4.1.9. Comply with fuel servicing safety requirements IAW TO 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding*.

4.4.2. The ALC will submit approved planning materials to include drawings, dimensions, cost estimates and statements of work, as well as ramp work striping and support equipment requirements to Air Force Sustainment Center, Logistics Directorate (AFSC/LG) for review and staffing to AFSC/CA for final approval/disapproval.

4.4.2.1. Installation plan requirements. HQ AFSC will ensure the owning organization addresses the following items and those in paragraph 4.5 in installation plans submitted to ALC/ABW for approval.

4.4.2.1.1. Aircraft sunshade protection characteristics.

4.4.2.1.2. Compliance with UFC 3-301-01, *Structural Engineering*. Note: Consider jet blast potential in aircraft sunshade design and siting.

4.4.2.1.3. Number of spots to be covered.

4.4.2.1.4. Number of parking spaces lost due to aircraft sunshade placement. Consider ramp requirements, future mission changes, and impact on overall aircraft parking plan.

4.4.2.1.5. Design life expectancy and warranty information.

4.4.2.1.6. Expected costs including procurement, installation, and projected annual sustainment costs, to include inspection services.

4.4.2.1.7. Sustainment methodology (owning organization supported, manufacturer supported, supplemental contractor, etc.).

4.4.2.1.8. Foreign Object Damage (FOD) mitigation and prevention.

4.4.2.1.9. Planned storage of Aerospace Ground Equipment (AGE) and other related support equipment in aircraft sunshades within the maintenance area.

4.4.2.1.10. Provisions for electrical power units or powered AGE placement and protection from equipment exhaust and aircraft jet blast while operating in/near aircraft sunshades.

4.4.2.1.11. Environmental impacts and mitigation plans. Environmental impact analysis must be completed prior to contract award or implementation.

4.4.2.1.12. Conduct and include a Risk Management (RM) assessment IAW Air Force Policy Directive (AFPD) 90-8, *Environment, Safety, and Occupational Health Management and Risk Management*, and AFI 90-802, *Risk Management*, to determine potential impact to personnel, environmental, safety, occupational health and airfield operations before procurement and installation activities begin.

4.4.2.1.13. Mitigate any issues affecting control tower visibility or security to include security lighting and illumination and any issues affecting navigational aids.

4.4.2.1.14. Mitigate obstructions to airspace and file Federal Aviation Administration (FAA) Form 7460-1, *Notice of Proposed Construction or Alteration*, with the FAA for new construction.

4.4.2.1.15. Fall protection for personnel working above 4' off the ground IAW DAFMAN 91-203, *Air Force Occupational Safety, Fire and Health Standards*.

4.5. Design Criteria/Standards of New or Replacement Aircraft Sunshades. HQ AFSC will ensure the following design criteria and standards are addressed.

4.5.1. Type of materiel used. The owning organization will select materiels as appropriate for location, type of aircraft sunshade, and the mission being served.

4.5.2. Aircraft sunshade height and width. Aircraft sunshades must meet minimum clearance requirements for interior aircraft movement, entrances and exit points including taxi lanes or taxiways near the exterior of the structure. Refer to UFC 3-260-01.

4.5.3. Wing tip and tail height clearances will meet the requirements outlined in DAFMAN 91-203 and Unified Facilities Criteria (UFC) 03-260-01, *Airfield and Heliport Planning and Design*.

4.5.4. Bird nesting/roosting mitigation. Ensure no bird roosting or nesting locations are present, all holes in support structure and beneath roof must be covered or screened.

4.5.5. Airfield waivers. The owning organization will make every effort to prevent submission of new airfield waivers.

4.5.6. Terminal Instrument Procedures (TERPS) personnel evaluate plans for potential impacts on aircraft approach/departure procedures.

4.5.7. Lighting requirements. Lighting designs and fixture specifications will be IAW UFC 3-530-01, *Design, Interior and Exterior Lighting and Control*.

4.5.8. Electrical requirements. Electrical power system design will be IAW AFMAN 32-1062, *Electric Systems, Power Plants and Generators*, AFMAN 32-1065, *Grounding and Electrical Systems*, UFC 3-501-01, *Electrical Engineering*, UFC 3-520-01, *Interior Electrical Systems*, UFC 3-550-01, *Exterior Electrical Power Distribution*, UFC 3-600-01, *Fire Protection Engineering for Facilities*, UFC 4-211-01, *Aircraft Maintenance Hangars*, and UFC 3-530-01.

4.5.9. Loss of aircraft parking spots. In no case will the loss of parking spots resulting from the purchase or installation of aircraft sunshades be a primary factor used to propose or construct additional aircraft parking spots or upgrade existing pavements to support aircraft. Procedures on construction of additional parking spots or pavement upgrades will be IAW DAFI 32-1020.

4.5.10. Aircraft sunshades are airfield fixed-structure obstructions and will meet MIL-STD- 3007, *Department of Defense Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications (UFGS)*, and Air Force criteria included in referenced UFCs and AFIs, local and national fire, safety, and electrical standards and codes as applicable.

4.5.11. Location specific design requirements. location specific design requirements (e.g., snow load, maximum wind ratings, etc.). In addition to the requirements in UFC 3-301-01, for adjacent sunshades which share bracing frames, each fourth frame should provide twice the required lateral bracing strength.

4.5.12. Ventilation. Aircraft sunshades must meet ventilation and exhaust air requirements IAW the International Mechanical Code. Note: Achieve minimum exhaust and/or ventilation air requirements utilizing either mechanical or natural systems.

4.6. Current Aircraft Sunshades.

4.6.1. When replacing or repairing currently installed aircraft sunshades, select materials as appropriate for location, type of aircraft sunshade, and the mission being served.

4.6.2. Current aircraft sunshades that don't meet these requirements of current design standardization are authorized for use until time of replacement.

4.6.3. If repairs become significant or not cost effective, owning organizations should consider replacement to the new standard or removal of the aircraft sunshade.

4.6.4. If strategic sourcing is not available, owning organizations should seek guidance from HQ AFSC on aircraft sunshade standardization.

4.6.5. Owning organizations will sustain aircraft sunshades and other shelter types described in this publication IAW DAFMAN 65-605V1 to ensure no degradation of safety to personnel or mission accomplishment occurs.

4.6.6. Owning organizations will conduct an RM assessment IAW AFI 90-802, in conjunction with proper local authorities on current aircraft sunshades for FOD mitigation, markings, bird roosting mitigation, sustainability, safety, structural integrity, wind-load capacity, snow-load capacity, and ability to withstand hail.

4.6.7. There is no requirement to upgrade current aircraft sunshades to meet the full requirements outlined above except where codes apply and are mandatory.

4.6.8. A structural analysis will be conducted by a licensed professional engineer or government structural engineer to ensure alterations to sunshades do not compromise the structural integrity of the structure.

4.7. Sustainment and Accountability. HQ AFSC will ensure owning organization Group Commanders or equivalent:

4.7. (AFSC) The ALC will ensure owning organization Group Commanders or equivalent:

4.7.1. Appoint a local aircraft sunshade manager and establish an aircraft sunshade user and operations plan. Ensure assets are tracked as equipment items on the appropriate documents on the CIR IAW DAFMAN 23-122.

4.7.2. Obtain acceptance for the installation of aircraft sunshades and allied support IAW manufacturer specifications, contract specifications, and AFIs from the appropriate installation level authorities (e.g., MXG, Contracting, Comm, CE, SE, etc.).

4.7.3. Develop an organically supported or contractor supported replacement/sustainment plan that will be included in the ALC/ABW facility plan.

4.7.4. Develop local policy that establishes periodic inspection criteria as recommended by original manufacturer (interval not to exceed 6 months) approved by a qualified engineering authority for aircraft sunshades and documented on AFTO Form 244, *Industrial/Support Equipment Record*.

4.7.4.1. **(Added-AFSC)** Inspection actions to include upcoming and completed inspections will be tracked in the MIS.

4.7.5. Document discrepancies identified during routine, non-routine maintenance, or other visual inspections on the AFTO Form 244 IAW TO 00-20-1.

4.7.6. Establish an emergency evacuation plan to protect both personnel and equipment from inclement/severe weather that would compromise the integrity of the aircraft sunshade roof or support structure.

4.8. Allied Support. HQ AFSC will develop, implement, and maintain procedures for allied support for sunshades to include:

4.8. (AFSC) The ALC will develop, implement, and maintain procedures for allied support for sunshades to include:

4.8.1. Electrical power. If elected, electrical power will be provided to a connection point at the aircraft sunshade IAW with UFC 3-550-01 and will be installed/maintained by CE as real property IAW DAFI 32-9005, *Real Property Accountability*.

4.8.2. Water. If elected, water lines can be installed to a stub at the aircraft sunshade site and will be installed/maintained by CE as real property IAW DAFI 32-9005.

4.8.3. Communications (COMM). If elected, COMM will be provided to the aircraft sunshade IAW UFC 3-580-01, *Telecommunications Building Cabling Systems Planning and Design*, and will be installed/maintained by qualified COMM personnel.

4.8.4. Lighting. Lighting installation will be considered during procurement and/or sustainment phases and will be purchased and maintained by the owning organization from the light to the power stub. Energy efficient lighting will be considered where allowable.

4.9. Crew Shelters and Portable/Inflatable Shelters. HQ AFSC will ensure owning organizations:

4.9. (AFSC) The ALC will ensure owning organizations:

4.9.1. Provide annual procurement and sustainment costs, including allied support infrastructure costs.

4.9.2. Meet all shelter standards and codes as applicable. Crew shelters and inflatable or fabric structures must comply with the minimum requirements of UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*.

4.9.3. IAW International Mechanical Code; meet minimum ventilation standards for crew shelters when occupied. **Note:** Achieve minimum exhaust and/or ventilation air requirements utilizing either mechanical or natural systems.

4.9.4. Implement a FOD mitigation plan.

4.9.5. Maintain all warranty information for all shelters.

4.9.6. IAW DAFMAN 91-203 and UFC 03-260-01; meet all wing tip and tail height clearance requirements.

4.9.7. Appoint a shelter manager and establish a shelter user and operations plan.

4.9.8. Track assets as equipment items IAW DAFMAN 23-122.

CHAPTER 5 DEPOT MAINTENANCE PLANT MANAGEMENT

5.1. Mission Functions. This chapter provides guidance, procedures, and responsibilities for the management, repair, and maintenance of assigned non-real property facilities and equipment used in the depot maintenance industrial operations and activities traditionally referred to as plant management and industrial services which includes support equipment/Depot Industrial Plant Equipment (DIPE) and facilities maintenance, inspection, repair, installation, and engineering. HQ AFSC will develop, implement, and maintain procedures for the core mission functions within the Maintenance Support Group (MXSG) to include:

5.1. (AFSC) All identified equipment through MXSG must use FEM as a repository to ensure accountability, data analysis and maintain historical records such as warranty, maintenance, and tracking.

5.1.1. Perform installations, shop relocations, and removal and modifications of non-real property facilities and equipment.

5.1.2. Manage and perform repair/maintenance of non-real property facility maintenance and equipment.

5.1.2.1. **(Added-AFSC)** Perform inspection and maintenance, i.e., PM, predictive maintenance (PdM), corrective maintenance (CM), and on condition maintenance (OCM) on DIPE.

5.1.2.2. **(Added-AFSC)** Establish maintenance program strategies that utilize diagnostics, prognostics, and health management techniques (i.e., Reliability Centered Maintenance (RCM) and Condition Based Maintenance Plus (CBM+) when feasible and proven effective in reducing cost and while increasing availability and reliability, and mitigating risk of DIPE failure.

5.1.3. Receive work requests, plan, engineer, schedule, control, and manage materiel.

5.1.4. Manage and operate the industrial Tool Management Center IAW **Volume 2, Chapter 3** of this instruction.

5.1.5. Assist the Air Base Civil Engineering Group (BCE) in the development and management of Depot Maintenance Activity Group (DMAG) facility maintenance, repair, and minor construction programs.

5.1.6. Provide a focal point for requesting and monitoring BCE support of industrial real property facilities and equipment.

5.1.7. Provide non-real/real property MXSG engineering support to ALC/Groups/Host Tenants.

5.1.8. Manage, operate, and support the MXSG Laboratory (also known as the physical science laboratory services).

5.1.9. Manage the ALC/Groups' industrial process energy and conservation program.

5.1.10. Manage other DMAG workloads as determined appropriate by the individual ALC.

5.1.11. Utilize the Facility and Equipment Maintenance (FEM) system within ALC depot maintenance for documenting, scheduling, and tracking of the facility and equipment maintenance activities.

5.1.11. **(AFSC)** FEM must be utilized for Capital Investment Program (CIP) equipment and equipment greater than \$5000 identified by MXSG within the ALCs to provide historical health, documentation, scheduling, tracking, and data of maintenance activities

5.1.11.1 **(Added-AFSC)** Maintenance Information Systems (MIS) must be used in conjunction with FEM for the most current forms, data, analysis, documenting scheduling and tracking of the facility and equipment activities to enable maintenance business processes. LI and other Forms may be used and transferred into FEM for updates.

5.1.12. **(Added-AFSC)** Local Instruction (LI). Each ALC will establish and/or maintain current LIs that outline/supplement local procedures deemed necessary to meet the requirements and intent of this chapter. **(Note:** Existing LIs will be reviewed and updated within 180 days from the publication of this supplement and reviewed every four years from the LIs' last published date. ALCs are requested to include AFSC/A4R in each technical and functional review). The LI will provide specific procedures for the following:

5.1.12.1. **(Added-AFSC)** Processing, controlling, and accomplishing support of depot maintenance equipment and facilities that are managed, assigned to, and processed through and/or by the MXSG.

5.1.12.2. **(Added-AFSC)** Determining strategies and requirements for monitoring and accomplishing PM, CM, and PdM for depot equipment IAW applicable TOs, manufacturer's recommendations, and historical maintenance data.

5.1.12.3. **(Added-AFSC)** Developing plans and performing MXSG functions.

5.2. Responsibilities. HQ AFSC will develop and publish the responsibilities of the MXSG and the MXGs using the equipment to include the following:

5.2.1. MXSG will:

5.2.1.1. Establish a Preventive Maintenance (PM) program using the support equipment specific technical data, work cards, checklists, or commercial manuals.

5.2.1.2. Assign identification numbers for MXSG maintained equipment IAW locally developed procedures.

5.2.1.3. Establish a Predictive Maintenance (PdM) program for MXSG maintained equipment.

5.2.1.4. Perform Corrective Maintenance (CM), PM, and PdM on MXSG maintained equipment.

5.2.1.4.1. Follow lockout/tagout procedures IAW DAFMAN 91-203 and specific equipment/maintenance TOs for equipment discrepancies that endanger personnel safety.

5.2.1.5. Maintain a master listing of DIPE requiring Operator Maintenance (OM), PM, and PdM by equipment number.

5.2.1.5. **(AFSC)** The master listing must be maintained within the FEM.

5.2.1.6. Input updates into FEM.

5.2.1.6.1 **(Added-AFSC)** In conjunction with appropriate MXG personnel, assign asset priority IAW the following definitions:

5.2.1.6.1.1. **(Added-AFSC)** Asset Priority 5 Full stop to production or downtime causes an immediate health or safety hazard.

5.2.1.6.1.2. **(Added-AFSC)** Asset Priority 4 Severe production impact; ex. slows production, workaround is costly, production stoppage imminent if asset not repaired quickly, or if asset is awaiting parts.

5.2.1.6.1.3. **(Added-AFSC)** Asset Priority 3 Moderate production impact and workaround easily implemented.

5.2.1.6.1.4. **(Added-AFSC)** Asset Priority 2 Low to no impact to production.

5.2.1.6.1.5. **(Added-AFSC)** Asset Priority 1 Asset has no relation to production.

5.2.1.7. Maintain maintenance technical data required for MXSG to perform PM and CM of support equipment.

5.2.1.8. Provide access to PM and CM status for MXSG maintained equipment to the using organizations through a web access interface to the FEM.

5.2.1.9. Receive work request and determine applicable repair shop.

5.2.1.10. Initiate the work order by entering the data into FEM.

5.2.1.11. Track equipment maintenance history and costs in FEM.

5.2.1.12. Assign priority code.

5.2.1.12. **(AFSC)** In conjunction with appropriate MXG Personnel, assign work order (WO) priority code IAW the following definitions.

5.2.1.12.1. **(Added-AFSC)** WO Priority Code 5 – Repair work that demands immediate response to prevent injury to personnel due to a safety hazard. Equipment will be secured IAW DAFMAN 91-203. If additional ALC procedures are used, then document these procedures in the LI.

5.2.1.12.2. **(Added-AFSC)** WO Priority Code 4 – Repair work that demands immediate response to correct critical workload stoppage and for a condition that must be repaired to prevent damage to equipment if operated. If a condition exists that could damage the equipment, it will be secured IAW DAFMAN 91-203 . If additional ALC procedures are used, then document these procedures in the LI.

5.2.1.12.3. **(Added-AFSC)** WO Priority Code 3 – Repair work that demands prioritized response to correct partial workload stoppage or performance degradation of equipment.

5.2.1.12.4. **(Added-AFSC)** WO Priority Code 2 – Routine maintenance that is scheduled or unscheduled.

5.2.1.12.5. **(Added-AFSC)** WO Priority Code 1 – Repair work that can be deferred to include schedule.

5.2.1.13. Provide familiarization training to MXSG personnel on ALC standard documents and operating procedures for the equipment and inspection program, using the AFTO Form 244/AFTO Form 245, *Industrial Support Equipment Record* or equivalent, operation of the FEM web access interface, and other related training outlined in local procedures.

5.2.1.14. Maintain records or FEM electronic equivalent of inspection, lubrication, and maintenance of industrial equipment IAW TO 00-20-1 and any local procedures.

5.2.2. MXG (i.e., production)/equipment using organization will:

5.2.2.1. Ensure equipment operators review and verify equipment status prior to use by reviewing attached maintenance forms (e.g., AFTO Form 244, FEM generated/computer forms, etc.) and FEM.

5.2.2.1.1. **(Added-AFSC)** Equipment operators must review and verify equipment status prior to use by reviewing identified equipment in FEM. If equipment is not in FEM the following other maintenance forms can be used (e.g., AFTO Form 244, AFSC Form 355, computer generated forms, etc.) for annotation and record.

5.2.2.2. Perform specific operator inspection and document IAW TO 00-20-1 and local procedures. The AFTO Form 244/AFTO Form 245 should be located on or near the equipment if not maintained in FEM.

5.2.2.2.1. **(Added-AFSC)** Equipment operators must perform specific inspections IAW TO 00-20-1 and local procedures in the LI. Documented inspections must be maintained in FEM. If not tracked in FEM the AFSC Form 355, AFTO Form 244/AFTO Form 245 will be used and located on or near and accessible to the equipment. The AFSC Form 355 will be kept on file for one year.

5.2.2.3. Document equipment PM actions using FEM or AFTO Form 244/AFTO Form 245.

5.2.2.3.1. **(Added-AFSC)** Equipment operators must use FEM on all identified equipment to document PM actions. If not tracked in FEM the AFSC Form 355, AFTO Form 244/AFTO Form 245 will be used and located on or near and accessible to the equipment. The AFSC Form 355 will be kept on file for one year.

5.2.2.4. Confirm all assigned DIPE is clearly identified with an identification number before being released for operation.

5.2.2.5. Notify MXSG PM equipment specialists of all actions concerning new, relocated, modified, and turned-in DIPE and provided technical data.

5.2.2.5.1. Document all data necessary for input/update to FEM along with the applicable technical manuals and commercial data for all newly acquired equipment.

5.2.2.5.2. Report the acquisition, installation, relocation, modification, and removal of all industrial production equipment to MXSG in writing.

5.2.2.6. Report any changes in owning organizational symbols in writing to MXSG as they occur.

5.2.2.7. Ensure all OM and inspections are accomplished at the prescribed frequencies and IAW TO 00-20-1.

5.2.2.8. Release equipment in a timely manner to ensure that PM and CM are completed promptly and as scheduled.

5.2.2.9. Ensure form documentation is maintained for equipment under their control.

5.2.2.10. Evaluate maintenance quality, personnel qualifications, and training of assigned personnel.

5.2.2.11. Provide familiarization training on ALC standard documents and operating procedures for the equipment and inspection program, using the AFTO Form 244/AFTO Form 245, operation of the FEM web access interface, and other related training IAW training outlined in local procedures.

5.2.2.12. Ensure Test, Measurement and Diagnostic Equipment (TMDE) PM is accomplished IAW TO 00-20-14, *Air Force Metrology and Calibration Program* in the use, care, handling, transportation, and calibration of TMDE owned by the flight, and comply with TO 33K-1-100-2-

CD-1, *TMDE Calibration Notes, Calibration Interval, and Work Unit Code Reference Guide*, and applicable calibration measurement summaries.

5.2.2.13. Maintain records of inspection, lubrication, and maintenance of industrial equipment IAW TO 00-20-1 and any local procedures.

5.2.2.13.1. **(Added-AFSC)** Records of inspection, lubrication, and maintenance of industrial equipment must be maintained IAW TO 00-20-1, local procedures, documented in the LI, and must be maintained in FEM.

5.3. Categories of Work Performed by MXSG. HQ AFSC will develop, implement, and maintain procedures for the following categories of work:

5.3.1. Repair.

5.3.1.1 **(Added-AFSC)** Repair. Repair is work normally generated as a result of utility, facility, or equipment failures. The MXSG will operate a trouble call desk or virtual electronic equivalent to receive work through the FEM for the receipt and processing of repair work on non-real property.

5.3.1.2. **(Added-AFSC)** Instructions on repair work are in paragraph 5.5.

5.3.2. Project Work.

5.3.2.1. **(Added-AFSC)** Project Work. Project work is work resulting from management planning efforts. Examples of typical project-type workloads include the installation of new equipment and relocation of a Maintenance Group shop.

5.3.2.2. **(Added-AFSC)** The planning, scheduling, and control functions will receive and process requests for this type of work in section paragraph 5.7.

5.3.3. PM and PdM.

5.3.3. **(AFSC)** Preventive Maintenance (PM) and Predictive Maintenance (PdM).

5.3.3.1. **(Added-AFSC)** Preventive Maintenance (PM) and Predictive Maintenance (PdM). PM and PdM is work planned, scheduled, and performed to protect the capability of equipment by identifying and removing the cause of failure and making adjustments for normal wear before failure occurs.

5.3.3.2. **(Added-AFSC)** This work is performed on a predetermined time schedule according to the instructions contained in paragraph 5.5.

5.3.4. Direct Product.

5.3.4.1. **(Added-AFSC)** Direct Product. Direct product is work normally resulting from a requirement of a MXSG customer for skills peculiar to the MXSG defined responsibilities. When this occurs, procedures applicable to the direct production activity will apply to the MXSG resources involved.

5.3.4.2. **(Added-AFSC)** A direct production RC/CC may be established in the MXSG where it permits the most efficient use of skills and wing/group resources.

5.4. Relationship to BCE (Work Accomplishment). BCE is responsible for maintaining real property, roads and grounds, Real Property Industrial Equipment (RPIE), and utilities. Real property facilities and equipment are defined as lands, buildings, structures, utility systems, improvements, and accessories as accounted for in real property records. The BCE obtains project approval, executes facility projects, establishes, and maintains programs to prevent real property deterioration, and develops and conducts a facilities and infrastructure maintenance and operations program based on mission requirements and cost effectiveness. HQ AFSC will develop, implement, and maintain procedures for the relationship between BCE and MXSG to include:

5.4.1. MXSG Support Vs. BCE Responsibilities. Availability of resources may drive changes to BCE and MXSG responsibilities. A local memorandum of agreement will be developed to reflect these changes.

5.4.1. **(AFSC)** See Table 5.1. and ensure the local memorandum of agreement is formalized into the LI.

Table 5.1. (Added-AFSC) MXSG Support Vs. BCE Responsibilities.

TASK		MXSG	BCE
1.	Equipment Repair and Maintenance		
a.	Real Property Installed Equipment (RPIE)		X
b.	Depot Industrial Plant Equipment (DIPE)	X	
2.	Equipment Installation: (for DIPE)		
a.	a. Installation/Relocation of Prefabrication Screens, Partitions, and Dividers	X	
b.	False Floors and Platforms	X	
c.	Excavation	C	
d.	Anchorage to Floors	X	
e.	Foundation and Pads	C	
f.	Temporary Removal and Reinstallation of Existing Roofs, Walls, Utility Systems, and Appurtenances		C
g.	Ventilation and Separate Exhaust System Requiring Wall or Roof Penetration	C	
h.	Utilities:		
(1)	Electrical less than 600 volts from the equipment to first service disconnect	X	
(2)	Electrical greater than 600 volts all connections		X

	(3)	Other utilities, e.g., compressed air, chilled water, steam, potable water, natural gas, to and including the first shutoff inside the building, etc.		X
	(4)	High pressure compressed air (process air)	X	
	(5)	Industrial gases, e.g., argon, hydrogen, nitrogen, all government-furnished DIPE, valves, fittings, gauges, etc.	X	
	(6)	Air conditioning strictly for equipment operation (DIPE)	X	
3.	Permanent Real Property Facilities and Installed Equipment Repair and Maintenance (RPIE)			X
4.	Portable Buildings/Offices			
	a.	Repair and Maintenance	C	
	b.	Exterior Site Determination		X
	c.	Interior Site Determination	X	
	d.	Utility Connections	C	
5.	Painting			
	a.	Industrial Plant Equipment (DIPE)	X	
	b.	Process Related Areas and Structures	X	
	c.	Real Property Facilities and Equipment		X
6.	Pavement Construction, Repair, and Maintenance			X
7.	Sign Construction, Modification, and Replacement			
	a.	Facility and Exterior Organizational Identification		X
	b.	Interior Organizational Signs	X	
8.	Duplicate Keys			
	a.	Real Property Facilities Integral Type Locks		X
	b.	Non-Integral Type Padlocks and Organizations' Equipment	X	
9.	Grounds Keeping (Mowing and Policing)			
	a.	Within 50 feet for assigned facilities or as designated		X
	b.	Other as agreed upon in a MOA		C
10.	Landscaping (Planting, Spraying, and Fertilizing)			X
11.	Interior Lighting			
	a.	Up to 10 feet in height	X	
	b.	Greater than 10 feet		X
12.	Exterior Lighting			X
	Note: X or C indicates the task OPR. C tasks require BCE coordination/support prior to MXSG performing work. Local coordination procedures will be jointly determined by MXSG and BCE and documented. C tasks may vary based on the extent and/or nature of the work. These areas are negotiated if the OPR is not clear. This listing of MXSG responsibilities versus BCE responsibilities was modified to require additional coordination. This increased coordination will protect utility systems from overload and help to maintain the structural integrity of real property.			

5.4.2. Requests for BCE Support. MXSG will serve as the liaison between the Maintenance Groups and the BCE.

5.4.3. Interpretation of Utility Tasks. The juncture points where the utility systems meet for real property and non-real property require close coordination on the overall responsibilities and actions by either the BCE or MXSG. HQ AFSC will develop, implement, and maintain procedures to clarify the interpretation of utility tasks performed by the BCE or MXSG for the following:

5.4.3. (AFSC) The following paragraphs are intended to help clarify the interpretation of utility tasks performed by the BCE or MXSG and promote additional coordination between these activities:

5.4.3.1. Electrical less than 600 volts

5.4.3.1.1. (Added-AFSC) Electrical less than 600 volts. MXSG will maintain all branch circuits within a Maintenance Group occupied facility from power distribution panel or buss way to non-RPIE utilization equipment. BCE will be responsible for power supply and electrical components to the first buss switch on the main distribution service and all electrical installations to RPIE.

5.4.3.1.2. (Added-AFSC) BCE will make all connections to the supply point in electrical vaults for RPIE and non-RPIE unless approval is granted to MXSG through an AF Form 332.

5.4.3.2. Electrical greater than 600 volts

5.4.3.2. (AFSC) BCE will be responsible for maintenance and repair of all power supply, electrical equipment, and connections to RPIE as well as non-RPIE.

5.4.3.3. Potable Water Systems

5.4.3.3. (AFSC) BCE will be responsible for maintenance and repair of the systems to be used for personnel and sanitary installations as well as the supply and complete distribution system up to and including the backflow preventing device at the service connection to all process and non-RPIE industrial systems. **Note:** Fire water supply and distribution systems are BCE responsibility.

5.4.3.4. Chilled Water and Hot Water Systems

5.4.3.4. (AFSC) Chilled water and hot water are considered utility systems if any part is being used for typical facility HVAC and/or RPIE support. As a utility, BCE will be responsible to maintain the chilled water plant or boiler plant supply and return piping main loop as well as all RPIE support secondary distribution systems. Process and other non-RPIE hot or chilled water supply and return DIPE systems will be maintained by the MXSG from the service connection at the supply main to the service connection at the return main or first valve installation in service loop if no disconnecting means is available at the service connection. The chilled water will be of such a quality that it meets a maximum standard of 45 degrees F with a particulate of 5 micron or

less at point of use. Unique systems that support a weapon system are not to be considered utility support.

5.4.3.5. Steam and Condensate Return, Natural Gas, and Compressed Air (Non-Breathing Air).

5.4.3.5. (AFSC) All plant and main distribution is the responsibility of the BCE. Secondary branch systems to support non-RPIE will be maintained by MXSG from the service connection at the main distribution system or closest valve in the branch line if no service disconnect is available to the non-RPIE or utilization process. BCE will make all connections to the source of supply. The compressed air will be of such a quality that it meets a minimum standard of 32 degrees F dew point with a particulate of 5 micron or less at point of use.

5.4.3.6. Industrial Gases (e.g., Argon, Hydrogen, Nitrogen, etc.) and High Pressure Compressed Air.

5.4.3.6. (AFSC) All plants, storage reservoirs, DIPE systems, gauges, etc. will be maintained by MXSG.

5.4.3.7. Wastewater Collection Systems

5.4.3.7. (AFSC) BCE will be responsible for all collection systems supporting sanitary/personnel comfort facilities and that from industrial process point sources. Wastewater discharge from industrial processes will be conveyed by nonreal property process piping or other means to the BCE industrial waste collection system (IWCS). MXSG will be responsible to maintain all IWCS conveyance systems that are not RPIE. Below grade sumps that have no gravity fed connection to the IWCS and only collect wastewater from non-RPIE sources will be considered the same as floor drains and maintained by the BCE. Small wastewater forwarding pumps affiliated with DIPE with discharge piping, valves, fittings and controls will be a MXSG responsibility. BCE will be informed by process owners within the ALC anytime a change in production processes will result in increased volume of waste collection.

5.4.3.8. Storm Water Collection System

5.4.3.8. (AFSC) Maintenance of storm drains is a BCE responsibility. Only non-polluted rainwater run-off will be conveyed to the storm water collection system. Oil-water separators in the storm water systems will be maintained and repaired by BCE.

5.4.3.9. Irrigation Sprinkler Systems

5.4.3.9. (AFSC) Maintenance and repair of automatically or manually controlled irrigation and sprinkler systems is a BCE responsibility and as RPIE will be a part of landscaping.

5.4.3.10. Newly Constructed Facilities and Substantial Additions or Alterations to Existing Facilities

5.4.3.10. **(AFSC)** MXSG will be notified when BCE has accepted the formal issuance of a certification of beneficial occupancy. Prior to occupying a new facility, MXSG and BCE will meet to confirm all BCE responsible equipment and MXSG responsible Initial Outfitting Equipment (IOE). When responsibility is determined, MXSG and BCE will install a tag on their identified equipment to indicate recognition of their maintenance responsibility. BCE will turn over to the MXSG representative all Operator Maintenance (OM) manuals, spare parts lists, drawings, start-up instructions, etc., for industrial equipment which are provided by the contractor as a requirement of the construction contract. To assure that warranty conditions are properly satisfied, it is imperative that BCE promptly surrenders all non-RPIE PM and OM data to MXSG and timely arranges for the preoccupation meeting with MXSG representatives. MXSG will in turn provide data access to other organizations within ALC.

5.5. Equipment Maintenance and Inspection Program. Equipment maintenance and inspection programs ensure reliability and mission support capability of all assigned support equipment/DIPE. HQ AFSC will develop, implement, and maintain procedures for equipment maintenance and inspection programs. This guidance supplements TO 00-20-1, other applicable TOs, engineering/commercial specifications, and AF standards by clarifying terminology for the plant management and industrial service activities.

5.5.1. Types of Equipment. HQ AFSC will ensure MXSG documents and tracks maintenance actions of the equipment maintenance and inspection program for the following types of equipment:

5.5.1.1. Support Equipment. Support Equipment may include powered and non-powered ground equipment, Industrial Plant Equipment (IPE), test equipment, measurement equipment, diagnostic equipment, machinery and shop equipment, and special handling and tooling.

5.5.1.1. **(AFSC)** The MXSG in collaboration with the users will determine which equipment requires specific OM and the equipment to be included in their PM and PdM program. Equipment such as bench grinders and bench drill presses may only require OM because of its simplicity and intermittent use. However, more complex equipment such as numerically-controlled machine tools, lathes, milling machines, boring machines, surface grinders, hoists, and test stands must be capable of producing to specific tolerance. This equipment will require specific PM or PdM in addition to OM.

5.5.1.2. Depot Industrial Plant Equipment (DIPE). DIPE is permanent equipment that is not readily movable and typically used in an industrial maintenance area.

5.5.1.2. **(AFSC)** DIPE (or generically IPE) is permanently affixed (i.e., fixed location) equipment that is not readily movable and typically used in an industrial maintenance area. Other equipment as determined by MXSG may be categorized as DIPE and documented in the LI. DIPE is used for but not limited to cutting, abrading, grinding, shaping, forming, joining, testing, measuring, heating, treating, or otherwise altering the physical, electrical, or chemical properties of materials, components, or end items, entailed in manufacturing, maintenance, supply, processing, and assembly operations. Machine shop and common industrial equipment such as materiel conveyance systems, process compressed air and vacuum systems, specialized industrial gas

systems, and hoists/bridge cranes may be included. DIPE will be identified with an MXSG identification number IAW paragraph 5.2.1.2.

5.5.1.3. Non-DIPE. Non-DIPE will include all support equipment required to perform support functions except when it is or becomes an integral part of mission equipment.

5.5.1.3. (AFSC) SE does not include any equipment required to perform mission operation functions. SE will include test equipment and automatic test equipment when it accomplishes a support function, field SE, and related computer programs and software. Examples are direct SE and powered/non-powered AGE.

5.5.1.4. Machinery and shop equipment (3400 Series). Machinery and shop equipment (3400 Series) includes small bench grinders, buffers, drill presses, or other equipment that requires only on condition maintenance (OCM).

5.5.1.4. (AFSC) The equipment that does not require specific OM, specific servicing inspections, or for which technical data does not exist will be documented IAW TO 34-1-3, *Inspection and Maintenance Machinery and Shop Equipment*, and TO 00-20-3, *Maintenance Process of Repairable Property and the Repair Cycle Asset Control System*.

5.5.2. Program Criteria. HQ AFSC will ensure the use of inspection techniques, engineering and technical data, commercial technical manuals, work cards, or checklists to determine the applicable maintenance/inspection requirements, accomplishment intervals, and frequencies for assigned equipment. The maintenance and inspection program may include the statistical analysis of maintenance and inspection data, i.e., cost, mean-time-between-failure/repair, use, and other data elements in FEM to make sound decisions. The following criteria will be applied to determine if equipment will be included in the maintenance management PM or PdM program:

5.5.2. (AFSC) The maintenance and inspection program will be used to make data driven decisions.

5.5.2.1. Equipment subject to breakdown repairs that are expensive compared to PM or PdM will be included.

5.5.2.1. (AFSC) The following equipment will be included.

5.5.2.1.1. (Added-AFSC) Equipment critical to production and where failure would result in costly downtime will be included.

5.5.2.1.2. (Added-AFSC) Equipment not critical to the depot maintenance process (e.g., small drill press, etc.) and can be repaired without regard to downtime or equipment availability should be excluded.

5.5.2.1.3. **(Added-AFSC)** Equipment of small dollar value where the cost of PM or PdM is likely to exceed the replacement cost upon failure should be excluded.

5.5.2.2. The use of diagnostics, prognostics, and health management techniques can be considered when the use of these techniques is feasible and proven effective in reducing cost, while increasing availability and reliability, and mitigating risk of DIPE failure.

5.5.2.3. Machinery and shop equipment for which technical data does not exist will be maintained IAW TO 34-1-3, *Inspection and Maintenance, Machinery and Shop Equipment*, and TO 00-20-3, *Maintenance Processing of Reparable Property and the Repair Cycle Asset Control System*. Examples of this class of machinery and shop equipment include small bench grinders, buffers, drill presses, etc.

5.5.2.4. Follow all prescribed periodic maintenance instructions addressed by DAFMAN 91-203 or other Air Force Occupational Safety, Fire, and Health Standards (AFOSH) policy.

5.5.3. Maintenance and Inspection Processes. Maintenance, inspection, and repair data will be maintained in Facility Equipment Management (FEM) to the maximum extent possible unless specified in TOs and other directives. HQ AFSC will develop, implement, and maintain guidance for Maintenance and Inspection Processes for the following techniques when used within the MXSG:

5.5.3. **(AFSC)** PM and PdM are common terms describing the techniques used by the MXSG to perform and meet scheduled inspection and lubrication/periodic maintenance requirements (reference TO 00-20-1). Depending on the type of equipment and maintenance requirements identified, the MXSG will use other techniques such as RCM, CBM+, CM, OM, or OCM when applicable. Maintenance, inspection, and repair data must be maintained in FEM. If specified in T.O.s or other directives, the equipment must be maintained to the maximum extent possible as directed in conjunction with FEM.

5.5.3.1. Preventive Maintenance (PM). PM is the normal upkeep and preservation of equipment through systematic inspection, detection, and correction of discrepancies.

5.5.3.1. **(AFSC)** PM is to prevent failures, to verify serviceability, or restore complete serviceability of equipment that has been subjected to usage, wear and tear, or deterioration caused by environmental elements. It is performed on a periodic basis according to a specific set of instructions and a predetermined time schedule and includes such actions as locating and correcting minor vibrations or tool chatter, adjusting or replacing drive belts, accomplishing lubrication requirements, making adjustments in gibs, bearings, and lead screws, and the leveling of machines.

5.5.3.1.1. **(Added-AFSC)** PM frequency is determined IAW paragraph 5.5.2.

5.5.3.1.2. **(Added-AFSC)** PM inspections should be spaced as far apart as possible to reduce cost yet stay within safe time limits during which defects do not ordinarily develop to the point of needing attention.

5.5.3.1.3. **(Added-AFSC)** Follow TO prescribed frequencies when weapon system peculiar equipment is covered by a TO.

5.5.3.1.4. **(Added-AFSC)** Manufacturer's recommendations, commercial operating manuals, historical data, or specifications will be used to determine PM instructions if no maintenance TOs exist or are no longer applicable due to approved modifications that have been done to the equipment and the maintenance TO updates have not been approved. Any unique requirements to prevent voiding the manufacturer's warranty will be sustained to the fullest extent possible.

5.5.3.1.5. **(Added-AFSC)** FEM historic data or judgment must be used for equipment that has no technical data available. Apply historical maintenance data and judgment based upon similar equipment to establish and/or adjust PM frequencies in the absence of data sources. If frequent repair is required, increased PM may be justified. Conversely, lack of repair may indicate the PM frequencies should be reduced. Repair data is maintained in FEM. Only use the AFSC Form 388 as an option when the FEM system is down.

5.5.3.1.6. **(Added-AFSC)** The PM is overdue when the original PM due date has been exceeded.

5.5.3.1.6.1. **(Added-AFSC)** Conditions may exist that prevents a PM scheduled inspection/lubrication being accomplished on or before its due date. IAW TO 00-20-1, a 'red dash' entry will be annotated in the AFTO Form 244, *Industrial/Support Equipment Record*/AFTO Form 245, *Industrial/Support Equipment Record (Continuation)*, and must be inputted into FEM to indicate an equipment inspection is required or it is overdue. This will allow the due inspection to be accomplished as soon as the condition preventing its completion no longer exists. If specified in TOs, checklists, LIs, or other directives, the equipment will be maintained as directed in conjunction with FEM.

5.5.3.1.6.2. **(Added-AFSC)** MXSG PM inspections not completed by the next scheduled inspection will be upgraded to a 'Red X' indicating equipment is unsafe or unfit for use and taken out of service until the unsatisfactory condition is corrected or the symbol is cleared by the MXSG/CC or designated authority per procedure in the LI.

5.5.3.1.6.3. **(Added-AFSC)** When local conditions (e.g., utilization, type of mission, personnel, periods of inactivity, environmental conditions, longer PM/inspection intervals, etc.) dictate, it is the prerogative and responsibility of the MXSG to increase the scope and/or frequency of maintenance or inspections as necessary to ensure safe operation and mission effectiveness. Procedures and criteria will be established when necessary and documented in the LI.

5.5.3.1.7. **(Added-AFSC)** For MXSG maintained equipment, the MXSG ESs will prepare PM instructions which are reflected on AFSC Form 306, *Preventative Maintenance Instructions*, or FEM generated/computer equivalent. A FEM generated/computer work order must be used and is not required to be attached to the equipment. The AFSC Form 306 may be used in lieu of FEM

generated /computer work order when FEM is unavailable. The FEM generated/computer work order should contain the PM number, due date, and next due date or when OCM and/or the minimum interval of inspection for the specified equipment is required.

5.5.3.1.8. (Added-AFSC) Using organizations preparing internal PM instructions may utilize the AFSC Form 306 to identify these inspections. Using organizations will identify on the AFSC Form 306 all organizational inspections.

5.5.3.2. Predictive Maintenance (PdM). PdM is the process of using electrical and mechanical testing and diagnostic devices to predict when a piece of equipment is deviating from its normal operating parameters.

5.5.3.2. (AFSC) It is designed to protect equipment capability and investment by removing causes of failure and making adjustment to compensate for normal wear before failure or an unsafe condition occurs. PdM technology may aid in optimizing PM frequencies by utilizing data trends. When analysis shows to be feasible and cost effective, MXSG may develop and incorporate PdM strategy and procedures using applicable DoD maintenance concepts, technologies, and processes based on readiness requirements, life-cycle cost, and reliability-based functional analysis for MXSG maintained equipment. Two DoD supported concepts often referenced and considered are RCM and CBM+.

5.5.3.3. Reliability Centered Maintenance (RCM). RCM can provide a logical analysis and structured approach to determine the optimal failure management strategy based on what must be done to achieve the desired levels of safety, reliability, environmental soundness, and operational readiness at best cost.

5.5.3.3. (AFSC) Reference paragraph 5.10.6.9.

5.5.3.4. Condition Based Maintenance Plus (CBM+). CBM+ can allow routine PdM based on the evidence of need through enhanced reliability analysis and forecasted by analyzing data collected through automated sensors and systems to ensure desired levels of safety, reliability, availability, and reduced cost are met.

5.5.3.5. Corrective Maintenance (CM). CM is the unscheduled repair or service of equipment to verify serviceability or to restore complete serviceability of equipment that has been subjected to usage, wear and tear, component failure, or deterioration caused by environmental elements.

5.5.3.5. (AFSC) MXSG will perform CM on a customer demand basis.

5.5.3.6. Operator Maintenance (OM). OM is maintenance performed by the equipment operator. OM requirements are documented and maintained with the equipment or are readily accessible.

5.5.3.6. (AFSC) As a minimum, OM requirements will include the nomenclature of the equipment, equipment identification number, frequency of maintenance action, and the actions required. Maintenance performed by the equipment operator falls into one of the following categories:

5.5.3.6.1. **(Added-AFSC)** General OM. General OM applies to all equipment to ensure serviceability and safety of the equipment prior to use. It consists of a review of equipment documentation for current status and visual inspection of the equipment for defects, adequate servicing, and general state of cleanliness.

5.5.3.6.2. **(Added-AFSC)** Specific OM. Specific OM is equipment maintenance or inspection of a specific nature or OM of a critical nature that, if neglected, could result in costly equipment damage or create an unsafe condition for shop personnel. The owning organization/operator performs and documents the OM which is attached to the equipment or is in a readily accessible location IAW LIs.

5.5.3.7. On Condition Maintenance (OCM). OCM generally applies to equipment that does not have any published technical data requiring specific inspections. Equipment of this type may be repaired by MXSG personnel as required. Documentation will be IAW TO 34-1-3.

5.5.3.7. **(AFSC)** It may also apply to less costly and less complex equipment whereby the cost of scheduled PM is not feasible and only requires general OM.

5.5.3.8. Equipment Requiring Production Engineering Review after Maintenance or Repair.

5.5.3.8. **(AFSC)** For IPE that has been identified as requiring additional scrutiny, production engineering in AMARG, AMXG, CMXG, EMXG, MMXG and PMXG will provide MXSG with a list known as the Production Engineering Evaluation Required (PEER) equipment list.

5.5.3.8.1. **(Added-AFSC)** The MXSG equipment specialist will place an identifier in FEM on work packages performed on PEER assets to ensure technicians repairing such equipment are aware that production engineering (AMARG/AMXG/CMXG/EMXG/MMXG/PMXG) must be notified prior to returning the equipment to service. e.g. Modify the work package so that "PEER ASSET" prints across the top.

5.5.3.8.2. **(Added-AFSC)** MXSG will notify the appropriate AMARG/AMXG/CMXG/EMXG/MMXG/PMXG production engineering office when work is completed on PEER assets. Notification shall be provided via phone, email, or in person to the PEER representative for each squadron engineering office. MXSG must either 1) hold the repair work order open until engineering has signed off on the repair or 2) close the repair work order and initiate a new work order that must be signed off by engineering prior to returning the equipment to service.

5.5.3.8.3. **(Added-AFSC)** If work performed is of a minor or routine nature, a signature may not be required even though the equipment may be on the PEER list. If an allowance is given for minor or routine repairs on PEER equipment, it must be clearly stated on the PEER review list for each piece of PEER equipment.

5.5.3.8.4. **(Added-AFSC)** AMARG/AMXG/CMXG/EMXG/MMXG/PMXG production engineering may enlist production personnel or maintenance personnel as necessary to assist in determining proper functionality of equipment prior to release.

5.5.3.8.5. **(Added-AFSC)** MXSG will train maintenance supervisors, maintenance production controller (scheduler), maintenance mechanics, and trouble call desk personnel (if applicable) on the special requirements for PEER items.

5.5.3.8.6. **(Added-AFSC)** MXSG will comply with customer requests for AMARG/AMXG/CMXG/EMXG/MMXG/PMXG production engineering review/evaluation and signature and will not return equipment to service until AMARG/AMXG/CMXG/EMXG/MMXG/PMXG production engineering signature release.

5.5.3.8.7. **(Added-AFSC)** MXSG will retain evidence of all repairs needing AMARG/AMXG/CMXG/EMXG/MMXG/PMXG production engineering signatures

5.5.4. Maintenance Initiation.

5.5.4.1. Maintenance Group personnel (i.e., production shop) and MXSG maintenance personnel will follow DAFMAN 91-203 and specific equipment/maintenance TOs regarding lockout/tagout for DIPE on any safety hazard.

5.5.4.2. Requesting organization will provide the following information when contacting the maintenance organization for repairs.

5.5.4.2.1. Status of the equipment (operational or inoperative).

5.5.4.2.2. Type or nature of repair service required.

5.5.4.2.3. Equipment type and the equipment identification number.

5.5.4.2.4. Justification to establish requested priority code.

5.5.4.2.5. Name of the reporting individual.

5.5.4.2.6. Equipment location including building number, post or room number, shop name, shop RCC, and any other pertinent information.

5.5.4.2.7. Name and telephone number of requesting organization, point of contact (POC), and alternate to be contacted at repair site.

5.6. Equipment Maintenance Documentation. All equipment maintenance documentation will be IAW TO 00-20-1 and TO 00-20-2.

5.6.1. All mobile support equipment will use the AFTO Form 244 for documenting maintenance actions to include discrepancies, corrective actions, periodic and special inspection due dates, or other actions as required by local procedures.

5.6.1. **(AFSC)** AFSC Form 355 may also be used and in either case they will be documented in the LI.

5.6.2. For non-mobile support equipment, the AFTO Form 244 may be maintained electronically IAW TO 00-20-1.

5.6.2. **(AFSC)** The AFSC Form 355 may also be used and maintained electronically until one of the conditions in TO 00-20-1 arises. At that time, the AFTO Form 244 or AFSC Form 355 must be maintained with the affected piece of SE.

5.6.3. Support Equipment Documentation (Non-DIPE).

5.6.3.1. Non-DIPE with specific OM or PM requirements will use the AFTO Form 244/AFTO Form 245.

5.6.3.1. **(AFSC)** The AFSC Form 355 may also be used. For SE, the ALC may elect to use the AFSC Form 355 instead of the AFTO Form 244. The same requirements that apply to the AFTO Form 244 will apply to the AFSC Form 355.

5.6.3.2. AFTO Form 244/AFTO Form 245 will be documented and reviewed IAW TO 00-20-1.

5.6.3.3. **(Added-AFSC)** Shop supervisory review of AFTO Form 244/AFTO Form 245 will be documented in Part IV. Review intervals will be at ALC discretion.

5.6.4. DIPE Documentation.

5.6.4.1. DIPE will use FEM for equipment maintenance documentation purposes, the AFTO Form 244/AFTO Form 245, or a combination of both.

5.6.4.1.1. **(Added-AFSC)** If not tracked in FEM or down, the AFTO Form 244/AFTO Form 245 are to be used, or a combination of both.

5.6.4.2. At a minimum, FEM will contain the same data elements as described on the AFTO Form 244/AFTO Form 245.

5.6.4.3. **(Added-AFSC)** DIPE with OM and PM inspections must be tracked in the FEM to document the inspections and equipment conditions IAW TO 00-20-1 and any local procedures documented in the LI. The AFTO Form 244/AFTO Form 245 will not be required unless FEM is down. DIPE status will be made available to production shop supervisors by Industrial Services through a web access interface to FEM. FEM web access interface will be visible as 'read only' and will be printable by DIPE users. DIPE user change requests to FEM will be made to the Industrial Services function."

5.6.4.4. **(Added-AFSC)** Specific OM for DIPE must be performed and documented by the operator on AFSC Form 355 or the AFTO Form 244/AFTO Form 245 and attached to the equipment or readily accessible.

5.6.4.5. **(Added-AFSC)** For DIPE, Industrial Services personnel will ensure all instructions for current inspection and PM requirements are reflected on a FEM generated/computer work order, AFSC Form 306, or a FEM generated/computer equivalent. The work order should contain the PM number, due date; or when the minimum interval of inspection for the specified DIPE is required.

5.7. Engineering and Installation Projects. MXSG or contractors perform equipment installation, relocation, removal, and facility modifications in response to DMAG submitted requests. In general, except for unpredicted situations, installation projects are designed, planned, scheduled, and implemented in an orderly manner to provide the best use of MXSG resources. HQ AFSC will develop, implement, and maintain procedures for MXSG Engineering and Installation Projects to include:

5.7. **(AFSC)** MXSG Engineering and Installation Projects.

5.7.1. Project Initiation.

5.7.1.1. **(Added-AFSC)** Initiator/Requesting Organization. The requesting organization will perform the following functions:

5.7.1.1.1. **(Added-AFSC)** Submit written requests to MXSG for project work through a coordinated AFSC Form 304, *Service Order*, or IAW locally developed procedures.

5.7.1.1.2. **(Added-AFSC)** Provide proposed shop layouts/drawings. Utilize official 'as built' drawings if available.

5.7.1.1.3. **(Added-AFSC)** Provide equipment installation manuals when applicable.

5.7.1.1.4. **(Added-AFSC)** Prepare and coordinate AFMC Form 299 IAW local procedures documented in the LI.

5.7.1.1.5. **(Added-AFSC)** Prepare and coordinate AF Form 813 when applicable IAW local procedures documented in the LI.

5.7.1.1.6. **(Added-AFSC)** Prepare and coordinate AF Form 332 if BCE work/approval is required.

5.7.1.2. **(Added-AFSC)** Project Review/Validation. MXSG must review projects for completeness and applicability using criteria in paragraph 5.4 and paragraph 5.7.1.1. Projects not meeting the criteria must be returned to the requesting organization for corrective actions.

5.7.2. Control.

5.7.2.1. **(Added-AFSC)** Project Folders. Project folders are created for each valid request and assigned a unique project number. The project folder should contain the following:

5.7.2.1.1. **(Added-AFSC)** A written request submitted to the ALC designated MXSG organization.

5.7.2.1.2. **(Added-AFSC)** Engineering drawings or sketches.

5.7.2.1.3. **(Added-AFSC)** AFSC Form 305, *Plant Management Work Order*, or a FEM generated/computer equivalent.

5.7.2.1.4. **(Added-AFSC)** BOM when required.

5.7.2.1.5. **(Added-AFSC)** AF Form 813, if needed, with proper coordination obtained by the requesting organization.

5.7.2.1.6. **(Added-AFSC)** AFMC Form 299 with proper coordination.

5.7.2.1.7. **(Added-AFSC)** Vendor or manufacturer data or copies of current catalog sheets of materiel required when appropriate.

5.7.2.2. **(Added-AFSC)** Prioritization/ALC Established Working Group. An Industrial Working Group must be established to review and monitor project requests. The Industrial Working Group will coordinate all facility/equipment work priorities and accomplishments. The charter and membership of the Industrial Working Group will include representatives from all Maintenance Groups, BCE, and other organizations, or IAW local procedures documented in the LI. MXSG will chair the Industrial Working Group.

5.7.2.3. **(Added-AFSC)** Tracking and Monitoring.

5.7.2.3.1. **(Added-AFSC)** FEM will be used to track and monitor projects to ensure efficient use of resources and maximum responsiveness to customer needs.

5.7.2.3.2. **(Added-AFSC)** Project history, backlog, and status will be obtained using updated FEM data, and reports may be generated for Maintenance Groups.

5.7.2.4. **(Added-AFSC)** Project Closure. Project closure includes the following:

5.7.2.4.1. **(Added-AFSC)** The completed FEM generated/computer equivalent or AFSC Form 305 must be reviewed for completeness and accuracy.

5.7.2.4.2. **(Added-AFSC)** Work accomplished must be reviewed by MXSG Engineering or IAW local procedures documented in the LI to ensure the customer approved work was performed according to design.

5.7.2.4.3. **(Added-AFSC)** Maintenance documentation must be updated in FEM and all documents must be assembled for the completed project folder.

5.7.2.4.4. **(Added-AFSC)** The project folder is closed out and placed in the completed project file.

5.7.2.5. **(Added-AFSC)** Record Disposal.

5.7.2.5.1. **(Added-AFSC)** Completed project folders are to be disposed of IAW instruction in the Front Matter/Title page.

5.7.2.5.2. **(Added-AFSC)** Project files are disposed of IAW AFI 33-322, *Records Management and Information Governance Program*.

5.7.3. Design/Engineering.

5.7.3.1. **(Added-AFSC)** ALC requests for facility and equipment installation, relocation, modification, or removal are processed through MXSG Engineering.

5.7.3.2. **(Added-AFSC)** Pre-Design Consultation.

5.7.3.2.1. **(Added-AFSC)** Pre-design consultations with Maintenance Groups will be held when appropriate.

5.7.3.2.2. **(Added-AFSC)** Projects will be reviewed to ensure the feasibility of meeting the customer's intent.

5.7.3.2.3. **(Added-AFSC)** Alternatives must be offered when considered to be in the government's best interest.

5.7.3.3. **(Added-AFSC)** Site Survey. As required, MXSG Engineering will perform site surveys to review project requirements, consider utility requirements within the facility (e.g., electrical, air, water, steam, etc.), and for location suitability.

5.7.3.4. **(Added-AFSC)** Design Drawings.

5.7.3.4.1. **(Added-AFSC)** All MXSG engineering, drafting, and planning associated with project design will be accomplished taking into account load calculations on existing utility distribution systems and any safety/environmental concerns.

5.7.3.4.2. **(Added-AFSC)** Good judgment must be exercised in preparing engineering drawings and sketches to be used by the MXSG organizations. Design drawings and sketches should be no more sophisticated than necessary to accomplish the project.

5.7.3.4.3. **(Added-AFSC)** MXSG Engineering design drawings or sketches are developed to support BCE work requests for tasks required by the MXSG and Maintenance Groups that do not have an engineering staff.

5.7.3.5. **(Added-AFSC)** Customer Design Review. When applicable (e.g., BCE involvement, significant changes after pre-design consultation, etc.), final design drawings will be sent to the customer for approval.

5.7.3.6. **(Added-AFSC)** Project Consultation. MXSG Engineering duties must include the following:

5.7.3.6.1. **(Added-AFSC)** Provide general oversight as needed during the entire project process (e.g., materiel selection/substitution, customer coordination, adaptation, removing constraints, etc.).

5.7.3.6.2. **(Added-AFSC)** Provide technical guidance to the installation function on execution of project designs detailing sequence of accomplishment and/or best methods. If professional certifications are required to comply with applicable directives, MXSG Engineering will specify the type of certifications required.

5.7.4. Planning.

5.7.4.1. **(Added-AFSC)** Labor and Skill Requirements.

5.7.4.1.1. **(Added-AFSC)** The planning function determines the skills required, the organization to perform each project task, and estimates the work hours required.

5.7.4.1.2. **(Added-AFSC)** Labor hour estimates are based on available standards, the engineer's and/or planner's experience, and discussions with shop personnel.

5.7.4.1.3. **(Added-AFSC)** Estimated labor hours are entered into FEM.

5.7.4.2. **(Added-AFSC)** Material Requirements.

5.7.4.2.1. **(Added-AFSC)** Material required for a project will be entered on a BOM.

5.7.4.2.2. **(Added-AFSC)** The planning functions will determine the type and quantity of materiel required by the installation function to complete each project. The quantity of materiel must be determined with care to avoid both materiel shortages and undue excesses. The MXSG Engineering is responsible for developing the materiel specifications used in developing the BOM. The BOM will be entered into FEM.

5.7.4.2.3. **(Added-AFSC)** The planning function will review on-hand and residue materiel inventories for utilization in the performance of installation, removal, or repair projects requiring a BOM. Projects will be planned to utilize on-hand or residue materiel inventories whenever possible to reduce on-hand inventories and generate stock turnovers.

5.7.4.2.4. **(Added-AFSC)** The BOM will serve as a source document for use by the materiel control function to issue and requisition materials and will also be used to accept the return of unused materiel from the installation function at the completion of the project.

5.7.5. Execution.

5.7.5.1. (Added-AFSC) Scheduling.

5.7.5.1.1. (Added-AFSC) Determine Material Supportability. FEM must be updated to reflect project status and reviewed on a regular basis to determine supportability.

5.7.5.1.2. (Added-AFSC) Workload Labor Review. Workload labor review will consist of the following:

5.7.5.1.2.1. (Added-AFSC) Availability of labor resources by skill.

5.7.5.1.2.2. (Added-AFSC) Satisfying the mission through time phased work accomplishment.

5.7.5.1.2.3. (Added-AFSC) Updating schedules in response to changing production requirements, availability of resources, and work progress.

5.7.5.2. (Added-AFSC) Project Accomplishment. Generally, all projects should be both materiel and labor supportable prior to the installation phase.

5.7.5.2.1. (Added-AFSC) Receipt of Work Package.

5.7.5.2.1.1. (Added-AFSC) Project work packages including drawings, AFSC Form 305, BOM, and AFMC Form 299 will be provided to the installation function by the scheduling function.

5.7.5.2.1.2. (Added-AFSC) No installation work must be conducted without an approved FEM generated form or AFSC Form 305. The form must authorize the installation function to perform the work, provides information on the major tasks, and denotes planned skills required to accomplish the project.

5.7.5.2.2. (Added-AFSC) Assignment of Resources.

5.7.5.2.2.1. (Added-AFSC) Pre-construction meetings will be held as required.

5.7.5.2.2.2. (Added-AFSC) The installation function must allocate appropriate skills to accomplish work according to the to the FEM generated form or AFSC Form 305.

5.7.5.2.2.3. (Added-AFSC) Skills unplanned on FEM generated forms must be adjusted by the planning function or AFSC Form 305.

5.7.5.2.3. (Added-AFSC) Installation. The installation function will perform the following:

5.7.5.2.3.1. (Added-AFSC) Ensure initials are documented in FEM when the task is completed or AFSC Form 305.

5.7.5.2.3.2. **(Added-AFSC)** Report project status as required to the scheduling and control function.

5.7.5.2.3.3. **(Added-AFSC)** Ensure FEM is updated with the previous workday's actual hours expended on each project.

5.7.5.2.3.4. **(Added-AFSC)** Return all excess materials (i.e., project residue) to the materiel control function.

5.7.5.2.3.5. **(Added-AFSC)** Return all project documents to the scheduling and control function when the project is completed.

5.8. Maintenance Support Group Laboratory. The laboratory mission is to provide a vast array of analytical support to on-base engineering, manufacturing, and repair organizations as well as to other DoD, Federal Aviation, Federal Law Enforcement, Allied Forces, and North Atlantic Treaty Organization agencies.

5.8.1. The MXSG Laboratory includes versatile Metallurgical, Material, Chemistry, Precision Dimensional Measurement, Engineering Testing, and Prototype Development Laboratories.

5.8.2. The MXSG Laboratory provides scientific and engineering skills and instrumentation necessary for the maintenance of assigned weapon systems, aerospace items, and industrial processes. HQ AFSC will develop, implement, and maintain MXSG procedures for testing and evaluating chemicals, materials, weapon system components, and shop processes.

5.8.2.1. Skills may include chemical engineering, electronic engineering, industrial engineering, materials engineering, mechanical engineering, chemistry, metallurgy, and physics.

5.8.2.2. Testing capabilities may include chemical, composite materiel evaluation, dimensional, electronic, environmental, Joint Oil Analysis Program (JOAP), materiel, mechanical, metrology, non-destructive, and structural analysis.

5.8.3. Instruction. HQ AFSC will develop, implement, and maintain workload planning and scheduling procedures for use by planning, scheduling, and MXSG laboratory personnel to ensure uniformity of methods and processing control from the initial receipt of laboratory support projects to final close-out by production scheduling. These procedures will include:

5.8.3.1. MXSG Laboratory Planning.

5.8.3.1.1. **(Added-AFSC)** The planner will assist and coordinate on new or transferring workloads that require MXSG Laboratory support.

5.8.3.1.2. **(Added-AFSC)** The planner will process the appropriate documentation for all new or renewing workload.

5.8.3.1.3. **(Added-AFSC)** The planner will perform the following planning operations upon receipt of all AFSC Forms 206:

5.8.3.1.3.1. **(Added-AFSC)** Verify production controller (scheduler) PSSD code, POPTC code, Funds, JOQ, and Need Date are all correct upon receiving the SOW or special instructions with an assigned Temporary JON from the workloader.

5.8.3.1.3.2. **(Added-AFSC)** In conjunction with appropriate technical personnel, review all work requests and any referenced technical data/specifications for shortfalls such as peculiar tools/equipment, skills, and special processes. Confer with appropriate laboratory supervisor and production controller (scheduler) to verify organizational capability for total performance as required. Return the work request that cannot be planned with an explanation as to why and it must be processed back to the appropriate organization and initiator.

5.8.3.1.3.3. **(Added-AFSC)** SOW or special instructions and labor hours will be planned within the G004L system.

5.8.3.1.4. **(Added-AFSC)** Create two work jacket files on each workload requirement (one electronic copy and G004L), one for the IET maintenance planner's master file, and one hard copy for the production controller (scheduler's) file. The assets are then turned over to the production controller (scheduler) for scheduling into the applicable shop for work along with a copy of the Temporary Job Record and SOW or special instructions from the requesting customer. If the IET maintenance planner and production controller (scheduler) in the MXSG Laboratory are one in the same person, one work jacket file on each workload requirement is sufficient.

5.8.3.1.5. **(Added-AFSC)** Review completed jobs to validate accuracy of estimated labor hours. If there is a difference between estimated hours and actual hours, the IET maintenance planner will contact the appropriate work loader, negotiate any changes, and adjust labor hours within the G004L system to correlate with the actual hours expended when necessary. The IET maintenance planner will release the Temporary Job Record to the production controller (scheduler) for the closeout process and notify the MXSG work loader of adjusted labor hours.

5.8.3.1.6. **(Added-AFSC)** Maintain a closure file on the project work jacket after the production controller (scheduler) takes a production count and closes the Temporary Job Record.

5.8.3.1.7. **(Added-AFSC)** The IET maintenance planner will process AFSC Form 137 for incoming workloads.

5.8.3.1.7.1. **(Added-AFSC)** The IET maintenance planner will review and evaluate AFSC Form 137 (i.e., T-jobs, M-jobs or S-jobs) for adequate data.

5.8.3.1.7.2. **(Added-AFSC)** The IET maintenance planner will provide the production controller (scheduler) with a copy of the AFSC Form 137 for necessary action.

5.8.3.2. MXSG Laboratory Scheduling.

5.8.3.2.1. **(Added-AFSC)** The production controller (scheduler) will participate in the negotiation of laboratory workloads.

5.8.3.2.2. **(Added-AFSC)** The production controller (scheduler) receives AFSC Form 206, or AFSC Form 137 (i.e., T-jobs, M-jobs or S-jobs) from the IET maintenance planner and schedules the work into the appropriate laboratory area.

5.8.3.2.3. **(Added-AFSC)** The production controller (scheduler) will maintain a jacket file on each temporary workload for which the production controller (scheduler) is responsible. Contents of each jacket file will be kept IAW Volume 3, Chapter 3. The production controller (scheduler) will notify the IET maintenance planner of the JON closure. Guidance on the JON closure and closeout checklist can be found in AFMCI 65-101.

5.8.3.2.4. **(Added-AFSC)** The production controller (scheduler) will receive the G004L-L3A from the applicable working shop, signed and annotated with actual hours expended upon completion of work. The production controller (scheduler) will review completed jobs for disparity of estimated hours and actual hours expended. If a disparity exists, the production controller (scheduler) will notify the IET maintenance planner to take appropriate action to correct.

5.8.3.2.5. **(Added-AFSC)** The production controller (scheduler) will production-count earned hours in G004L received on T-jobs, S-jobs, M-jobs, or the control number that the laboratory employees have logged time against for each week as necessary. The production controller (scheduler) will also complete jobs in G004L when instructed to do so by laboratory personnel. The production controller (scheduler) will ensure only authorized, completed, and acceptable production count is reported.

5.8.3.2.6. **(Added-AFSC)** After verifying that all work is complete, forms have been annotated/signed, and estimated hours and actual hours correlated, notify the IET maintenance planner of JON closure.

5.8.3.2.7. The production controller (scheduler) performs closure of the completed AFSC Form 206 in G004L. Closure is then verified in G004L.

5.8.3.2.8. **(Added-AFSC)** Upon request, the production controller (scheduler) will provide a documented copy of the amount of hours input for production counted against each job number to the appropriate section chief.

5.8.3.2.9. **(Added-AFSC)** The production controller (scheduler) will provide a listing of all jobs that have been closed to each section supervisor when requested. The production controller (scheduler) will interrogate the appropriate system as requested by laboratory supervisors for validation of JONs owned by other organizations.

5.8.3.3. MXSG Laboratory Services.

5.8.3.3. **(AFSC)** All MXSG Laboratory services must be conducted IAW accepted engineering and/or scientific practices, any locally developed test methods documented in the LI, TOs, specifications, or commercial technical publications.

5.8.3.4. Maintenance of MXSG Laboratory Instrumentation.

5.8.3.4. **(AFSC)** The maintenance of MXSG Laboratory instrumentation requires special skills provided by trained operators or manufacturer technicians. In most cases, this will be accomplished via laboratory-initiated service contracts.

5.8.3.4.1. **(Added-AFSC)** Specialty tools are often required for the maintenance of these systems and are provided at the time of purchase or are the property of the manufacturer trained technician.

5.8.3.4.2. **(Added-AFSC)** Specialty tools/accessories maintained by the laboratory will be neatly organized in close proximity to the instrumentation on which the items are utilized. A means for quickly determining missing tools will be utilized (i.e., shadowing or labeling).

5.8.3.5. Management of Items/Materials in Support of MXSG Engineering Prototype Shop Functions.

5.8.3.5. **(AFSC)** Management of tools, expendables, consumables and other items or materiel utilized in the Engineering Prototype Shop will be governed by guidance provided in local procedures documented in the LI.

5.8.4. Records. Records stating results of the analysis or providing evidence of activities performed are maintained as required by technical publications, internal laboratory procedures, or customer specified requirements.

5.9. Material Control. HQ AFSC will develop, implement, and maintain materiel control procedures to ensure identification, cataloging, ordering, receiving, storing, issuing, replenishing, and disposition of materiel used by the MXSG.

5.9. **(AFSC)** Material control personnel are responsible to identify the organization and local procedures documented in the LI to perform materiel functions. Individual shop supervisors may manage materiel IAW local procedures documented in the LI.

5.9.1. Material Types.

5.9.1.1. Shop Support Material (U6300). Those parts ordered on a planned basis to ensure replacement parts are available to maintain facilities and equipment.

5.9.1.2. Project Material (U6910). Material ordered specifically to support a work request that is managed, controlled, and segregated from shop support materiel.

5.9.1.3. Hazardous Material (U7000). A substance which is explosive, flammable, poisonous, corrosive, oxidizing, irritating, or otherwise harmful and may cause personal injury or harm.

5.9.1.4. Residue Items. Serviceable items not used or reclaimed from work orders that may be retained for future use.

5.9.1.4. (AFSC) Residue items may be any of the three materiel types identified in paragraphs 5.9.1.1. through 5.9.1.3.

5.9.2. Material Requirements. HQ AFSC will develop, implement, and maintain Material Requirements for the following:

5.9.2.1. U6300 Shop Support Material.

5.9.2.1.1. (Added-AFSC) Material control personnel are responsible for the following:

5.9.2.1.1.1. (Added-AFSC) Research and identify materiel requirements.

5.9.2.1.1.2. (Added-AFSC) Determine general locations and establish contents and levels for materiel issue points.

5.9.2.1.1.3. (Added-AFSC) Review data management products to determine past or future consumption and establish adequate inventory levels.

5.9.2.1.1.4. (Added-AFSC) Review management products to determine excess or inactive items and take appropriate disposition or deletion action IAW local procedures documented in the LI.

5.9.2.1.1.5. (Added-AFSC) Replenish materiel based on the quantity remaining on hand.

5.9.2.1.1.6. (Added-AFSC) Determine past consumption in order to compute inventory levels and reorder points using the materiel management computer system.

5.9.2.1.1.6.1. (Added-AFSC) Conduct a review at least annually to initiate inventory level and reorder point changes.

5.9.2.1.1.6.2. (Added-AFSC) Coordinate with the MXSG shop supervisors and/or PM office prior to deletion of line items from materiel inventory.

5.9.2.1.1.7. (Added-AFSC) Verify stock number/item number and quantity received with materiel delivery document.

5.9.2.1.1.8. (Added-AFSC) Update bin cards or tags to reflect stock number/item number changes.

5.9.2.1.1.9. (Added-AFSC) Maintain a paper or electronic copy of inventory listings for use in the event of a computer outage. A new listing will be produced as necessary.

5.9.2.2. U6910 Project Material.

5.9.2.2.1. **(Added-AFSC)** Develop a BOM for each involved shop in support of a project. The BOM must be annotated with the following:

5.9.2.2.1.1. **(Added-AFSC)** Quantities required.

5.9.2.2.1.2. **(Added-AFSC)** Unit of Issue.

5.9.2.2.1.3. **(Added-AFSC)** Item Number.

5.9.2.2.1.4. **(Added-AFSC)** Description.

5.9.2.2.1.5. **(Added-AFSC)** Part Number.

5.9.2.2.1.6. **(Added-AFSC)** Storeroom (if materiel on hand).

5.9.2.2.1.7. **(Added-AFSC)** Bin Location (if materiel on hand).

5.9.2.2.1.8. **(Added-AFSC)** Bin Quantity (if materiel on hand).

5.9.2.2.1.9. **(Added-AFSC)** Unit Price.

5.9.2.2.1.10. **(Added-AFSC)** Line Cost.

5.9.2.2.2. **(Added-AFSC)** Fill BOMs from materiel on hand to the maximum extent possible.

5.9.2.2.3. **(Added-AFSC)** Inventory BOMs prior to reporting the project being supportable.

5.9.2.2.4. **(Added-AFSC)** Notify appropriate personnel when all materiel is on hand for a particular project.

5.9.2.2.5. **(Added-AFSC)** Material must not be issued to the shops until the project is released.

5.9.2.2.6. **(Added-AFSC)** Identify raw stock materiel that does not have legible mill markings or other identifying characteristics using DD Form 1574, *Serviceable Tag - Materiel*, or IAW local procedures documented in the LI.

5.9.2.2.7. **(Added-AFSC)** Segregate project materiel from all other materiel types.

5.9.2.2.8. **(Added-AFSC)** Coordinate and approve additional project materiel requirements not available or planned on the original project BOM IAW local procedures documented in the LI.

5.9.2.3. U7000 Hazardous Material.

5.9.2.3.1. **(Added-AFSC)** Manage hazardous materiel IAW AFMAN 32-7002 “*Environmental Compliance and Pollution Prevention*”, and local procedures documented in the LI.

5.9.2.3.2. **(Added-AFSC)** Control of hazardous materiel is the responsibility of the materiel control function. When materiel is issued, responsibility is transferred to the individual receiving the item.

5.9.2.3.3. **(Added-AFSC)** Hazardous materials essential to MXSG workloads may be maintained in MXSG work centers IAW local procedures documented in the LOI.

5.9.2.4. Residue Material.

5.9.2.4.1. **(Added-AFSC)** Review residue materiel IAW local procedures documented in the LI to determine if materiel should be retained for future use.

5.9.2.4.2. **(Added-AFSC)** Return residue materiel to individually identified bin locations.

5.9.2.4.3. **(Added-AFSC)** Inventory and track stored residue materiel in the materiel management system.

5.9.2.4.4. **(Added-AFSC)** Dispose of materiel IAW local procedures documented in the LI if a future requirement for the materiel does not exist.

5.9.2.5. Shelf-Life Material.

5.9.2.5.1. **(Added-AFSC)** Shelf-life item control is performed as follows:

5.9.2.5.2. **(Added-AFSC)** Ensure 'age control' and 'cure dated' materials are stored, updated, and purged IAW local procedures documented in the LI.

5.9.2.5.3. **(Added-AFSC)** Remove outdated items from inventory unless documentation or reinspection IAW applicable directives permits retention.

5.9.2.6. Material Acquisition.

5.9.2.6. **(AFSC)** A FEM generated form notification must be used to request materiel not available from existing inventory IAW local procedures documented in the LI.

5.9.2.7. Material Labeling and Tagging.

5.9.2.7.1. **(Added-AFSC)** Bin labels will at a minimum contain the item number, nomenclature, and bin location.

5.9.2.7.2. **(Added-AFSC)** Material on hand will only contain serviceable assets so individual tagging is not required. If a condition tag is used, one tag will suffice for the entire quantity in a bag, box, or bin. A DD Form 1574 or ALC developed form may be used.

5.9.2.8. Material Inventory.

5.9.2.8. (AFSC) Conduct random inventories at least monthly using the materiel management computer system inventory reports. Inventory results will be analyzed and retained by the materiel control function to identify and implement corrective actions IAW local procedures documented LI.

5.10. Practices in Reliability Management. A collection of practices in reliability management from government, DoD, and industry for implementing a tailored maintenance program may be assembled and used for REFERENCE ONLY. HQ AFSC will ensure use of these practices is compliant with any subject related DoD and AF governing policy, directives, instructions, manuals, and TOs/work specifications.

5.10. (AFSC) These practices are assembled and provided in the following Sections 5A – 5J.

Section 5A (Added-AFSC) —Reliability Management of Industrial Plant Equipment

5.10.1. (Added-AFSC) Reliability Management of Industrial Plant Equipment. The reliability, safety, and mission effectiveness of AF assets depend on an approach to asset management that includes maintenance concept development and asset strategies as part of planning, design for maintainability of new assets, and reliability centered maintenance practices that include condition-based maintenance. From the time that a new asset is ‘needed’ through the new asset planning, design, and development cycle and on to delivery, operation, maintenance, and eventual disposal phases, maintenance must be considered and made one of the higher priorities for resource and mission decision makers. This table was developed to provide those personnel, who maintain and support depot, test center, and other industrial complex assets, a comprehensive document to refer to as maintenance programs are developed, personnel are trained, and standardization across AFSC is achieved. References are provided in Attachment 1 along with Acronyms and Terms defined that are used throughout this handbook. The Defense Acquisition University (DAU) provides Acquisition Guidebooks for understanding terms, definitions, as well as the processes applied to weapon system acquisition, many of which are common processes that may be applied to industrial plant maintenance. Reference: <https://aaf.dau.edu/guidebooks/>

Section 5B (Added-AFSC) —Maintenance Planning and Design

5.10.2. (Added-AFSC) Developing the Maintenance Plan. The first step in the development of an effective and efficient maintenance program should be the development of a maintenance plan or Asset Management Plan (AMP). Maintenance planning should be tailored to the maintenance organization’s mission, workforce, assets, and core processes. It should identify required maintenance actions throughout the asset life cycle, the strengths and weaknesses of the organization, strategic factors including internal and external influences on maintenance, tactical strategies addressing the different types and categories of assets to be maintained, processes critical to maintenance performance, financial management, programming requirements, tools and technologies to be applied, configuration and data management, and finally, a method for evaluating performance.

5.10.2.1. **(Added-AFSC)** Design Phase. Maintainers must participate in design reviews where design alternatives and trade-off studies will be presented. During the design phase maintainers make their greatest contribution to improving reliability, maintainability, efficiency, and overall maintenance effectiveness by ensuring the life cycle cost-based maintenance and performance alternatives are analyzed and incorporated, where feasible, in the design. Cost-benefit analysis must prove that over the lifetime of an asset, costs for maintainability are justified and will have a return on investment. Many programs institute a ‘value engineering’ process to motivate design personnel to look for long term savings during the design process. From the DoD Reliability, Availability, and Maintainability (RAM) guide, the key objectives of the design phase are:

5.10.2.2. **(Added-AFSC)** Developing a comprehensive program for designing and manufacturing for RAM that includes people, reporting responsibility, and a RAM Manager.

5.10.2.3. **(Added-AFSC)** Developing a conceptual system model that consists of components, subsystems, manufacturing processes, and performance requirements. Use the model throughout development to estimate performance and RAM metrics.

5.10.2.4. **(Added-AFSC)** Identifying all critical failure modes and degradations and address them in design. Using data from component-level testing to characterize distribution of times to failure. Conducting sufficient analysis to determine if the design is capable of meeting RAM requirements.

5.10.2.5. **(Added-AFSC)** Designing diagnostics for fault detection, isolation, and elimination of false alarms; redundant or degraded system management for enhanced mission success; modularity to facilitate remove-and-replace maintenance; accessibility; and other solutions to user related needs such as embedded instrumentation and prognostics.

5.10.2.6. **(Added-AFSC)** To ensure the equipment specifications meet the requirements for both functionality and ease of maintenance, Production Engineers should write the specifications to ensure functionality and MXSG Engineers should review the specification packages to ensure supporting utilities in a facility can support the proposed equipment; ensure ease of maintenance; and verify safety requirements are included the specification.

5.10.2.7. **(Added-AFSC)** Maintainability. Maintainability ensures assets requiring maintenance are designed and configured in a way that will facilitate the effective and efficient accomplishment of required maintenance. Providing access to repairable parts, accessible tools, intelligently located spare parts, and other innovative decisions can make a significant difference in mean time to repair.

Figure 5.1. (Added-AFSC) Design for Maintainability Checklist.

Item	Yes	No	N/A
Considerations for Maintainability in Design (acquisition of new equipment):			
System level maintenance concept based on operational concept has been developed or considered in development of an Asset Management Strategy.			

Equipment being acquired has an Asset Management Strategy developed for use in specifying maintenance requirements.			
Methodology for repair (in-house, outsourced, etc.).			
Spare parts (number of, part number, manufacturer/supplier, serial number, model number, location of stored spare parts, and requirements for storage e.g., hanging drive shafts to prevent bending or warping, hermetically sealing electronic components, humidity, etc.).			
Personnel performing maintenance (qualifications, availability of skilled workforce).			
Training (training documentation under configuration control and available, training available to new hires and for remedial or refresh of existing workers).			
Access (availability of system, system components to workers has been considered and alternatives in design proposed to fasten versus weld or rivet access panels, consideration for isolating with shut off valves gauges and devices to facilitate replacement of equipment requiring regularly scheduled calibration or repair during operations, considerations for redundancy to allow continued operations while accessing for repair or maintenance).			
Condition Based Maintenance (design analyzed to integrate health monitoring ports or access points for vibration measurement or other measurements during operations, planned work instructions that integrate ultrasound, thermography or other technologies to allow for CBM vice calendar based maintenance).			
MSDS/SDS provided).			

Documentation (work instructions or procedures supported by drawings, schematics, process specifications and other technical data is complete, current and available to maintenance personnel and is placed under configuration control).			
Rights in data (review vendor's proprietary or limited rights that will limit the in-house personnel performing maintenance and assess the impact of unavailable technical data). Note: Consider requesting contracting or legal support to determine appropriateness of contractor data rights assertions.			
Automation (consideration of electronically generated device lists in lieu of full size drawings to support field update of sources of supply and serial number effectiveness, automation of maintenance information to include wireless technologies that will make maintenance information available at the equipment's location).			
Calibrations (assess requirements and scope of calibration requirements, establish recall lists and send instruments to PMEL for initial calibration and calibration determination).			

5.10.2.8. **(Added-AFSC)** Reliability. Reliability is the probability that an item can perform its intended function(s) without failure for a specified time under stated conditions. Reliability is a measure of whether or not an item will function properly when used by typical users in its operating environment. The specification of reliability and the design for reliability requires the identification of the conditions of use and what constitutes proper functioning (i.e., when is a failure a failure). For systems that are repairable, the rate of recurrence of a problem is an important characteristic. For systems or components that are replaced when they fail, the lifetime of the component is important. Analysis of recurrence data from repairable systems and analysis of lifetime data for components and non-repairable units require different statistical models and methods of analysis. In all cases reliability should be defined with respect to a well-defined mission and conditions of use. Reliability is a function of the environment and the stresses it places on a system. The conditions of use include but are not limited to the environment of operation (i.e., such things as temperature, season of the year, operating time, dust, vibration, acoustic environment, and geographic location), maintenance performed as specified, and operation within the design specifications. For example, if users consistently operate a system outside the design specifications (e.g., higher than designed for speeds, etc.), this may lead to reliability problems when in use. An operational perspective must be present as early as possible in the design reviews. A reliability specification requires a description of what constitutes mission success or failure for equipment when it is operational. For additional information, reference www.reliabilityweb.net.

5.10.2.9. **(Added-AFSC)** Electrical maintenance information is provided in Military Handbook (MILHDBK)-338B Electronic Reliability Handbook. The DoD worked closely with both industry and the Government Electronics & Information Technology Association (GEIA) on the development of a new standard, GEIA-STD-0009, *Reliability Program Standard for Systems Design, Development, and Manufacturing*. GEIA-STD-0009 consists of the essential reliability processes that simply must be performed in order to design, grow, build, and field reliable systems. GEIA-STD-0009, at its core, is a reliability engineering and growth process that is fully integrated with systems engineering.

Table 5.2. (Added-AFSC) Popular Reliability Metrics.

Item	Metric
Failure Rate (l).	The total number of failures within an item population, divided by the total time expended by that population during a particular measurement interval under stated conditions.
Hazard Rate.	Instantaneous failure rate.
Mean Time Between Failure (MTBF).	A basic measure of the reliability of repairable items.
Mean Time Between Maintenance (MTBM).	The average time between all system maintenance actions.

Mean Time Between Repair (MTBR).	A basic measure of reliability for repairable fielded systems. The average time between all system maintenance actions requiring removal and replacement or in-situ repairs of a box or subsystem.
Mean Time Between Critical Failure (MTBCF).	A measure of system reliability that includes the effects of any fault tolerance that failure (MTBCF) may exist. The average time between failures that cause a loss of a system function defined as 'critical' by the customer.
Mean Time Between Operational Mission Failure (MTBOMF).	A measure of operational mission reliability for the system. The average time between operational mission failures which cause a loss of the system's 'mission' as defined by the customer. This parameter may include both hardware and software 'failures.'
Mean Time To Failure (MTTF).	A basic measure of reliability for non-repairable systems. Average failure free rating time, during a particular measurement period under stated conditions.

5.10.2.10. **(Added-AFSC)** There may be several different ways to view the reliability of a system, depending on its function and complexity. One perspective focuses on the probability that no failure will occur during a mission that would prevent the system from successfully completing its operational mission (i.e., MTBOMF), while other perspectives focus on failures that require maintenance (i.e., MTBR). The first case emphasizes mission capability, and the latter illustrates operational support. Both measures are important, and both are a direct result of how the system and its constituent elements were designed, manufactured, and how their maintenance support is structured.

5.10.2.11. **(Added-AFSC)** Failure Modes and Effects Analysis (FMEA). A FMEA considers the effects of individual failure modes of every part or function in a designated system. FMEA is a methodology to analyze and discover: (1) all potential failure modes of a system, (2) the effects these failures have on the system and (3) how to correct and/or mitigate the failures or effects on the system. The correction and mitigation is usually based on a ranking of the severity and probability of the failure. The FMEA may be suitable to aid failure analysis, to identify the root cause, implement corrective action, failure modeling, and engineering change development. The data collected during the FMEA process should be available to the In-Service Manager during the O&S Phase.

5.10.2.12. **(Added-AFSC)** The FMEA may also act in its traditional role as a design aid when considering modifications or upgrades to a product or process. FMEAs performed during the original design help establish inherent RAM metrics for the product. Revised FMEAs when available should be used to analyze proposed design changes. Design changes should not adversely affect the system's RAM, so potential failure modes and causes associated with the design changes should be thoroughly analyzed. Since FMEAs are performed on a specific system or asset's configuration, it is recommended that FMEAs be filed, and their status accounted for along with other configuration-controlled documentation.

5.10.2.13. **(Added-AFSC)** Analytical Tools. There are many suppliers of analytical tools in

industry and across the government today, i.e., ANSYS, ALTA, RGA, Matlab, Minitab, and BlockSim. Analysis methods include root cause, reliability, and Weibull Analysis. Information on Weibull Analysis may be found at website www.weibull.com. These tools and methods may be characterized as either inductive or deductive methods.

5.10.2.14. **(Added-AFSC)** Inductive methods of analysis include human factors analysis, FMEA, and reliability analysis. Essential to inductive methods are identification of critical items, documenting and researching hardware and software failures, and understanding the interactions and interrelationship of workers. Deductive methods include fault-tree analysis, event tree analysis, and probabilistic risk analysis.

5.10.2.15. **(Added-AFSC)** Other analytical tools are becoming more prevalent in the maintenance industry today and provide a means of Modeling and Simulation (M&S) industrial systems and equipment, processes and procedures, workflow, and other plant processes. The Institute of Electronic and Electrical Engineers (IEEE) and other organizations support M&S to improve maintenance, design, and safety process performance.

5.10.2.16. **(Added-AFSC)** Alternatives Analysis. Analysis of alternatives is essential to the delivery of a best value asset where Total Operational Cost (TOC) has been evaluated. Tradeoffs must be presented by the design team to address alternative approaches for accomplishing maintenance and ensuring reliability. The decision to use rivets instead of screws may result in significant increase in TOC if the device inside a riveted component requires access repeatedly during O&M phase for repair. While initial cost to deliver may be less, alternative analysis considering the complete life cycle through the O&M phase and on into disposal may reflect a difference in decision by program managers.

Table 5.3. (Added-AFSC) Other Maintenance Targeted Alternatives.

Item	Alternative
1	Choice between in-house, contracted, or original equipment manufacturer repair.
2	Access to sub-systems and components.
3	Human factors i.e., will electricians wear heavy suits for high voltage work or will systems be shut down?
4	The degree to which wireless and condition-based maintenance technologies are utilized.
5	Safety and PPE requirements.
6	Location of spare parts and special tools.
7	Calibration requirements.

5.10.2.17. **(Added-AFSC)** Pre-planned product or process improvements should be identified and documented wherever possible. Over the life of the system, technological changes, changes in organization, changes in the regulatory environment, etc. may lead to a different outcome of alternative analysis.

5.10.2.18. **(Added-AFSC)** Design Guides. Design guides are helpful in creating purchase descriptions or development of work statements. The Whole Building Design Guide, available

thru website www.wbdg.org, is a joint venture of DoD, NASA, the Department of Energy (DOE), and the US Army Corps of Engineers (COE) to standard specifications for the government and industry. Another useful guide is MIL-STD-961, *Defense and Program Unique Specifications Format and Content*. Another useful guide is MIL-STD-1472, *Human Engineering*.

5.10.2.19. **(Added-AFSC)** Delivery Phase. Once a design has been agreed to, submitted to contracting for procurement, and an award made for delivery of the designed asset(s), the delivery phase begins. For the maintainer, this means submittals must be reviewed, construction, or fabrication site visits are conducted and data is collected. The initial operation and maintenance of equipment during this phase is performed by the original equipment manufacturer or integrating construction contractor. Their objective is to deliver a ‘complete and useful’ asset on day one, not for the life-cycle of 20 to 30 years. The measurements taken at this critical delivery point prove initial operation capability but they do not confirm the asset will last through a long operational phase. It is a recommended practice that a complete video and photographic record of the fabrication and installation process be developed. Having records of construction, as well as materials, and fabrication process information available to the maintainer may provide valuable insight into how and why equipment was installed. This insight may provide the critical information needed to support removal of equipment during an outage dramatically reducing time to repair or replace.

5.10.2.20. **(Added-AFSC)** It is also recommended that operations and maintenance personnel visit the construction or fabrication location frequently, in order to witness checkout tests, ensure design compliance, identify materials used that may not have been specified explicitly in technical data, etc.

5.10.2.21. **(Added-AFSC)** Checkout, Acceptance, Validation, and Transfer to O&M. The old adage that those who do the work must be part of the plan was never truer than during the transition of a new asset to operation and maintenance. O&M personnel must be present and provide input to the development of the checkout processes and procedures, they must receive training, and perform initial operations with draft procedures. They must understand that after the fabricator leaves the site, it will be their responsibility to provide configuration management and sustain the assets and their operation. Through system validation during check-out, the user, maintainer, and other stakeholders receive direct feedback on the validity (i.e., correct and complete) of requirements.

5.10.2.22. **(Added-AFSC)** Commissioning. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Guideline 0-2005, *The Commissioning Process*, defines commissioning as ‘a quality-oriented process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meets defined objectives and criteria’. Commissioning typically occurs during transfer of newly developed assets through Interim Operational Capability to the operators and maintainers. Commissioning is an ‘umbrella’ process for all the planning, delivery, verification, and managing risks to critical functions performed in or by facilities (e.g., assets, systems, etc.). Commissioning uncovers deficiencies in design or installation using peer review and field verification. Commissioning also accomplishes higher energy efficiency, environmental health, operator/maintainer safety, and improves system performance. Commissioning is a quality assurance-based process that delivers preventive and

predictive maintenance plans, tailored operating manuals, and training procedures. The commissioning process formalizes review and integration of all project expectations developed during planning, design, construction, and occupancy phases by inspection and functional performance testing along with oversight of operator training and record documentation. It takes a multi-disciplined effort involving owners, design professionals, constructors, and commissioning providers to achieve optimal results from the commissioning process.

5.10.2.23. **(Added-AFSC)** Operations and Maintenance Phase. This is the phase in the SE process where the asset is put to work producing products, providing services, or delivering goods. During O&M, the planned PM is performed, logistics support is provided, and operational data is collected as well as collection of maintenance data from health monitoring systems. CM and change control efforts are critical in keeping all the stakeholders informed and aware of historical, current, and proposed changes. Coordination with operations, investment groups, customers, and maintainers is required to optimize downtime availability for the given mission requirements. Central planning and scheduling through a Tactical Integration Group or Mission Operations Control Center, as well as standing up a routine Configuration Control Board, will dramatically reduce program risk and increase organizational effectiveness. During O&M, continuous improvement and performance feedback is essential.

5.10.2.24. **(Added-AFSC)** Disposal Phase – When disposal of an asset is required, recommend contacting the base DLA Disposition Services organization for assistance. In addition, contacting Base Civil Engineering Group (BCE), particularly environmental compliance, to ensure facility issues are appropriately resolved and wastes or hazardous materials are disposed of properly. CM is required to ensure removal of equipment or demolition is managed as a controlled change, fully coordinated, with updated documentation released or vaulted.

5.10.2.25. **(Added-AFSC)** Disposal processes should account for the transfer of equipment ownership from the using production operation organization to DLA Disposition Services. It includes draining fluids, testing fluids for potential environmental concerns, disposal of contaminated materials, cleaning up the equipment, and the eventual turning over of the equipment to DLA Disposition Services for final disposal. Most of this work is performed at the using organization's request by the maintenance organization with the user organization's assistance as required. Documentation and coordination are handled within the using and maintenance organizations which for COTS equipment is more cost effective and timely for this situation.

Section 5C (Added-AFSC) —Program Support Functions

5.10.3. **(Added-AFSC)** Program Support Functions.

5.10.3.1. **(Added-AFSC)** Financial Management. Maintenance requires funding. The maintenance plan should address the essential business planning tasks of programming, budgeting, and accounting. Many organizations today are employing earned value techniques to assess performance of work versus cost and budget. The maintenance plan should include current FY plus five years of program requirements broken out for PM, CM, major investments (i.e., renewals and replacements), continuous improvement, and administration. The maintenance plan should be used to develop base or center level programming documents for annual budget submission.

5.10.3.2. **(Added-AFSC)** Once maintenance needs are identified, they should be prioritized by representatives from maintenance, operations, production, and other stakeholders. Criteria for prioritization may include impact on mission, schedule, safety or environmental impact, production capability, or another similar requirement. Prioritized needs should be inserted into the organizations overall requirements process as programmed projects. Competition for funding is expected, therefore justification statements, cost estimates, need dates, etc., must be complete, clear, concise, and valid. The need information should facilitate a quick turnaround on funding as well as establishing preliminary requirements for the design phase.

5.10.3.3. **(Added-AFSC)** Procurement. Maintainers must develop a strong working relationship with their Procurement Division organization. The Procuring Contracting Officer (PCO) and Administrative Contracting Officer (ACO) will help you decide on the best acquisition method for new, spare, or repair parts. They can advise you on competition in contracting, when sole source is required, contract data requirements, and other important contract requirements.

5.10.3.4. **(Added-AFSC)** Contract Performance Measurement. Performance measures, metrics, or indicators must be considered during planning as they will serve management in determining areas for improvement or needed changes during an asset's life. Performance measures are referred to as KPIs or Operating Indicators. The maintainer must plan for a structured approach to performance measurement. The cost of performance measurement can be high so every effort must be made to measure only what is important. One of the best sources for performance measurement input is the customer. Maintenance metrics such as Mean Time To Repair (MTTR), MTBF, etc. are being used throughout industry today to give management a sense of success. In some industries, these measures are identified as leading or lagging indicators or given more management friendly titles such as Lost Test Time, Maintenance Scheduling Effectiveness, or Unscheduled Downtime. Whatever the method, planning must address the daily or monthly data collection and reporting of this information. One of the most difficult aspects of measurement is the determination of planned versus actual performance. It is relatively easy to record information from an odometer or run-time meter, but it is very difficult and costly to track once an asset is slated to start and remain running. This is especially true of organizations with highly dynamic and complex missions where customers dictate many changes to the operational schedule.

5.10.3.5. **(Added-AFSC)** Legal. Legal review of maintenance activities ensures the effective management of issues related to labor rights and conditions, limited rights in maintenance data, proprietary data, and other regulatory issues. Including representatives from the Judge Advocate General (JAG) office when conducting maintenance planning and activities will greatly improve the maintenance management effort and help avoid regulatory pitfalls.

Section 5D (Added-AFSC) —Test and Inspection Methods

5.10.4. **(Added-AFSC)** Test and Inspection Methods.

5.10.4.1. **(Added-AFSC)** Test and Inspections Overview. Previously discussed is the need to plan for maintenance specific to the asset, the lifecycle of the asset, the type of maintenance activity, and the people/organizations performing the maintenance. Next is the discussion regarding the

tools and technologies that can be planned or ‘designed into’ the maintenance process in order to maximize the maintenance program’s efficiency, effectiveness, and enhance inspection for in-service problems with plant equipment. Example: Using ultrasound technologies and tools to inspect for leaks instead of the soap box method may reduce the labor hours required to perform inspection by 80 percent and reduce MTTR by an equal amount.

5.10.4.2. **(Added-AFSC)** Non-Destructive Inspection (NDI). The Air Force uses NDI methods such as liquid penetrant, magnetic particle, ultrasonic, radiographic, and eddy current. The definition of NDI can be found in TO 33B-1-1, *Non-Destructive Inspection Methods, Basic Theory*. The TO is devoted to NDI theory and AF personnel are certified IAW AIA NAS-410, *NAS Certification and Qualification of Nondestructive Test Personnel*. These tools involve non-intrusive means of inspection and testing structures and components to identify and characterize indications of potentially harmful defects.

5.10.4.3. **(Added-AFSC)** Visual Inspection (VI). Visual inspection is the most readily available, lowest cost, and commonly used method of inspection. Visual inspection may be used to verify the physical characteristics of an asset and compares the current condition of an asset to the current approved design. This form of inspection may be augmented with measuring devices such as rulers, micrometers, and enhancements such as binoculars or other aides. Results from visual inspection may include identification of leaks, corrosion, incorrect configurations, aging, damage from weather, or other potential failure modes.

5.10.4.4. **(Added-AFSC)** Soap Bubble (Leak) Testing. Soap bubble testing is an inspection process where a soapy solution is applied to the surface of a pipe, tube, or pressure containing system and bubbles are produced by the escaping air, gas, or liquid thereby indicating a leak. This method may be modified by applying a negatively pressurized box on the outside of a component to locate leaks in a non-pressurized system or component. The box is placed over the area for inspection after a soap solution is applied to the surface. If a leak is present, the vacuum generating box will draw air through a leak and bubbles will appear where the leak is located.

5.10.4.5. **(Added-AFSC)** Infrared Thermograph. Infrared thermograph is a non-destructive, in-service, inspection process requiring an experienced operator/technician and heat sensing measurement equipment. It is used to identify ‘hot spots’ or changes in temperature which may relate to poor connections or arcing in electrical components. Thermograph has also been used to identify leaks in flat roofs. National Fire Protection Association (NFPA) 70E, *Standard for Electrical Safety in the Workplace*, is the industry standard for arc flash and safe and efficient thermograph practices. Electrical maintenance requirements are provided in NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance Committee Report*.

5.10.4.6. **(Added-AFSC)** One of the more recent advances in infrared inspection has been through the use of infrared (IR) windows. By installing IR windows in switchgear or electrical system cabinets, technicians are able to take IR photographs of the equipment through the window. This technique eliminates the arc flash hazard associated with inspection of an open cabinet and energized system. It also facilitates inspection of many electrical cabinets in a shorter amount of time.

5.10.4.7. **(Added-AFSC)** IR inspections should be set up in routes to maximize the cost effectiveness of inspection. Groups or sets of equipment can be inspected in one shift given a consistent pattern of data collection and reporting. IR inspection like other inspections is best performed when commissioning equipment in order to create a baseline signature. This baseline signature is compared to future IR readings to understand the change in aging equipment.

5.10.4.8. **(Added-AFSC)** Ultrasound. Ultrasound monitoring is a non-destructive, in-service, inspection method requiring an experienced operator/technician who uses an ultrasound sensor to inspect for high frequency sound associated with pressure system leaks and arcing of electrical equipment. Applications of ultrasound inspection include area-wide leak check for compressed gas systems, vacuum, sealed units, traps, valves, and heat exchangers. Ultrasound has been found to be an effective method for locating leaks in lieu of soap bubble testing. Another current application is locating of arcing, tracking, and corona issues for electrical systems which emit high frequency noise that is detectable by ultrasound. Mechanical inspection for bearings, gears/gearboxes, valves, pumps, and motor conditions is also currently being enhanced using ultrasound.

5.10.4.9. **(Added-AFSC)** Balancing. Motor and equipment balance is essential to the life of a rotating piece of equipment. The following standards are available for successful motor balancing. International Organization for Standardization (ISO) 21940-11:2016, *Mechanical Vibration — Balance Quality Requirements For Rotors In A Constant (Rigid) State*, gives specifications for rotors in a constant (rigid) state. It specifies balance tolerances, the necessary number of correction planes, and methods for verifying the residual unbalance. Recommendations are also given concerning the balance quality requirements for rotors in a constant (rigid) state, according to their machinery type and maximum service speed. These recommendations are based on worldwide experience. ISO 1940-1:2003 is also intended to facilitate the relationship between the manufacturer and user of rotating machines, by stating acceptance criteria for the verification of residual unbalances. Detailed consideration of errors associated with balancing and verification of residual unbalance are given in ISO 1940-2, excluding flexible motors. The balance quality requirements for rotors in a flexible state are covered by ISO 11342/CORI:2000.

5.10.4.10. **(Added-AFSC)** Aligning. Machine alignment equipment is used to align rotating or moving parts and machine components. Alignment sets the tolerance range and incorporates target specifications for equipment. There are many types of machine alignment equipment, i.e., a wheel alignment machine, front end alignment machine, truck alignment machine, CNC machine tool alignment and test equipment, and laser performance parameters alignment. A wheel alignment machine employs diagnostic systems that are used to measure the toe, camber, caster, and ride height. A front end alignment machine is used to align the directions of the wheel such that the vehicle points in a straight line. A truck alignment machine allows personnel to align the truck by adding or removing the shims behind the upper mounting bracket of both the front and rear wheels. CNC machine tool alignment and test equipment is used to improve a machine's accuracy and performance where tight tolerances are required to be maintained.

5.10.4.11. **(Added-AFSC)** There are several ways in which machine alignment equipment functions. During the alignment process, minimum movement is made but still the alignment is obtained. A wheel alignment machine is very robust and is available with two measuring heads,

non-contacting lasers, or the contacting rollers on the tires that are used to view the sidewalls of the tire. A wheel alignment machine requires less maintenance and is highly reliable and accurate. A machine tool alignment is done for machine calibration and to increase the performance of the tool. Machine alignment equipment is designed and manufactured to meet most industry specifications. Machine alignment equipment is used in many applications. Examples: Automotive transfer lines, steam and gas turbine bore alignment, and aerospace and process mill roll alignment.

5.10.4.12. **(Added-AFSC)** Machine alignment equipment should adhere to ISO standards. A recommended best practice is provided by John Piotrowski – *Shaft Alignment Handbook*, Third Edition available. ISBN- 10:1574447211 ISBN-13:9781574447217 Pub. Date:03/26/2006 Publisher: Taylor & Francis

5.10.4.13. **(Added-AFSC)** More Machine Vibration Monitoring. Today significant advances have been made in vibration signal characterization. Vibration monitoring is the most reliable method of assessing the overall health or changes in health of a rotor system. In some applications, accelerometers are attached (i.e., permanently or temporarily) to the equipment and both frequency and direction of movement of the equipment are detected and transmitted to a signal processor. By installing alarms within the signal processing software or a Machine Conditioning Monitoring (MCM) system, operators/technicians can be alerted to out-of- tolerance vibrations. In order to benefit fully from a vibration monitoring system, it is important to appreciate what vibration is, how it is measured, how vibration measurements are presented, and what can be learned from each presentation format. ISO 10816 -8:2014 provides vibration severity standards.

5.10.4.14. **(Added-AFSC)** Lubrication. A lubrication program is a proactive, systematic, and integrated approach to enhance equipment reliability, increase lubricated component life, and reduce internal power losses. The proactive approach of eliminating contaminants from lubricating oils and greases has proven to be a major factor in extending component life and improving equipment reliability. This approach allows for advanced planning of corrective maintenance activities based on lubricant analysis trends rather than conducting unplanned corrective maintenance. The systematic approach refers to continuous monitoring of the program efficiency, lubricant analysis, and applied corrective actions.

5.10.4.15. **(Added-AFSC)** The integrated aspect refers to cooperation between different organizations and existing programs to achieve efficient services, adequate communication with various stakeholders, and effective execution of the corrective actions when required.

5.10.4.16. **(Added-AFSC)** The Lubrication Program identifies Industrial Plant Equipment, facility programs, and procedures that interact and impact lubricant quality and equipment reliability. The focus is not only on the lubricant itself but rather on the whole lubrication systems including the lubricant, lubricated components (i.e., bearings, seals, and filtration systems) and the surrounding environment.

5.10.4.17. **(Added-AFSC)** As noted with other maintenance process improvements, a successful lubrication program will require commitment to change culture in the field or point of lubrication all the way up and through management. Everyone must recognize it is no longer acceptable to pour tainted, undocumented, or untested lubricant from a bent soda can into a piece of sensitive

equipment. Once the planned and designed lubrication process is put into place, all implementing personnel must manage lubricants in the approved manner consistent with lubrication training. Disciplined adherence to process and procedure is imperative.

5.10.4.18. **(Added-AFSC)** Motor Testing. Modern electrical maintenance practices often do not take into account the importance of electric motor testing for proper equipment uptime and plant competitiveness. Motor testing increases equipment reliability by identifying problems before the force an outage. Recommend organizations responsible for electric motor assets consider implementing a motor testing program. Electric motor testing maintenance and management programs are designed to improve equipment readiness and uptime while reducing capital overhead. Motor testing programs consist of specific maintenance management tools designed to aid the MXSG engineer in electric motor systems and their care. For additional information: <http://www.electricityforum.com/test-equipment/electric-motor-testing.html>.

5.10.4.19. **(Added-AFSC)** The following are some important electric motor testing items:

5.10.4.20. **(Added-AFSC)** Electric Motor Impulse Testing. Electric motor impulse testing is an integral part of predictive maintenance of electrical motors. Through the following questions, the influence that extensive impulse testing has on a motor is investigated:

Figure 5.2. (Added-AFSC) Electric Motor Impulse Testing.

Can impulse testing damage healthy or deteriorated insulation?
 Can direct current (DC) resistance, inductance, Megger or HiPot tests diagnose weak turn-to-turn insulation?
 After failing an impulse test, are motors with weak insulation able to operate? Are motors with a turn-turn short capable of continued operation?
 Electric motor impulse testing is accomplished by putting a low voltage motor through extensive testing rigors until a failure is induced. Following the failure, additional testing investigates the possible deteriorating effects on turn-turn insulation due to impulse testing beyond the motor's dielectric breakdown.
 Note: This Section was edited from the original version of the IEEE paper published in 2003.

5.10.4.21. **(Added-AFSC)** Electric Motor Rotation Testing. Check a fan and pump motor rotation offline. Fans may continue to slowly rotate due to a drafting effect a plenum, and a pump may rotate if connected to a common header line that processes other pumps in operation. Either of these scenarios may adversely affect the standard test results possibly creating higher than normal resistive and inductive imbalances.

5.10.4.22. **(Added-AFSC)** Wound Rotor Motor Testing. Wound rotor motors have a three-phase winding on the rotor which is connected to three phases of start-up resistors that provides the current and speed control on start-up. Failed components in the resistor bank are common and often overlooked when troubleshooting. These faults can have a significant impact on the overall operation of the motor and should be given considerable focus when troubleshooting these motors.

5.10.4.23. **(Added-AFSC)** Electric Motor Insulation Resistance Testing. Electric motor insulation

exhibits a negative temperature coefficient, i.e., as temperature increases, resistance decreases. This would lead one to believe that insulation resistance of a de-energized motor will decrease after starting the motor. However, generally the resistance will initially increase after running due to evaporated moisture caused by increasing temperature of the windings. The governing standard, IEEE43, *IEEE Recommended Practice for Testing Insulation Resistance of Electric Machinery*, on insulation resistance testing requires a temperature correction to 40 degrees C which could quickly turn acceptable measured resistance readings into unacceptably low corrected resistance readings.

Figure 5.3. (Added-AFSC) Electric Motor Tests.

The recommended off-line, in-service, electric motor tests and spare electric motor test are:
 Stator winding resistive imbalance.
 Stator winding insulation resistance (Meg-Ohm checks).
 Polarization Index (PI) .
 Step Voltage test.
 Surge test.

Figure 5.4. (Added-AFSC) New/Refurbished Electric Motor Tests.

The recommended new/refurbished electric motor tests are:
 Stator winding resistive imbalance.
 Stator winding insulation resistance (Meg-Ohm checks).
 Polarization Index (PI).
 Step Voltage test.
 Surge test.

5.10.4.24. **(Added-AFSC) Circuit Testing.** Whenever working with electricity, make it an ironclad rule to ensure that power to the equipment is turned off at the service entrance panel or subpanel.

5.10.4.25. **(Added-AFSC)** Before touching bare wire ends, use a neon tester in order to confirm that the circuit is dead. Touch one tester probe to a hot wire or terminal and the other probe to a neutral wire or terminal, the grounding conductor, or the grounded metal box. The tester will light if the circuit is live.

5.10.4.26. **(Added-AFSC)** Be careful: If by some chance the right circuit is not off or if there is a short in the system, the wires may still be hot. Make sure to hold the tester probes by the insulation and not the metal ends or the result may be a shock or short circuit.

5.10.4.27. **(Added-AFSC)** If a lamp or appliance does not work, that does not mean the circuit is dead but it could be that the appliance itself is faulty. Insert the neon test probes into the receptacle slots. If the test light is on, the circuit is still hot.

5.10.4.28. **(Added-AFSC) Destructive Testing.** While equipment and component destructive testing may be the last resort to gain, in many cases examining a failed component with this method can provide insight into failure modes or may be applicable to similar equipment. Metallographic

tests, tensile testing, and materials analysis are valuable tests of first article equipment or parts of failed equipment. In many cases, chemical analysis may be destructive. However, if samples from insulation, lubricants, and base materials can be obtained and tested for compatibility, failures may be prevented.

5.10.4.29. **(Added-AFSC)** New Technology Application. The ability to reduce mean time to diagnose (MTTD) potential failures is driving new CBM techniques and methods development. Accurate and quick troubleshooting of complex systems, e.g., machine tools, industrial plant equipment, etc., requires sophisticated analytical capabilities and multifaceted skills on the part of the maintainers. The operational health of complex equipment is often dependent on different factors including the complex interaction of the different components, system usage, routine maintenance, replacement part quality, and the ability of our maintainers to correctly diagnose failures. Early efforts to assist the maintainer with troubleshooting have ranged from built in test (BIT) and built in test equipment (BITE) to sophisticated test equipment and electronic interactive technical manuals. Some organizations have employed low level intelligent rule systems to provide the maintainer with more systematic methods of diagnosis. Most often the classical troubleshooting paradigm of ‘identify fault and take action’ is unacceptable and must be replaced with system level diagnostic processes and tools. While simple ‘poke yoke’ measures work well for simple quality measurement tasks, understanding vibration caused by misalignment or operating frequencies that affect sets and groups of equipment within a system requires more advanced quality measurement techniques. Fourier analysis techniques married with accelerometers and specially developed software to translate raw data into alarms and alerts may provide a better method for equipment condition monitoring.

5.10.4.30. **(Added-AFSC)** Through Small Business Innovative Research (SBIR) and related programs, maintainers are working with technology developers to deliver these new processes and tools. The goal is to develop, test, and evaluate an advanced and innovative troubleshooting technology that appears to the user as a systems expert. Such advanced and automated troubleshooting technologies will be able to interpret and use both numerical and textual information. The system will be able to direct the maintainer through a series of interconnected actions to identify correctly and rapidly the failed component. Inherent to this intelligent troubleshooting technology will be its ability to integrate with existing CBM inputs, i.e., system/component health monitoring and health management approaches. This integration will reduce the associated ambiguity in correctly identifying the failed component. The introduction of such advanced troubleshooting technologies into the AF maintenance infrastructure will result in a quantum leap towards the adoption of newly emerging test hardware/software and will provide substantial benefits to the maintainer of complex systems.

5.10.4.31. **(Added-AFSC)** The use of wireless technologies in industrial maintenance has greatly expanded over the years. The government is working collectively to ensure that the use of wireless technologies will not intrude in information security yet allow maintainers to access equipment health information in real-time. Wireless maintenance data acquisition will avoid the cost of expensive construction, installation of conduits, and miles of wiring.

Section 5E (Added-AFSC) —Configuration and Data Management

5.10.5. (Added-AFSC) Configuration and Data Management.

5.10.5.1. (Added-AFSC) Configuration Management (CM) Overview. CM is defined as a process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design, and operational information throughout its life. It includes identifying, documenting, and verifying the functional and physical characteristics of an item; recording the configuration of an item; and controlling changes to an item and maintaining the documentation. The CM process as support to the systems engineering activity provides a complete audit trail of decisions and design modifications to an asset throughout its lifecycle. The configuration management process ensures the asset's condition, as it exists in the field, is accurately and completely identified by the technical documentation used to perform maintenance. Electronic Industries Alliance (EIA)-649, *National Consensus Standard for Configuration Management*, as a replacement for MIL-HDBK-61A (SE), *Configuration Management Guidance*, provides excellent information for tailoring a CM program. Rationale: Definition as provided in EIA-649 and MIL-HDBK-61A (SE). Process characteristics as defined in MIL-HDBK61A (SE) and EIA-649.

5.10.5.2. (Added-AFSC) Configuration Identification. The process of developing technical documentation that defines the physical and functional characteristics of hardware and software is configuration identification. Assets to be placed under Configuration Control are referred to as Configuration Items (CI). The key to understanding configuration identification is that all parts and components required for the CI to meet required functional performance and satisfy fit and form requirements must be identified in configuration documentation. Many people make the mistake of assuming one can control the configuration of an asset by only documenting higher level performance information. Configuration identification must include all the characteristics: form, fit, or function, that must be verified as delivered or to be operated and maintained. A simple component such as a bolt, screw or light bulb if not properly included and verified in the identifying technical documentation, can lead to an unreliable system. The successful operation of an asset depends on disciplined CM and complete configuration identification.

5.10.5.3. (Added-AFSC) Configuration Documentation. Documents to be controlled when used by maintainers are:

5.10.5.4. (Added-AFSC) Operating Procedures.

5.10.5.5. (Added-AFSC) Maintenance Instructions.

5.10.5.6. (Added-AFSC) Drawings.

5.10.5.7. (Added-AFSC) Specifications (performance, procurement, materiel, process, etc.).

5.10.5.8. (Added-AFSC) BOMs (or device lists).

5.10.5.9. (Added-AFSC) Hazard, FMEA, and other analysis (if to be kept current).

5.10.5.10. (Added-AFSC) Logistical support information (to ensure the operational configuration

and spares/logistics support are consistent with each other).

5.10.5.11. (Added-AFSC) Training manuals and information.

5.10.5.12. (Added-AFSC) Baseline Management. Baseline management refers to the development of configuration identifying documentation at various milestone points in an asset's life-cycle from which changes to the configuration may be tracked. The initial baseline typically associated with definition of a system's functional requirements is known as the Functional Configuration Baseline (FCB) or Functional Configuration Identification (FCI) which is established after agreement is reached during planning at system requirements review for a new asset. The next baseline established is the Allocated Configuration Baseline or Allocated Configuration Identification (ACB/ACI) which is established after decomposition of a system's requirements into sub-systems and major equipment or end items. The configuration identifying interface documentation, performance specifications for equipment purchase, and schematics are brought under configuration control after successful completion of a preliminary design review. The final configuration baseline is typically the product configuration baseline or product configuration identification which signifies the successful fabrication, test, and inspection through Physical Configuration Audits and Functional Configuration Audits (PCAs/FCAs) as well as full up System Verification Reviews (SVRs). At this point, all the technical data described in paragraph 5.10.5.3. is verified complete, current, and accurate as it represents the configuration transferred to operations and maintenance. All verified technical documentation to be used in operation and maintenance is vaulted and released to operators, maintainers, and support personnel through a Configuration Status Accounting (CSA) system.

5.10.5.13. (Added-AFSC) Configuration Control. During the life cycle of plant and equipment, changes occur for various reasons. It is essential to manage the change process to ensure all configuration documentation is kept complete, current, and accurate. It is unacceptable and unsafe for maintenance, operations, and plant support personnel to be working from different versions of technical data. For this reason, a robust configuration control process is needed.

5.10.5.14. (Added-AFSC) The following steps are essential to the configuration control process:

5.10.5.15. (Added-AFSC) Propose. Develop and submit a Configuration Change Request (CR) to the personnel or organization assigned responsibility for processing changes. Enter change information in the CSA system.

5.10.5.16. (Added-AFSC) Review. Conduct a thorough review of proposed changes to the assets included in the scope of the change and corresponding technical data. If necessary, convene a formal Configuration Control Board (CCB) to review changes involving interfaces external to as well as internal to the plant and equipment. It is essential that CCBs represent all the major functions performed within the organization including financial, administrative, operation, maintenance, quality, training, logistics, procurement, safety, and environmental.

5.10.5.17. (Added-AFSC) Approve. Once a recommendation for approval is achieved, the CR is submitted to a designated plant or senior system level asset owner who has authority to implement the approved change. Update the CSA.

5.10.5.18. **(Added-AFSC)** Implement. This phase involves the performance of work identified in the CR with special attention paid to verification audit at the close-out of work as well as verification and release of revised documentation into the CSA. This phase may be broken into two phases: a phase for ‘work performance’ and a phase for ‘ready to operate’.

5.10.5.19. **(Added-AFSC)** The CR should be tracked in the CSA/Computerized Maintenance Management System (CMMS) throughout the process to ensure personnel are aware of proposed or pending changes as well as the current approved or implemented configuration.

5.10.5.20. **(Added-AFSC)** CSA. The CSA provides the maintainer with information about the configuration of assets and their documentation. The primary role of the CSA should be to identify the change history; proposed, in-review, approved, and implementation status for assets and documentation. The CSA should also be able to provide:

5.10.5.21. **(Added-AFSC)** Plant-Facility-System-Equipment vertical and horizontal indenture location relative to each component and interfaces within the system hierarchy.

5.10.5.22. **(Added-AFSC)** All configuration identifying and related operation and maintenance or support documentation by document title, number, type, and the asset it identifies at all levels of the hierarchy.

5.10.5.23. **(Added-AFSC)** The status of the configuration documentation in terms of revision or change control. Status should identify the proposed, pending change board review, approved, implemented, and incorporated (i.e., verified and vaulted) configuration.

5.10.5.24. **(Added-AFSC)** The serial and lot numbers which identify specific versions of like form, fit, or function configurations and their effective dates.

5.10.5.25. **(Added-AFSC)** Configuration Audits and Reviews. As noted earlier, configuration audits are essential to ensure assets developed and added to the operational inventory are as defined by specifications and drawings. The audit associated with confirming performance specifications have been met is known as the functional configuration audit (FCA). FCAs may be performed at the OEM’s location or at the site of intended operation. FCAs are usually conducted on individual pieces of equipment. PCAs are conducted to verify that form and fit characteristics of CIs are documented completely and accurately.

5.10.5.26. **(Added-AFSC)** A recommended best practice for maintenance is to perform periodic CIVRs to ensure on-going change management during operations is being successfully accomplished and ensures that operations and maintenance documentation is maintained in a complete, current, and accurate manner. CIVRs are also applicable to vendors who supply equipment by vendor part number. The government has found fault with many vendor CM systems resulting in interferences and lack of performance.

5.10.5.27. **(Added-AFSC)** Maintenance Information. Maintenance information provides the maintainer with an understanding of the condition of the asset as well as the status and effectiveness

of the maintenance program. Maintenance information should include cost of maintenance activities and materials/equipment, schedules of PM and corrective actions, and maintenance performance information.

5.10.5.28. **(Added-AFSC)** The following data elements provide important information to the conduct of maintenance activities:

5.10.5.29. **(Added-AFSC)** Asset – design document numbers, serial number, model number, manufacturer’s identification number or name, date of manufacture, spare and/or repair parts and replacement, consumable materials and their corresponding manufacturer’s identification, serial number, etc.

5.10.5.30. **(Added-AFSC)** Documentation – identifying numbers, revision, date of original release, title or description, author/owner.

5.10.5.31. **(Added-AFSC)** Personnel – identification number, certifications/qualifications, organizational assignment or identifier, skill code.

5.10.5.32. **(Added-AFSC)** Operation – run-time, expected run-time, peak, design and average operational limits, actual use and run information from which MTBF can be calculated.

5.10.5.33. **(Added-AFSC)** Maintenance – scheduled dates for PM actions, days PMs overdue, time between failure, time to repair, condition codes, expected and actual failure codes/modes.

5.10.5.34. **(Added-AFSC)** Financial – purchase cost, current asset replacement value, cost to repair, annual operating, and maintenance cost.

5.10.5.35. **(Added-AFSC)** Safety – PPE required, risk assessment code.

5.10.5.36. **(Added-AFSC)** Environmental – permits, hazardous materials associated with operation and maintenance failure modes and effects.

5.10.5.37. **(Added-AFSC)** Computerized Maintenance Management System (CMMS). An effective CMMS provides the maintainer with the ability to access maintenance information provided as data elements as well as links to configuration identifying and procedural information. CMMSs are used to perform analysis of mean time to failure, mean time to repair and other metrics. CMMS, in conjunction with CSA and Work Management and Personnel Management information systems, provides complete, current, and accurate information for assets, documentation, and personnel in support of maintenance planning and task accomplishment.

5.10.5.38. **(Added-AFSC)** Work Management. Work management requirements are discussed in Volume 3, Chapter 1; however, the maintainer depends on accurate and complete configuration information to ensure kitting and other planned maintenance activities are performed correctly. Work management information and management of the work-related data elements including cost and schedule data is critical to maintenance program success. Many organizations use an automated tool or computerized system to assist their work management effort. Since maintenance

activities require planning and scheduling, there is a need to integrate maintenance work into the overall organization's work management process.

5.10.5.39. **(Added-AFSC)** Government Industry Data Exchange Program (GIDEP). GIDEP is a cooperative activity between government and industry participants which seeks to reduce or eliminate expenditures of resources by sharing technical information essential during research, design, development, production, and operational phases of the life cycle of systems, facilities, and equipment. Proper utilization of GIDEP data can materially improve the total quality and reliability of systems and components during the acquisition and logistics phases of the life cycle and reduces costs in the development and manufacture of complex systems and equipment. GIDEP is sponsored by the US Army, US Navy, USAF, NASA, DoE, Defense Contract Management Agency, Canadian Department of National Defense, and DLA.

5.10.5.40. **(Added-AFSC)** Diminishing Manufacturing Sources and Material Shortages (DMSMS) notices originate when a part manufacturer announces that a part or a production line will be discontinued. The majority of GIDEP DMSMS notices have been issued on piece parts especially in the electronics area (i.e., primary microcircuits), however DMSMS also occurs at the module, component, equipment, or other system indenture level. GIDEP is designated as the DoD centralized database for managing and disseminating DMSMS information. The database contains data for not only parts manufactured IAW military or government specification but also commercial parts.

5.10.5.41. **(Added-AFSC)** GIDEP is working closely with various government activities on several DMSMS projects which will eventually be migrated to GIDEP system. Among these projects are the DMS Shared Data Warehouse, the DMSMS Prediction Tool, and the Army DMS Info System. Future migration of these systems in GIDEP would facilitate GIDEP's role as the central repository of data for DMS management.

5.10.5.42. **(Added-AFSC)** Reliability and maintainability (R&M) data within GIDEP contains reports on theories, methods, techniques, and procedures related to reliability and maintainability practices. This also contains failure rate, failure mode, and replacement rate data on parts and subsystems based upon field performance and demonstration tests of systems, sub- systems, and equipment. In addition to electronics, the database also includes R&M information on mechanical, electro-mechanical, hydraulic, and pneumatic items. It is incorrect to assume that GIDEP only provides information related to military products. GIDEP has data on commercial products as well. GIDEP would like to expand its information on COTS products.

5.10.5.43. **(Added-AFSC)** GIDEP information is available on its web-site at: www.gidep.org.

Section 5F (Added-AFSC) —Tool Control, Training and Safety

5.10.6. **(Added-AFSC)** Tool Control.

5.10.6.1. **(Added-AFSC)** Tool Control Overview. The purpose of tool control is to increase productivity, reduce the cost of lost or missing tools, improve tool accountability, ensure tools are in good working order, ensure the tool kits are complete, and reduce the possibility a tool may be

ingested into equipment or otherwise cause detrimental impact on operations. Tool control and management should be established using the guidelines in Volume 2, Chapter 3 and further specified in TO 32-1-101.

5.10.6.2. (Added-AFSC) Tool management must provide a cost-benefit to the maintenance organization. Tailoring of the tool control program and procedures must consider the cost- benefit for each ‘value-added’ requirement included. The following activities may be implemented to effectively manage tools:

5.10.6.3. (Added-AFSC) Training.

5.10.6.4. (Added-AFSC) Training Overview. Successful maintenance requires the most vital resource, i.e., people who will conduct the work must be fully trained and ready to perform maintenance tasks. Maintenance training must be tailored to the needs of the organization and is dependent on the maintenance and operations concept for assets as well as its configuration and condition. Maintenance personnel must work closely with their training organizations to identify, prioritize, and justify required maintenance. Maintenance training typically falls into one of the following categories:

5.10.6.5. (Added-AFSC) Basic Theory. The training required to understand the concepts such as physics, math, and sciences associated with the technologies involved. Basic theory training is provided at the scholastic level through undergraduate and graduate level training courses such as operations research, calculus, physics, chemistry, plant layout, engineering economics, thermodynamics, heat transfer, fluid mechanics, etc. There are many training opportunities available to maintenance personnel to learn the basic theories associated with maintenance performance and management.

5.10.6.6. (Added-AFSC) Applied Theory. Applied theory is the training that takes basic theory and applies the concepts to actual work performed in the field. Understanding chemistry and the relationships between chemicals is necessary for the chemist but the maintainer must apply those concepts to equipment lubrication to develop an understanding of materiel compatibility, corrosion control, and the hazardous materials found in the workplace. There are many courses available to technicians, engineers, and operator/maintainers in industry and throughout the DoD and AF training programs. Many of these courses have the word ‘maintenance’ in their title and specialize in asset types or systems and configurations.

5.10.6.7. (Added-AFSC) On the Job Training (OJT). OJT takes place at the worksite or locally and is geared to specific issues, practices, and policies of the organization. OJT qualification may be as advanced as a Standards Evaluation program where operator/maintainers are trained using training materials, then in a simulator, and finally with over the shoulder senior technicians, journeymen, or craftsmen participating in qualification. OJT combines basic, applied, and on-site experience and knowledge to focus in on the specifics of job performance. In many cases, training is performed using current work instructions or procedures.

5.10.6.8. (Added-AFSC) Computer Based Training (CBT). CBTs are a relatively inexpensive method for recording system level maintenance information which can be reviewed as

needed by personnel. CBTs allow use of graphics, maps, pictures, and procedural steps to assist maintenance personnel in initial training and to refresh their knowledge in a particular area of work.

5.10.6.9. **(Added-AFSC)** Certification Programs. Certification in reliability or CBM technologies provides many benefits. Recognition at a national level for accomplishment and understanding is important. Certification ensures other members of the RCM team and organization that you have qualified to perform the work. In many cases, the work to be performed involves hazards and establishes system operational safety. In most cases, certification requires continuing instruction in the latest technologies associated with the subject matter. Finally, certification is a discriminator between people who have and have not been qualified to perform work. The Society for Maintenance and Reliability Professionals offers certification as a Certified Maintenance and Reliability Professional (CMRP). CMRP is an accepted certification by the RCM industry. American Society of Nondestructive Testing (ASNT) offers certification in many of the CBM technologies. **Note:** Training materials must be maintained under the same rigid and disciplined configuration control process as technical data being used to operate and maintain production or fielded systems. Failure to maintain consistency of training materials with current technical data may lead to accidents that could have been avoided.

5.10.6.10. **(Added-AFSC)** Safety.

5.10.6.11. **(Added-AFSC)** Safety Overview. Safe operations and reliable operations are synonymous. The goal in system safety is to control operational risk wherever possible. The five progressive steps to risk reduction are taken from DAFMAN 91-203:

5.10.6.12. **(Added-AFSC)** Eliminate the hazard.

5.10.6.13. **(Added-AFSC)** Reduce the risk in design.

5.10.6.14. **(Added-AFSC)** Provide safeguards.

5.10.6.15. **(Added-AFSC)** Implement administrative controls.

5.10.6.16. **(Added-AFSC)** Use PPE.

5.10.6.17. **(Added-AFSC)** Personal Protective Equipment (PPE). All maintenance personnel must receive indoctrination training in PPE. The basic PPE is a hard hat, hearing protection, gloves, eye protection, and hard toed safety shoes. Additional PPE may include radiation film badges, coveralls, knee pads, welding shields, breathing apparatus, and other equipment. It only takes a minute to put on PPE and failure to protect one-self may result in a lifetime of pain and suffering.

5.10.6.18. **(Added-AFSC)** System Safety Hazard Analysis (SSHA). The recommended practice is for the development of an SSHA for each asset or system of assets. Operators, maintenance personnel, and MXG engineers provide valuable input to the SSHA development process by identifying hazards and establishing mitigating procedures, PPE, or other action to allow work when a known hazard is present. FMEAs, fault-trees, and system process diagrams are useful in developing SSHAs.

5.10.6.19. **(Added-AFSC)** Voluntary Protection Program (VPP). The most recent initiative in industry and DoD involves VPP. VPP involves team-based safety awareness. The VPP promotes effective worksite-based safety and health. In the VPP, management, labor, and OSHA administration establish cooperative relationships at workplaces that have implemented a comprehensive safety and health management program. Approval into VPP is OSHA's official recognition of the outstanding efforts of employers and employees who have achieved exemplary occupational safety and health. Incidents are reported and hazards identified. Reference: <http://www.osha.gov/dcsp/vpp/index.html>.

5.10.6.20. **(Added-AFSC)** Operational Readiness Review (ORR). In order to reduce the risk of bringing systems on-line or in a 'return to service' effort, it is essential that the engineers, maintainers, operators, test personnel, and other system stakeholders meet and review checklist items, i.e., are all configuration changes incorporated, have operating personnel been trained on the current operational configuration, are all subcontractors and non-assigned personnel clear from the area and work completed, and has the SSHA been updated. One of the most critical times in the life of a system is initial operation after installation, modification, or an extended period of downtime. From birds building nests in relief vents to inoperative emergency eyewash units, a great number of system components can fail during maintenance periods without being readily observable. An ORR is an opportunity to bring fresh eyes, experience, and knowledge into the reactivation process to reduce risk and ask the right questions.

5.10.6.21. **(Added-AFSC)** Risk Management (RM). RM is defined in AFI 90-802, *Risk Management*. When performed in conjunction with the development of an RCM program, RM assists in the identification and classification of hazards associated with operations and maintenance. The checklist provided below is a recommended best practice in assuring RM and risk assessment has been completed for operating systems. RM and FMEA or root cause analysis supports the development of SSHAs and serves as a means of not only improving system reliability but ensures safe operations as well.

Figure 5.5. (Added-AFSC) Risk Management (RM) Assessment Checklist.

Activity/Department:			
Work Process:			
Step 1. Identify Hazards.			
	Yes	No	N/A
Has a flowchart been completed identifying major steps of the work process? Attach copy of documentation/comments.			
Have applicable hazards of each step with possible causes for those hazards been documented? Attach copy of documentation/comments.			
Step 2. Assess Hazards.			
	Yes	No	N/A
Has each hazard been assigned a Hazard Severity Category?			

Has each hazard been assigned a Mishap Probability Rating?			
Has each hazard been assigned a RAC?			
Step 3. Risk Decisions.			
	Yes	No	N/A
Have risks been prioritized and internal controls selected to reduce process risks?			
Do selected internal controls provide benefits that outweigh risks?			
If risk outweighs benefit, does the process warrant reporting to higher authority as a materiel weakness? Discuss issues and attach documentation.			
Step 4. Internal Control Implementation (more than one type internal control may apply).			
	Yes	No	N/A
Have 'Engineering Controls' been implemented that reduce risks by design, materiel selection, or substitution when technically or economically feasible?			
Have 'Administrative Controls' been implemented that reduce risks through specific administrative actions, such as:			
Providing suitable warnings, markings, placards, signs, and notices?			
Establishing written policies, programs, instructions, and standard operating procedures?			
Training personnel to recognize hazards and take appropriate precautionary measures?			
Limiting the exposure to a hazard either by reducing the number of personnel/assets or the length of time they are exposed? Note: Reference 29 CFR 1910 for any restrictions that must be followed or violation of law, and coordinate with Bioenvironmental.			
Step 5. Supervision.			
	Yes	No	N/A
Is there periodic supervisory oversight of internal controls for the work process?			
Attach Department Head ISSUES/COMMENTS and ACTIONS with estimated completion dates.			
Signature:	Date:		
RM Assessment conducted by:			
RM Assessment reviewed by:			

Table 5.4. (Added-AFSC) Hazard Severity Matrix.

Hazard Severity	Description
I	Death, loss, or grave damage.
II	Severe injury, damage, or inefficiencies.
III	Minor injuries, damage, or inefficiencies.
IV	Minimal threat to personnel and property.

Table 5.5. (Added-AFSC) Mishap Probability Matrix.

Mishap Probability	Description
A	Likely to occur immediately.
B	Probably will occur in time.
C	May occur in time.
D	Unlikely to occur.

Table 5.6. (Added-AFSC) Risk Assessment Matrix: Probability Rating.

Risk Assessment Matrix			PROBABILITY			
			Frequency of Occurrence Over Time			
			A	B	C	D
			Likely	Probable	May	Unlikely
SEVERITY Effect of Hazard	I	Death, loss, or grave damage	1	1	2	3
	II	Severe injury, damage, or inefficiencies	1	2	3	4
	III	Minor injuries, damage, or inefficiencies	2	3	4	5
	IV	Minimal threat to personnel and property	3	4	5	5
Risk Assessment Codes (RACs)						
1 – Critical 2 – Serious 3 – Moderate 4 – Minor 5 – Negligible						

5.10.6.22. (Added-AFSC) Risk management is a decision-making process to systematically

evaluate possible courses of action, identify risks and benefits, and determine the best course of action for any given situation. RM provides commanders, functional managers, supervisors, and individuals the means of maximizing operational capabilities while limiting all dimensions of risk. RM applies a simple process appropriate for all personnel to use whether on or off-duty. Appropriate use of RM increases both an organizations and an individual's ability to accomplish their mission.

5.10.6.23. **(Added-AFSC)** Application of the RM process ensures more consistent results while RM techniques and tools add rigor to the traditional approach to mission accomplishment thereby directly strengthening the Air Force's warfighting posture. **Note:** RM will not be used to violate a known standard or regulation.

5.10.6.24. **(Added-AFSC)** Confined Space. Many workplaces contain spaces that are considered 'confined' because their configuration hinders the activities of employees who must access them. A confined space has limited or restricted means for entry or exit and it is not designed for continuous employee occupancy. Confined spaces include but are not limited to underground vaults, tanks, storage bins, manholes, pits, silos, process vessels, and pipelines. OSHA uses the term 'permit-required confined space', i.e., permit space, to describe a confined space that has one or more of the following characteristics: contains or has the potential to contain a hazardous atmosphere, contains a materiel that has the potential to engulf an entrant, has walls that converge inward or floors that slope downward and taper into a smaller area which could trap or asphyxiate an entrant, or contains any other recognized safety or health hazard such as unguarded machinery, exposed live wires, or heat stress. (Reference: OSHA 29 Code of Federal Regulations (CFR) 1910.146/DAFMAN 91-203 for Confined Space).

5.10.6.25. **(Added-AFSC)** Lock-out/Tag-out (LOTO). LOTO refers to specific practices and procedures to safeguard employees from the unexpected startup of machinery and equipment or the release of hazardous energy during service or maintenance activities.

5.10.6.26. **(Added-AFSC)** Approximately 3 million workers service equipment and face the greatest risk of injury if LOTO is not properly implemented. Compliance with the energy control LOTO procedures and standard (i.e., OSHA 29 CFR 1910.147/DAFMAN 91-203) prevents an estimated 120 fatalities and 50,000 injuries each year. Workers injured on the job from exposure to hazardous energy lose an average of 24 workdays for recuperation.

5.10.6.27. **(Added-AFSC)** In a study conducted by the United Auto Workers (UAW), 20 percent of the fatalities (i.e., 83 of 414) that occurred among their members between 1973 and 1995 were attributed to inadequate hazardous energy control procedures.

Section 5G (Added-AFSC) —Housekeeping

5.10.7. **(Added-AFSC)** Housekeeping Overview. Housekeeping is the process of ensuring that the workplace is kept clean and organized. Industrial housekeeping forms part of the manager's general responsibility. It includes the provision of adequate workspace and adequate storage arrangements, both around the workstation and within the unit, in addition to the development of effective administration and procedures to ensure a culture of tidiness and cleanliness within the

workforce. A lack of concern with housekeeping can result in an increase in accidents, machine failure, and a reduction in the overall efficiency of the unit. The introduction of the Japanese 5-S concept into Western companies has renewed management interest in industrial housekeeping. The checklist below is an example to use during housekeeping inspections.

5.10.7.1. (Added-AFSC) **Figure 5.6. Housekeeping Checklist.**

HOUSEKEEPING CHECKLIST

Housekeeping and Workplace Stewardship.	Yes	No	N/A
Area Observed.			
Date of Inspection.			
Inspector.			
Housekeeping Element (score 1-10).			
Spaces free of clutter.			
Floors clean.			
Cabinets and lockers organized and properly secured.			
Materials stored properly.			
Cardboard boxes and delivery containers properly disposed of.			
Tools and equipment properly organized and stored properly.			
Exits, stairways, and aisle ways clear of obstructions, no tripping hazards.			
Yard areas clean.			
Smoking in designated areas only, no butts on ground.			
Workplace lighting sufficient for work requirement.			
Confined spaces properly marked.			
Energized electrical cabinets secured when not open for maintenance.			
Emergency lighting operational when tested.			
Eyewash and emergency showers unobstructed, clean, and inspection current.			
Fire extinguishers in place, accessible, and charged.			
Flammable storage cabinets properly labeled, contents match labels, clean.			
Hazardous materiel cabinets labeled and MSDS/SDS provided at location.			
Fluid leaks and spills labeled and contained.			
Guard rails and rope barriers in compliance with standards.			
K-bottles secured, upright, and caps in place if not in use.			
Scaffolding properly erected and inspected when in use.			
Hoisting equipment in compliance with standards.			

Power tool guards and protective equipment in place and in good working order.			
Note: This checklist is general in nature and not specific to regulated or expanded standard cleaning areas and must comply with requirements of DAFMAN 91-203 .			

5.10.7.2. **(Added-AFSC)** 5-6S. 5-6S is a recommended best practice for housekeeping involving the application of a five or six step process. The 5S program has been expanded to a sixth S to include safety. The steps in the process are 1) sort, 2) set in order, 3) shine, 4) standardize, 5) sustain, and 6) safety.

5.10.7.3. **(Added-AFSC)** By following these steps, gains can be achieved. Gains in productivity often positively affect MTTR by ensuring tools, parts, and other materials are readily available to perform repairs when needed. A clean workplace is also a safe workplace.

Section 5H (Added-AFSC) —Test, Measurement, and Diagnostic Equipment (TMDE)

5.10.8. **(Added-AFSC)** TMDE Overview. TMDE is defined as devices used to maintain, evaluate, measure, calibrate, test, inspect, diagnose, or otherwise examine materials, supplies, equipment, and systems in order to identify or isolate an actual or potential malfunction, or determine if they meet operational specifications established in technical documents. TMDE ranges in scope from equipment used to measure voltage, current, capacitance, temperature, or waveforms to equipment used to measure vibration, force, pressure, vacuum, liquid flow, length, or flatness. Reference TO 00-20-14, Air Force Metrology and Calibration Program and AFMAN 21-113, *Air Force Metrology and Calibration (AFMETCAL) Program*.

5.10.8.1. **(Added-AFSC)** The AFMETCAL Program is an AF program that provides measurement standards and equipment, professional and technical metrologists, performing work centers (PWCs), a system of worldwide Precision Measurement Equipment Laboratory (PMEL) facilities, measurement equipment users, calibration data and integrated planning. This program ensures the reliability and accuracy of systems, subsystems and equipment. The program provides for the calibration and repair of Test, Measurement and Diagnostic Equipment (TMDE). It also ensures measurement traceability of the TMDE through the Air Force Primary Standards Laboratory (AFPSL) to National Institute of Standards and Technology (NIST) or other AFLCMC/WNM (AFMETCAL) approved sources. To accomplish this traceability, the AFMETCAL program requires that Air Force users and Precision Measurement Equipment Laboratories (PMELs) obtain calibration service from Air Force PMELs or the AFPSL. AFMETCAL must approve calibration service from other sources.

5.10.8.2. **(Added-AFSC)** TMDE Management/Compliance. Proper management of TMDE ensures compliance with the AFMETCAL program directives. Compliance with the program is a best maintenance practice. Users of the TMDE are often not aware of the Air Force calibration requirements. This lack of awareness, coupled with obstacles such as large inventories, limited procurement control, dynamic testing in Research and Development (R&D) environments, excessive amounts of spares, and no defined life cycle management of TMDE, can make full compliance a challenge. Processes should be put into place to offset these obstacles.

5.10.8.3. **(Added-AFSC)** One of the more prevalent contributors to calibration deficiencies is the government's acceptance of COTS systems that are not in compliance with the AFMETCAL prescribed program. Other commonly found deficiencies occur when systems are modified to expand capabilities or to meet external customer needs only to later discover during system operation and maintenance that data quality and integrity has been lost. Failure to develop as part of acquisition and design planning a maintenance concept that addresses periodic calibration will result in costly delays and rework in order to bring the system into compliance with calibration requirements. A disciplined approach for acquisition of new TMDE must be established to include maintenance and calibration support.

5.10.8.4. **(Added-AFSC)** Right sizing the TMDE inventory should also be considered. TMDE not in use should be turned into supply. Keeping outdated pieces of TMDE in work centers adds unnecessary inventory costs and may contribute to noncompliant TMDE issues. It may be possible to consolidate TMDE if multiple organizations/facilities share common needs. A TMDE crib methodology similar to the management of common hand tools will reduce the number of TMDE coordinators and reduce ownership costs.

5.10.8.5. **(Added-AFSC)** Finally, performance measures should be put into place to measure the overall success of the TMDE Management Program. Example: TMDE area audits provide onsite assessments and give management insight into each work center's compliance with TO 00-20-14 and provides data to improve the overall health of the program.

5.10.8.6. **(Added-AFSC)** The international standard for calibration is ISO/International Electrotechnical Commission (IEC) 17025, which is the standard used by testing and calibration laboratories. Also known as ISO/IEC Guide 17025: 1990, *General Requirements for the Competence of Calibration and Testing Laboratories*. It was initially issued by the International Organization for Standardization in 2000. There are many commonalities with the ISO 9000 standard, but ISO/IEC 17025, *General Requirements for the Competence of Testing and Calibration Laboratories*, adds in the concept of competence to the equation and applies directly to those organizations that produce testing and calibration results. Since its initial release, a second release was made in 2005 after it was agreed that it needed to have the quality system wording more closely aligned with the 2000 version of ISO 9001, *Quality Management Systems-Requirements*.

5.10.8.7. **(Added-AFSC)** Pressure Gauges. Pressure gauges are used to fulfill a variety of Air Force mission needs. Some gauges are used to collect system data for use in fault, incident, or failure analysis. Some gauges are used as operational indicators to reduce risk of over pressurizing systems or components. Some gauges are used to indicate the presence of pressure to aid in maintenance or operation of the system. For gauges used in an operating concept that includes mission data measurement or indication of hazards present, TO 00-20-14 prescribes the calibration process and TO 33K-1-100-2, *TMDE Calibration Notes, Calibration Interval, Technical Order and Work Unit Code Reference Guide* describes calibration methodologies.

5.10.8.8. **(Added-AFSC)** Industry best practices offer alternate solutions for pressure gauge acquisition and calibration. Many use American Society of Mechanical Engineers (ASME) B40, *Pressure Gauges And Gauge Attachments* as the standard when specifying gauge requirements for

new purchase. Industry generally recommends that pressure system owner-operators document or record their approved process for gauge management to include periodic calibration. There are no operational standards for gauges however most believe that the calibration requirement becomes more important for service that exceeds the threshold set for Category D fluid service. Category D states that if the pressures are less than 150 psig, the service is not hazardous or lethal [e.g., steam, thermal coefficient of expansion (TCE), etc.] or explosive (i.e., liquid or gaseous propellants) so less stringent calibration is required than is specified in TO 00-20-14.

5.10.8.9. **(Added-AFSC)** Alternative methods for calibration include calibration by a National Institute of Standards (NIST) certified lab, calibration in the field by qualified personnel using dead weight or other method/standards, or calibration by comparison to a calibrated standard. In all cases, the key to successful gauge management is record keeping and accountability of gauge calibration determination decisions. Work instructions that describe the calibration methodology and periodicity for each serial number gauges must be developed and maintained current.

Section 5I (Added-AFSC) —Quality Control/Quality Assurance (QC/QA)

5.10.9. **(Added-AFSC)** QC/QA Overview. Maintenance quality and equipment reliability is the responsibility of all maintenance personnel. The combined efforts of QC/QA personnel, maintenance leaders, Production Engineers, and Technicians are necessary to ensure high quality maintenance production and equipment reliability. Maintenance leaders are responsible for safe equipment operation and quality maintenance production. The QC/QA staff evaluates the quality of the maintenance accomplished in the maintenance organization and performs necessary audit/inspection functions to manage the organization. These audits provide an objective sampling of both the quality of equipment and the proficiency of maintenance personnel. QC/QA personnel are not an extension of the work force. The evaluation and analysis of deficiencies and problem areas are key functions of QA/QC which highlights and identifies underlying causes of poor quality in the maintenance production effort. By finding the root cause of problems and recommending corrective actions to supervisors, QC/QA can significantly affect the quality of maintenance work performed. Civil service and contracted organizations should use the accepted quality program outlined in their respective contract. Reference DAFI 63-101/20-101, *Integrated Life Cycle Management*; AFI 63-145, *Manufacturing and Quality Management*; and AFMCI 21-100, *Depot Maintenance Management*.

5.10.9.1. **(Added-AFSC)** Contracted Quality Measurement. When developing a PWS for contractor performed QC/QA, recommend including a work statement that ensures clear and concise requirements for quality management. Examples of measured performance might be personnel qualification, maintenance quality, quality control audits and analysis, and improvement. Personnel qualification would include development of training plans, tracking of trained and qualified personnel, and the development of training syllabus to include criteria for pass or fail. Results of quality evaluations for maintenance tasks performed and results of maintenance inspections might be good quality evaluation factors. Quality control audits include housekeeping, tool control audits, foreign object inspections prior to operation and incidents, CMMS data audits for completeness and accuracy, and inspections of TMDE for timely calibration and Calibration Measurement Summary reviews to ensure configuration control of instruments used in a 'build- up' system where calibrated in place. Finally, analysis and improvement may be

tracked against corrective action plans (i.e., milestones) trend analysis and implementation of corrective actions. Recorded criteria establishing goals and scoring must be agreed to by the government and the contractor to ensure expectations are well communicated.

5.10.9.2. **(Added-AFSC)** Maintenance Efficiency and Effectiveness. Maintenance efficiency is determined by comparing the actual cost in labor and materiel resources required to perform maintenance versus the lowest, most expeditious and organized cost to perform maintenance. Higher levels of efficiency are achieved by combining maintenance actions in one outage, having tools available, training personnel, and grouping inspection routes. Maintenance effectiveness is determined by the quality of maintenance performance as measured through re-work and deficiency correction costs.

5.10.9.3. **(Added-AFSC)** Quality Management. Quality management must provide a means of feedback to ensure process improvement. The use of feedback or surveys is a recommended best practice to allow workers the opportunity to communicate needed improvements or process deficiencies requiring management action. Many organizations include quality feedback in cost saving suggestion programs which recognize employees for their recommendations when validated.

Section 5J (Added-AFSC) —Materials Management

5.10.10. **(Added-AFSC)** Materials Management Overview. Materials management is a program that includes management and coordination of all logistical functions in an enterprise, ranging from acquisitions to receiving and handling, through internal allocation of resources to operations units, to the handling and delivery of output. This information includes instruction in acquisitions and purchasing, inventory control, storage and handling, just-in-time manufacturing, logistics planning, shipping and delivery management, transportation, quality control, resource estimation and allocation, and budgeting.

5.10.10.1. **(Added-AFSC)** Hazardous Materials Management. Hazardous materials management is governed by AFMAN 32-7002 and is managed by Base Civil Engineering.

5.10.10.2. **(Added-AFSC)** Industrial Supply System. DLA Troop Support provides information through its website: <https://www.troopsupport.dla.mil/ce/www.dscp.dla.mil>. The link to Construction and Equipment provides professional, personal services and innovative logistics solutions through long term contracts with integrated suppliers/prime vendors offering direct vendor delivery, on-line credit card ordering, and direct customer interface.

5.10.10.3. **(Added-AFSC)** Receiving Inspection. Maintenance personnel must work closely with suppliers to ensure receiving inspections are performed on parts and materiels. Receiving inspectors must be trained to perform receiving inspections or inspections must be out-sourced or sent to other organizations for verification that design and purchase description specifications have been met. Warranty information should be reviewed and annotated in the CMMS for received parts and materiels MSDS/SDS and vendor supplied technical data should be forwarded to SPO/SCM Engineering Authority or responsible maintenance personnel for vaulting in the CMMS or CSA. Receiving inspections may include first article tests, non-destructive examinations,

special inspections identified in design or purchase specifications, and other tests or inspections.

5.10.10.4. **(Added-AFSC)** Equipment Storage. Correct equipment storage methods are essential to the long-term reliability of systems and equipment. Several examples noted by maintainers of improper storage are:

5.10.10.5. **(Added-AFSC)** Rotors. Rotors that are not stored vertically or placed under an on-going rotation program will warp if stored in one position for extended periods of time.

5.10.10.6. **(Added-AFSC)** Hermetically Sealed Devices. Many electrical and controls systems components require storage in hermetically sealed vaults with specific humidity, filtration, and temperature control as well as protection from electro-magnetic discharge.

5.10.10.7. **(Added-AFSC)** Protection from Corrosion, Insects, Birds, and Other Contaminants. Equipment stored outdoors is susceptible to intrusion by birds, insects, and the weather. Protection must be provided to ensure wasps do not pack mud nests in equipment. Hard mud dauber nests have been known to completely seal vents and relief devices and ruin electrical circuit cards. Maintainers must consider preventive maintenance activities for stored components to ensure they are ready and available when called out of storage.

5.10.10.8. **(Added-AFSC)** Pre-Qualification of Suppliers Under the Federal Acquisition Regulation (FAR). While the FAR promotes competition in contracting, in some cases, restricted or limited sources may prove cost effective over a life-cycle of equipment support. Pre-qualification of suppliers may be helpful in determining the 'best value' source for spare or repair parts with or after the original equipment source of supply is identified. Recommend consultation with the responsible Procurement Division to identify the best acquisition method for the total life cycle support of maintained systems and equipment. In addition, production engineers need to ensure that selected vendors can meet our customer's technical requirements, i.e., the flow of technical requirements to a sub tier supplier in cases of transferred work. The selection process should include a production engineer validating and/or qualifying a vendor to ensure quality products are received.

5.10.10.9. **(Added-AFSC)** Compatibility of Materials. Maintenance personnel including engineering support must ensure compatibility of materials. Improper selection of gaskets, lubricants, and other parts or materials have been the cause of numerous system and component failures. Failure to perform materiel analysis in design and during maintenance to verify compatibility may lead to corrosion, excessive wear, contamination, or other deleterious effects resulting in an unreliable system and component. Material compatibility should be a step in the review of all configuration changes during operations and maintenance.

Chapter 6 DEPOT MAINTENANCE MATERIEL MANAGEMENT

6.1. Responsibilities. The AFSC is responsible for the management and control of depot maintenance materiel. All personnel are responsible for adhering to principles of supply discipline and for cooperating in accomplishing this materiel program according to AFI 23-101, *Materiel Management Policy*. HQ AFSC will develop, implement, and maintain maintenance materiel processes and procedures for the ALCs to include:

6.1. **(AFSC) Maintenance Complex.** Specific maintenance policy is included in AFMCI 21-100, AFI 20-110 AFMCSUP, and Industrial Plant Management, where applicable. The Maintenance Squadrons are responsible for enforcement of materiel controls.

6.1.1. Planning.

6.1.1. **(AFSC)** The Planning Function is responsible for establishing BOMs, supporting organic depot manufacturing IAW Volume 3, paragraph 6.13.2.

6.1.1.1. **(Added-AFSC)** Planning also, manage AFSC Form 137 and AFSC Form 959 and participating in periodic supportability reviews.

6.1.2. Scheduling.

6.1.2. **(AFSC)** The scheduling function is responsible for inducting production items, ensuring DIOH and OWO records for all production issues or turn-ins are accurate, initiating end item turn-in of materiel, ensuring cannibalization occurrences and costs are tracked by RC/CC, scheduling items from the other organizations to the production shops, and scheduling PQDR exhibits into the appropriate production organizations.

6.1.3. Material control.

6.1.3. **(AFSC)** The Materiel function is responsible for ordering and turning in materiel, processing materiel issue requests, monitoring the status of materiel on order, managing backorder reconciliation, and reviewing and monitoring various supply and production systems.

6.1.4 **(Added-AFSC)** Assignment of Document Numbers. ABOM automatically assigns a document number which includes the current Julian date and a serial number. ABOM facilitates DIFM/DOTM transactions through on-screen matching before generating a new ABOM assigned document number.

6.1.5. **(Added-AFSC)** Repair of ERRC N and P items. When production believes an ERRC N and P item could be repaired beyond what is currently authorized, an AFMC Form 202 will be submitted to SPO/SCM Engineering Authority to repair.

6.1.6. **(Added-AFSC)** Processing Issues and Turn-ins of DIOH Assets. Accounting for production EIs and resolving variances between the D035K and G004L can be found in Volume 3, Chapter 3.

6.1.7. **(Added-AFSC)** Issue Receipt Processing. The production controller (scheduler) will check EIs received in the MXGs for stock number, quantity, and condition code. When production items are received and the RA suspense is not on the RA suspense screen in the G402A (EPS), the production controller (scheduler) will add an RA suspense in G402A (EPS) to the RA suspense screen using the correct CN/JD, quantity, and document number from the issue record.

6.1.8. **(Added-AFSC)** Turn-in Processing. Production items received in central receiving from the production controller (scheduler) will be receipted by input of a turn-in RA (RT) to D035K via DSS. From this input, D035K will decrease the in-transit balance, clear the turn-in suspense, and increase the on-hand balance in the D035K system.

6.1.9. **(Added-AFSC)** Erroneous Issues and Misidentified Items. Erroneous issues are items received with a different condition code or stock number than that requested before submission of a receipt acknowledgement. Misidentified items are items that have been receipted for by input of an RA transaction before discovering that the condition code or stock number is different from that requested. Production must close the WCD in TAA prior to the production controller (scheduler) processing transactions. Maintenance will prepare and attach the proper condition tag displaying the correct stock number and condition of the item.

6.1.10. **(Added-AFSC)** Processing Overages/Shortages. Quantities received that vary from the quantity shown on the issue document will be reported to DLA.

6.1.11. **(Added-AFSC)** Part Number Ordering. Reference AFH 23-123, Volume 2, Part 1, AFH 23-123 Volume 2, Part 4, and AFMAN 23-122. The production controller (materiel) will perform research in D043A for an NSN and if no valid NSN is found, the production controller (materiel) will complete the DD Form 1348-6 PNSSR Process electronically. The PSS/PST will send the request to the Retail Supply Activity (i.e., DLA).

6.1.12. **(Added-AFSC)** Bill of Material (BOM). The purpose of establishing BOMs is to provide a composite database of materiel used in the repair of a specific workload. Numerous personnel including production support, AFSC Production Engineering, item management, and financial/budget analysts, may affect the accuracy of the BOMs which in turn may affect current and out year usage/demand projections and out year EISP development. The Production Support Chief will ensure accurate accounting of materiel usage through supply discipline in the maintenance repair environment. Replacement factors may be manually changed to fix errors, post workaround data that may not have reached the systems, or to raise a factor that may have dropped due to a parts shortage. Materiel overrides will be approved by the IET (maintenance planner) prior to ordering materiel. Additional guidance on BOMs is located in Volume 3, Chapter 3.

6.2. Automated Information Systems. The major automated information systems supporting maintenance materiel management are:

6.2.1. Depot Maintenance Accounting and Production System (DMAPS). DMAPS is an integrated suite of systems providing materiel, production, and financial functionality for organic depot

maintenance. The main DMAPS systems supporting materiel are covered in the following paragraphs.

6.2.1.1. The Automated Bill of Material (ABOM). ABOM system is a front-end validation and order entry system to the Naval Air Systems Command Industrial Material Management System (NIMMS). ABOM provides on-line batch, single order processing, query capabilities, and administrative background programs for maintenance of data. The volume and cost of materiel used in organic depot maintenance is considerable. Proper tracking of these costs is essential to assure effective and efficient production and proper financial management. When direct materiel cannot be identified to a specific operation, the individual requiring the materiel must coordinate with workload control (e.g., Planning, scheduling, or workloading). This coordination should occur before the transaction is processed. ABOM transactions for direct materiel are tracked to the operations associated with the workload (i.e., end item).

6.2.1.2. NIMMS is the system used for the overall inventory management of CSAG-M owned materiel. NIMMS shares a common database with DIFMS for processing materiel cost and other financial information.

6.2.2. Defense Industrial Financial Management System. DIFMS is the official Air Force financial system of record for organic depot maintenance. DIFMS maintains general ledgers; records disbursements, collections, and customer orders; tracks cost; bills customers; and supports other general management functions in organic depot maintenance.

6.2.3. Execution and Prioritization of Repair Support System (EXPRESS), D087X, is a daily execution system designed to make critical choices in a constrained depot environment. The system takes a fresh view of customer needs and the repair environment daily using current asset and resource information. Visibility of all recoverable National Stock Numbers (NSNs) loaded in the wholesale and retail systems and their location and condition is provided. EXPRESS consists of four modules: Data Services, Prioritization and Repair, Supportability, and Distribution.

6.2.4. Depot Maintenance Systems Integration includes Depot Maintenance Material Support System (DMMSS) G005M, ITS G337, PDMSS/G097, EPS G402A, JOPMS G004L, and HQ AFMC Labor Standards Data System (ALSDS) E046B.

6.2.4.1. DMMSS (G005M) identifies materiel to support maintenance workloads through the BOM and provides a mechanism to track materiel usage.

6.2.4.2. ITS (G337) tracks repairable end items from time of receipt in the maintenance group to time of turn-in to supply. It provides inventory control and assigns item tracking numbers to all parts as they come in and subsequently tracks them through disassembly, repair, and assembly.

6.2.4.3. PDMSS/G097 is the AFSC depot standard project management system used to manage execution of all aircraft and missile programmed/un-programmed depot maintenance and overhaul workload. PDMSS performs planning, maintenance operation resourcing and completion, critical path schedule execution, and performance management.

6.2.4.4. EPS (G402A) is used to order end items for repair and passes orders for repair parts to the supply system. It also provides visibility of workload requirements and end item asset availability.

6.2.4.5. JOPMS (G004L) initiates and manages the JON which is required to begin a maintenance task on the shop floor. The system creates and tracks work in progress, interfaces with financial systems providing visibility of production hours in process and completed (i.e., earned hours), provides a repository for storing the production number master records, tracks customer work requests, records work authorizations, maintains temporary work plans, records end item production, and documents standard labor hours earned during depot level maintenance.

6.2.4.6. ALSDS (E046B) is used by the maintenance functional area to establish and maintain labor standards that are used for planning, forecasting, production count, data validation, and tracking direct product standard hours.

6.2.5. Material Processing System (MPS) (D230) provides the mechanics the ability to order materiel and view the status of the requests. It also provides materiel PSTs the ability to track, update, and correct orders. Material IETs can electronically update, approve, or deny requests with planning problems. All orders are passed to ABOM/NIMMS.

6.3. Inventory Accountability.

6.3.1. Aircraft and Missiles. Custodial acceptance and release of aircraft and missiles is performed IAW AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. Production Flight will ensure update of the Air Force accountable record IAW AFI 21-103.

6.3.2. Whole Engine. Engine transfers will be recorded in the Air Force Comprehensive Engine Management System (CEMS) IAW AFI 63-101/20-101.

6.3.3. Management of Items Subject to Repair (MISTR). Transfers of MISTR products are recorded in the Wholesale and Retail Receiving and Shipping system (D035K) accounts.

6.3.4. Manufactured Items. Items once accepted are added to the Air Force inventory IAW AFI 23-101.

6.3.5. Exchangeable Items. Expendability Recoverability Reparability Category (ERRC) codes (i.e., P and T) that are removed from and installed on production items are accountable in D035K under Due In from Maintenance (DIFM)/Due Out to Maintenance (DOTM) controls IAW AFI 23-101.

6.3.5.1. **(Added-AFSC)** Exchangeable Components Removed from Aircraft and Engines Are Repaired (Overhauled) As Production Items. When aircraft and engine components are removed from aircraft or engine programs and processed through the MISTR (i.e., Exchangeable) schedule, the following procedures will be accomplished:

6.3.5.2. **(Added-AFSC)** Aircraft Components. For items routed to a back shop, ensure item is put OWO in MIS.

6.3.5.3. **(Added-AFSC)** Engine Components. (ERRC C and D exchangeable). When the asset is serviceable, a maintenance production transaction with card code R will be prepared and input into G004L. At the same time, another maintenance production transaction with card code S will be prepared for the same item and entered into G004L. The complete maintenance production transaction cycle will be accomplished as if the item were reparable.

6.3.5.3.1. **(Added-AFSC)** Reparable Assets. When the item is reparable, a maintenance production transaction with card code R will be prepared to show receipt and another maintenance production transaction with card code S will be prepared to reflect serviceable production when work has been accomplished. These component items will not be accounted for as routed work but will be processed as exchangeable items.

6.3.5.3.2. **(Added-AFSC)** Job Routed Repair of Engine Components (OC-ALC only). Engine components which are designated job routed repair require a written request be submitted to the PSFC for approval/disapproval before any serviceable assets can be bought to replace a job routed item.

6.3.6. Expendable Items. Items not subject to repair but are required in the repair process are issued from D035K for consumption. These items may be turned in to supply in serviceable condition via NIMMS. This includes bulk items and sheet stock IAW AFI 23-101.

6.3.7. Floating Stock/Spares. Floating stock/spares are accounted for in NIMMS.

6.4. Material Holding Areas. Production items in delay status, routed items, and loan equipment will be segregated and protected from pilferage and damage. HQ AFSC will develop, implement, and maintain processes and procedures for the establishment of materiel holding areas within the ALCs. Materiel holding areas include but are not limited to:

6.4. **(AFSC)** The Maintenance Support Squadron (MXSS) tracks MXSS work in FEM only via status changes. When performing Cost Class 1 (CC1) work, the owning organization manages end item status for WCDs. The condition status and identification of end items/removed components parts should be made obvious. This may be accomplished by labeling the storage area (e.g., AWM, Serviceable, etc.), by the presence of a WCD or by tagging the items.

6.4.1. Bench Stock.

6.4.1. **(AFSC)** Bench stock may be stored or displayed in various areas including the Production Flight.

6.4.2. Awaiting Parts (AWP).

6.4.2. **(AFSC)** AWP occurs when a particular task on an item of production must be stopped or deferred due to a parts shortage. AWP Production items in delay status will be stored and issued IAW AFI 23-101.

6.4.3. Awaiting Maintenance (AWM).

6.4.3. **(AFSC)** AWM is the delay between reparable asset induction and the start of the first maintenance action on the asset. Delay status occurs when work on an item of production is stopped due to a resource constraint in labor, facilities, or equipment.

6.4.4. Work in Process (WIP).

6.4.4.1. **(Added-AFSC)** Work in Process (WIP). WIP is defined as any job that has been started but is incomplete. This includes any end item that has been inducted regardless of where it is in the repair process. Once the last operation is completed, WIP is considered serviceable and can be sold.

6.4.4.2. **(Added-AFSC)** WIP inventory is any end item, removed component parts, or new materiel that is being held and stored until it can be processed further. Any materiel generated from a JON that is not required to meet the repair requirements is considered excess. Once identified, the excess is to be turned into the PSF for disposition.

6.4.4.3. **(Added-AFSC)** The shop supervisor shall ensure materiel ordered by the shop for end item repair does not exceed repair requirements.

6.4.4.4. **(Added-AFSC)** To ensure excess materiel is not held on the shop floor, WIP inventory must be controlled using one of the following methods:

6.4.4.5. **(Added-AFSC)** Maintain an electronic or manual list of WIP. This listing will include part number/stock number, noun, quantity, and JON including control number and open JON suffix as a minimum. If materiel is not located in the immediate shop area, the listing will include and identify the location of that materiel.

6.4.4.6. **(Added-AFSC)** Place materiel held for reinstallation (i.e., end items, removed component parts, hardware, and new materiel) to an end item in a single storage location (i.e., Vidmar, storage rack). This location will be identified to the specific end item using any unique identifier such as serial number, inventory tracking number (ITN), JON, etc. The materiel stored in these locations will not exceed the UPA for the end item as outlined in the BOM and/or the IPB.

6.4.4.7. **(Added-AFSC)** New materiel, removed component parts, and hardware may be maintained in a separate bin location without the end item. Each bin location will be labeled with P/N or NSN and Noun. This location will be identified to the specific end item using any unique identifier such as serial number, ITN, JON, etc. The materiel stored in these locations will not exceed the UPA for the end item as outlined in the BOM and/or the IPB. **Note:** These bins will be for WIP purposes and not bench stock and will be maintained by the production shop.

6.4.4.8. **(Added-AFSC)** The production supervisor or other designated supervisors will ensure materiel ordered by the shop for end item repair is ordered through the maintenance materiel ordering systems.

6.4.4.9. **(Added-AFSC)** Each depot maintenance production shop supervisor or other designated supervisor will ensure leftover residual materiel is turned into the PSF for disposition.

6.4.4.10. **(Added-AFSC)** Any materiel left over from a completed JON will not be turned into the NIMMS store (i.e., 'Y' store) unless a known requirement exists. It will remain a CSAG-M owned asset and may be re-issued to another JON. **Note:** If the item is true excess that will not be used for a future repair and is never reissued to another JON, CSAG-M will incur that excess inventory cost as overhead regardless if that materiel is stored in the NIMMS store or turned into DLA supply. In addition, this materiel cannot go back to supply unless it meets MIL-STD-129R compliance.

6.4.4.11. **(Added-AFSC)** First line aircraft production supervisors have responsibility for the comprehensive effective monitoring and disposition of excess aircraft materiel. DoDI5000.64_DAFI 23-111, *Accountability and Management of DOD Equipment and Other Accountable Property*, describes the property management responsibilities applicable to all personnel and organizations.

6.4.5. Facilitate Other Maintenance (FOM).

6.4.5.1. **(Added-AFSC)** Facilitate Other Maintenance (FOM). (**Note:** For aircraft only). Direct and indirect materiel removed for accessibility to facilitate other maintenance will be identified and tagged by production personnel.

6.4.5.2. **(Added-AFSC)** FOM Holding Area. (**Note:** For aircraft only). FOM remaining on the shop floor in the immediate area of the aircraft must be tagged and identified by tail number and P/N. FOM not maintained on the shop floor in the immediate area of the aircraft will be located in a designated FOM storage area and must be identified by tail number and P/N and controlled. Identification for materiel in a FOM storage area will be defined as an electronic or manual list that will be available upon request by part number, noun, and quantity for all items in the designated FOM storage area. The production controller (materiel) and Materiel Expeditors are responsible for control and inventory of materials in a designated FOM storage area.

6.4.5.3. **(Added-AFSC)** (**Note:** For Landing Gear at OO-ALC only). For reassembling of the end item, Landing Gear is required to have a holding area on the shop floor to collect new parts and parts that have been reclaimed or routed (i.e., repaired component items) that are waiting to be installed on the higher assembly. An electronic or manual list of all materiel to include location will be maintained. Once all parts are available to support a Landing Gear, the kitting process will be utilized to complete the repair/overhaul process.

6.4.5.4. **(Added-AFSC)** (**Note:** For Flight Test Operations only). Materiel used for troubleshooting/testing aircraft in a Flight Test Operation will be protected, stored, and maintained in a secure area with supervisor approval. Storage locations will be labeled with NSN and/or P/N.

A list of materiel will be maintained electronically. The materiel will be properly identified and tagged. Materiel will not be left unattended or left on shop floor. When not in use, the materiel will be returned to secure storage area. When no longer required for aircraft troubleshooting, turn-in procedures will be followed.

6.4.6. Operating Stock.

6.4.6.1. **(Added-AFSC)** Operating Stock. Operating stock is any bits and pieces needed to support the maintenance work schedule, but which are normally recovered and reused. Residual stock is defined as items that are left over from a completed job that were not consumed during the completion of that job. Both operating stock and residual stock will be controlled by the user as not to become a foreign object to aircraft, engine, aircraft systems, component, tire, munitions, or support equipment which may have the potential to cause FOD (reference Volume 2, Chapter 4). Control of work order residue will be accomplished IAW this chapter.

6.4.6.2. **(Added-AFSC)** Items include such things as random length bar stock, fabric dust covers, caps and plugs, items left over from work orders, TCTO, and other reusable items.

6.4.7. Shop Stock.

6.4.7.1. **(Added-AFSC)** Shop stock is defined as shop operating and housekeeping materiel required for RC/CC operations such as operation of machinery, equipment, and tools. Shop stock will be stored, protected, condition tagged if applicable, separated, and identified in the storage location.

6.4.7.2. **(Added-AFSC)** Reference Vol. 3 para 6.15.4 for additional information on NIMMS storage provided by the PSF. This includes the AWP NIMMS store, the production NIMMS store, and the local manufacture NIMMS store.

6.4.8. Kit Management.

6.4.8. **(AFSC)** MXG will document the processes used to build, design, deliver, retrieve, and replenish task kits used in support of scheduled maintenance.

6.5. Material Identification. HQ AFSC will ensure materiel is properly identified as direct or indirect and the standardization of materiel item identification at each ALC.

6.5. **(AFSC)** Material Identification. The planning function is responsible for identifying materiel as direct or indirect. The IET (maintenance planner) will strive to minimize the amount of materiel identified as indirect. Standardization of materiel item identification across MXGs at each ALC shall be maximized.

6.5.1. Direct materiel is ordered and charged directly against the end item by RCC, production number, JON suffix, operation number or task, and cost code at the point of issue. Direct materiel is materiel required by and identifiable to a production maintenance job order or end item as

specified on a WCD or equivalent. Direct materiel will become a part of the end item that is undergoing maintenance or being consumed in the maintenance production process.

6.5.1. **(AFSC)** To include, direct materiel consumed in the maintenance production process are heat treating, plating, painting, etc., when the consumed materiel is peculiar to the item produced. Items that must be classified as direct materiel include ERRC C, T, and S, serial number controlled, investment, TCTO kit, organic manufacture items, those items classified as direct materiel in the same RC/CC, items that will be maintained on the BOM with a replacement factor and UPA [**Note:** Sometimes referred to as Quantity Per Assembly (QPA) or Quantity per Task (QPT). Various organizations use any one of the three terms to refer to requirements.], and those items considered peculiar or critical that require increased control. ERRC N and P items depending on the application may be classified as direct if they are issued in unit of issue each, pair, or set. There is no minimum or maximum dollar figure that distinguishes a direct materiel item from an indirect materiel item.

6.5.1.1. Items with an ERRC code of P or T are considered exchange items and subject to DIFM/DOTM) control.

6.5.2. Indirect Material Accounting. Indirect materiel includes bench stock, shop stock, work order residue, and kit residue in production maintenance. Indirect expense materiel is billed to CSAG-M at the point of issue from supply. Such materiel may be ordered through ABOM. Inventory control may be provided using the list of materiel in ABOM or other enterprise approved systems. Residue from kits which can be identified to a stock or part number must be turned into supply using NIMMS turn-in procedures. Maintenance will not receive a credit or noncredit adjustment in this situation. For control of materiel and costing purposes, the following classifications of materiel have been established with the associated indirect JONs. Indirect JONs are used to collect costs in the DIFMS system. Reference AFMCI 65-101 for a complete list of JONs.

6.5.2.1. Indirect Production Material (X56326100000).

6.5.2.1. **(AFSC)** Production materiel that becomes a part of the product under maintenance or is consumed in the maintenance process but cannot be readily identified to a specific product or the cost to do so is prohibitive. Examples of such materiel are bolts, nuts, washers, common use paints, etc. The cost of such materiel is charged to all end items within a cost center on an apportionment basis. Indirect materiel will always be ERRC N or P. Indirect materiel shall include all bulk units of issue (e.g., gallons, feet, pounds, etc.) unless it meets the criteria for being peculiar or critical to the end item requiring increased control in which case it should be planned as direct materiel. Indirect materiel is not mandatory to be on a BOM since it does not compute a replacement percent, reflect usage, or compute toward the EISP. However, to maintain visibility of all materiel required for a particular job, indirect materiel may be included as a nonstandard record in the BOM.

6.5.2.2. Shop Operating Material (X56336300000).

6.5.2.2. **(AFSC)** Material required for RC/CC operations, e.g., materiel used in operation, repair and preventive maintenance of machinery, equipment, and tools, etc.; supplies incidental to repair,

modification, and manufacture of production items; and supplies for maintaining cleanliness of shops and production personnel.

6.5.2.3. Office Supplies (X56366400000).

6.5.2.3. (AFSC) Materiel such as pencils and paper required to perform administrative functions or maintain office operations.

6.5.2.4. Aviation Petroleum, Oils, and Lubricant (POL) (Non-Flying) (X56116511000).

6.5.2.4. (AFSC) POL products issued by the Logistics Readiness Squadron (LRS) Fuels Management Flight and used in the Depot Level Maintenance (DLM) repair or overhaul process other than those used in operation of shop machines, equipment, and tools. This includes ground POL products.

6.5.2.5. Ground POL (X56126512000).

6.5.2.5. (AFSC) Gasoline and oil consumed by maintenance vehicles and ground power equipment obtained from LRS Fuels Management Flight.

6.5.2.6. Special Fuels (X56136513000).

6.5.2.7. Tools and Equipment Expense. Production tools, tools accessories, and equipment other than office equipment having a unit cost of less than \$100,000, or a unit cost greater than \$100,000 with a useful life of less than two years.

6.5.2.7.1. Expendable Tools and Equipment (X56346610000).

6.5.2.7.1. (AFSC) All hand tools issued through the tool crib for mechanics' tool kits and accessories [i.e., all 5100 and 5200 Federal Stock Classes (FSCs) such as drill bits, hacksaw blades, rotary files, etc.].

6.5.2.7.2. Tools and Accessories (X56396620000).

6.5.2.7.2. (AFSC) Equipment and the associated machinery type tools, tooling, and accessories.

6.5.2.7.3. Equipment Machinery (X56396630000).

6.5.2.7.3. (AFSC) This includes all other tools.

6.5.2.8. Expendable Office Equipment (X56356700000).

6.5.2.8. (AFSC) Expense office equipment having a unit cost of less than \$100,000.

6.5.2.9. Material-Defective Work and Spoilage (X56406800000).

6.5.2.9. **(AFSC)** The TRC is responsible to restore defective items to a serviceable condition. Rework consists of restoring an end item to a serviceable condition when that item was repaired by the TRC, placed into stock, and found to be defective due to the TRC's workmanship or use of faulty or improper handling. Use cost code L for expense materiel and cost code B for exchangeable materiel.

6.5.2.10. Facility Preventive Maintenance and Repair (X56376910000).

6.5.2.10. **(AFSC)** Repair, modification, or construction materiel used in support of production maintenance.

6.5.2.11. Precision Measurement Equipment Laboratory (PMEL) Support. (X56376920000).

6.5.2.11. **(AFSC)** Materiel from or to contract PMEL.

6.5.2.12. Ground Support Equipment (X56376930000).

6.5.2.12. **(AFSC)** Materiel from or to contract government support equipment.

6.5.2.13. Hazardous Materials (X56707000000).

6.5.2.14. Protective Clothing (X56388000000).

6.5.2.14. **(AFSC)** Clothing and individual equipment items worn for protection or safety during the performance of assigned duties.

6.5.3. Bench Stock Material Control and Support. HQ AFSC will develop, implement, and maintain standardized procedures for the control of bench stock materials within the ALCs.

6.5.3.1. **(Added-AFSC)** Indirect and Bench Stock Materiel Control and Support. Bench stocks are items that because of repetitive consumption warrant being moved to the POU in advance of the actual need and immediately charged to the customer (i.e., the six-position Maintenance RC/CC). Bench stocks will be restricted to those items classified as indirect materiel and consisting of ERRC N or P item

6.5.3.2. **(Added-AFSC)** Establishment of Bench Stock Material. Each bench stock area will be identified by a separate and distinct six-position resource and function code by production personnel. (Example: MEPFRA). A list of the items in the bins of each operating station area must be prepared and attached to the storage bins.

6.5.3.3. **(Added-AFSC)** Bench stock materiel (ERRC N or P items) may be placed in a MXG in advance of actual need. Bench stock materiel is owned by the MXG. Repetitive consumption patterns may be used for determining materiel requirements. The using activity will be solely responsible for ensuring the retained or requested items and the quantities are the minimum essential items required to support the mission and future production.

6.5.3.4. **(Added-AFSC)** The IET (maintenance planner) and production shops should maintain responsibility for all bench stock adds or deletes not just for non-IPV bench stock. Reference AFSCI 23-101.

6.5.3.5. **(Added-AFSC)** Procedures for Bench Stock Operations.

6.5.3.5.1. **(Added-AFSC)** Authorized Quantity. The authorized quantity for each item in the bench stock system initially is input when the item is established by the IET (maintenance planner). This quantity will be derived from known requirements or based on past experience.

6.5.3.5.2. **(Added-AFSC)** Exceptions. Projects and temporary job orders will not be established as bench stock unless there is sufficient history to temporarily establish a bench stock until the project or temporary job is completed. This does not include industrial support IPV.

6.5.3.5.3. **(Added-AFSC)** ABOM System Leveling Qualifications. The authorized quantity will be reviewed on a quarterly update. The requirement to maintain levels in ABOM applies only to bench stock that is owned and managed by the MXG. Control of bench stock that is being managed by a contractor (i.e., IPV (AFSCI 23-101)) will be covered under the governing contract agreement. Any findings during any inspections should be addressed with the local IPV program management focal points as well as AFSC/A4M/R and DLA.

6.5.3.5.4. **(Added-AFSC)** Location of Bench Stock Materiel.

6.5.3.5.4.1. **(Added-AFSC)** Materiel will be assigned a location. If it is necessary to relocate an item, operating and indirect materiel/bench stock area locations must be changed. In addition, a reserve location may be established for high volume items and this location noted on the master bin tag in the indirect materiel/bench stock storage area. For IPV sub-located materiel (i.e., reserve materiel that cannot fit into the prime location), the contractor is authorized to store sub-located materiel in the designated locations provided by maintenance. The sub-located (i.e., reserve location) materiel will be marked with the prime bench stock location and other related information and will be locked or secured.

6.5.3.5.4.2. **(Added-AFSC)** Substitute items will be placed in bins reflecting the substitute item stock number and stored, if possible, in the same general location as the preferred item stock number. The exact location of the preferred item stock number will be annotated on the applicable local form and placed with the substitute item

6.5.3.5.4.3. **(Added-AFSC)** Each time a bench stock change is made, the bin should be reviewed for proper labeling, authorized materiel, and level by the IET (maintenance planner). At a minimum, this review should take place at least quarterly unless being managed under the IPV contract. Documentation and verification of quarterly reviews may be maintained electronically.

6.5.3.6. **(Added-AFSC)** Procedures for identifying and tagging materiel in a maintenance holding area.

6.5.3.6.1. **(Added-AFSC)** Procedures for tagging materiel for storage.

6.5.3.6.1.1. **(Added-AFSC)** Bench stock materiel that is stored in a sub location must be tagged to identify the materiel and its condition. One tag is acceptable for like items contained in a bag, box, bin, etc.

6.5.3.6.1.2. **(Added-AFSC)** Raw stock materiel does not require condition tags but must have a legible MIL-SPEC marking. When raw stocks cannot be identified or are suspected of being erroneously identified, the PST personnel will ask the office that is qualified to analyze them. Once materiel is properly identified, it will either be tagged and stored or disposed of as appropriate.

6.5.3.7. **(Added-AFSC)** Bench Stock Shelf-Life Item Control.

6.5.3.7.1. **(Added-AFSC)** Production shops will ensure age control and cure-dated materiel is stored, updated, and purged according to DAFI 23-101A and will segregate the items and mark bins conspicuously with a standard bin label identifying shelf-life item stock number, manufacturer's part number, or MIL-SPEC, and shelf-life code for the item stored therein. Age-dated materiel must have the age control date and either the manufacture or expiration date indicated on each container at all times.

6.5.3.7.2. **(Added-AFSC)** Control of bench stock in the production area not part of the IPV program is a joint effort between the PSF and production since access to the materiel requires intrusion into the maintenance shops. The PSF however is the official monitor. If bench stock materiel items become over-aged or if the expiration date cannot be determined, items must be lab-tested by the SOS or sent to DLA Disposition Services (DLADS). Material in other than 'A' condition cannot be received in the PSF.

6.5.3.8. **(Added-AFSC)** Bench Stock Hazardous Materiel Control.

6.5.3.8.1. **(Added-AFSC)** When materiel is issued to the production shops for use, this responsibility is transferred to the appropriate production chief. Hazardous materiel is controlled according to AFMAN 32-7002. Local controls put in place by local environmental management organizations may also have to be considered in the management of hazardous materiel.

6.5.3.8.2. **(Added-AFSC)** Hazardous materiel will not be stored in bench stock areas or shop stock locations. Production personnel will use the 'first in first out' methodology to ensure shelf-life materials do not expire in maintenance. Reference DAFI 23-101 for further guidance.

6.5.3.9. **(Added-AFSC)** Turn-in and Excess Bench Stock Material. If materiel on hand exceeds the computed requirements, it will be turned into the PSF for disposition. Only serviceable materiel in the stock listed unit of issue will be returned to DLA for credit/noncredit and will be condition tagged unless the materiel is still in the original manufacturer's package. Material with less than-unit of issue will be sent to DLADS.

6.5.3.10. **(Added-AFSC)** Procedures for Individual Possession of Bench Stock Materiel. Ensure any excess quantity does not become a foreign object to aircraft, engine, aircraft systems,

component, tire, munitions, or support equipment which may have the potential to cause FOD (reference Vol. 2, Chap 4).

6.5.3.10.1. **(Added-AFSC)** Mechanics/technicians are authorized to maintain at their station a quantity of bench stock materiel that is required daily in the performance of their duty assignment. Cotter pins, nuts, bolts, etc., are typical of the type of items they may possess.

6.5.3.10.2. **(Added-AFSC)** The maximum quantity allowed per person depends on the type of work assignment and the supervisor's discretion. For items such as pins, nuts, bolts, etc., the quantity allowed will not exceed a one-to-two-day supply. All bench stock containers retained at workstation will be separated and containers will be labeled with part number or NSN. Excess materiel will be returned to the PSF for NON-IPV or follow the procedures IAW Volume 3, Chapter 6, for IPV materiel. Reference AFSCI 23-101.

6.6. Material Transaction Processing and Cost Corrections. All materiel requests and turn-in transactions will be processed through ABOM/NIMMS and/or MPS to record activity between the MXGs and/or supply. The accurate and timely processing of materiel transactions is the responsibility of the PST.

6.6. **(AFSC)** Materiel Transaction Processing and Cost Corrections. The transactions are used to change the accountability records or condition code of government property as it changes ownership from the MXGs to supply. These transactions are also used to determine the cost of materiel charged to customers, update end item production from which data is obtained to bill customers for completed work, maintain completeness and replacement parts accuracy, and project valid parts requirements to supply. Includes, the Material Support Responsibilities. The accurate and timely processing of materiel transactions is the responsibility of the production controller materiel. Since data from these materiel transactions is eventually passed to multiple Air Force and DoD systems, it is imperative that all transactions be validated before being processed. The financial wellbeing of CSAG-M is dependent largely on the accuracy of these materiel transactions; therefore, the importance of valid data cannot be over emphasized.

6.6.1. HQ AFSC will develop, implement, and maintain processes and procedures for the following:

6.6.1.1. Material Requests.

6.6.1.1.1. **(Added-AFSC)** Materiel required by production will be requested by the appropriate maintenance/production personnel through the supporting production controller (materiel) within the PSF. The production control (materiel) uses ABOM or equivalent to process materiel orders.

6.6.1.1.2. **(Added-AFSC)** All direct materiel requests are edited by ABOM to ensure the item requested applies to the production item being repaired and is ordered against the correct JON (12 position), operation number, RC/CC, UPA and Unique Identifier (UID) where required. Maintenance/production personnel requesting materiel will provide NSN or part number, quantity, SRD code, and their name. These may be annotated on AFSC Form 95, *Issue Request*, or

equivalent. When the materiel is issued, a document with the price of the materiel will be provided to allow price challenges where warranted.

6.6.1.1.3. **(Added-AFSC)** When ABOM indicates an item is not planned for the production number or is being requested for a quantity that exceeds the UPA/QPA/QPT, the production controller (materiel) will:

6.6.1.1.3.1. **(Added-AFSC)** Print or electronically transmit ABOM screen (i.e., the ABOM Permanent or Single Order Response Screen) to the IET. The ABOM Verify functionality also has a set of screens and reports to support this process.

6.6.1.1.3.2. **(Added-AFSC)** The production controller (materiel) will process the request only after the proper approval has been received from the IET (maintenance planner). NONBOM requests will not be accomplished unless a hard copy or electronic approval has been received from the IET or designated representative.

6.6.1.1.4. **(Added-AFSC)** NIMMS Receipting. Each request submitted through ABOM/MPS that creates a materiel due record in NIMMS requires a receipt transaction. When materiel is received, the materiel due record must be cleared by a receipt transaction. This is done automatically when materiel is issued from D035K. Costing in DIFMS is done at the time materiel is received, therefore a receipt transaction must be performed for each shipment. The receipt transaction is also used to establish an accounts payable which is later matched to an incoming bill.

6.6.1.1.5. **(Added-AFSC)** If a receipt has been processed with incorrect data, the receipt transaction needs to be reversed. This is done by entering the receipt information and an 'R' in the REV field and then receipt with correct data if required. NIMMS generates financial transactions to DIFMS. A correction in D035K may also be required.

6.6.1.2. Material Turn-ins.

6.6.1.2. **(AFSC)** Turn-In of Excess ERRC N or P Consumable Materiel.

6.6.1.2.1. **(Added-AFSC)** Turn-in Categories. Serviceable, unserviceable, reparable (see paragraph 6.6.1.2.20.), and unidentifiable/scrap materiel will be turned in using the following categories. Local procedures will be developed to provide the most efficient methods to turn-in materiel.

6.6.1.2.2. **(Added-AFSC)** Turn-in of serviceable materiel will be tagged and bagged IAW with MIL-STD-129R by production/maintenance personnel and given to the production controller (materiel) who will use the appropriate NIMMS screen to process the transaction.

6.6.1.2.3. **(Added-AFSC)** Serviceable Materiel with a future requirement will be turned into the NIF (OM&S) 'Y' Store. If no future requirement exists, the materiel will be turned into supply. Under no circumstance is the materiel to be maintained on the shop floor. Direct (i.e., CSAG-M owned) excess materiel is an item that is planned against a work order, is on the BOM, and can be identified to an open production JON but is not consumed in the repair of the end item. Direct

materiel will be turned-in to the 'Y' store if there is a future requirement for the item. Review of the NIF (OM&S) 'Y' store materiel is required every 180 days. Justification must be submitted for any materiel to be retained beyond this timeframe. The NIF (OM&S) 'Y' store is not to be used as a storage area for excess materiel that will not be required for future repairs.

6.6.1.2.4. **(Added-AFSC)** Unserviceable Materiel, is materiel the user has determined to be non-conforming and will be turned in. Local procedures will be developed, implemented, and maintained at the ALCs to standardize the parts disposal processing, ensuring ALC production personnel properly return consumable parts for disposal and demilitarization.

6.6.1.2.5. **(Added-AFSC)** All consumable parts will be properly processed for turn-in for proper disposal and demilitarization. ALC personnel will report any discrepancies/non-compliances in disposal procedures promptly to management.

6.6.1.2.6. **(Added-AFSC)** Scrap materiel is defined as materiel no longer usable in the production process and has no value except for its basic materiel content. Scrap materiel (which is not identifiable to a stock number) defined as nuts, bolts, screws, rivets, washers, and wire. Local manufacturing scrap materiel is defined as shavings and residue from manufacturing.

6.6.1.2.7. **(Added-AFSC)** All materiel that has a demilitarization (DEMIL) code assigned and must be placed on the tag for the part to be turned-in to DLADS. The DEMIL code can be found at <http://www.dla.mil/DDSR/>.

6.6.1.2.8. **(Added-AFSC)** The MXGs will:

6.6.1.2.8.1. **(Added-AFSC)** Ensure that pick-up points for all turn-in materiel are established and maintained; each point will be conspicuously marked to show RCC and be clearly identified with obvious visible signage explaining and defining contents of each collection area.

6.6.1.2.9. **(Added-AFSC)** Production supervisors will:

6.6.1.2.9.1. **(Added-AFSC)** Ensure all employees can differentiate between excess materiel and unserviceable (scrap) materiel.

6.6.1.2.9.2. **(Added-AFSC)** Ensure all employees know the location sites for excess and unserviceable (scrap) materiel.

6.6.1.2.9.3. **(Added-AFSC)** Ensure all production personnel that work with consumable parts take Materiel Control for Production Personnel training, course number: CHPMAS0201800SU.

6.6.1.2.10. **(Added-AFSC)** Production will:

6.6.1.2.10.1. **(Added-AFSC)** Conspicuously mark unserviceable parts identified for disposal in red with waterproof paint, dye, or similar materiel. Shavings from the machining process, sheet metal scrap from the manufacturing/repair process, scrap (not identifiable to a stock number) such

as nuts, bolts, screws, rivets, washers, and wire, do not require red marking. Containers conspicuously marked in red can be utilized as a collection point for small hardware.

6.6.1.2.10.2. **(Added-AFSC)** Identify and tag materiel (e.g., serviceable, condemned, repairable, etc.) with stock number, part number, noun, maintenance inspection stamp/signature, and unit of issue Consumable/serviceable materiel needs to be turned-in to supply per the Quantity Unit Pack (QUP) and IAW MIL-STD-129R. (e.g., the QUP issued is a quantity of one hundred (HD) and the quantity being turned in is less than the QUP), turn-in as scrap). See Table 3.24. for materiel condition codes.

6.6.1.2.10.3. **(Added-AFSC)** Utilize pick-up points for all turn-in materiel. Each point will be conspicuously marked and be clearly identified with obvious visible signage explaining and defining contents of each collection area.

6.6.1.2.10.4. **(Added-AFSC)** Ensure "serviceable" and "identified" consumable materiel is NOT placed in containers marked as "unserviceable" and "unidentifiable" (scrap) materiel. For nuts, bolts, washers, rivets, shavings, wire (without connectors), and residue from the manufacturing process, follow procedures for condemned-scrap materiel as defined per local guidance.

6.6.1.2.10.5. **(Added-AFSC)** Ensure only items that have been conspicuously marked in red with waterproof paint, dye, or similar materiel will be put in the containers marked for unserviceable (scrap) materiel. In some areas, locked containers conspicuously marked in red can be utilized as a collection point for small hardware.

6.6.1.2.10.6. **(Added-AFSC)** Ensure local manufacturing residual materiel will not be tagged as serviceable; it is the responsibility of the production shop to prove if the materiel is serviceable when released for the next job. If materiel is condemned, turn-in or scrap according to local instructions.

6.6.1.2.11. **(Added-AFSC)** Production support personnel will:

6.6.1.2.11.1. **(Added-AFSC)** Maintain pick-up/drop-off points for all turn-in materiel.

6.6.1.2.11.2. **(Added-AFSC)** Perform appropriate research action to determine disposition of materiel after production personnel have returned it to the pick-up/drop-off points. Materiel must be bagged and tagged appropriately.

6.6.1.2.11.2.1. **(Added-AFSC)** Process materiel based upon disposition research using applicable turn-in procedures.

6.6.1.2.11.3. **(Added-AFSC)** New Process: Process unidentified/scrap materiel through DLA-DS (Disposition Services) via ETID (dla.mil) (Electronic Turn in Document) or through applicable system utilized at the ALC. The document number will be created by using your DODAAC, the Julian date with one digit for the year, and a three-digit serial number assigned to your area from the local ETIDs serial number sheet. NSN is created by the FSC and Materiel description on the

LSN listing @ [LSN Master List \(dla.mil\)](https://vsm.distribution.dla.mil/scheduler) Once approved print 4 copies of the DD1348-1A. 3 copies will be placed with materiel and 1 copy will be for DLA-DS materiel inspector.

6.6.1.2.11.4. **(Added-AFSC)** Notify the local DLA-DS materiel through <https://vsm.distribution.dla.mil/scheduler> or through other local developed procedures to set up an appointment for drop off at DLA-DS.

6.6.1.2.11.5. **(Added-AFSC)** Place materiel in a box, crate, tri-wall, or container that can hold the materiel. The container must be covered by a lid, plastic packaging, and tied down securely to a pallet. The materiel must be secure enough to ship on an open bed truck down the highway. **(Note:** You may not receive your shipping container back.)

6.6.1.2.11.6 **(Added-AFSC)** Unserviceable tires will be turned-in to DLA.

6.6.1.2.12. **(Added-AFSC)** Precious Metal Recovery Program (PMRP)

6.6.1.2.12.1. **(Added-AFSC)** The DoD PMRP promotes the economic recovery of PM from excess and surplus PM-bearing materiel, and the reutilization of recovered fine PM for authorized internal purposes or as GFM. The program encompasses silver, gold, and the platinum family including palladium, iridium, rhodium, osmium, and ruthenium. (Added from the DODM 4160.21 Vol 2 Enclosure 5)

6.6.1.2.12.2. **(Added-AFSC)** The Precious Metal Indicator Code (PMIC) indicates if an item contains precious metals. It is maintained on the item record of the National Stock Number.

Table 6.1. **(Added-AFSC)** PMIC- TYPE OF PRECIOUS METAL

A	Item does not contain precious metal
U	Precious metal type is unknown
V	Precious metal type varies between manufacturers
S	Item contains silver
G	Item contains gold
P	Item contains platinum family metal
C	Item contains combination silver and/or gold and/or Platinum
*Note: The platinum family includes platinum, palladium, rhodium, osmium, and ruthenium.	

6.6.1.2.12.3. Due to the recovery cost of precious metals, not all items are economically beneficial for the recovery of the precious metal. Only items that have a PMIC of C, G, P, S, and V, and with a Controlled Inventory Item Code (CIIC)/Sensitive Item Control code/Security Code, of “R” and “J” make the recovery of precious metals economically attractive. All other items do not contain enough precious metal to make the recovery economically beneficial.

6.6.1.2.12.4. If an item is believed to contain enough precious metals to be considered economically attractive and does not contain a CIIC “J” or “R,” you should contact the Equipment Specialist for the end item in which the materiel is consumed to for additional action or guidance.

6.6.1.2.12.5. Sensitive items “R” and “J” will be handled IAW section 6.11.2.

6.6.1.2.12.6. For further guidance on PMRP, refer to local regulations.

6.6.1.2.13. **(Added-AFSC)** DIFM/DOTM.

6.6.1.2.14. **(Added-AFSC)** General. DIFM/DOTM is a term used to track the movement of exchangeable assets used in the repair of aircraft, engines, or OMEI. The main purpose of DIFM/DOTM is to maintain 100 percent accountability from cradle to grave of all serviceable and unserviceable exchangeable assets. The accountability starts when the unserviceable exchange item is removed from the end item and turned in to supply (i.e., D6R) and an issue request (i.e., D7R) is input into the system for a serviceable replacement.

6.6.1.2.15. **(Added-AFSC)** Turn-Ins. The production controller (materiel) will process turn-ins through the ABOM Exchangeable Module. Turn-in for condition code A and Q will be processed in NIMMS and ABOM. The production controller (materiel) will maintain turn-in documentation on file until PDN/JON closure is complete.

6.6.1.2.16. **(Added-AFSC)** 'Q' condition turn-in. When an exchangeable item is received by the production shop and it is defective (i.e., form, fit, or function), the shop will initiate a QDR. The Q condition turn in will be processed on the original document in NIMMS only on the MN045P Screen. This will credit the JON and reset the UPA (if the UID was entered on the turn in) the following day. Then place a new exchangeable order in ABOM by selecting a ‘new document number’. Once the turn in (D6R) has receipted and the order has released, contact DLA-A to perform a cross reference in D035K. Contact your OBW Materiel Analyst to move the D7R to history in ABOM. **Note:** OC-ALC and WR-ALC utilizes NIMMS and ABOM.

6.6.1.2.17. **(Added-AFSC)** Requisition. The Production controller (PST) will use the same document number for the D7R direct line order and the D6R turn in. Both transactions will be processed through ABOM. If a new document number must be created for the D7R, verify that there is a valid credit in D035K and forward that credit document number to the DIFM monitor or the appropriate person in DLA-A to perform a cross-reference in D035K to satisfy the DIFM detail.

6.6.1.3. Material Cost Corrections.

6.6.1.3. **(AFSC)** Materiel cost corrections will be a MXG responsibility accomplished by a designated representative within the MXG. In order for the data in the cost systems to be valid, suspended, and erroneous transactions must be corrected daily. Difficult or unusual transactions should be coordinated with ALC supply/designated financial personnel to ensure correct accounting procedures are followed. Records cannot be removed or deleted without a thorough review by financial personnel (i.e., Cost Accounting).

6.6.1.4. Cost Accounting.

6.6.1.4.1. **(Added-AFSC)** ALC cost accounting will be a source of advice to MXG on corrections.

6.6.1.4.2. **(Added-AFSC)** Once an error is submitted for correction, any of the following reports will be reviewed to verify corrective action was taken. Reference AFMCI 65-101.

6.6.1.4.3. **(Added-AFSC)** NIMMS Report MN155R01, Daily Valid Transactions.

6.6.1.4.4. **(Added-AFSC)** DIFMS Report 7310-412, Daily Materiel Expenditures By Job Number.

6.6.1.4.5. **(Added-AFSC)** DIFMS Report 7310-427, Weekly Materiel Expenditures Distribution By Direct Job Order.

6.6.1.4.6. **(Added-AFSC)** DIFMS Report 7310-469, Aged Materiel In Transit. Received a bill or credit bill from D035K; receipt or turn-in not processed; or cost on receipt or turn-in does not match bill.

6.6.1.4.7. **(Added-AFSC)** DIFMS Report 7310-472, Aged Accounts Payable. Receipt for materiel processed but no bill has been received. Do not work anything from the prior month.

6.6.1.4.8. **(Added-AFSC)** DIFMS Report 7310-478, Aged Accounts Receivable. Turn-in processed but have not received a credit bill or cost on credit bill does not match turn-in.

6.6.1.4.9. **(Added-AFSC)** DIFMS Report 7310-484, Aged Unmatched Bill. Received bill but has no matching due or receipt.

6.6.1.4.10. **(Added-AFSC)** DIFMS Report 7310-495, Materiel Mismatched. Excessive variance in bill, credit bill and receipt, and turn-in.

6.6.1.5. Backorder Management.

6.6.1.5. **(AFSC)** DAFI 23-101 provides the policy for effective backorder management through the establishment of management responsibilities and criteria for backorder reconciliation and cancellation. This involves the joint coordination/cooperation of the production personnel and production controller (materiel). Under DMAPS, there is an interface from D035K to NIMMS that allows backorder validation on the NIMMS due-in records and proper synchronization of backorders in both systems. This process is also used to update Estimated Delivery Dates (EDDs) and priority changes not generated by NIMMS. Ensure backorders are canceled or file maintained prior to JONs moving to a JON status 2 in G004L. Backorders in excess of the quantity required to support the number of end items on work will be determined to be excess and cancellation must be requested.

6.6.1.6. Front End Edits.

6.6.1.6.1. **(Added-AFSC)** General. This portion provides policy guidance on processing materiel transactions.

6.6.1.6.2. **(Added-AFSC)** Front End Edits. The processing of materiel to and from the MXGs requires discipline and discretion. The front-end edit process within ABOM and MPS are important tools in preventing the issue of direct materiel that is excess to production requirements. They are used to ensure job costs are accurate and to minimize inapplicable inventory growth. If the requested amount of materiel exceeds the UPA, the override approval authority resides with the IET (maintenance planner) or designated representative. The production controller (materiel) will advise the shop supervisor of all disapprovals.

6.6.1.7. Periodic Reviews.

6.6.1.7. **(AFSC)** Periodic Reviews. The PSFC will ensure ABOM/MPS JON front-end edits are not being bypassed through inappropriate use of ABOM NONBOM screens, direct entry to D035K, or other methods should not be permitted. The production managers and shop supervisors are responsible to ensure policy regarding BOM management is being followed.

6.6.1.8. Packaging and Handling Deficiencies.

6.6.1.8. **(AFSC)** Reporting Packaging and Handling Deficiencies. Use AFMAN 23-125 (IP), *Stock Readiness* and DoD 4000.25-M, *Defense Logistics Management System (DMLS), Volume 2, Supply Standards And Procedures*, for reporting packaging/handling damage.

6.6.1.9. Material Received with Discrepancies.

6.6.1.9. **(AFSC)** Processing Materiel Received with Discrepancies. Use AFMAN 23-125 (IP) DoD 4000.25-M, Volume 2, Chapter 17, for reporting materiel discrepancies.

6.6.1.10. Classified Material and Related Documents.

6.6.1.10.1. **(Added-AFSC)** Classified documents are processed and filed according to AFI 16-1404_AFMCSUP, *Air Force Materiel Command Information Security Program*. Document retention is prescribed by DoDM5200.01 Vol 3, *DoD Personnel Security Program (PSP)*, AFI 33-322, and AFI 23-101.

6.6.1.10.2. **(Added-AFSC)** Only individuals identified by appropriate receipt authorization may receive property that has a security classification.

6.6.1.10.3. **(Added-AFSC)** NWRM will be handled IAW AFI 20-110. The policies identified in the AFI are additive or enhancements to the existing policies and guidance.

6.6.1.10.4. **(Added-AFSC)** Classified materiel must be completely declassified prior to turn-in to the DLADS. The specific TO for the item or system may provide declassification/demilitarization instructions. However, the Inventory Control Point (ICP) must be contacted for assistance when the TO is not available or does not provide instructions. Basic declassification/demilitarization guidance is provided in DoD Manual 4160.28 Volume 3, *Defense Demilitarization*. All personnel must ensure that all classified parts or components of an item must be removed or destroyed prior

to release of the materiel to DLADS. A condemned item beyond economical repair is not a satisfactory substitute for actually performing the declassification/demilitarization actions. After declassification, all references to the classification must be removed or obliterated.

6.6.1.11. Recovering Unbudgeted Cost Caused by Parts Shortages.

6.6.1.11.1. **(Added-AFSC)** Recovering Unbudgeted Workaround Costs Caused by Parts Shortages. The following procedures provide guidance for Depot Maintenance and SCMs to recover costs for specific situations involving parts shortages.

6.6.1.11.2. **(Added-AFSC)** Requirements Over and Above Aircraft Missile Requirements Data (AMRD) Specifications. This case applies whenever the organic depot maintenance activity has to remove/refurbish/reinstall materiel items to make a production end item minimally acceptable until a serviceable item is available because the item was unavailable from the source of supply. The D035K demand counter, NIMMS cost data, and G005M usage history will need to be manually updated to account for the hidden demand.

6.6.1.11.3. **(Added-AFSC)** A DHA will be captured when the DLA part is unavailable, and a workaround is approved. The production controller (materiel) will report the workaround demand data to DLA by cancelling the backorder in NIMMS MN123P Backorder Modify/Cancel screen. The production controller (materiel) will enter the document number, document ID (DG), and place a 'Y' in the 'IS THIS A DEMAND HISTORY ACTION?' block. (**Note:** This block will only accept a 'Y' or blank). The backorder cancellation automatically overlays from NIMMS through the applicable systems to capture the DHA. Workarounds include the following: Reclamation, removing materiel components from an end not being overhauled, GPC, and an AFMC Form 202.

6.7. Teardown Deficiency Report (TDR) Processing. HQ AFSC will develop, implement, and maintain processes and procedures for TDR processing. HQ AFSC must ensure the quality of procured items and products produced with organic resources. It is necessary for prime wholesale Item Management Specialists working with production shop schedulers to be aware of the quality of items in the Air Force inventory. This sometimes involves the withdrawal of materiel from the inventory to test, inspect, teardown, etc., to determine the actual condition, quality, or functionality of a part or assembly. This may be accomplished by initiating a temporary work order specifying analytical evaluation and submission of a TDR. (Reference: AFMAN 91-222, *Space Safety Investigation and Reports*, and AFMAN 91-223, *Aviation Safety Investigation and Reports*).

6.7.1. **(Added-AFSC)** Policy: After the request and approval of a TDR has been received, the shop production controller (scheduler) will requisition and turn-in items to support it.

6.7.2. **(Added-AFSC)** Responsibilities.

6.7.2.1. **(Added-AFSC)** Production will be responsible for the following actions:

6.7.2.1.1. **(Added-AFSC)** Assign a maintenance group monitor for TDRs received.

6.7.2.1.2. **(Added-AFSC)** Establish suspense files.

6.7.2.1.3. **(Added-AFSC)** File the work requests/project directives and a copy of the G004L-L3A, by Materiel Improvement Project (MIP) number.

6.7.2.1.4. **(Added-AFSC)** Ensure TDR documentation is completed and forwarded to the appropriate SP if the TDR was not processed through Joint Deficiency Reporting System (JDRS).

6.7.3. **(Added-AFSC)** The shop production controller (scheduler) will schedule exhibits into the appropriate production squadron shop based on assigned priorities.

6.7.4. **(Added-AFSC)** Turn-in of materiel will be based on the disposition instructions in the AFSC Form 206.

6.8. PQDR Exhibit Processing. PQDR exhibits are processed IAW TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution (DRI&R)*. HQ AFSC will develop, implement, and maintain processes and procedures to be used together with TO 00-35D-54 to ensure funding, analysis, report preparation, rework if applicable, and/or return to service is accomplished in a timely manner to support the customer. These processes will include:

6.8.1. Scheduling, induction, and investigation of PQDR exhibits.

6.8.1.1. **(Added-AFSC)** General. PQDR exhibits should be scheduled, inducted, and investigation initiated within 15 days of receipt at the ALC receiving and storage activity. Exhibit investigations shall be completed as expeditiously as possible but NLT than 20 days after receipt of Category I deficiencies and 30 days after receipt of Category II deficiencies.

6.8.1.2. **(Added-AFSC)** Guidance. Exhibit investigations should be performed ahead of repairs of like MISTR items. Therefore EXPRESS should not drive nor preclude the investigation process unless required to satisfy MICAP demands. EXPRESS should be used once the investigation is completed to assist in determining if a requirement exists to return the asset to a serviceable condition. If repair is authorized, the production controller (scheduler) will contact the EXPRESS system POC and request a funded backout. After the funded backout is accomplished, the production controller (scheduler) will input transactions to move the end item from the G job designator to the MISTR control number A job designator for repair actions. Exhibits will be returned to serviceable condition as soon as possible by processing them ahead of like MISTR items.

6.8.1.2.1. **(Added-AFSC)** The support point will establish a method to monitor the status of PQDR investigations to ensure timely investigation, analysis, and trending. TO 00-35D-54 specifies requirements for providing exhibit investigation analysis results to the action point to prevent deficiency recurrence.

6.8.1.2.2. **(Added-AFSC)** PQDR analysis and report preparation/investigation is always funded by the prime ALC regardless of the ultimate findings. The prime ALC is the ALC that manages

the asset in question. The repair ALC will not perform PQDR investigations without being reimbursed.

6.8.2. Investigation and Restoration Policy for Un-Programmed Work.

6.8.2.1. **(Added-AFSC)** Investigation and Restoration Policy for Un-Programmed Work. Un-programmed work is defined as any exchangeable workload where the repair ALC does not have an established permanent control number. This most commonly occurs where the repair ALC does not have the assigned workload responsibilities. A temporary JON on the type '6' project order is established and an AFSC Form 206 issued by the technical focal point (e.g., materiel manager (MM), equipment specialist, quality specialist, prime SP, etc.) to pay CSAG-M for investigations and/or any required work to return it to a serviceable condition. AFSC Form 206 must be received prior to the restoration process from the prime SP. The exception is where the investigation finds that the repair ALC is at fault (i.e., workmanship). The cost of conducting the investigation is still chargeable to the prime ALC. However, the cost to return the asset to a serviceable condition is charged to the repair ALC as rework (i.e., ALC absorbs costs). Direct charges to the customer are prohibited.

6.8.2.2. **(Added-AFSC)** The Temporary Work Request process is not to be used for conducting investigations and restoring assets to a serviceable condition for programmed work on a normal basis. The only exception is where the scope of the investigation exceeds the normal PQDR analysis and report requirement covered using the PDN with 'G' job designator. In this instance, the repair activity should request that the Prime SP fund the extra expense using the AFSC Form 206. Investigation and restoration policy for programmed work.

6.8.3. Investigation and restoration policy for programmed work.

6.8.3.1. **(Added-AFSC)** Investigation and restoration policy for programmed work. Programmed work is defined as any exchangeable workload where the repair ALC has an established permanent control number. The PDN established for processing these items will have a job designator 'G' assigned. The labor standard for the 'G' job designator will cover the investigation (i.e., analysis and the report preparation). No repair is authorized (i.e., no rework hours in the labor standard) on these permanent JONs with the 'G' designator. Following the investigation, if the repair activity was not at fault for the deficiency and requirement exists to restore the asset to a serviceable condition, the production controller (scheduler) will send a request for a funded backout to the EXPRESS system POC, the EXPRESS system POC will process a funded backout, and the repair ALC will 'wash post' from the analysis PDN (i.e., 'G' job designator) to the exchangeable repair/overhaul PDN (i.e., 'A' job designator). This ensures all expenses/revenues move to the 'A' job designator and the customer is charged. If the repair activity is at fault (i.e., workmanship), the repair of the item if a requirement exists is accomplished using the 'G' job designator as rework. Since the 'G' job designator does not include rework hours in the labor standard, the ALC absorbs this cost. Production count is not taken, direct labor costs are charged to the RC/CC where performed, and direct materiel is charged to X5640680000 Rework. Expense is recorded but the customer is not charged.

6.8.4. PQDRs evaluated on a Permanent Production Number (PDN).

6.8.4.1. **(Added-AFSC)** For PQDRs evaluated on a permanent PDN, the CSAG-M has the option to do the following procedures:

6.8.4.1.1. **(Added-AFSC)** Develop a control number with 'G' job designator for each item worked in a given shop. This may be required in shops with a wide variety of items where the labor standard and cost for evaluation would differ greatly.

6.8.4.1.2. **(Added-AFSC)** Develop a control number with a 'G' job designator for each shop/customer combination (i.e., develop one control number funded by WR-ALC for MAPG9L and one control number funded by OC for MAPG9L). Shops with only one customer would only have one DR control number while shops with 5 customers would have 5 control numbers under this option. The key is the proper shop earns hours and dollars and the proper customer pays for the evaluation.

6.8.4.2. **(Added-AFSC)** If the RC/CC was not able to duplicate the reported deficiency and the unit passed all functional test requirements, the unit will be condition tagged as serviceable and returned to the supply system. Wash post procedures will not be used. This applies to both programmed and un-programmed work.

6.8.5. Rework of PQDR Exhibits.

6.8.5.1. **(Added-AFSC)** PQDR Exhibits Rework. When the analysis of the PQDR exhibit determines that the RC/CC where the work was accomplished was not at fault, the process to restore the exhibit to a serviceable condition will be accomplished by that RC/CC as new work using wash post procedures to the 'A' job designator as described above. When the analysis of the PQDR exhibit determines that the RC/CC where the work was accomplished was at fault, the work to restore the exhibit to a serviceable condition will be accomplished by that RC/CC as rework.

6.8.5.2. **(Added-AFSC)** For those items undergoing rework, a production count will not be taken and direct labor costs are tracked in TAA on a rework JON. Induct exhibit into repair process using the 'G' job designator for permanent workloads or a temporary control number (i.e., T-job) funded from an approved AFSC Form 206 for un-programmed workloads. Unprogrammed workloads shall be inducted within 15 workdays of approval. Process exhibits ahead of routine production like items.

6.8.6. ALC Reported PQDRs.

6.8.6.1. **(Added-AFSC)** ALC Reported PQDRs. When a deficient item is discovered by an ALC user from another ALC repair line, the item must be processed with proper notification to the prime ALC. No work will be accomplished on these items without proper prime ALC direction. When an ALC initiates a PQDR on materiel provided or repaired by another RC/CC, the above procedures apply. When management elects to correct the deficiency without prime or managing ALC direction, the item will be processed and expensed as rework. Any direct materiel used will be charged according to the same instructions for the rework of PQDR exhibits described above. No earned hour credit to a JON or charges to a customer will be made.

6.8.6.2. **(Added-AFSC)** Procedures for Costing PQDR MISTR Workload. An AFMC Form 181 will be issued quarterly by the prime ALC where the materiel management function is located to cover this workload. Each repair ALC performing this type of workload must receive the AFMC Form 181 from each prime ALC.

6.8.6.3. **(Added-AFSC)** Documentation. To provide a proper audit documentation trail, written notification of the exhibit numbers by NSN must be provided to the processing MXG. This notice may be maintained centrally or in the responsible production controller (scheduler's) file per local option. A DD Form 2332 will accompany each exhibit sent to the repair ALC for processing (**Note:** No exhibits will be accepted for processing by the repair ALC without the DD Form 2332). A copy of the DD Form 2332 and the communications notice (i.e., message or other) is sufficient information for an audit trail.

6.9. Reusable Container Management. Conservation and protection of government materiels is the responsibility of all government employees. HQ AFSC will develop, implement, and maintain processes and procedures for reusable containers to include:

6.9.1. Personnel responsibilities.

6.9.1. **(AFSC)** Personnel will comply with appropriate unpacking methods and container reclamation. The following guidelines apply:

6.9.2. Designated disposal areas.

6.9.2.1. **(Added-AFSC)** Disposal areas for reusable containers, pallets, wooden crates, trash, scraps, etc., must be clearly marked.

6.9.2.2. **(Added-AFSC)** Serviceable and reparable items must be kept away from these areas.

6.9.3. Verification of container content.

6.9.3.1. **(Added-AFSC)** Reusable containers will be inspected and verified as empty before they are processed out of maintenance to reclamation. AFSC Form 101, *Verification of Content Removal Tag*, and AFSC Form 102, *Verification of Content Removal Label*, are appropriate for verification that containers are empty.

6.9.3.2. **(Added-AFSC)** A single AFSC Form 101 or AFSC Form 102 may be used on unitized or consolidated loads of empty containers in lieu of on each individual container. Local printing is authorized to preprint repetitive information.

6.10. High Priority Material Requests. Maintenance personnel may request that a due-in requisition be upgraded to Mission Impaired Capability Awaiting Parts (MICAP) status when the unavailability of parts exists within 31 days of an operational/functional check (i.e., critical path completion). HQ AFSC will develop, implement, and maintain processes and procedures for the control and review of high priority materiel requests.

6.10.1. **(Added-AFSC)** The NIF (OM&S) store (Y-MIC). The production controller (materiel) will complete research before requesting a MICAP upgrade to ensure there is not another source for the parts including alternate part number, suitable substitute, materiel in the custody of depot maintenance [i.e., Y-Materiel Inventory Center (Y-MIC)], reclaimed materiel, or cannibalization opportunity.

6.10.2. **(Added-AFSC)** Bench stock outages causing a work stoppage situations should be submitted to appropriate system when production personnel require a part and the bin is empty or there is not adequate supply to support the requirement.

6.10.3. **(Added-AFSC)** Maintenance personnel will document research and approvals for all MICAP requests either electronically or with hardcopy using the worksheet at Table 18.15. Supply Condition and Balance Codes (Part II) or a locally developed equivalent. Documentation will be retained IAW the Records Disposition Schedule.

6.10.4. **(Added-AFSC)** Exchangeable Repair Lines. MICAP procedures are only authorized for component piece parts when the end item being repaired is a MICAP requirement. The total number of end item document numbers able to have piece part MICAPs cannot exceed the total number of MICAPs against that specific end item stock number. This applies to items being repaired that are Air Force managed or other service managed. The Production Support Section (PSF) and DLA maintain the AFSC Form 006, *MICAP Request Form* documenting the authorization for the MICAP. The authorization must include the aircraft tail number, missile, or engine serial number, or last eight digits of end item document number, and Standard Reporting Designator.

6.10.4.1. **(Added-AFSC)** The requesting organization will verify that the delivery time (piece part) does not allow production time to meet customer need date, the end item currently has MICAP backorder, and the number of end item document numbers with piece part requisition MICAPs do not exceed the number of MICAPs for the end item.

6.10.4.1.1. **(Added-AFSC)** The AFSC Form 006 will be used to request or upgrade backordered requisitions to MICAP. DLA will provide the FB number associated with the maintenance backorder.

6.10.4.2. **(Added-AFSC)** If an end item MICAP is satisfied thru workaround, etc. The PSS will submit the AFSC Form 006 to have any additional MICAP piece parts downgraded that exceed the number of MICAP end items.

6.11. Material Control. HQ AFSC will develop, implement, and maintain processes and procedures for the control of the following:

6.11.1. Critical Items.

6.11.1.1. **(Added-AFSC)** Critical Item Control. EXPRESS prioritizes the repair requirements for induction and the identification of parts problems and production constraints on a daily basis. This

process ensures correct priority process is on track, seeks methods of support improvement, and applies the necessary resources to get the job done.

6.11.1.2. **(Added-AFSC)** Also, informal, and formal Exchangeable meetings are used to ensure the depot repair. During these meetings, the ‘Top 10’ problem items (i.e., these are most likely AWP items), as a minimum, will be reviewed.

6.11.2. Sensitive Items.

6.11.2.1. **(Added-AFSC)** Sensitive Item Control.

6.11.2.2. **(Added-AFSC)** General. Sensitive items must be controlled, secured from pilferage, and provided to production personnel on an ‘as-required’ basis. Sensitive items delivered to production will be marked SENSITIVE ITEM. Signatures are required when issuing and turning in sensitive items. The following sensitive item codes are applicable:

6.11.2.2.1. **(Added-AFSC)** P - Ammunition and Explosives.

6.11.2.2.2. **(Added-AFSC)** Q - Narcotics.

6.11.2.2.3. **(Added-AFSC)** R - Precious Metals (i.e., limited to items that contain enough precious metals to make the removal of such metal economically attractive).

6.11.2.2.4. **(Added-AFSC)** J – Pilferage.

6.11.2.3. **(Added-AFSC)** Responsibilities. Production shop personnel must participate in the effective control and use of sensitive items. Shop personnel must ensure that sensitive items are secured from pilferage.

6.11.2.4. **(Added-AFSC)** Only personnel on appointment letters will:

6.11.2.4.1. **(Added-AFSC)** Have access to the secure areas where sensitive items are located.

6.11.2.4.2. **(Added-AFSC)** Distribute items on an as required basis and a one for one exchange, if applicable.

6.11.2.4.3. **(Added-AFSC)** Receive and turn-in all sensitive item materiel.

6.11.3. Storage Restriction Items.

6.11.3.1. **(Added-AFSC)** Processing Storage Restriction Items.

6.11.3.2. **(Added-AFSC)** General. Explosive and armament items, AF Form 2692 items, and other items subject to regulatory storage restrictions while end items, primarily aircraft, are undergoing repair will be turned-in and withdrawn from hold storage areas using AFSC Form 959. This applies to items temporarily removed by production and later reinstalled. Explosive items may be stored

temporarily in production areas certified by the Base Safety Office. Reference DESR6055.09_DAFMAN 91-201.

6.11.3.3. **(Added-AFSC)** Responsibilities. It is the responsibility of the PSF to maintain control over all hold items for the shop being supported. The PSF will assist the production shop in completing and maintaining the required documentation.

6.11.4. Disassembly and Reclamation.

6.11.4.1. **(Added-AFSC)** Disassembly. Disassembly at the ALCs is the authorized removal of an assembly, subassembly, or component part from end items still on property accounting records in the Air Force inventory. Disassembly will be accomplished at the direction of the responsible SP to satisfy reclamation requirements. In all cases, the end item is returned to supply stock in a condition designated by the Supply Planner on the AFSC Form 206. Other residual materiel from the reclaim action will be disposed of IAW the special instructions on the AFSC Form 206. This work normally done in the MXG shop may be done in an area designated by supply in the case of large or bulky end items.

6.11.4.2. **(Added-AFSC)** Reclamation Responsibilities to Accomplish.

6.11.4.2.1. **(Added-AFSC)** Prime MMs will issue AFSC Form 206 to the responsible exchangeable workloader who will review the AFSC Form 206 to ensure the special instructions are adequate before sending to the IET (maintenance planner) to prepare the AFSC Form 237. The IET (maintenance planner) will send the AFSC Form 206 to the appropriate production controller (scheduler) in the PSF.

6.11.4.2.2. **(Added-AFSC)** The production controller (scheduler) will review the work request and job order, evaluate the required shop resources and the shop resources already committed to other workloads, and schedule the job order into the shop. The production controller (scheduler) will then order the items to be disassembled from supply and maintain status of the project until completed. Actions will be coordinated between DLA and production shop IAW with disposition instructions on the AFSC Form 206.

6.11.4.3. **(Added-AFSC)** Instructions for Disassembly and Reclamation.

6.11.4.3.1. **(Added-AFSC)** The prime Supply Planner will initiate the AFSC Form 206 and send the AFSC Form 206 to the MXG workloader.

6.11.4.3.2. **(Added-AFSC)** The IET (maintenance planner) will process a G004L-L3A and deliver the T-JON scheduling jacket file to the applicable production controller (scheduler) using an L job designator.

6.11.4.3.3. **(Added-AFSC)** The production controller (scheduler) for the production shop accomplishing the disassembly/reclamation will follow the procedures below:

6.11.4.3.3.1. **(Added-AFSC)** Receive the T-JON scheduling jacket file from the IET (maintenance planner).

6.11.4.3.3.2. **(Added-AFSC)** Review resources required to accomplish the disassembly/reclamation, shop resources available, required completion date, and assign a priority or a projected start and completion date to the work.

6.11.4.3.3.3. **(Added-AFSC)** Coordinate with the DLA-A on the delivery of the items.

6.11.4.3.3.4. **(Added-AFSC)** Maintain status and location of the project until completed.

6.11.4.3.3.5. **(Added-AFSC)** Schedule the items into the shop and arrival of the end items in the MXG.

6.11.4.3.3.6. **(Added-AFSC)** Coordinate with production control (materiel) on the receiving of parts and end items from the production shop.

6.11.4.3.3.7. **(Added-AFSC)** Close out the work package when the project is completed.

6.11.4.4. **(Added-AFSC)** The production controller (scheduler) personnel supporting the disassembly/reclamation production shop will follow these procedures to include cap/cover/plug requirements associated with the FOD prevention program. Reference Volume 2, Chapter 4.

6.11.4.4.1. **(Added-AFSC)** G004L-L3A to the production shop when directed by the shop production controller (scheduler).

6.11.4.4.2. **(Added-AFSC)** Receive the removed reclaimed parts, and G004L-L3A from the production shop.

6.11.4.4.3. **(Added-AFSC)** Turn-in reclaimed parts according to disposition instructions in block 19 of the AFSC Form 206.

6.11.4.4.4. **(Added-AFSC)** Production shop accomplishing the disassembly/reclamation will follow these procedures:

6.11.4.4.4.1. **(Added-AFSC)** Receive the G004L-L3A from the production controller (scheduler). Retrieve the end items from the identified incoming area for the shop. Remove parts from end items as specified on the G004L-L3A.

6.11.4.4.4.2. **(Added-AFSC)** Identify the removed parts with the appropriate condition tags. Place disassembled or reclaimed parts according to disposition instructions in block 19 of the AFSC Form 206 or the Special Instructions, in the identified outgoing area for the shop, for turn-in.

6.11.4.4.4.3. **(Added-AFSC)** The production shop will tag the disassembled end item with the condition code as directed by the prime MM and turn it in to supply.

6.11.4.4.4. **(Added-AFSC)** Small, reclaimed items with low dollar amount may be kept in depot maintenance if it is indicated on the AFSC Form 206 by the prime MM to do so. These items will be owned by maintenance and will be maintained and inventoried by the production controller (materiel) (manual or electronic) to account for the reclaimed materiel using the same procedures as specified for controlling of bench stock as prescribed IAW AFMCI 21-100, Volume 3. A demand history adjustment (DHA) transaction process will be used where applicable to ensure DLA is informed of usage. Reclaimed materiel will require a serviceable tag and locations and will be labeled with NSN or P/N and noun.

6.11.4.4.5. **(Added-AFSC)** Notify the production controller (scheduler) that disassembly/reclamation is complete.

6.11.4.5. **(Added-AFSC)** Reclamation as directed by an AFMC Form 202. If an AFMC Form 202 identifies reclamation actions, piece/parts reclaimed will be managed IAW, in the above paragraph. A copy of the AFMC Form 202 will remain with the reclaimed materiel showing authorization of actions.

6.11.5. Loan Property.

6.11.5.1. **(Added-AFSC)** Loan Property Procedures. MXG planning teams will determine loan property requirements.

6.11.5.2. **(Added-AFSC)** Obtain written permission from the Air Force prime MM for Air Force managed investment assets. This approval may consist of an AFSC Form 206, a MOA, or other written permission. Notify the appropriate PSFC of requirements for loan property.

6.11.5.3. **(Added-AFSC)** MXG planning team personnel will notify DLA personnel of requirements for loan property and include, RC/CC, NSN, Quantity, Condition Code, and return date as required and agreed upon by the supply activity MM and DLA.

6.11.5.4. **(Added-AFSC)** Receive loan property and deliver to requestor.

6.11.5.5. **(Added-AFSC)** A D6A turn-in will be processed in NIMMS with the same document number it was issued on. Provide the asset along with the NIMMS shipping stuffer to DLA-A for the return to supply.

6.11.6. Production Items AWP.

6.11.6.1. **(Added-AFSC)** Procedures for Control of Production Items AWP. Use of the AFSC Form 503, *AWP Checklist/Worksheet*, is mandatory. When a component part is ordered using the end item document number, the RDD, and the SRD, the backorder will be coded as AWP and linked to that end item. The priority must be B3 or higher to update the end item database in D035K. When the decision is made to move the end item from on work order (OWO) status to formal AWP status, all backorders are redirected to be delivered to the AWP store and the end item is moved into AWP storage. Additional procedures for the control and processing of AWP end items and AWP component parts are contained in DAFI 23-101.

6.11.6.2. **(Added-AFSC)** All backorders against an end item are now considered AWP backorders regardless if the end item is in AWP or OWO status. The production controller (scheduler) in coordination with the production shop supervisor determines if the end item will remain OWO. When work must stop due to parts problems, the end item in most cases and if practical will be moved to the DLA AWP storage area. The Squadron Commander/Director must weigh the level of risk they are willing to accept that additional customer requirements will generate.

6.11.6.3. **(Added-AFSC)** DLA-A is responsible for storage of Depot AWP.

6.11.6.4. **(Added-AFSC)** AWP Management. D035K is the accountable system for the management of AWP. ABOM is used as the input system for parts ordering. D035K will link the end item and component piece parts under program control (electronically) and will pass AWP updates to NIMMS/ABOM. This allows for automatic AWP reporting and management in D035K and ABOM. When AWP end items become fully supportable, D035K overwrites DIOH Status Code of AWP with FWP tied to the end item document number. FWP is a code defined as an end item previously in AWP status that is ready for funding, re-induction and repair. The funded end items will always be inducted for work first and the production controller (scheduler) is responsible to ensure this occurs.

6.11.6.5. **(Added-AFSC)** AWP Procedures for Non-Programmed Workloads.

6.11.6.5.1. **(Added-AFSC)** All temporary workloads should be processed using AFSC Form 206. When requisitioning materiel, enter the end item document number, SRD, and RDD just like a permanent workload. D035K will then automatically code piece part requisitions as AWP with advice code 6N. The end items for the non-programmed temporary workload will be assigned an AWP-G condition code in D035K when a backorder exists for component materiel. **(Note:** This processing and tracking of AWP is totally independent of whether or not the end item remains OWO.) When all the component parts have been received or canceled, D035K will automatically change the AWP-G to AWP-F (i.e., fully supportable). D035K will output a notification to the SCC of the condition change, parts will be delivered, and work can be completed.

6.11.6.5.2. **(Added-AFSC)** Typically, non-programmed temporary workload is not inducted unless it is fully supportable. Once it is placed OWO, it typically stays in that condition until completed. The JOQ can be changed based on changes in customer requirements. The AWP process exists, however, for those unplanned occurrences when the JOQ is locked due to customer requirements and a backorder situation exists. The D035K AWP process as supported by ABOM AWP Management allows these component backorders to be tracked under the AWP process. The JOQ is not reduced in these situations.

6.11.6.5.3. **(Added-AFSC)** The D035K AWP process as supported by ABOM AWP Management should not be used for T-jobs that are for repair/manufacture. T-jobs for such things as inspections, rework, testing, etc., shall be exempt. The AFSC Form 206 should be negotiated with the customer to reflect a JOQ that can be produced based on best available data. If after opening the T-job materiel is found to be unavailable, the maintenance activity may use the following approach:

6.11.6.5.3.1. **(Added-AFSC)** Contact the customer and negotiate a lower JOQ to match what can be produced. If this is acceptable to the customer, reduce the JOQ to actual completions, close out the AFSC Form 206, and cancel any backorders.

6.11.6.6. **(Added-AFSC)** Disposition of AWP End Items. Refer to Volume 3, Paragraph 6.11.6.2., for the definition of AWP. When piece parts will not be received to immediately support an inducted end item, the organization must determine what to do with the end item. The organization has three basic options:

6.11.6.6.1. **(Added-AFSC)** Leave the end item OWO if the delivery of piece parts is expected to meet the established shop flow days (SFD) for the end item.

6.11.6.6.2. **(Added-AFSC)** If the current quantity of AWP end items on the D035K records does not exceed the quarterly demand rate (QDR) plus backorders and the delivery of the piece parts will not meet the established SFD for the end item, the production controller (scheduler) will request an awaiting parts (AWP) resolution team (ART) meeting utilizing the AFSC Form 503.

6.11.6.6.3. **(Added-AFSC)** If the current quantity of AWP end items on the D035K records exceeds the QDR plus backorders and the delivery of the piece parts will not meet the established SFD for the end item, no further end items should be inducted and no further end items should be placed in AWP status. The production controller (scheduler) will request an ART meeting utilizing the AFSC Form 503. An action plan is required to resolve support problems. Maintenance must request disposition action from the supply planner (SP). CANN of other end items is one of the primary supportability options of the SP to provide support for assets that are constrained for parts. If CANN is chosen, follow the process and procedures in Volume 3, Paragraphs 6.12. and 6.12.1. Disposition of the cannibalized end item including the determination of the turn-in condition code is the SPs responsibility. This process is required to prevent the stacking of end items in AWP-G and AWP-F condition status that have no current/future repair requirements.

6.11.6.6.3.1. **(Added-AFSC)** Within five working days of the disposition request, the SP must provide specific disposition instructions, other than F condition, for aged AWP-F end item (in formal AWP, but fully parts supportable (FWP) awaiting funding) when there is no NRO through EXPRESS after 90 days. Component piece parts will be dispositioned IAW established guidance.

6.11.6.6.3.2. **(Added-AFSC)** Within five working days of the disposition request, the SP must provide specific disposition instructions, other than F condition, for aged AWP-G ('Hangar Queens') end item when there are no future requirements or for backorder component EDD exceeds 90 days and supply assistance requests have had negative results. Component piece parts will be dispositioned IAW established guidance.

6.11.6.7. **(Added-AFSC)** Procedures for Validation and Management of AWP Backorders. The production controller (scheduler) will coordinate with DLA to review all AWP components for AWP end items and use them to ensure as many end items as possible are fully parts supportable. The production controller (scheduler) is responsible for reviewing the Supportability Report and the Exception Report in ABOM. Review entries for components on-hand, positive due-in status for each backorder, and cancel invalid backorders. As a minimum, these reports must be reviewed

weekly. The on-hand components will be moved to the AWP end item that can be made fully parts supportable. This may require several components to be moved. Unless all backorders can be filled by this process, the end item will not be repaired and the parts will be used for an end item that can be made fully supportable.

6.11.6.8. **(Added-AFSC)** The process for Turn-in of Formal AWP End Items after disposition instructions are received from the SP is as follows:

6.11.6.8.1 **(Added-AFSC)** The production controller (materiel) will coordinate with DLA to review the AWP component part list in ABOM to identify parts received, outstanding due-outs, and cancel AWP component part list for this end item. The AWP Component Part list is reviewed when engineering changes occur, when cancellation of parts, when CANN for parts occurs, and when items are issued for AWP as part of the component part list.

6.11.6.8.2. **(Added-AFSC)** For engineering changes, the production controller (materiel) will coordinate with DLA to review the AWP component part list for the purpose of issuing parts received and canceling or reallocating existing backorders. The production controller (materiel) inputs the new JON for the re-induction issues. After engineering review, an Engineering Change Notice (ECN) or an AMRD action may be submitted to allow the use of an existing asset.

6.11.6.8.2.1. **(Added-AFSC)** For individual part cancellations, the production controller (materiel) reviews the AWP component parts list and removes the individual part from the list.

6.11.6.8.2.2. **(Added-AFSC)** For individual part CANN of inducted items, the production controller (materiel) reviews the AWP component parts list and selects the individual part from the list.

6.11.6.8.2.3. **(Added-AFSC)** For AWP component parts list issues, the production controller (materiel) reviews the list for discrepancies before issuing parts.

6.11.6.8.2.4. **(Added-AFSC)** The formal AWP process should be completed by the PSF before turning the materiel over to DLA to manage in the X store to ensure cap/cover/plug requirements associated with the FOD prevention program. Reference Volume 2, Chapter 4.

6.11.6.9. **(Added-AFSC)** AWP Prevention/Mitigation Guidance.

6.11.6.9.1. **(Added-AFSC)** The production controller (scheduler)/Supply Chain Representative (SCR) will utilize the following procedures to manage items proposed for transfer to AWP status. The SCR will be used throughout the document to refer to the SP, the Material Management Team Lead (MMTL), or the PM.

6.11.6.9.2. **(Added-AFSC)** AWP Flags.

6.11.6.9.2.1 **(Added-AFSC)** EXPRESS is updated every Tuesday to provide AWP Status Report located in Headquarters Reports of EXPRESS Web Toolkit (EWT).

6.11.6.9.2.1.1. **(Added-AFSC)** The AWP Status Report will display a color flag to alert production controller (schedulers) for any End Item (EI) NSNs with a NRO that have existing formal AWP assets being reported. **(Note:** Formal AWP means an EI was inducted for repair but is now being stored in the NIMMS 'X' store.)"

Figure 6.1. **(Added-AFSC)** Flag Information.

• NRO is the difference between total needs (defined as backorders + working level) minus assets available to support the needs (serviceable items + items in work).
• The working level quantity (QTY) is provided by the RBL system. It is the quantity needed in depot repair plus the depot serviceable quantity needed to support worldwide customers.

6.11.6.9.2.1.2. **(Added-AFSC)** EXPRESS calculates the total NRO and the supportable NRO.

6.11.6.10. **(Added-AFSC)** The production controller (scheduler) will notify the SCR and the PST of an induction with an assigned flag under the following circumstances:

6.11.6.10.1. **(Added-AFSC)** When a flag is Green-New and it is a first-time formal AWP occurrence. A first-time occurrence is defined as there are no other assets currently in formal AWP for that NSN. All other occurrences of a Green flag require no SCR notification.

6.11.6.10.2. **(Added-AFSC)** All new Yellow and Red flag occurrences weekly.

6.11.6.11. **(Added-AFSC)** Once notified, the SCR will determine within 48 hours whether an AWP Resolution Team meeting is to be convened.

6.11.6.12. **(Added-AFSC)** AWP Resolution Team (ART).

6.11.6.12.1. **(Added-AFSC)** The purpose of the ART is to resolve current and possible future bit and piece part supportability issues for identified NSNs.

6.11.6.12.2. **(Added-AFSC)** ART Members.

6.11.6.12.3. **(Added-AFSC)** The SCR chairs the ART meeting.

6.11.6.13. **(Added-AFSC)** Red-Flagged Items. An ART meeting must be held when an ART meeting has not been held for that NSN within the last six months or an AWP worksheet has not been completed and reviewed during an ART meeting within the last six months.

6.11.6.13.1. **(Added-AFSC)** Yellow-Flagged Items. An ART meeting is not required but may be convened at the discretion of the SCR.

6.11.6.13.2. **(Added-AFSC)** At least three business days prior to the ART meeting, the production controller (materiel) requests updated status on backordered component parts from the DLA CSS to be available at the ART. The DLA CSS should provide status updates within three business

days. Status information should include contract delivery dates and delinquencies. Root cause identification should be included to ensure long term resolution.

6.11.6.13.3. **(Added-AFSC)** Prior to the meeting, the SCR will conduct requirements review, a root cause determination, and a materiel solution to the parts issues causing the AWP status. If needed, the SCR can contact the DSCM team to request the strategic outlook on items and what work has been done to prevent future parts problems. The DSCM team will also provide instruction on how to gain access and use the DSCM Analysis Tool.

6.11.6.13.4. **(Added-AFSC)** The following items are discussed at the meeting. This is not an all-inclusive list and other items may also be discussed. These and other topics should be considered for inclusion in the minutes of the ART meeting:

Table 6.2. (Added-AFSC) Meeting discussion topics.

Item	Topic
1	Parts constraint overview with overall asset posture of the EI NSN and status on current piece part constraints.
2	Purchase requests and contracts (e.g., quantities, first article results, delivery dates, expedite requests, incentive pay, delinquencies, etc.).
3	Forecasting issues.
4	Available work around actions are: CANN actions, suitable substitute NSNs, availability of a NHA, local purchase, reclamation/testing/local repair/local manufacture, request for SPO/SCM Engineering or else Delegated Engineering Authority action (e.g., reuse, temporarily expanded tolerance limits, etc.), and GPC purchases.
5	Root cause determination/analysis must be conducted for first time Green-New flag and all Red flag conditions and includes completion of the AWP worksheet.
6	Once the AWP worksheet is completed and reviewed and the root cause is identified, the ART can determine a plan of action and assign actions to mitigate the problem and prevent reoccurrence.
7	Placing an item into formal AWP when it exceeds quarterly demand rate plus backorders will be by exception only and requires Maintenance Squadron level approval and coordination at the SOS Supply Chain Management Squadron level.
8	The SCR is then responsible for updating EXPRESS with the AWP Action Taken within Data Entry of EWT.

6.11.6.13.5. **(Added-AFSC)** Minutes of the meeting will be published by the chairperson/SCR.

Table 6.3. (Added-AFSC) Minutes of the meeting.

Item	What to do/keep
1	A copy of the AWP worksheet is attached to the minutes.
2	The production controller (scheduler) retains a copy of the minutes and the AWP worksheet with the production controller (scheduler's) files until the EIs are removed from formal AWP storage.

3	The SCR retains a copy of the minutes and the AWP worksheet in the NSN History Folder.

6.11.6.13.6. **(Added-AFSC)** The ART chairman will brief the root cause analysis and a ‘get-well plan’ for any Green-New flagged and any Red flagged AWP items at the monthly Exchangeable meeting.

6.11.6.14. **(Added-AFSC)** Additional Actions.

6.11.6.14.1. **(Added-AFSC)** For newly assigned Yellow flag conditions, the production controller (scheduler) evaluates the EXPRESS Predetermined Acceptance Probability (PAP) switch to determine if the percentage should be changed. The evaluation should include discussions with the production controller (materiel), IET (maintenance planner), and Production Chief.

6.11.6.14.2. **(Added-AFSC)** For Red-flagged items, the SCR may determine there are excess EIs and discuss with production controller (scheduler) disposition instructions and the turn-in condition code. EIs should not be moved from formal AWP storage just to achieve a lower quantity in formal AWP but the costs to remove, future requirements, and support of the weapon system should be of paramount consideration. The final decision on disposition and condition code resides with the SCR.

6.11.7. Floating Stock and Floating Spares.

6.11.7.1. **(Added-AFSC)** Process/Procedures for Managing Floating Stock and Floating Spares. Floating stock is materiel that is issued to production and will not be returned to the Naval Aviation (NAVAIR) Industrial Fund (NIF) and operating materiel & supply (OM&S) ‘F’ store. Floating spares is materiel that is ‘borrowed’ from the ‘F’ store for use in testing, fault isolation, etc. and will be returned to the store after completion of the task. Floating spares/stock are considered NIF and OM&S stores and will be managed the same as other NIF or OM&S stores (i.e., X, Y, and Z).

6.11.7.2. **(Added-AFSC)** General. NIMMS (OM&S) ‘F’ store is the accountable system for management of floating stock/floating spares inventory. Floating stock are ERRC code ‘T’ items authorized and retained by the maintenance organization to support maintenance production by acting as replacement components for EIs whose sub-assemblies have repair times that exceed the repair time of the EI. Availability of floating stock reduces the repair flow time for impacted EIs. Items are ordered and maintained as CSAG-M inventory.

6.11.7.3. **(Added-AFSC)** Authorization. MXG is authorized to maintain floating stocks supporting items removed from a higher assembly when the time allowed for routing and repairing the component item will impact the repair line critical path. A completed AFSC Form 100, Floating Line Fill Floating Stock, is required for floating stock/floating spares authorization. The equipment custodian or shop supervisor will maintain the AFSC Form 100 either electronically or hard copy for as long as the floating stock/floating spares are required.

6.11.7.3.1. **(Added-AFSC)** The MXGs are authorized floating spares in support of ATE, initial or final test organizations, fault isolation, shop standard, training, stand-alone, test station, and -21

TO assets. Floating spares are also authorized in support of HQ AFMC flight test organizations that must meet required flight test schedules and delivery range times.

6.11.7.3.2. **(Added-AFSC)** Floating stock can be requested and justified when an authorized repair capability for the floating stock item and NHA exists at the same ALC. Follow the procedures outlined in DAFI 23-101.

6.11.7.3.3. **(Added-AFSC)** When a repair capability for the floating stock items does not exist or when the repair is not authorized, floating stock items will be requested from supply. Floating stock should be used until adequate retail stock levels can be established to support nonjob routed repair.

6.11.7.3.4. **(Added-AFSC)** For those ALCs that utilize two-level maintenance, floating stock may be retained for job routed repair to support rapid turnaround times required of a primary or a secondary source of repair.

6.11.7.3.5. **(Added-AFSC)** *Floating stock is a scheduling tool and not a means to increase production's direct labor hour capacity. It should be used only to compensate for timing problems not lack of production capacity.* For example, if production has the capacity to repair 10 ERRC CODE 'T' components and 10 higher assemblies per month but the components take 30 days to repair and the higher assemblies take only 15 days, floating stock is a logical option. However, if production has the capacity to repair only five components per month and 10 are needed, then floating stock is inappropriate and gross production capacity must be increased. The financial impacts of ordering floating stock materiel from the AF Supply Planner must be considered. Floating stock will be utilized on an absolute minimum basis.

6.11.7.4. **(Added-AFSC)** Responsibilities. The following responsibilities are provided for floating stock/floating spares.

6.11.7.4.1. **(Added-AFSC)** The responsible shop supervisor and equipment custodian except as specified below will:

6.11.7.4.1.1. **(Added-AFSC)** Determine floating stock/floating spares requirements and levels based on input from the production shop. The shop supervisor or equipment custodian will prepare, process, and maintain AFSC Form 100s for their respective maintenance groups.

6.11.7.4.1.2. **(Added-AFSC)** The approval authority for all floating stock/spare authorizations for ERRC CODE "T" assets is the requesting activity commander or designated representative.

6.11.7.4.2. **(Added-AFSC)** Validate authorized floating stock/floating spares requirements on the AFSC Form 100s with the balances in the NIMMS (OM&S) 'F' stores annually. A balance report can be requested from the NIMMS (OM&S) functional user. Annotate date of validation on the AFSC Form 100. As requirements change, add, or delete, a new AFSC Form 100 will be required.

6.11.7.5. **(Added-AFSC)** Responsible Production Support Flight (PSF & Equipment Custodian) will:

6.11.7.5.1. **(Added-AFSC)** Equipment Custodian assist in reviews of authorized floating stock/floating spares quantities as requested by DLA.

6.11.7.5.2. **(Added-AFSC)** Inventory. The oversight responsibility lies with the PSF and Equipment Custodian. Physical responsibility lies with the signer of the hand receipt electronic or hard copy and the assigned DLA-A Materiel Support Specialist (MSS). The hand receipt applies to floating spares only. Inventories will be conducted annually at each ALC by DLA-A MSS and will be assisted by the shop supervisor or equipment custodian that signed the AFSC Form 100.

6.11.7.5.2.1 **(Added-AFSC)** The shop supervisor/equipment custodian will ensure all documentation (AFSC Form100 & AFSC Form 1297) is transferred at departure of any coordinated personnel.

6.11.7.6. **(Added-AFSC)** Floating Stock/Floating Spares Restriction Code. NIF (OM&S) storage is identified by each ALC 'store' to which floating stock/floating spare parts will be diverted and stored. The NIMMS (OM&S) inventory store includes an 'R' restriction code to designate floating stock/floating spares and to restrict issues from them.

6.11.7.6.1. **(Added-AFSC)** Annual inventories will be conducted based on the inventory rules for the X, Y, and Z stores. ALCs are authorized to create COGNOS queries to extract the on-hand floating stock/spares data or can use existing COGNOS tools for floating stock/spares. The ALCs can tailor and develop any required ad hoc floating stock/spares reports as required.

6.11.7.7. **(Added-AFSC)** Process for Issues from Supply, Request from the Store, or Turn-in of Floating Stock/Spares.

6.11.7.7.1. **(Added-AFSC)** Issue from supply (i.e., Floating Stock). Use the ABOM exchangeable screen in the exchangeable module to request the approved item from D035K using cost code 'S' and an inventory JON. After receipt of the asset, use the NIMMS MN044P, 'Turn-In to NIF (OM&S) Store', screen to transfer the asset into the floating stock inventory store.

6.11.7.7.2. **(Added-AFSC)** Production Request for an Asset From the 'F' Store.

6.11.7.7.2.1. **(Added-AFSC)** Floating stock items are operated under DIFM/DOTM rules, therefore when requesting an asset from floating stock, an unserviceable asset must be available for the turn-in supply. The asset will be issued manually from the 'F' store using the MN032P screen in NIMMS to satisfy the immediate requirement. An 'F' store replacement must be ordered by the production controller (materiel) personnel using the DIFM/DOTM process. When the replacement is received, it will be returned to the 'F' store inventory balance.

6.11.7.7.2.2. **(Added-AFSC)** When requesting initial/replacement floating spares; production controller (materiel) personnel will place the order in ABOM, and follow guidance per paragraph 6.11.7.7.1., notify DLA-A MSS that the 'F' store balance is increasing, and when the item is issued from supply. DLA -A MSS will provide a copy of the hand receipt that was signed by maintenance. The floating spare may be returned to the 'F' store at the end of the task/shift or may be retained

by the shop. If retained by the shop, the person that signed the hand receipt will make sure those assets are returned to the secured designated location at the end of the shift.

6.11.7.7.3. (Added-AFSC) Turn-in:

6.11.7.7.3.1. (Added-AFSC) Turn-in of excess floating stock/spares will be given credit based on the item credit indicator. As a result, the cost of increasing or changing the mix of depot floating stock/spares will be absorbed by CSAG-M. Floating stock/spares that no longer have a requirement will be turned in from the NIF (OM&S) store to supply using the NIMMS MN041P, 'Returns Processor' screen.

6.11.7.7.3.2. (Added-AFSC) Turn -in to receive credit for a floating spare turn-in (A & Q condition), production controller (materiel) personnel will prepare and process the requirement through the NIMMS MN045P, 'Turn-in to Supply' screen, using Cost Code 'B' and a production JON. Follow instructions in Volume 3, Paragraph 6.6.1.2.22.

6.11.7.8. (Added-AFSC) Preparing and processing AFSC Form 100.

6.11.7.8.1. (Added-AFSC) The shop supervisor or equipment custodian will file maintain these details to account for the assets. Part one of AFSC Form 100 will be prepared as follows:

6.11.7.8.1.1. (Added-AFSC) Blocks 1 through 6: Enter appropriate office symbol, date, and required signature. If disapproved, reason for disapproval will be placed in Block 12 and the form will be returned to the shop supervisor or equipment custodian.

6.11.7.8.1.2. (Added-AFSC) Block 7. Enter the functional symbol (six-letter alpha) of the using/assembly RC/CC.

6.11.7.8.1.3. (Added-AFSC) Block 8. Enter the noun, NSN, and ERRC.

6.11.7.8.1.4. (Added-AFSC) Block 9. Enter the noun and NSN (?) of the immediate NHA.

6.11.7.8.1.5. (Added-AFSC) Block 10. Enter the noun of the production EI (e.g., aircraft engine, etc.) the floating stock supports.

6.11.7.8.1.6. (Added-AFSC) Block 11. Make the entries in the floating stock computation section as stated on the form by use of the appropriate formula.

6.11.7.8.1.7. (Added-AFSC) Block 12. Remarks/Source Data. Enter source document, date of data used for computations, and additional information or comments as appropriate.

6.11.7.8.1.8. (Added-AFSC) Block 13. Authorization Serial Control Number (ASCN). Enter production section RC/CC, year, Julian date, and serial control number (Example: MPJAA-90-3650012). The initiating IET assigns the four-digit suffix code in each ASCN. The suffix is different for each floating stock request and once authorized, change requests and annual revalidations will contain the same ASCN as the initial request. **Note:** This is a serial number for

the document and does not in any way relate to a physical serial number, if any, on the actual issued floating stock item.

6.11.7.8.1.9. **(Added-AFSC)** Block 14. Point of Contact. Enter the name and telephone number of the MXG person to contact regarding the requirement.

6.11.7.8.1.10. **(Added-AFSC)** Block 15. Coordination. For the Initial/Change/Revalidation/No Change area, check the appropriate block. Production/Scheduling supervisor coordination (signature required) and SPO/SCM Engineering or Delegated Engineering Authority (DEA) approval (if signature required) for initial request and upward change on AFSC Forms 100. Revalidation/No Change and downward change AFSC Forms 100 do not require internal coordination if initial request AFSC Form 100 has coordination. Re-accomplished floating stock items designated as 'NO CHANGEREQUIREMENT VALID' will contain the original ASCN.

6.11.7.8.1.11. **(Added-AFSC)** Block 15 (continued). Quantity Requested. Enter quantity computed by formula in Block 9 rounded up to the next whole number if a fraction exists. Explain in remarks block if requested quantity is other than the quantity computed by formula in Block 9 rounded up to the next whole number if a fraction exists. For cost, enter product 13070 of quantity requested times unit cost.

6.11.7.8.1.12. **(Added-AFSC)** Block 16. Approval/Disapproval. The MXG/CC or director will check the appropriate box and sign and date the AFSC Form 100. If the ALC checks either the Approved Other Than Requested or Disapproval box, an explanation will be required in Block 10. **(Note:** Coordination for amounts less than \$50,000.00 can be signed by the designated group commander/director and amounts over \$50,000.00 require coordination by the designated ALC/CC or director. If ALC signature is required, then the MXG/CC or director or designated representative will initial Block 16).

6.12. Management of Cannibalization (CANN) Actions. CANN is the authorized removal of a specific assembly, subassembly, or part from one weapon system, support system, or equipment end item for installation on another end item to satisfy an existing supply requisition and to meet priority mission requirements with an obligation to replace the removed item. CANN actions may be necessary when a condition prevents the accomplishment of a mission, and the required assets are not immediately available from supply. When authorizing a CANN, the expenditure of man-hours and potential damage to equipment must be weighed against the expected benefit. HQ AFSC will develop, implement, and maintain standardized procedures for authorizing and minimizing CANN actions, including identifying and reporting to AFLCMC if the action was necessary to support programmed or unprogrammed workload. See Volume 2, Chapter 7 of this instruction for CANN actions involving egress equipment.

6.12.1. **(Added-AFSC)** Also, CANN actions are considered workaround processes that are utilized solely to bridge supply system gaps in providing parts. They are inefficient and drive up the total cost of depot maintenance. The intent of this policy is to ensure that accounting is recorded for all required CANN actions necessary to satisfy operational needs. CANN is one of the last methods for satisfying the part requirement and is meant to be a temporary fix and not a normal process/practice.

6.12.1.1. **(Added-AFSC)** 309th AMARG Only. Use AFSC Form 206 for each CANN or ROB-BACK action. The technician will complete AFSC Form 206 with required data and the supervisor or designee reviews. The cannibalization authorities approve and the workloader submits a copy to the SP/SOS who will ultimately approve and fund the cannibalization action. The project production controller (scheduler) will monitor and track cannibalization occurrences and costs. The production flight submits the AFSC Form 206 to Forward Supply for 'Mark For' change on backorder part. The original part request will maintain the WCD number for the gaining aircraft but be modified to show the donor aircraft as the 'Mark For' ensuring the gaining aircraft will be charged the cost of materiel.

6.12.1.1.1. **(Added-AFSC)** 309th AMARG Only. Customer funds based on accepted valid customer order from SP/SOS will create a separate project/task to charge the removal/installation of the cannibalized part from the donor aircraft.

6.12.1.1.2. **(Added-AFSC)** The IET (maintenance planner) then will create a WCD for the removal/installation of the parts. No labor transaction should take place until the project is established.

6.12.1.2. **(Added-AFSC)** 309th AMARG Only. CANN transactions will be managed in MAXIMO through inputs by the project IET (maintenance planner) and scheduling by the project production controller (scheduler). The task field of ACT will be used by entering 'T' for CANN Action Removal and 'U' for CANN Action ReInstallation on the appropriate task. The forward supply technician will input a 'Mark For' change for correct end item. The 309th AMARG Financial Services (OBF) will ensure the cost of the part is charged to the correct end item IAW the WCD.

6.12.1.2.1. **(Added-AFSC)** 309th AMARG Only. Backrobbing (i.e., 'rob-back'). The gaining aircraft will be charged the cost of the materiel and labor for installation. The WCD referencing the original part order for the gaining aircraft will include a 'Mark For' in SBSS to reflect the donor aircraft. The work order status for the gaining aircraft will be changed to waiting materiel (WMATL) until the part is issued to the donating aircraft. This will allow the correct charge to the gaining aircraft customer. The NSN of the 'borrowed' part will be entered in the Work Order Materiel tab referencing the removal operation and citing the Backrobbing Storeroom.

6.12.1.2.2. **(Added-AFSC)** 309th AMARG Only. When the part is removed from a donor aircraft to be installed on the gaining aircraft, a work order will be prepared that has a work category of 'UNBILLABLE MAINT' and will cite the donor aircraft's oracle finance (OF) Project and Task.

6.12.2. **(Added-AFSC)** Approval for CANN of inducted items is within the authority of the ALC group commander/director or designee. The MXG/CC or director/designee will approve all CANN actions prior to parts being removed from any PDM inducted asset.

6.12.3. **(Added-AFSC)** The mechanic will determine the need for a part, research technical data for the P/N, and complete AFSC Form 95 or equivalent with the following information: P/N, noun, TO, figure, index, operation number, and skill code. This information will be provided to the

production controller (materiel). If the part that is being replaced is an exchangeable asset, condition tag the asset as either 'F' or 'Q' condition and take the part to the production controller (materiel). If the exchangeable asset is 'Q', initiate a QDR. Provide notification to the ALS and the production controller (materiel) that a replacement will be required.

6.12.4. **(Added-AFSC)** The production controller (scheduler) will determine if MICAP EDD will support the current maintenance production controller (scheduler) and if not, review what if any CANN options exist. Coordinate with the master production controller (scheduler) or designated alternate to determine the 'donor' aircraft or end item. The master production controller (scheduler) will coordinate with production to determine which aircraft will be the donor aircraft. **Note:** When determining 'donor' aircraft, consideration will be given to an aircraft that already has the asset stored in a TNB, FOM cage, or on the shop floor and is early in the repair cycle. The MXG/CC or director/designee must approve the CANN action. The production controller (scheduler) will be responsible for the process to include the management of the CANN information. The production controller (scheduler) will provide mechanic's name, P/N, noun, TO reference, serial number, Work Unit Code (WUC), How Malfunctioned (HOW MAL) code, gaining aircraft number/JON, the 'recommended' donor aircraft number/JON, and operation number. Provide total labor hours and work control WCDs for all required additional work for both aircraft obtained from or entered by the IET (maintenance planner) for gaining and losing aircraft. **Note:** This includes removing the part to be cannibalized from the donor aircraft, installing the replacement part on the donor aircraft, and then performing the operational check (OPS) if required. Contact the production controller (materiel) of the gaining aircraft to determine the availability of the needed part in the supply system. Ensure that the required part is in backorder status and is established by the correct planned or unplanned operation number. Have the gaining production controller (materiel) complete the information for the SOS, DIFM item, MICAP, backorder document number, NSN, P/N, noun, and cost of the part. Also include the EDD of the ordered part. Ensure proper transfer of the AFTO Form 95 for all items requiring this transaction.

6.12.5. **(Added-AFSC)** The gaining production controller (materiel) will check the supply system for status of the requested part. Complete the SOS, DIFM item, MICAP, backorder document number, NSN, P/N, noun, and cost of the part. Include the EDD of the ordered part. Use the NIMMS/MN090P Store Materiel Record Inquiry by National Item Identification Number (NIIN) screen to check for materiel available in the maintenance courtesy stores (i.e., X, Y, Z). **Note:** If the asset is available on base, the CANN process stops. Assistance should be requested from DLA-A or DLA-DD to have the part delivery expedited.

6.12.6. **(Added-AFSC)** Use D035K/RINA Retail Transaction History Inquiry screen for NSN history of materiel releases. Ensure a D7A/D7R serviceable backorder request is on order in D035K using the RINF Backorder Detail Inquiry screen and ensure a due-in is on order in D035K using the RING Due-In Detail Inquiry screen. Determine the impact of the EDD to the critical path of the aircraft that needs the backordered item. Using the MICAP worksheet (i.e., template provided by DLA MICAP monitor or the Maintenance Complex checklist), notify DLA CSS on the status of the backorder EDD if beyond RDD to have the part upgraded to MICAP status. Ensure mechanic turns in part for a one-for-one exchange if it is an exchangeable asset DIFM or a QDR. Process CANN/rob-back transaction in NIMMS on the MN026P Backrobbing Transaction screen to roll the JON on the backorder from the gaining aircraft to the losing aircraft. This transaction

allows for transfer of Materiel Due Record requirements by changing the Materiel Due Record JON/Shop from a donor JON/Shop to a benefiting JON/Shop and creating financial records charging the benefiting JON and crediting the donor JON.

6.12.7. **(Added-AFSC)** The IET (maintenance planner) will receive a notification from the production controller (scheduler) or CANN monitor. Upon notification and the production controller (scheduler) has initiated a CANN action in the Maintenance Work Request (MWR) system and review the WUC and HOW MAL code for accuracy. It is important that the IET (maintenance planner) choose 'CANN' when completing work category description. Determine the total labor hours cost for removal and installation on the losing aircraft.

6.12.8. **(Added-AFSC)** The donor production controller (materiel) will notify donor production controller (materiel) when the part has been removed from the aircraft. Downgrade the MICAP if requirement is not within 31 days of OPS check. Continue to track the part until it is received. Once the part is received, issue the part to the mechanic requiring the part or store it in the aircraft TNB or FOM cage for the correct aircraft until required.

6.12.9. **(Added-AFSC)** Ensure production personnel document and notify the SCM or SPO/SPDs when CANN of TCTO kit parts are required to meet specific end item production schedules.

6.12.10. **(Added-AFSC)** Process of Monthly Reporting of CANN Actions to AFSC/A4M/R. Each ALC will collect and report on a monthly basis the total number of depot maintenance CANN actions for the assigned weapon system to AFSC/A4M/R for review and compilation. This data shall be segmented as requested and will be reported utilizing two separate attachments: PDM CANN Report (i.e., CANNs completed to support the ALC) and Field CANN Report (i.e., CANNs completed to support the Field). Specifically, the data reported to AFSC/A4M/R in each of these reports will consist of the following:

6.12.10.1. **(Added-AFSC)** Date. The month, day, and year the action was completed.

6.12.10.2. **(Added-AFSC)** Number of PDM CANNs (or Field CANNs). The total quantity per action.

6.12.10.3. **(Added-AFSC)** AFSC Form 206 completed? (Y/N) and AFSC Form 206 Funded? (Y/N). This applies to field CANN requests. PDM CANNs will be charged to the overhead of the benefiting RC/CC.

6.12.10.4. **(Added-AFSC)** NSN. The NSN of the part removed.

6.12.10.5. **(Added-AFSC)** Noun (Item Description). The nomenclature of the part removed.

6.12.10.6. **(Added-AFSC)** Removal Hours. The total hours required by the mechanic/technician to complete the removal of the items.

6.12.10.7. **(Added-AFSC)** RC/CC. The lowest organized unit within Depot Maintenance at which costs are collected.

6.12.10.8. **(Added-AFSC)** Reason/Comments. Explanation as to why the action occurred along with any other applicable information.

6.12.10.9. **(Added-AFSC)** End Item Designator. MDS for aircraft or missiles, TMS for engines and OMEI, or NSN for Exchangeables.

6.13. Depot Manufacturing. Depot manufacturing includes all forms of ALC manufacturing. It may be the transformation of raw materials into finished products or a component for a higher assembly and accomplished by hand or by machinery either on a large or small scale.

6.13.1. Manufacturing Capability and Processes. HQ AFSC will establish capability and processes for manufacturing items required for immediate needs and for stock when a commercial source is unavailable or unacceptable. These processes will:

6.13.1.1. Document efforts to obtain qualified commercial sources and/or when commercial sources cannot meet cost, performance, or responsiveness. **Note:** This requirement only applies when conducting depot manufacture for a customer within in the AF. Documentation shall include:

6.13.1.1.1. The product support impacts on applicable systems.

6.13.1.1.2. Lack of commercial support items to ascertain changes of status.

6.13.1.1.3. The reverse engineering or redesign of the requirement to produce an adequate data package for re-competition and the minimum quantity required before delivery of assets resulting from competition when the current technical data is not adequate to conduct a competitive procurement.

6.13.1.1.4. Impending materiel shortages that may endanger life cycle support and capability of a weapon system or equipment due to Diminishing Manufacturing Sources and Material Shortages (DMSMS).

6.13.1.2. Determine and coordinate depot manufacture to ensure ALCs requisition materiel quantities sufficient to fill outstanding backorders plus the annual buy quantity for worldwide requirements.

6.13.1.3. Document that the quantities of items manufactured are not greater than the total expected peacetime consumption. **Note:** Ensure depot manufacture items are ordered IAW Air Force Materiel Command Manual (AFMCMAN) 23-103, *Cataloging and Standardization*, Part Number Supply Support Request process.

6.13.1.4. Accomplish depot manufacturing with existing equipment, facilities, skills, and capacity to the maximum extent.

6.13.1.4.1. New or expanded manufacturing capability shall be justified in Fund 9B Budget Exhibit through an economic analysis to document alternatives before establishing any new manufacturing

capability. These studies shall be included with the Capital Investment Program (CIP), which is funded by the Air Force Working Capital Fund. **Note:** This applies to repair and modification capabilities as well as manufacturing capabilities.

6.13.1.4.2. Capital investment purchases shall be documented and justified with an approved workload.

6.13.1.5. Ensure that a product that does not conform to product requirements/specifications is identified and controlled to prevent its unintended use or delivery.

6.13.2. **(Added-AFSC)** Organic Manufacture Procedures. Organic is defined as in-house, government civilian and military personnel work performed by CSAG-M personnel.

6.13.3. **(Added-AFSC)** Use of Other Directives. Additional guidance for organic manufacture can be found in AFI 23-101.

6.13.4. **(Added-AFSC)** General. Organic manufacture is a significant portion of the total MXG workload within each ALC, therefore, it must be properly identified, documented, and reported to ensure the appropriate funding source is reimbursed for costs accrued in its accomplishment. Major sources for organic manufacture workloads are specific prime Materiel Management (MM) requirements, including exchangeable and aircraft predictable needs, DLA process, base, area, or line support, and equipment manufacture.

6.13.4.1. **(Added-AFSC)** Roles and Responsibilities for Organic Manufacturing.

6.13.4.1.1. **(Added-AFSC)** Production Engineer will:

6.13.4.1.1.1. **(Added-AFSC)** Apply roles and responsibilities from AFSCI 21- 104, Industrial Process Control.

6.13.4.1.1.2. **(Added-AFSC)** At no time shall the item condition affect form, fit, or function of an aircraft, engine, missile, or commodity without receiving proper documented coordination and approval from the SPO/SCM Engineering Authority.

6.13.4.1.1.3. **(Added-AFSC)** Attend PPT meetings IAW Volume 2, Chapter 2.

6.13.4.1.1.4. **(Added-AFSC)** Perform analysis on any end items that fail a First Article Test (FAT).

6.13.4.1.2. **(Added-AFSC)** IET (maintenance planner) will:

6.13.4.1.2.1. **(Added-AFSC)** Obtain technical data package from the SPO/SCM Engineering Authority, IAW Volume 3, Chapter 2.

6.13.4.1.2.2. **(Added-AFSC)** In addition to applying roles and responsibilities in Volume 2, Chapter 2, (PPT requirements apply to 206 workload being accomplished for the first time. PPT

requirements are not intended for repeated 206 workload with existing WCDs, unless a WCD needs updating for a work scope change, technical data and/or an engineering change.), construct a WCD for each part. The WCD will include task sequence. See Volume 2, Chapter 2. for WCD requirements.

6.13.4.1.2.3. **(Added-AFSC)** Ensure process sequence steps are noted on drawings, when applicable (during PPT).

6.13.4.1.2.4. **(Added-AFSC)** Coordinate proposed/updates/additions/substitutions made to aircraft/engine/commodity end item technical data with the SPO/SCM Engineering Authority (i.e. AFMC Form 202, AFTO 22). Coordination will be documented IAW Volume 3, Paragraph 6.13.4.1.3.2.

6.13.4.1.2.5. **(Added-AFSC)** Determine and document verification requirements of raw materiel conformity. Determine if raw stock certificate of conformance is required or if lab verification of raw materiel is required. Seek guidance from SPO/SCM Engineering Authority through AFMC Form 202 when deviation of raw materiel and verification of said materiel is required. Raw materiel certifications will be tracked and recorded. When raw materiel cannot be specifically identified as to type, hardness, number, etc., as requested, analysis and proper identification by a qualified lab (e.g. Quality Verification Center (QVC), Metallurgy Lab) is required.

6.13.4.1.3. **(Added-AFSC)** Production Controller/Scheduler will:

6.13.4.1.3.1. **(Added-AFSC)** Apply all roles and responsibilities from Volume 2, Chapter 2, In particular, receive completed WCDs for each part and retain electronically or hard copy in an auditable file IAW Volume 1, Chapter 1.

6.13.4.1.3.2. **(Added-AFSC)** Receive all technical data documentation for each part from the IET (maintenance planner) and retain electronically or maintain a hard copy in an auditable file (with the applicable WCD) IAW Volume 1, Chapter 1. **Note:** This paragraph is referenced in Volume 2, Chapter 3.

6.13.4.1.3.3. **(Added-AFSC)** Ensure end items requiring (from a SPO/SCM Engineering Authority and/or technical drawing) a First Article Test (FAT) are sent to a qualified lab (e.g. Quality Verification Center (QVC), Metallurgy Lab) for testing. Ensure results of the inspection or testing are documented in an auditable file and retained IAW Volume 1, Chapter 1. Items that pass FAT will be available for service; unless the item has been damaged or destroyed as part of the inspection. Items that fail FAT will be sent back to the shop for corrective action, and the Production Engineer will be notified for analysis.

6.13.4.1.4. **(Added-AFSC)** Quality Assurance Specialist will:

6.13.4.1.4.1. **(Added-AFSC)** Apply all roles and responsibilities from Volume 3, Chapter 8.

6.13.5. **(Added-AFSC)** Follow local procedures for reporting the completion of organic manufacture/fabrication of an item from raw materiel or components (job designator K) for

production assets issued from and returned to supply. The production controller (scheduler) checks the Special Instructions of the AFMC Form 206 for disposition of completed items.

6.13.5.1. **(Added-AFSC)** The ABOM Local Manufacturing functions (or equivalent) are used to track transactions for materiel needed for Local Manufacturing items. These transactions are created against already existing Local Manufacturing BOM records received from a daily G004L (or equivalent) interface. The process allows for BOM transactions encompassing the requisition, receipt and issue of the materiel once all the requisitions have been satisfied. The Local Manufacturing Menu Screen is used to track Local Manufacturing BOM records created from a daily G004L interface. It provides for various functions, such as ordering and issuing items. One function of the Local Manufacturing Menu screen allows the user to query Local Manufacturing items. The Local Manufacturing Inquiry Response screen lists data for all BOM records fitting the query criteria entered on the Local Manufacturing Inquiry screen. The Local Manufacturing Report Menu screen gives the user report options as listed below.

6.13.5.1.1. **(Added-AFSC)** Required NIINs with Insufficient Quantity. Lists information for a specific NIIN that has a materiel quantity on hand less than the quantity due.

6.13.5.1.2. **(Added-AFSC)** Due Without Requirements. Lists outstanding materiel due records linked to the Local Manufacturing Stores in NIMMS which are not in ABOM Local Manufacturing.

6.13.5.2. **(Added-AFSC)** Physical Turn-In. Items requiring physical turn-in will be processed as follows:

6.13.5.2.1. **(Added-AFSC)** Prepare transaction in required copies. (**Note:** Action suffix fields will be blank.)

6.13.5.2.2. **(Added-AFSC)** Verify NSN, control number, job designator (K only), and quantity.

6.13.5.2.3. **(Added-AFSC)** Attach three copies of the output transaction securely to the items.

6.13.5.2.4. **(Added-AFSC)** When the items are picked up by supply, the PSS will suspense one copy of the turn-in transaction in the jacket file. This transaction will not be input in any data system. The G004L system will reject all D6 turn-ins with a K job designator and a DPC T. G004L will be updated by tape interface after supply inputs. When more than five workdays have elapsed since the physical turn-in, the PSS will contact supply for follow-up action.

6.13.5.2.4.1. **(Added-AFSC)** Turn-ins of a K job designator with a DPC U will require the production controller (scheduler) to submit DD Form 250 or three copies of the DD Form 1149 ensuring Block 3 SHIP TO – MARK FOR has the specific instruction as to how to receipt the materiel in the supply warehouse (Example: ‘receipt as D6U’, ‘receipt as D4U’), Block 6 the FB number only, and Block 9 AUTHORITY OR PURPOSE has the SC0 number.

6.13.5.2.4.2. **(Added-AFSC)** Refer to local ALC/OB office for correct data on filling out DD Form 250 and DD Form 1149.

6.13.5.2.5. **(Added-AFSC)** Upon receipt of the G004L-L2A product for an organic manufactured turn-in, the PSS will verify all data with emphasis on the CN/JD.

6.13.5.2.6. **(Added-AFSC)** When the PSS has items returned by central receiving with notification of erroneous NSN, quantities, or other data elements on a turn-in, prepare four copies of a corrected D6 turn-in with a new document number. When items are not returned, the PSS will furnish central receiving with the corrected data on three copies of the turn-in transaction and will annotate the suspense copies. The decision for the physical return of items is the responsibility of the PSS.

6.13.5.3. **(Added-AFSC)** Wash Post Turn-in. Items requiring wash-post turn-in will be processed as follows:

6.13.5.3.1. **(Added-AFSC)** Verify NSN, control number, job designator (K only), and quantity.

6.13.5.3.2. **(Added-AFSC)** Prepare a D6 turn-in with two copies (action suffix, fields 79-80 will be WP).

6.13.5.3.3. **(Added-AFSC)** The PSS will process the D6 wash-post to subtract the balance in D035K. After the balance is recorded, the Local Manufacturing PSS will review its issue suspense file to determine outstanding requirements, process all suspense D6 requirements, and notify the customer that the respective materiel is ready for pick up.

6.13.5.4. **(Added-AFSC)** Errors Rejected in G004L-L2A. The single exception to these error codes for organic depot manufacture is error code S. Normally, the S code indicates that the stock number on a serviceable turn-in does not match the NSN on the EI master.

6.13.5.4.1. **(Added-AFSC)** For organic depot manufactured items with a P prefix assigned EI identity (i.e., part number), the D035K system receives manual updates from the base support MMs. These manual NSN changes are tabled along with the mechanized stock list changes from D035K for 180 days and are used to automatically update all turn-ins against the old NSNs.

6.13.5.4.2. **(Added-AFSC)** The G004L system will accept NSN changes from the D035K system on all turn-ins with a K job designator. This automatic NSN change from D035K to G004L depends totally upon the PSS entering the CN/JD in the turn-in transaction to D035K. If an incorrect CN/JD causes G004L to change an EI identity erroneously, then the PSS must input a corrected transaction with PK action suffix to correct the G004L record for each JON with the identity change.

6.13.5.4.3. **(Added-AFSC)** Special Processing Procedures For Line Support Organic Depot Manufacture. Manufacture for supporting the MXG production function will be either an initial requirement or a recurring requirement as explained below. When initiating a request for a part numbered item, the PSS queries the ABOM system through the Local Manufacturing functionality to determine if the item has been established. The ABOM system provides online capability. This action will determine whether to proceed as an initial requirement or a recurring requirement. Reference Volume 3, Paragraph 6.5.3.1.

6.13.5.4.3.1. **(Added-AFSC)** Local Manufacture Initial Procedures. PSS may initiate a DD Form 1348-6, DoD Single Line-Item Requisition System Document, to DLA. **(Note:** An electronic or manual-long form may be used). DLA source codes the item, assigns a stock number, and loads the D035K ITEM record.

6.13.5.4.3.2. **(Added-AFSC)** After the stock number is assigned, a local issue request and a draft AFSC Form 206 is provided to the PSS to establish the backorder.

6.13.5.5. **(Added-AFSC)** Local manufacturing supply parts shortages (both stock and non-stock listed items) shall be approved and funded through the prime MM and/or SCM. The AFMC Form 206 will be used to process these tasks IAW Volume 3, Chapter 2. This is to ensure the depot maintenance manufacturing organization recoups all costs incurred. Under no circumstances is depot maintenance to manufacture items and absorb the cost. The PSS shall track all manufacturing requests, (stock listed items and non-stock listed items shall be tracked separately) done solely to satisfy an emergency requirement for depot maintenance line support due to parts shortages. The number of items manufactured and the cost as shown on the AFMC Form 206 shall be tracked by originating RCC and gaining RCC. The occurrence of emergency local manufacture actions for stock listed items with an established level clearly indicates a supply support problem. This data can be used to analyze trends in supply support and should be discussed during Production meetings with the Supply Chain Manager.

6.14. Investment Material Cost Codes S and M. CSAG-M policy requires the CSAG-M Division be paid for all work performed. Replacement of missing items discovered during repair of aircraft, engines, and other assets must be funded by the customer before the work can be completed. Investment materiel Cost Codes S and M will be used primarily for issues of serviceable exchange materiel without a corresponding turn-in of a reparable item. The issue transaction will use a cost code S or M to ensure exclusion from DIFM/DOTM control. HQ AFSC will develop, implement, and maintain procedures for the replacement of missing items found in the repair of assets.

6.14. **(AFSC)** The procedures for the replacement of missing items found in the repair of assets are referenced in DAFI 23-101A.

6.14.1. **(Added-AFSC)** Justification for Using Cost Codes S and M.

6.14.1.1. **(Added-AFSC)** The appropriate maintenance squadron director will approve all cost code S requests. The AFSC Supply Planner will approve or disapprove the use of cost code M.

6.14.1.2. **(Added-AFSC)** Approval will be by letter and kept on file for six months to provide an audit trail.

6.14.1.3. **(Added-AFSC)** Cost Code S. Cost Code S is used for the issue of investment materiel which is planned and funded and for which no reparable turn-in will be made. This would be the situation of an initial installation or for the ordering of a modification item other than a modification kit.

6.14.2. **(Added-AFSC)** Cost Code M. Cost Code M is used to order investment materiel which is unplanned and funded but for which no reparable turn-in will be made. The only appropriate use of Cost Code M is to requisition a replacement for missing items. It is typically used for ordering replacements of missing depot level reparable (DLRs) on major end items discovered during organic repair of aircraft, engines, and other assets.

6.14.2.1. **(Added-AFSC)** The procedure for the replacement of missing MSD assets found during the repair of aircraft, engines, and other assets is described below.

6.14.2.1.1. **(Added-AFSC)** When major EIs with missing assets are received by the depot for repair, additional funding or the missing component must be obtained from the customer for work that is discovered during the repair process but not originally negotiated. If the Supply Planner approves the use of the cost code M, maintenance will order the missing item.

6.14.2.1.2. **(Added-AFSC)** If the request for funds and the missing asset are denied, the problem should be elevated within the ALC management structure as necessary for resolution. If resolution cannot be made with the customer, then depot maintenance will return the major EI to the customer or the DLR to supply without the missing item.

6.14.2.2. **(Added-AFSC)** Replacement of a missing DLR will be considered a change in the scope of work. The depot maintenance customer will be prepared to replace a missing item discovered during the depot repair process. This can be done by providing the cost code M for the replacement of all missing DLRs or by shipping all missing items to the depot for installation on the major EI. In order to maintain the long-term solvency of CSAGM, the No Free Work Policy must be strictly enforced.

6.14.2.3. **(Added-AFSC)** Depending on the cost of the missing items involved, management should be flexible to make a decision in the best interest of the depot and the solvency of CSAGM. There may be cases where management determines that the cost of missing items does not warrant renegotiation of the price of the work. Management should ensure documentation exists to justify the decision.

6.14.3. **(Added-AFSC)** Appropriate Use of Cost Code M. Depot maintenance-generated assets returned to supply as the result of reclamation actions, kit residue, found on base (FOB) assets, save lists, and mod kit replacements are not subject to credit by the MSD and should be returned to supply using a D6A transaction with an X in position 7 and cost code M (i.e., the transaction for FOB turn-ins). The impact is that CSAG-M will be paid for performing the service of repairing the EI, aircraft, etc., but not for the assets removed and returned to the depot supply inventory.

6.15. Production Support Flight (PSF) and NAVAIR Industrial Material Management System (NIMMS) Store. CSAG-S materiel is managed and accounted for by DLA. NIMMS Inventory Stores are used for CSAG-M-Owned Material. HQ AFSC will develop, implement, and maintain procedures for PSF and NIMMS stores to include:

6.15. **(AFSC)** Identification. Disassembled EIs in formal AWP status will be stored in the NIMMS stores. Floating spares are also authorized to be held in NIMMS stores, but at an absolute minimum

and only for temporary holding. Long lead exchangeable materiel (e.g., some floating spares, etc.) may be held indefinitely as long as justification is documented and approved. Authority; Storing other-than-serviceable materiel in the NIMMS inventory stores is not authorized. Exchangeable assets will not be stored in the Y-Stores. Repetitive ordering from the PSS is preferred over the unauthorized buildup of inventories in production NIMMS inventory stores or non-authorized materiel storage locations (i.e., excess materiel located on the shop floor). DLA support is contingent on steady ordering history that is compromised by relying on production NIMMS stores for day-to-day requirements. This method of relying on NIMMS stores for day-to-day materiel is not authorized under NIMMS store procedures.

6.15.1. Point of Sale.

6.15.1.1. **(Added-AFSC)** The JON is obligated when the materiel order is placed and charged when the materiel is issued from supply. When materiel is issued from supply, an automatic receipt is processed in NIMMS.

6.15.1.2. **(Added-AFSC)** Excess materiel (i.e., materiel leftover from completed jobs) shall not be maintained on the shop floor. The materiel shall be turned in to the NIMMS inventory stores awaiting evaluation for current needs or immediately returned to DLA in order to maintain proper control and accountability of assets owned by CSAG-M. Local procedures will be implemented to ensure maintenance personnel have sufficient guidance to perform turn in of unused materiel. If there are no existing requirements, the materiel will be returned to the warehouse using Document Identifier Code D6A. If there is a verified future requirement, items should be maintained in NIMMS inventory stores to prevent CSAG-M losses when credit will not be received for a turn-in to supply. Extensive amounts of excess materiel are an indication that there are problems in the planning of repairs, ordering processes, or shop floor discipline. Materiel held in the NIMMS inventory store ('Y' store) will be validated every six months by the PSS and the Planner.

6.15.2. Stock Levels.

6.15.2. **(AFSC)** No levels are computed for the items temporarily stored in NIMMS as these areas are used as temporary storage only and not as a stockroom for permanent or long-term storage.

6.15.3. Vending Machine Support Process.

6.15.3.1. **(Added-AFSC)** ALC depot maintenance supervisors or other designated supervisors will ensure that vending machines deployed in the depot maintenance shops/cells designed for control of pilferable items properly display adequate instructions for depot mechanic use in the event of machine malfunction or failure. If the vending machines contain drill bits, and/or apexes, or other small tools, they must comply with the established standards and guidance of tool control. Clearly displayed instructions will specify the name of the shop supervisors or other designated supervisors, along with office symbols, phone numbers, and physical locations on each shift, who will possess the required keys for entry into the machines in the event of malfunction to ensure parts availability for the depot mechanics. Utilization of a key box system meeting these same objectives is optional. These instructions will ensure coverage for all required work shifts including 'swing' or 'graveyard' time periods.

6.15.3.2. **(Added-AFSC)** Also, during the acquisition process for these vending machines, ALC depot maintenance personnel or their alternates will also ensure that adequate and timely reporting and maintenance service/repair arrangements including guaranteed response times are included in the contracts with the vending machine contractors. This will preclude unnecessary machine downtime and ensure parts availability for the depot mechanics. The names and phone numbers of the vending machine service contractors will also be displayed clearly on the machines in addition to the guaranteed vending machine contractor response time. Contractors responsible for providing the materiel designated for vending machine support should be held responsible for stocking and replenishing the vending machines based on ALC depot maintenance product group quantity and schedule requirements. The option to procure or lease the required vending machines will be at the option of each ALC.

6.15.4. NIMMS Storage Processing.

6.15.4.1. **(Added-AFSC)** Purpose. NIMMS inventory stores are for CSAG-M owned materiel.

6.15.4.1.1. **(Added-AFSC)** All materiel held in NIMMS inventory storage areas is owned by depot maintenance but is managed by DLA personnel. PSS personnel will use ABOM/MPS when processing a materiel request. ABOM will query the NIMMS inventory records for materiel held in the NIMMS inventory stores and ask if materiel is to be issued from there. In situations where ABOM/MPS is not available (i.e., system down), manually use NIMMS to search the detail records.

6.15.4.1.2. **(Added-AFSC)** Types of materiel held in NIMMS inventory storage include AWP components ('X' funded/ 'W' unfunded Stores), Local Manufacturing components ('Z' Store), and backorder released excess materiel for which there is a known requirement ('Y' Store). Backorder released materiel is defined as materiel that was ordered against a planned repair job or work order and was not used in the repair process.

6.15.4.1.3. **(Added-AFSC)** When it is determined that materiel is not moving into and out of these areas in a timely manner, joint action between maintenance and DLA should be taken to correct any problems found to include turning in of materiel. NIMMS temporary storage of items is not to be used as a collection and holding area for materiel that maintenance cannot use in a timely manner.

6.15.4.1.4. **(Added-AFSC)** Emphasis should not be on whether credit is received when determining disposition of excess materiel. Emphasis should be on finding the causes and taking corrective action to prevent future instances. The Pre-Production IET is responsible for conducting investigations as required to determine the causes of excess materiel. The Production Manager is responsible for implementing corrective action.

6.15.4.2. **(Added-AFSC)** Approval of Inventory Adjustments. The approval levels for inventory adjustments for depot maintenance owned materiel (i.e. 'X', 'Y' and 'Z' stores) will be designated by the activity that has custodial responsibility which is DLA-A. DLA-A will notify the production support flight chief when the stores are out of balance (physical balance is less than the record

balance), to allow the production support personnel to develop an alternate supportability solution. Production personnel cannot provide authorization for inventory adjustments in these stores.

6.15.4.3. **(Added-AFSC)** Material Transfer. A turn-in transaction must be processed when materiel is moved from a NIMMS store to DLA.

6.16. Contractor Acquired Property. Contractor Acquired Property provides depot maintenance the authorization and capability to obtain parts not available in the normal supply system to meet production requirements. HQ AFSC will develop, implement, and maintain procedures for Contractor Acquired Property.

6.16.1. **(Added-AFSC)** Contractor Acquired Property (CAP) procedures includes both MSD and GSD items. Unlike standard local purchase procedures conducted by depot supply, CAP authorizes the use of CSAG-M funds. For centrally managed items, CSAG-M must coordinate with the prime MM (AF managed items) or DLA (DLA managed items) to initiate CAP procedures for like items.

6.16.2. **(Added-AFSC)** The production controller (materiel) supporting the CSAG-M organization requesting the materiel will submit a priority requisition to establish a due-in/due-out. If the EDD is not sufficient to meet workload requirements, the production controller (materiel) will contact the prime MM (AF managed items) or DLA (DLA managed items) to verify non-availability of the materiel in the FSS. If materiel cannot be procured in time to meet production schedules, then a request for approval can be made to the prime MM (AF managed items) or DLA (DLA managed items) to initiate CAP procedures. The SP may authorize local purchase for a central or local procured item for a one-time emergency buy to meet scheduled delivery dates.

6.16.3. **(Added-AFSC)** CSAG-M inventories will not grow above current levels without ALC/A4M authorization. Only immediate need quantities will be procured. CSAG-M may only purchase that materiel necessary to satisfy inducted work. Materiel may not be bought in advance of need or for maintenance inventory. The SP will be kept informed of the transaction so that prior consumption data will be entered into system.

6.16.4. **(Added-AFSC)** The production controller (materiel) supporting the CSAG-M organization will provide the justification and the materiel will be procured by a fully warranted procurement officer. The CSAG-M may direct cite CSAG-M obligation authority on the purchase order.

6.16.5. **(Added-AFSC)** When the materiel is received and signed for, the DD Form 250 will be processed to the MXG CAP monitor. The DD Form 250 will be forwarded to the primary contracting officer. At this point, the CAP monitor should contact the retail SP to process the wash post action.

6.16.6. **(Added-AFSC)** Each CAP monitor will retain copies of the DD Form 250, a copy of the D4/D7 wash post transactions, and a copy of the AFMC Form 36, *Purchase Request*, used to procure the materiel.

6.16.6.1. **(Added-AFSC)** CAP monitors will track the number of requisitions processed monthly using CAP procedures, monthly quantity and dollar value for items procured using CAP, and

number of labor hours expended monthly on CAP procedures. This data shall be maintained for at least one year and can be either in paper or electronic format. CAP is considered a workaround process only to be used when normal supply functions fail to provide needed parts in a timely manner to support depot production. The above data should be used to determine if trends in supply support are developing and for discussion topics at Exchangeable meetings.

6.16.6.2. **(Added-AFSC)** SCMs should be notified of all supply support problems driving CAP actions.

6.16.7. **(Added-AFSC)** After the CAP procedures have been completed, copies of the above documentation (e.g., DD Form 250, etc.) must be forwarded to the ALC financial management organization so that the documentation can be verified in NIMMS/DIFMS for cost adjustment. Cost accounting will then do a cost transfer in DIFMS.

6.17. **(Added-AFSC)** Maintenance and Supply Status Codes.

6.17.1. **(Added-AFSC)** The list of status, reject transaction, advice demand, and supply condition codes Part (I and II) are contained in DAFI 23-101.

6.17.2. **(Added-AFSC)** Urgency of Need Designator (UND), Force Activity Designator (FAD 1 and 11), are contained in DAFI 23-101 and IAW DoDM 4140.01-V8, *DoD Supply Chain Materiel Management Procedure*.

6.17.3. **(Added-AFSC)** Cost Codes. The instructions for cost codes are in AFMCI 65-101, *Depot Maintenance Accounting and Production System-Financial Policy and Procedures for Depot Maintenance*.

6.17.4. **(Added-AFSC)** The figure and status codes listed are in support of Depot Maintenance, Air Logistics Complex (ALCs).

Table 6.4. **(Added-AFSC)** Local Issue Document.

Block	Column	Description
1	1-3	Document Identifier, a three-position alphanumeric code that acts as an action and financial accounting indicator. Each transaction must contain a document identifier code. Entry in field one will always be D. Entry in field two will be either alpha or numerical: a. An alpha entry field two denotes management action that does not affect the D035K accountable balance record. Code G in this position indicates a backorder is to be adjusted. The G is computer assigned when an item is backordered and will be manually assigned by MXG personnel when the backorder is to be cancelled. b. A numeric entry in field two indicates that the transaction will affect the D035K accountable balance. A '7' in this position indicates a request for issue and a '6' indicates the turn-in to supply by the MXG. The third position entry, an alpha code, is related to the Type Transaction code. Normally this code is left blank for mechanical assignment based on the Cost Code and Job Designator. The MXG personnel always will make an entry in this block for backorder cancellation.
2	4-6	Routing Identifier, a three-position alpha designator that indicates the source of supply to which the transaction will be transmitted. All request transactions submitted will reflect the appropriate SSC routing designator. All MXG turn-in transactions, other than turn-ins to the SSC or turn-ins from the SSC to depot supply, will contain the local distribution routing identifier.
3	7	Type Transaction Code, a one-position alpha code that is normally mechanically assigned on MXG issue and turn-in transactions. Manual assignment will be required when requisitioning or turning in non-EAID equipment (Type Transaction code N), or floating stock items (Type Transaction code F). This code is used to relate and identify category of items or customers.
4	8-22	Stock Number, enter the stock number of the item being requested or turned in.
5	23-24	Unit of Issue, enter the physical measurement, count, or when neither is applicable, that element of data to which the unit price is ascribed.
6	25-29	Quantity, enter the number of units of issue involved in the transaction.
7	30-43	Document Number, in fields 30-35, enter the six-position functional code of the organization requisitioning or turning in the materiel. Leave fields 36-43 blank or manually insert the assigned Julian date and serial number. The RC/CC must be used when requesting indirect materiel and when wash posting organically manufactured materiel for SSC.
8	44	Demand Suffix, a single-digit alpha code designating the item as being applicable to initial installation, a nonrecurring requirement, a recurring requirement, or a nonrecurring maintenance programmed, planned, or projected requirement. Demand codes will be assigned according to DAFI 23-101. When condemned items are being turned in, a disposal authority code of either an H

		(for directed condemnation and will reflect the TO number) or a T (for condition condemned in inspection and supported by the inspection number) will be entered in this field.
9	45-50	Building or Station Number, the first four positions of this code are provided for use, as locally directed, to indicate the building location (by number) to which the materiel is to be delivered. The last two positions are to be used to indicate the point in the building to which the materiel will be delivered to the MXG personnel.
10	51-56	Production Number consists of the Control Number and Job Designator, which the first five positions are used for the EI control number; the last position is used for the one-position alpha job designator. Requisitions for indirect production materiel, shop operating materiel, and office supplies will carry X56326100000, X56336300000 and X56366400000, respectively. Enter X56406800000 for defective work and spoilage. Leave blank on requests for slave and loan equipment.
11	57-59	Project Code, a list of approved codes and applicable account codes will be provided at ALC level. These codes will be assigned (when applicable) to work being accomplished by an MXG. Otherwise, leave blank.
12	60	Urgency of Need Designator (UND), an alpha character used to signify the degree of urgency or conditions that cause the initiation of the request. See DAFI 23-101. Credit indicator, if appropriate, is entered on turn-ins. Enter X for organically manufactured turnings to show the item is for serviceable operating stock
13	61	Force Activity Designator (FAD), a numeric entry used to signify relative importance of user activities. This block should not be blank on a request (reference DAFI 23-101.). Depot maintenance activities may only use FAD II when providing direct repair and return for FAD I and II non-mission capable requirements. Direct repair and return are defined as those cases in which an unserviceable asset is removed from a FAD I or FAD II unit's nonmission capable equipment, and the only source to fill that requirement is immediate repair and return of that asset. Upon return, that same asset is installed in the combat unit's equipment making it mission capable. The previous authorization does not include repair and return to stock for the FAD I and FAD II units
14	62-64	JON Suffix, enter the suffix that applies to the appropriate job order. Leave blank when a job order is not required.
15	65-66	Advice Code, enter applicable advice code to stipulate action desired. This field may be left blank. For production item turn-ins, leave position 65 blank and enter T in position 66. Leave blank for all other turn-ins. For critical items, enter CC.
16	67	Base Delivery Priority, a one-position numeric code, assigned by the requisitioner to stipulate the period in which the materiel is to

		be delivered. The MXG is not normally authorized a delivery priority higher than 4. Leave blank for turn-ins
17	68	ERRC code, leave blank.
18	69	Blank, or Credit Indicator on turn-ins.
19	70	Ownership Purpose Code (OPC), the inventory account against which the transaction is to be processed. Transactions normally will carry an A designation. Other ownership accounts may be associated with approved projects and should be included in ALC publications.
20	71	Materiel Condition Code, a one-position alpha code that indicates the condition of the item being requested or turned in. Each transaction must be coded with one of the UND codes listed in
21	72	Management Code, this field will normally be left blank.
22	73-77	Operation or Facility Number, when a workload is planned by operation within the control number, a five-position number is assigned to the operation breakout. The operation number will be entered on all line issue and line turn-in documents.
23	78	Cost Code, a materiel Cost Code will be entered on each line or line turn-in transaction. No Cost Code will be entered on SCC replenishment requests; SCC transactions for turning in materiel to the supply account; floating stock; and loan transactions.
24	79-80	Action or Suffix Code, a predetermined two-position alpha code assigned to an input transaction for the purpose of identifying the computer action. Action or Suffix codes applicable to MXG input transactions are as follows: CC, PP, RP,WF. An XX is DIFM/DOTM follow-up actions that are computer-generated. A C in field 79 indicates critical.
Note: On wash post transactions, enter current date in fields 67-69. For SCC replenishment transactions, leave fields 36-44, 51-69, and 72-80 blank.		

Table 6.5. (Added-AFSC) Depot Maintenance Cost Code Job Designator Type Transaction Code Cross Reference.

Depot Maintenance and Job Designator Codes.						
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
AFMCI21-100V3		AFSC				
D7	D6	R	M	Blank	B	Blank Job Designator requires Investment Cost Codes. These are for recording costs for parts that are being replaced due to mechanic error (U6800 series).
D7	D6	A	M	Blank	D	
D7	D6	R	M	Blank	E	
D7	D6	R	M	Blank	K	
D7	D6	A	M	Blank	L	
	D6	A	X	Blank	M	Found On Base.
	D6	A	X	Blank	N	Found On Base.
D7	D6	A	M	Blank	S	
D7	D6	R	M	Blank	Y	
D7	D6	A	M	A	A	
D7	D6	R	M	A	B	
D7	D6	A	M	A	D	
D7	D6	R	M	A	E	
D7	D6	R	M	A	K	
D7	D6	A	M	A	M	
D7	D6	A	M	A	N	
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	M	P	A	P	
D7	D6	A	M	A	S	
D7	D6	A	M	A	T	
D7	D6	M	P	A	V	
D7	D6	A	M	A	W	
D7	D6	A	M	A	X	
D7	D6	R	M	A	Y	
D7	D6	A	M	A	Z	
D7	D6	A	M	B	A	
D7	D6	R	M	B	B	
D7	D6	A	M	B	D	
D7	D6	R	M	B	E	
D7	D6	R	M	B	K	
D7	D6	A	M	B	M	
D7	D6	A	M	B	N	
D7	D6	M	P	B	P	
D7	D6	A	M	B	S	
D7	D6	A	M	B	T	
D7	D6	M	P	B	V	
D7	D6	A	M	B	W	
D7	D6	A	M	B	X	
D7	D6	R	M	B	Y	

D7	D6	A	M	B	Z	
D7	D6	A	M	C	A	
D7	D6	R	M	C	B	
D7	D6	A	M	C	D	
D7	D6	R	M	C	E	
D7	D6	R	M	C	K	
D7	D6	A	M	C	M	
D7	D6	A	M	C	N	
D7	D6	M	P	C	P	
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	A	M	C	S	
D7	D6	A	M	C	T	
D7	D6	M	P	C	V	
D7	D6	A	M	C	W	
D7	D6	A	M	C	X	
D7	D6	R	M	C	Y	
D7	D6	A	M	C	Z	
D7	D6	A	M	D	A	
D7	D6	R	M	D	B	
D7	D6	A	M	D	D	
D7	D6	R	M	D	E	
D7	D6	R	M	D	K	
D7	D6	A	M	D	M	
D7	D6	A	M	D	N	
D7	D6	M	P	D	P	
D7	D6	A	M	D	S	
D7	D6	A	M	D	T	
D7	D6	M	P	D	V	
D7	D6	A	M	D	W	
D7	D6	A	M	D	X	
D7	D6	R	M	D	Y	
D7	D6	A	M	D	Z	
D7	D6	A	M	E	A	
D7	D6	R	M	E	B	
D7	D6	A	M	E	D	
D7	D6	R	M	E	E	
D7	D6	R	M	E	K	
D7	D6	A	M	E	M	
D7	D6	A	M	E	N	
D7	D6	M	P	E	P	
D7	D6	A	M	E	S	

DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	A	M	E	T	
D7	D6	M	P	E	V	
D7	D6	A	M	E	W	
D7	D6	A	M	E	X	
D7	D6	R	M	E	Y	
D7	D6	A	M	E	Z	
D7	D6	A	M	F	A	
D7	D6	M	P	F	P	
D7	D6	A	M	F	T	
D7	D6	M	P	F	V	
D7	D6	A	M	F	X	
D7	D6	A	M	G	A	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	R	M	G	B	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	A	M	G	D	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes
D7	D6		M	G	E	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	M	P	G	F	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	R	M	G	K	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	A	M	G	M	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Note

D7	D6	A	M	G	N	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	M	P	G	P	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	A	M	G	S	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	A	M	G	T	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	M	P	G	V	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	A	M	G	W	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	A	M	G	X	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6	R	M	G	Y	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6		M	G	Z	Job Designator G now valid for Analysis and Prototype (DOD 7000.14) and will require materiel Cost Codes.
D7	D6		M	H	A	
D7	D6		M	H	B	
D7	D6		M	H	D	
D7	D6		M	H	E	
D7	D6		M	H	K	
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	A	M	H	M	
D7	D6	A	M	H	N	

D7	D6	M	P	H	P	
D7	D6	A	M	H	S	
D7	D6	A	M	H	T	
D7	D6	M	P	H	V	
D7	D6	A	M	H	W	
D7	D6	A	M	H	X	
D7	D6	R	M	H	Y	
D7	D6	A	M	H	Z	
D7	D6	A	M	I	A	
D7	D6	R	M	I	B	
D7	D6	A	M	I	D	
D7	D6	R	M	I	E	
D7	D6	R	M	I	K	
D7	D6	A	M	I	M	
D7	D6	A	M	I	N	
D7	D6	M	P	I	P	
D7	D6	A	M	I	S	
D7	D6	A	M	I	T	
D7	D6	M	P	I	V	
D7	D6	A	M	I	W	
D7	D6	A	M	I	X	
D7	D6	R	M	I	Y	
D7	D6	A	M	I	Z	
D7	D6	M	P	J	P	Job Designator J: Only requires these transactions.
D7	D6	M	P	J	V	Job Designator J: Only requires these transactions.
D7	D6	A	M	K	A	
D7	D6	A	M	K	D	
D7	D6	A	M	K	M	
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	A	M	K	N	
D7	D6	Z	P	K	P	
D7	D6	A	M	K	S	
D7	D6	A	M	K	W	
D7	D6	A	M	K	X	
D7	D6	A	M	K	Z	
D7	D6	L	R	L	H	Job Designator L: This is the only combination required for Reclamation type work there is no transaction passed from D035K to G004L.
D7	D6	A	M	M	A	

D7	D6	R	M	M	B	
D7	D6	A	M	M	D	
D7	D6	R	M	M	E	
D7	D6	R	M	M	K	
D7	D6	A	M	M	M	
D7	D6	A	M	M	N	
D7	D6	M	P	M	P	
D7	D6	A	M	M	S	
D7	D6	A	M	M	T	
D7	D6	M	P	M	V	
D7	D6	A	M	M	W	
D7	D6	A	M	M	X	
D7	D6	R	M	M	Y	
D7	D6	A	M	M	Z	
D7	D6	A	M	N	A	
D7	D6	R	M	N	B	
D7	D6	A	M	N	D	
D7	D6	R	M	N	E	
D7	D6	R	M	N	K	
D7	D6	A	M	N	M	
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	A	M	N	N	
D7	D6	M	P	N	P	
D7	D6	A	M	N	S	
D7	D6	A	M	N	T	
D7	D6	M	P	N	V	
D7	D6	A	M	N	W	
D7	D6	A	M	N	X	
D7	D6	R	M	N	Y	
D7	D6	A	M	N	Z	
D7	D6	A	M	T	A	
D7	D6	R	M	T	B	
D7	D6	A	M	T	D	
D7	D6	R	M	T	E	
D7	D6	R	M	T	K	
D7	D6	A	M	T	M	
D7	D6	A	M	T	N	
D7	D6	M	P	T	P	
D7	D6	A	M	T	S	
D7	D6	A	M	T	T	
D7	D6	M	P	T	V	
D7	D6	A	M	T	W	
D7	D6	A	M	T	X	

D7	D6	R	M	T	Y	
D7	D6	A	M	T	Z	
D7	D6	A	M	U	A	
D7	D6	R	M	U	B	
D7	D6	A	M	U	D	
D7	D6	R	M	U	E	
D7	D6	R	M	U	K	
D7	D6	A	M	U	M	
D7	D6	A	M	U	N	
DOC ID	COL 1-2	COL 3	Type Trans COL 7 Job	Job Designator R Col 56	Cost Code Col 78	Notes
D7	D6	R	M	U	Y	
D7	D6	A	M	U	Z	
D7	D6	A	M	V	A	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	R	M	V	B	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	V	D	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	R	M	V	E	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	R	M	V	K	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	V	M	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	V	N	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	M	P	V	P	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	V	S	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	V	T	Job Designator V added to Work Group Categories DOD 7000.14.

D7	D6	M	P	V	V	Job Designator V added to Work Group Categories DOD 7000.14.
DOC ID	COL 1-2	COL 3	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Note
D7	D6	A	M	V	W	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	V	X	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	R	M	V	Y	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	W	Z	Job Designator V added to Work Group Categories DOD 7000.14.
D7	D6	A	M	W	A	
D7	D6	R	M	W	B	
D7	D6	A	M	W	D	
D7	D6	R	M	W	E	
D7	D6	R	M	W	K	
D7	D6	A	M	W	M	
D7	D6	A	M	W	N	
D7	D6	M	P	W	P	
D7	D6	A	M	W	S	
D7	D6	A	M	W	T	
D7	D6	M	P	W	V	
D7	D6	A	M	W	W	
D7	D6	A	M	W	X	
D7	D6	R	M	W	Y	
D7	D6	A	M	W	Z	
D7	D6	A	M	Y	A	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	R	M	Y	B	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	D	Job Designator Y added to Work Group Categories DOD 7000.14.
DOC ID	COL 1-2	COL 1-2	Type Trans COL 7	Job Designator R Col 56	Cost Code Col 78	Notes

D7	D6	R	M	Y	E	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	R	M	Y	K	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	M	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	N	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	M	P	Y	P	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	S	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	T	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	M	P	Y	V	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	W	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	X	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	R	M	Y	Y	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	M	Y	Z	Job Designator Y added to Work Group Categories DOD 7000.14.
D7	D6	A	F	Blank	Blank	Floating Stock will not be valid with DMAPS.
Note: 1 – Cost Codes G, J, R, and U are dropped when DMAPS is implemented because unplanned work is not allowed. 2 – Job Designator Q no longer valid and must not be used for new workloads.						

Table. 6.6. (Added-AFSC) Supplied Reimbursement Codes.

Code	Description

B	Exchange Materiel (Planned, Funded). Planned, serviceable MSD investment materiel issued on an exchange basis to replace like unserviceable items, i.e., DIFM/DOTM.	
	a.	Used for the turn-in of planned, unserviceable MSD item to clear a DIFM detail or to establish a DOTM detail in the D035K system.
	b.	Used for the turn-in of excess serviceable MSD items originally issued under cost code B.
	c.	Used for the turn-in of items received under this cost that was misidentified as the NSN when supply initiated a warehouse denial (reversal) action.
D	Modification Kits. Kits that change the configuration or operating capability of an EI.	
	a.	Includes overhaul kits, TCTO kits, etc., which make repair easier or maintain the serviceable status of an EI.
	b.	Used for turning in modification kits originally issued under cost code D that are intact and excess to immediate requirements, and the processing of distribution warehouse denial transactions.
E	Exchange Materiel (Planned, Unfunded). Planned, serviceable, recoverable materiel that is issued to replace like unserviceable items. Used for turning in unserviceable items, returning excess serviceable items originally issued under cost code E and processing supply warehouse denial transactions.	
G	Exchange Materiel (Unplanned, Funded). Unplanned, serviceable investment items issued on an exchange basis under DIFM/DOTM procedures.	
	a.	Used for the turn-in of unplanned, unserviceable MSD items to clear a DIFM detail or establish a DOTM detail.
	b.	Used for the turn-in of excess serviceable MSD items originally issued under cost code G.
	c.	Used for the turn-in of items received under this cost code that were misidentified as to NSN when supply initiated a warehouse denial (reversal) action.
J	Exchange Materiel (Unplanned, Unfunded). Unplanned serviceable materiel issued to replace like unserviceable items. Used for turning in unserviceable items, returning excess serviceable assets originally issued under cost code J, and processing supply warehouse denial transactions.	
K	Exchange Materiel [Maintenance of Depot Maintenance Equipment (DME), Funded]. Serviceable MSD investment materiel issued on an exchange basis (i.e., DIFM/DOTM) for the repair of depot maintenance shop and test equipment.	
	a.	Used for the turn-in of similar unserviceable MSD items to clear a DIFM detail or to establish a DOTM detail.
	b.	Used for the turn-in of excess serviceable MSD items originally issued under cost code K. Used for the turn-in of items originally received under K cost code that are misidentified as to NSN when supply initiates a warehouse denial (reversal) action.
M	Nonexchange Materiel (Unfunded). Missing or excess materiel, or initial installation components. Serviceable, recoverable materiel issued on an other-than-exchange basis.	
	a.	Includes issues for initial installation, modification (other than mod kits), and for replacing missing recoverable components on exchangeable items received in an incomplete condition used for turning in recoverable items on an other-than exchange basis

	b.	Includes turning in excess recoverable materiel received on reparable or serviceable assets, turning in dissimilar or obsolete recoverable items replaced by serviceable items issued on a nonexchange basis, turning in of excess serviceable items originally issued under cost code M, and processing distribution warehouse denial transactions.
	c.	Used for turn-in of MSD, AFSF materiel, without credit, from project directives for reclamation, save lists, or crash/battle damage repair of HQ AFMC-owned systems, and turn-in of materiel fitting the category of FOB assets.
	d.	Excludes installation or removal of items covered by cost code T. Demand code A (initial installation) will always be used in conjunction with the assignment of the M cost code. This will ensure exclusion from DIFM or DOTM control.
S		Nonexchange Materiel (Planned, Funded, Credit Indicator Turn-ins). Planned, serviceable MSD investment materiel issued on an other-than-exchange basis for initial installation or modification (other than mod kits).
	a	a. Used for the turn-in of specified categories of MSD items on an other-than-exchange basis with credit automatically determined based on the stock listed credit indicator.
	b.	Used for turn-in of excess serviceable items originally issued under this cost code and for the return of items received under this cost code that were misidentified as to NSN when supply initiated a warehouse denial (reversal) action.
T		Aircraft/Missile Replacements (AF Form 2692). Items issued to replace items previously removed and not reinstalled. Used for turning in aircraft items recorded on AF Form 2692, that were removed and not reinstalled, and the processing of supply warehouse denial transactions.
U		Non-Exchange Materiel (Unplanned, Reclamation Turn-Ins). For issue of serviceable investment materiel on an other-than-exchange basis to replace missing MSD components discovered on end items received in an incomplete condition. Applies to turn-in of excess MSD items originally issued under U cost code and the return of items, with credit reversal, received under this cost code that are misidentified as to NSN when supply initiates warehouse denial (reversal) action.
Y		Exchange Materiel (Maintenance of DME, Unfunded). Direct, serviceable, recoverable materiel issued on an exchange basis for repair of production maintenance shop and test equipment. Used for turning in unserviceable recoverable items generated from exchange includes turn-in of excess serviceable items originally issued under cost code Y and the processing of supply warehouse denial transactions.

6.17.5. **(Added-AFSC)** Production issue or turn-in transactions are for issuing items for depot repair and for turning in these items after completing repair. Production items that are returned in a non-serviceable condition also are coded as production turn-in transactions. Transactions bearing production cost codes will not result in charges or credits in actual materiel cost accumulation.

Table 6.6. (Added-AFSC) Production Issue or Turn-In Transaction Codes.

Code	Description
F	Quality Control or Prototype Analysis. Items issued for quality control, inspection, analysis, Unsatisfactory Report (UR) exhibits, prototype analysis, and returning items

	previously issued for these purposes. This code will be used in conjunction with the appropriate production RC/CC code. Items removed from the production line for quality analysis and returned to the line will be returned using cost code P rather than cost code F.
H	Disassembly or Renovation Testing. Recoverable assets issued for disassembly or reclamation and returning reclaimed components. Applies to issuing assets for renovation proof testing purposes and for turning in the remaining items following test evaluation.
P	Production. Repairable, TOC, or incomplete assets issued to be made serviceable. Used for turning in resulting serviceable, repairable, TOC, and condemned assets.
V	Production Correction. Returned production items that were received misidentified as to stock number or condition. Incorrect item is turned in as a cost code V under control number of item originally requested. Correction issues require cost codes P, F, or H, as appropriate.

6.17.6. **(Added-AFSC)** Expense materiel consists of all materiel and parts used in the MXGs and not categorized by investment or production cost codes.

Table. 6.7. (Added-AFSC) Expense Materiel Codes.

Code	Description
A	Expense Materiel (Planned). Planned serviceable expense materiel issued for use in depot maintenance repair, modification, and assembly or manufacture operations. Used for turning in excess serviceable materiel originally issued under cost code A and for the processing of supply warehouse denial transactions.
L	Expense Materiel (Indirect or Overhead). Materiel issued for use as indirect or overhead materiel. Used for turning in excess serviceable and excess expense materiel originally issued under cost code L and for processing distribution warehouse denial transactions. Identification of these issues to appropriate accounts is accomplished by entering the applicable U-account control number on the materiel documents.
N	Expense Materiel (Not applicable to Repair Costs). Serviceable expense materiel, originally removed as excess from assets undergoing maintenance which is turned in as removed unserviceable items specifically requested by distribution.
	a. Includes removed serviceable or unserviceable expense materiel of a dissimilar, obsolete, or alien nature.
	b. Excludes turn-ins of serviceable expense items initially issued under expense materiel cost codes A, R, L, or W, or initially issued under special purpose code X.
	c. Excludes turn-ins of expense materiel received in other-than-serviceable condition or misidentified as to its NSN (See Note) .
R	Expense Materiel (Unplanned). Unplanned serviceable expense materiel issued for use in depot maintenance repair, modification, assembly, or manufacture operations. Used for turning in excess serviceable expense materiel originally issued under cost code R and for processing supply warehouse denial transactions.

W	Expense Materiel (Maintenance of DME). Direct serviceable expense materiel issued for repair, modification, assembly, and manufacture of depot maintenance shop and test equipment. Used for turning in excess serviceable expense materiel originally issued under cost code W, and processing supply warehouse denial transactions. Cost code W is limited to requesting or turning in direct materiel, not for materiel planning
X	Expense Materiel (Not Charged to the DMAG). Stock fund and non-stock fund expense materiel issued without charge to the DMAG, for use in depot maintenance repair, modification, assembly, or manufacture operations. Used for turn-in of expense materiel previously issued under cost code X.
Z	Customer Furnished Materiel (Unfunded, Direct Material). Materiel furnished by customers is to be included in the depot maintenance work as specified by the customer. Costs will be determined by the customer and accountability maintained as directed by the customer. This materiel is costed as unfunded direct materiel
Note: Items returned under cost code N will not be considered for credit by the Air Force Stock Fund (AFSF) divisions.	

6.17.7. (Added-AFSC) Action Suffix Codes.

6.17.7.1. (Added-AFSC) Action suffix codes will not be entered on normal post post (PP) requests and turn-in documents when the item is physically returned to supply.

Table. 6.8. (Added-AFSC) Action Suffix Codes.

Category	Transaction Description	Turn-In	Request
Wash Entry	Production to Non-production	WP	WP
Line Consumption	Equipment to Production (reparable to overhaul C/N)	WP	WP
Line Retention	Production to Equipment	WP	WP
	Production to Production (overhaul C/N to Mod C/N)	RP	RP
	Production to Production (reparable or TOC, i.e., one control number to another)	WP	WP
	Production to Production (wash-entry of misidentified, C/C-V, i.e., one control number to another)	WP	WP
	Non-production to Production (reparable, one control number to another)	WP	WP
	Non-production to Floating Stock (serviceable exchange to floating stock)	WP	WP
	Floating Stock to non-production (serviceable floating stock to exchange)	WP	WP
Other	Backorder Cancellation		CC
	Walk-through or SSC Issue (post post)		PP
	DIFM Follow-up		XX
	DOTM Follow-up	XX	
	In transit Follow-up		XX

6.17.8. **(Added-AFSC)** Only five suffix codes normally apply to MXG transactions: CC, PP, RP, WP, and XX. The following action suffix codes will be used on maintenance MXG-initiated requests:

6.17.8.1. **(Added-AFSC)** Code CC denotes manual request for due-in or backorder cancellation.

6.17.8.2. **(Added-AFSC)** Code PP denotes post post, input to D035K only.

6.17.8.3. **(Added-AFSC)** Code RP denotes records transaction and passes to the D035J system, FIABS.

6.17.8.4. **(Added-AFSC)** Code WP denotes wash-post inventory balances or adjusts DIOH.

6.17.8.5. **(Added-AFSC)** Code XX denotes follow-up for line issue of exchange items (DIFM) or follow up for receipt of local turn-in with no m

6.17.8.6. **(Added-AFSC)** The action suffix code and as received stock number will be omitted on the turn-in document for a misidentified asset received on a reclamation or disassembly work order.

6.17.9. **(Added-AFSC)** Materiel Classification.

Table. 6.9. (Added-AFSC) Materiel Cost Code Exit.

Air Force Cost Code	Budget Code	ERRC Code	Definition
Z	Alpha	ALL	Customer Furnished Materiel – Other Unfunded
B	1	C, S, T	SSD Exchange (Investment)—Funded
K	1	C, S, T	SSD Exchange (Investment)—Funded—Repair of DME
B	8	C, S, T	MSD Exchange (Investment)—Funded
K	8	C, S, T	MSD Exchange (Investment)—Funded—Repair of DME
E	Alpha	C, S, T	Exchange (Investment)—Other Unfunded
Y	Alpha	C, S, T	Exchange (Investment)—Other Unfunded—Repair of DME
S	1	C, S, T, U	SSD Non-Exchange (Investment)—Funded
S	1	C, S, T, U	MSD Non-Exchange (Investment)—Funded
M	ALL	C, S, T, U	Non-Exchange (Investment)—Other Unfunded/Funded
D	Alpha	C, S, T, U	Non-Exchange (Investment)—Other Unfunded
T	Alpha	C, S, T, U	Non-Exchange (Investment)—Other Unfunded
A	1	N, P	SSD Expense—Funded
L	1	N, P	SSD Expense—Funded

N	1	N, P	SSD Expense—Funded
W	1	N, P	SSD Expense—Funded
A	4	N, P	Commissary Expense - Funded
L	4	N, P	Commissary Expense - Funded
N	4	N, P	Commissary Expense - Funded
W	4	N, P	Commissary Expense - Funded
A	6	N, P	Fuels Expense - Funded
L	6	N, P	Fuels Expense - Funded
N	6	N, P	Fuels Expense - Funded
W	6	N, P	Fuels Expense - Funded
A	8	N, P	Fuels Expense - Funded
L	8	N, P	Fuels Expense - Funded
N	8	N, P	MSD Expense – Funded-Turn-in only
W	8	N, P	GSD Expense - Funded
A	9	N, P	GSD Expense - Funded
L	9	N, P	GSD Expense - Funded
N	9	N, P	GSD Expense - Funded
W	9	N, P	GSD Expense - Funded
X	Alpha	N, P	Expense – Other Unfunded

Table 6.10. (Added-AFSC) Materiel Classification.

	(SSD) Funded Materiel Expense	Commissary Materiel Funded Expense	Fuels Materiel Funded Expense	(GSD) Funded Materiel Expense	(MSD) Funded Materiel Expense	(MSD) Funded Materiel Investment
ERRC	N, P	N, P	N, P	N, P	N, P	C, S, T, U
CC	A, L, N, W	A, L, N, W	A, L, N, W	A, L, N, W	A, L, N, W	B, K, S, M
BC	1	4	6	9	8	8
Legend Codes: ERRC – Expendability, Recoverability, Reparability Category CC – Cost Code BC – Budget Code						

Table 6.11. (Added-AFSC) Cost Validation Codes.

COST CODE	Cost Validations for WWSS Stock Orders (Inventory)	Code	Cost Code Validations for SRI Orders (line issue)	Remarks
A	ERRC: N, P		ERRC: N, P	Funded

	Budget Code: Numeric	Budget Code: Numeric	
	Inventory Type: N	JON Type: Direct	
B	ERRC: C, T, S	ERRC: C, T, S	
	Budget Code: Numeric	Budget Code: Numeric	Funded— DIFM/DOTM— Indirect JON for Rework.
	Inventory Type: N	JON Type: Direct, Indirect	
D	ERRC: C, T, S, U	ERRC: C, T, S, U	Unfunded—1st position of NIIN must be K
	Budget Code: Alpha	Budget Code: Alpha	
	Inventory Type: C, D	JON Type: Direct	
E	ERRC: C, T, S	ERRC: C, T, S	Unfunded— DIFM/DOTM— Indirect JON for Rework. If JON is Indirect, NIMMS to treat as Funded Materiel
	Budget Code: Alpha	Budget Code: Alpha	
	Inventory Type: C, D	JON Type: Direct, Indirect	
K	ERRC: C, T, S	ERRC: C, T, S	Funded—DIFM/DOTM – Repair of Depot Maint. Equip.
	Budget Code: Numeric	Budget Code: Numeric	
	Inventory Type: N	JON Type: Direct, Indirect	
L	ERRC: N, P	ERRC: N, P	Funded
	Budget Code: Numeric	Budget Code: Numeric	
	Inventory Type: N	JON Type: Indirect	
M	ERRC: C, T, S, U	ERRC: C, T, S, U	Unfunded and Funded— Must use Y Force Credit Indicator
	Budget Code: ALL	Budget Code: ALL	If JON is Indirect, NIMMS to treat as Funded Materiel
	Inventory Type: C, D	JON Type: Direct, Indirect	
N	ERRC: N, P	ERRC: N, P	Turn in of serviceable expense materiel (FOB) removed as excess from assets, which are undergoing maintenance.
	Budget Code: ALL	Budget Code: ALL	
	Inventory Type: N/A	JON Type: NONE	
S	ERRC: C, T, S	ERRC: C, T, S	Funded—Repair of Depot Maint. Equip.
	Budget Code: Numeric	Budget Code: Numeric	
	Inventory Type: N	JON Type: Direct, Indirect	
X	ERRC: N, P	ERRC: N, P	Unfunded
	Budget Code: Alpha	Budget Code: Alpha	

	Inventory Type: C, D	JON Type: Direct, Indirect	If JON is Indirect, NIMMS to treat as Funded Materiel
Y	ERRC: C, T, S	ERRC: C, T, S	Unfunded— DIFM/DOTM Repair of Depot Maint. Equip. If JON is Indirect, NIMMS to treat as Funded Materiel
	Budget Code: Alpha	Budget Code: Alpha	
	Inventory Type: C, D	JON Type: Direct, Indirect	
Z	ERRC: C, T, S, N, P, U	ERRC: C, T, S, N, P, U	Costing Determined by Treat as Unfunded. If JON is Indirect, NIMMS to treat as Funded Materiel

Figure 6.2. (Added-AFSC) Depot MICAP Request Worksheet Sample.

DEPOT MICAP REQUEST WORKSHEET				
P S T	1. NSN (National Stock Number)		2. NOUN	3. PART NUMBER
	4. AAC (Acquisition Advice Code)		5. ERRC CODE (Expendability, Recoverability, Reparability)	6. SOS (Source of Supply)
			7. SMR (Source, Maintenance & Recoverability)	
	8. DOLLAR AMOUNT \$		9. NEXT HIGHER ASSEMBLY:	10. ALTERNATE NSN AVAILABLE
	11. MAINTENANCE DOCUMENT TO BE UPGRADED:		12 T.O. FIG IND	13. EDD (Estimated Delivery Date)
	14. WERE THERE ASSETS AVAILABLE?		15. DO35/NSMC SCREEN FOR AF-MANAGED ITEMS:	
	16. HAVE ALL COURTESY STORES BEEN CHECKED?		18. PST (Production Support	
	17. ADDITIONAL COMMENTS:			
	19. DATE OF MICAP REQUEST		20. SERIAL/TAIL#	21. QTY/UI
				22. ROBBACK

S C H E D U L E R	23. WCD (Work Control Document)	24. SRD (Standard Reporting Designator)	25. 202 #/ROBBACK/IPV
	26. JON (Job Order Number)	27. CONTROL #	28. SCHEDULER SIGNATURE &
	29. NEED DATE: AMREP(Aircraft Maintenance Production Compression Report)/MRT (Maintenance Review Team), CRITICAL PATH, END ITEM PROJECTED DELIVERY		
	31. IMPACT STATEMENT/OTHER INFO(IF ASSET IS NOT RECEIVED)		30. FOREMAN SIGNATURE & 32. PRODUCTION CHIEF SIGNATURE & A33. PRODUCTION SUPPORT
	34. DATE MICAP REQUEST REC'D:	35. START TIME:	36. MICAP START TIME:
			37. WAS THERE LATERAL AVAILABLE?
FOLLOW-UP			
38. REQUISITION NO.			
39.			
40. DLA (Defense Logistics Agency) CSS (Customer Support Specialist) SIGNATURE/DATE/TIME:			

CHAPTER 7

FUNCTIONAL CHECK FLIGHT PROGRAM

7.1. Functional Check Flight (FCF) Program. FCFs are performed to ensure an aircraft is airworthy and/or capable of accomplishing its mission. FCFs are not normally flown when the airworthiness of the aircraft can be determined by maintenance operational checks prescribed by a technical directive. Additional guidance may be found in DAFMAN 11-401, *Aviation Management*, AFMAN 11-202V3, *Flight Operations*, DAFMAN 13-201, *Airspace Management*, AFI 21-103, TO 1-1-300, *Maintenance Operational Checks and Check Flights*, TO 00-20-1, and applicable -6 and -1 TOs. Flying hours for all FCFs, executed by AFSC and by agencies (commercial or other) contracted by AFSC, will be updated in Reliability and Maintainability Information System (REMIS) No Later Than (NLT) the next duty day after occurrence IAW AFI 21-103. Installed engine times will be updated in CEMS or G081, as applicable, NLT the next duty day after the occurrence IAW AFI 21-103.

7.2. AFSC FCF Program Responsibilities. HQ AFSC will:

7.2. (AFSC) The Air Logistic Complexes (ALCs) will:

7.2.1. Develop, implement, and maintain standardized processes and procedures governing the FCF Program. This program is managed by the applicable production squadron and flight test organization.

7.2.2. Ensure a FCF Program Manager is designated at each squadron or geographically separated Group.

7.3. FCF Program Manager Responsibilities. HQ AFSC will ensure FCF Program Manager accomplishes the following:

7.3. (AFSC) The ALCs will ensure FCF Program Manager accomplishes the following:

7.3.1. Establish local FCF procedures and checklists for specific local aircraft requirements.

7.3.2. Develop and analyze FCF metrics for trends to identify potential process, quality, and efficiency issues.

7.3.3. Identify deficient areas which may require further analysis or corrective action.

7.3.4. Ensure FCF reports are sent to QA for further reporting, analysis, and surveillance considerations.

7.3.5. Coordinate with the appropriate squadron for a FCF pilot/aircrew and provide squadron operations with the aircraft tail number, reason for the FCF, and anticipated takeoff time.

7.3.6. Maintain an information file for briefing aircrews. As a minimum, this file must contain:

7.3.6.1. Directives concerning FCF procedures.

7.3.6.2. Authorization lists for FCF crews.

7.3.6.3. FCF checklist for each Mission Design Series (MDS) assigned.

7.3.6.3.1. A FCF checklist must be used for each FCF. Each discrepancy discovered during the FCF must be documented on AFTO Form 781A.

7.3.6.3.2. After completing the review, the checklist must be included in the aircraft jacket file.

7.3.7. Maintain a copy of the AF Form 2400, *Functional Check Flight Log*, or equivalent automated product for deficiency and trend analysis.

7.3.8. Ensure all maintenance actions are completed and all AFTO Form 781s are documented IAW -6 and 00-series TOs.

CHAPTER 8

QUALITY ASSURANCE

8.1. General. Maintenance quality and equipment reliability is the responsibility of all maintenance personnel. The combined efforts of QA personnel, maintenance leaders, and technicians are necessary to ensure high quality maintenance production and equipment reliability. The QA staff evaluates the quality of maintenance accomplished and performs necessary functions to manage the Maintenance Standardization and Evaluation Program (MSEP). The MSEP provides an objective sampling of the proficiency of maintenance personnel and the compliance of MSEP agency in the maintenance organization, assisting maintenance supervision at all focus areas, programs, and processes. QA personnel are not an extension of the work force and shall not be tasked to perform production or inspections for production organizations. QA serves as an advisory level to resolve quality problems. The evaluation and analysis of deficiencies and problem areas are key functions of QA that identify underlying causes of poor quality in the maintenance production effort. Aircraft, major end items, and equipment condition and personnel proficiency are validated through the MSEP and shall be recorded using a QA database. AFSC will further define and implement this chapter to standardize QA functions across the ALCs. For units performing maintenance configuration requirements of aircrew flight equipment, refer to AFMAN 11-301V1, *Aircrew Flight Equipment (AFE) Program*.

8.1. (AFSC) QA personnel assigned to evaluate 583d MMXS GSU sites have unique challenges. QA personnel must objectively inspect in-garrison and field level operations as well as depot centric processes specific only to the 583d MMXS mission. The 583d MMXS units rely on ‘two-deep’ GS-1910 civilian inspectors geographically separated from the parent complex. Additionally, the inspectors provide the 583d MMXS units with inspection results, policy guidance, and report results and findings to the OO-ALC.

8.2. Depot Maintenance QA Responsibilities.

8.2.1. HQ AFMC/A4/10 will:

8.2.1.1. Oversee the AFMC MSEP and serve as the Command depot maintenance QA POC.

8.2.1.2. Ensure development of and maintain all depot maintenance QA training to include the Depot Maintenance QA course, recurring training, and the GS-1910 CTP.

8.2.1.2.1. HQ AFMC/A4M will provide functional approval for all depot maintenance QA training.

8.2.1.3. Serve as AFMC Functional Advocates for development and maintenance of Logistics Evaluation Assurance Program (LEAP) and training necessary for all levels of users to effectively use the program.

8.2.1.4. Host the bi-monthly Quality Assurance Steering Group (QASG). Mandatory QASG members include HQ AFMC A4M, AFSC Center QA program focal point, and Complex QA Chiefs and deputies.

8.2.1.5. Host a Command Quality Assurance Working Group (QAWG) Technical Exchange for QA community members. QAWG Technical Exchange will convene bi-annually (funding permitting).

8.2.1.6. Assist in the development GS-1910 CTP.

8.2.2. To ensure an effective Center QA program is implemented, HQ AFSC will:

8.2.2.1. Designate a Center QA program focal point.

8.2.2.2. Develop a standardized ALC QA Program IAW this document. The program will ensure that all organizations involved in or supporting depot operations employ a quality management approach to include flow down of AF and AFMC quality requirements.

8.2.2.3. Review results of HQ Air Force Materiel Command Inspection General and Center Commanders Inspection Program (CCIP) inspections for needed policy actions.

8.2.2.4. Host bi-monthly QA Working Group.

8.2.2.5. Develop Management Internal Control Toolkit (MICT) checklist to support the CCIP checklists IAW DAFI 90-302, *The Inspection System of the Department of the Air Force*.

8.2.2.6. Develop, review, and maintain Center Evaluator Proficiency Evaluation (EPE), Personal Evaluations (PE), Quality Verification Inspection (QVI) and Routine Inspection (RI) checklists. Checklists will be reviewed annually or as changes are needed.

8.2.2.7. Review results of HQ AFMC/IG inspections and the MSEP for needed policy actions.

8.2.2.8. Participate in bi-monthly QA Steering Groups.

8.2.2.9. Review MSEP deficiencies and corrective/preventive actions for cross-tell purposes.

8.2.2.10. Ensure the QA function is an independent function.

8.2.2.11. Provide the necessary resources, support, and authority for the QA functions to support the requirements of this instruction.

8.2.2.12. Review and validate Complex MSEP Summaries. Forward validated Summaries to AFMC/A4M for review.

8.2.2.13. Assist in the development GS-1910 CTP when requested.

8.2.2.14. Assist in the development of QA training when requested.

8.2.3. HQ AFSC will ensure Complex QA Chiefs implement an effective QA program IAW this instruction.

8.2.3. (AFSC) Complex QA Chiefs responsibilities will include:

8.2.3.1. **(Added-AFSC)** Participate in bi-monthly QA Working Groups.

8.2.3.2. **(Added-AFSC)** Implement the Center MSEP.

8.2.3.3. **(Added-AFSC)** Develop the Complex Maintenance Quality Manual or QA Plan (QAP).

8.2.3.4. **(Added-AFSC)** Review Group Quality Assurance Plans (QAP) and Quality Assurance Surveillance Plans (QASP) to ensure implementation compliance.

8.2.3.5. **(Added-AFSC)** Ensure Acceptable Quality Level (AQL) standards are developed for workloads being assessed.

8.2.3.6. **(Added-AFSC)** Manage the application of applicable commercial quality standards (e.g., International Organization for Standardization (ISO), and Aerospace Standards (AS).

8.2.3.7. **(Added-AFSC)** Provide the necessary resources, support, and authority for the QA functions to support the requirements of this instruction.

8.2.3.8. **(Added-AFSC)** Recommend and supervise the AFSC military repair station Accountable Manager for the Military Repair Station Program IAW AFSCMAN 62-602, Military Repair Station Manual.

8.2.3.9. **(Added-AFSC)** Evaluate maintenance management procedures, including locally developed forms, publications, OIs, checklists, etc., for accuracy, intent, and necessity.

8.2.3.10. **(Added-AFSC)** Ensure Complex quality goals and objectives are established at relevant functional levels. The quality goals and objectives will be measurable and consistent with quality policies.

8.2.3.11. **(Added-AFSC)** Publish the MSEP summary IAW paragraph 8.3.7.4. of this supplement.

8.2.3.12. **(Added-AFSC)** Assist in the development of QA training to include:

8.2.3.12.1. **(Added-AFSC)** AFMC Depot Maintenance QA training courses.

8.2.3.12.2. **(Added-AFSC)** GS-1910 CTP.

8.2.3.12.3. **(Added-AFSC)** LEAP training.

8.2.3.12.4. **(Added-AFSC)** Identify a qualified instructor for the AFMC Depot Maintenance QA Courses.

8.2.3.13. **(Added-AFSC)** Ensure requirements are developed to analyze quality deficiencies and recommend appropriate corrective and preventive action.

8.2.3.14. **(Added-AFSC)** Provide policy and guidance for the Group level QA and the MSEP.

8.2.3.15. **(Added-AFSC)** Consolidate, review, prepare, and report QA metrics to the ALC/CC IAW paragraph 8.3.7 of this supplement.

8.2.3.16. **(Added-AFSC)** Work with HQ AFSC and other ALC quality focal points, as necessary, on all applicable issues.

8.2.3.17 **(Added-AFSC)** Ensure ALC Quality Assurance Plans (QAPs) and/or Quality Assurance Surveillance Plans (QASPs) support this chapter.

8.2.3.18. **(Added-AFSC)** Act as the ALC focal point for Industry Certification Compliance Inspections when applicable.

8.2.3.19. **(Added-AFSC)** Provide input and support to AFSC/IG and ALC/IG for the Air Force Inspection System and Commander's Inspection Program (CCIP) oversight as required by DAFI 90-302, *The Inspection System of the Department of the Air Force*.

8.2.3.20. **(Added-AFSC)** Appoint a LEAP focal point for the ALC.

8.2.3.21. **(Added-AFSC)** Ensure the ALC FOD and Dropped Object Prevention (DOP) Program are properly administered.

8.2.3.22. **(Added-AFSC)** Serve as member of the HQ AFMC QASG.

8.2.3.23. **(Added-AFSC)** Host cross-feed meetings with Group level QA Chiefs.

8.2.3.24. **(Added-AFSC)** Manage the ALC Impoundment Program IAW Vol. 1, Chapter 5.

8.2.3.25. **(Added-AFSC)** Ensure maintenance related local instructions are reviewed by QA.

8.2.4. HQ AFSC will ensure ALC/CCs provide necessary resources, support, and authority for the ALC QA functions to support the requirements of this instruction.

8.2.5. **(Added-AFSC)** Group Commander/Director Responsibilities.

8.2.5.1. **(Added-AFSC)** Review and take appropriate action on HHQ findings and internal quality assessments, and review and take action on other Group level quality data.

8.2.5.2. **(Added-AFSC)** Review and approve, in conjunction with the ALC QA Director, the Group/Branch QAP/QASP developed/managed by the Group/Branch QA Chief.

8.2.5.3. **(Added-AFSC)** Ensure the Group FOD/DOP program is administered IAW Vol. 2, Chapter 4.

8.2.5.4. Ensure production personnel responsible to provide corrective/preventive actions to a QA deficiency successfully complete the Logistics Evaluation Assurance Program (LEAP) responsible person course, CRXMAO0007101SU Logistics Evaluation Assurance Program (LEAP) (Module 2 – Responsible Person).

8.2.6. **(Added-AFSC)** Group level QA Chief Responsibilities.

8.2.6.1. **(Added-AFSC)** Develop and manage the Group QAP and/or QASP. Ensure new or changing workload requirements are considered for incorporation into the QAP and/or QASP.

8.2.6.2. **(Added-AFSC)** Provide quality process/product information and analysis to the ALC QA Office for the development and publishing of the MSEP Summary Report.

8.2.6.3. **(Added-AFSC)** Consolidate, prepare, and review Group QA metrics and brief the Group Commander/Director.

8.2.6.4. **(Added-AFSC)** Identify a Group level focal point/manager for all LEAP/local QA Data Systems.

8.2.6.5. **(Added-AFSC)** Manage customer reported defects to include Quality Deficiency Reports IAW TO 00-35D-54.

8.2.6.6. **(Added-AFSC)** Ensure participation in validation and verification of any new or revised Group maintenance processes as required.

8.2.6.7. **(Added-AFSC)** Serve as member of the HQ AFMC QAWG as required.

8.3. Maintenance Standardization and Evaluation Program (MSEP). The MSEP is designed to provide unit maintenance managers with a method of evaluating compliance with AF, Lead Command, and local maintenance directives and policies. AFMC is responsible for developing a MSEP to ensure the AFSC programs, process, maintenance technician proficiency, equipment condition and other focus areas comply with AF and AFMC directives. HQ AFSC will develop, implement, and maintain standardized processes and procedures in support of the MSEP using the following minimum requirements:

8.3.1. Maintenance Quality Manual. The Maintenance Complex Quality Manual is the basic implementation guidance for depot maintenance production and production support quality requirements. It provides an organized way of communicating specific types of quality processes/procedures required, defines specific roles and responsibilities, and how those quality processes are implemented. This manual provides basic requirements for preparation of the production group's Quality Assurance Plan (QAP) and Quality Assurance Surveillance Plan (QASP). A higher-level quality manual can be used at complex discretion as long as all

requirements contained in this instruction are addressed. HQ AFSC will ensure Quality Manuals or QAPs are developed.

8.3.1.1. **(Added-AFSC)** Content. HQ AFSC QA focal point will review the Maintenance Complex Quality Manual for compliance to this instruction, at least annually or when major changes, updates, or revisions are made. The Maintenance Complex Quality Manual will:

8.3.1.1.1. **(Added-AFSC)** Identify the type (e.g., task, specific item, procedure or process) and minimum number of PE, QVI, RI and Management Inspections (MI) to be conducted monthly or delegate the requirement to be included in the QAP/QASP.

8.3.1.1.2. **(Added-AFSC)** Identify type and frequency of reports required by QA Staff Office (e.g. Quarterly MSEP Summaries, Commander Briefings, etc.).

8.3.1.1.3. **(Added-AFSC)** Identify Complex organizations responsible for quality assurance functions.

8.3.1.1.4. **(Added-AFSC)** Identify quality training requirements and the organization responsible for providing that training per paragraph 8.4. of this instruction.

8.3.1.1.5. **(Added-AFSC)** Define the process for control, routing, and follow-up of the AFSC Form 77, *Request for Quality Assistance (RQA)*.

8.3.1.1.6. **(Added-AFSC)** Identify inspections to be performed based on requirements. This requirement may be delegated to the individual Group QAP and/or QASPs.

8.3.1.1.7. **(Added-AFSC)** Define the corrective action and preventive action process to be accomplished by production units. Care should be taken to determine root causes of deficiencies rather than simply treating symptoms. The process will, as a minimum:

8.3.1.1.7.1. **(Added-AFSC)** Include analysis of the defect and actions taken.

8.3.1.1.7.2. **(Added-AFSC)** Include methods used by QA offices to communicate and cross-feed information to other maintenance groups.

8.3.1.1.8. **(Added-AFSC)** Include methods used for QA to follow-up on corrective action taken by unit, preventive action, or process changes made to prevent recurrence or new occurrences of similar non-conformances.

8.3.1.1.9. **(Added-AFSC)** Define requirements of development of QAPs and/or QASPs.

8.3.1.1.10. **(Added-AFSC)** Define local process for documenting deficiencies, corrective/preventive action and follow-up data into LEAP.

8.3.1.1.11. **(Added-AFSC)** Define requirements to analyze quality deficiency and acceptance inspection reports and recommend appropriate corrective and preventive action to production divisions.

8.3.1.1.12. **(Added-AFSC)** Define procedures for evaluating quality escapes.

8.3.1.1.12.1. **(Added-AFSC)** As a minimum, procedures for QA evaluations of internal or external reported deficiencies will be documented to ensure QA conducts a 100 percent review of all accepted major and critical aircraft Acceptance Inspection Deficiency Reports (AIDRs) and Product Quality Deficiency Reports (PQDRs) received through the Joint Deficiency Reporting System (JDRS). The reports may be part of a process review (PR), Unscheduled Inspection (UI), Management Inspection (MI), or Continuous Process Improvement/Innovation (CPI2) Practical Problem-Solving Model (PPSM) or QASP adjustment if warranted or performed as a stand-alone DR investigation.

8.3.1.1.12.2. **(Added-AFSC)** For CAT II Routine Major Deficiencies inducted for investigation, QA will research and conduct analysis where workmanship or tech-data is identified as the cause. This investigation will be a process review (PR), UI, MI, or Continuous Process Improvement/Innovation (CPI2) Practical Problem-Solving Model (PPSM) in conjunction with organizational leadership to identify root causes, corrective actions, and develop actions to prevent reoccurrence. Possible actions to consider include changes to inspection codes on WCDs, critical task break-out, better PAC task identification, increased training, formal training, structured on the job training (SOJT), changes to technical orders, process orders, and/or increased QA surveillance and possible addition of 'Q' inspection codes to prevent recurrence or no changes to processes recommended. Recommendations will be approved by Group Commanders/Directors. Group/ALC CCs will be briefed quarterly on all workmanship related DRs and related investigations.

8.3.2. Quality Assurance Plan. The QAP identifies specific detailed quality processes and procedures relative to the depot maintenance activity. QAPs are optional if a Complex Manual is used and contains the minimum listed below. QAPs will be reviewed at least annually to ensure currency of existing or new policy requirements to ensure quality program objectives are being met. All programmed production workloads will be addressed in the QAP. At a minimum, the QAP or Complex Manual will address the following:

8.3.2.1. Specific QA processes and procedures.

8.3.2.2. Data collected, type of analysis done, reports to be accomplished, and review level.

8.3.2.3. Personnel Evaluation (PE) interval methodology.

8.3.3. Quality Assurance Surveillance Plan (QASP). The QASP identifies the functions and associated actions performed by a particular group to ensure that the requirements are performed IAW specific standards and that an appropriate level of quality assurance activity is in place and operational. At a minimum, the QASP will contain, Assessment Type, Assessment Areas,

Minimum Number of Assessments and Acceptable Quality Level (AQL) Standard. HQ AFSC will ensure QASP are developed for each workload.

8.3.3.1. Assessment Type. Task specific item, procedure or process, frequency, and minimum number of assessments to be performed on a recurring basis.

8.3.3.2. Assessment Areas. Major workloads (e.g., aircraft, engines, and commodities) will be broken down into assessment areas and documented in the QAP and QASP. Assessment areas are segments or portions of a workload, system, component, process, procedure, or subject matter that is investigated, inspected, evaluated, or audited.

8.3.3.3. Minimum Number of Assessments. The methodology (e.g., ANSI/ASQ Z1.4-2008, Sampling Procedures and Tables for Inspection by Attributes) or rationale used to determine assessment type and minimum number of assessments to be performed will be documented in the QAP or QASP.

8.3.3.4. Acceptable Quality Level (AQL) Standard. A standard is the acceptable quality level (number of minor defects) that can be considered satisfactory as a process average or conforming to established criteria to receive a “pass” rating. AQLs will be developed for each major workload being assessed. Criticality and complexity will be used when developing/setting AQLs for workload task assessments. AQLs are developed to evaluate the complete task. If the complete task is not evaluated, the process, task, and number of steps being evaluated will be factored in when AQLs are developed. For example, the AQL for a piece/part and for a whole engine would differ. Similar, an AQL for reviewing a portion of a process versus the entire process may also be different. AQLs will be routinely reviewed, analyzed, and adjusted based on historical data. The Group QASP will develop procedures for determining minimum AQL standard levels. **EXCEPTION:** See AFMAN 11-301V1 for units performing maintenance and configuration of aircrew flight equipment.

8.3.4. MSEP Quality Assessments. MSEP assessments are used to evaluate proficiency, maintenance procedures, processes, and products etc. MSEP assessment types listed below will be used in support of the unit’s MSEP:

8.3.4.1. Personnel Evaluation (PE). A PE is an “over the shoulder” assessment of a Production Acceptance Certification (PAC) certified mechanic/technician or PAC qualified AGE mechanic performing a maintenance task. PEs objectively evaluate/assess a technician’s or a team of technicians’ job proficiency and compliance with technical data requirements (e.g., tools, equipment, WCDs, safety, technical data, materiel, FOD, training, etc.) during the performance of a specific maintenance task without assistance. PEs will be rated pass or fail and given a Quality Assurance Results (QAR) rating. HQ AFSC will ensure ALCs develop comprehensive processes and procedures for PEs.

8.3.4.1.1. **(Added-AFSC)** PE interval methodology will be identified in the Manual/QAP/QASP based on scheduled process reviews (PRs) or data driven analysis not to exceed two years (24 months). Proactive PE scheduling should ensure overdue PEs do not occur.

8.3.4.1.2. **(Added-AFSC)** QA will conduct a minimum of one PE on each qualified Nondestructive Inspection (NDI) technician on one NDI method every 12 months to ensure effective trending on NDI methods.

8.3.4.1.3. **(Added-AFSC)** When the NDI technician is qualified in multiple NDI methods, PEs shall be performed on a different method every 12 months.

8.3.4.1.4. **(Added-AFSC)** Individuals or team members shall be decertified (on the evaluated task) by their supervisor for a failed PE rating. Failed evaluations will result in a reevaluation within 30 days of recertification of the failed task. Supervisors will notify QA when recertification is accomplished.

8.3.4.1.5. **(Added-AFSC)** PEs and QVIs will not be performed on calibration/certification tasks within the Metrology and Calibration Flight (MCF). Internal PRs and Quality Reviews (QRs) are used to determine MCF technician proficiency. Other MSEP assessments may be performed on logistics/maintenance actions within the MCF to include, but not limited to, production control, maintenance supply actions, and technical functions not associated with calibration/certification tasks.

8.3.4.1.6. **(Added-AFSC)** QA will provide notice not less than one hour prior to the evaluation. QA personnel will explain the evaluation process and rating criteria. The evaluation starts when the individual or team begins the task or portion of the task to be evaluated, and is completed when the job or previously determined portion of the task is finished. The TO and applicable steps covered in the task evaluation will be included on the AFMC Form 343.

8.3.4.1.7. **(Added-AFSC)** General maintenance practices that relate directly to the task being performed (i.e., tools, equipment, WCDs, safety, technical data, materiel, FOD/DOP prevention, and training) will be examined during the PE. Other maintenance practices may also be examined as locally determined.

8.3.4.1.8. **(Added-AFSC)** When performing a PE, QA personnel will assess if the technician performed the task as prescribed by the applicable technical data.

8.3.4.1.9. **(Added-AFSC)** QA personnel will provide the technician or team a critique of the PE at its completion. The technician or team's supervisor or designated representative will also be briefed of assessment results.

8.3.4.1.9.1. **(Added-AFSC)** If the PE is performed as part of an EPE, QA personnel who fail to detect areas listed in 8.3.4.2.3.1.1. thru 8.3.4.2.3.1.5. will be disqualified by their supervisor.

8.3.4.1.10. **(Added-AFSC)** Personnel must pass a PE on a task that is a core competency of their job and/or a task identified requiring special skills qualification (SSQ). For new personnel or personnel changing job series, conduct a PE as soon as possible but no longer than 120 days from task certification. The QAS must check PAC/TSS for technician certification prior to the start of the task.

8.3.4.1.11. **(Added-AFSC)** The following Performance Evaluation Error Criteria Descriptions (Table 8.1) are unique to 583d MMXS GSU sites:

Table 8.1. (Added-AFSC) Performance Evaluation Error Criteria Descriptions.

Item	Criteria	Description
1	Code Handling Violation	An error that, as a reasonable expectation, could result in a code compromise (Actual or Credible Possibility).
2	Violation of Two- Person Concept	An error that, as a reasonable expectation, could result in a compromise of a no-lone zone or critical component(s) (Actual or Credible Possibility).
3	Significant Security Violations	An error that, as a reasonable expectation, could result in compromise of the weapon system or subsystem (Actual or Credible Possibility).
4	Custody Transfer	Failure to properly execute custody transfer procedures.
5	Unreliable	A condition which creates an unreliable nuclear weapon or an unsafe or insecure environment as defined in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3263.05C, <i>Nuclear Weapons Technical Inspections</i> .
6	Conditional	A condition that creates an unreliable missile or missile component.

8.3.4.2. Evaluator Proficiency Evaluation (EPE). An EPE is an “over-the-shoulder” assessment of a trained and qualified QA inspector performing a PE or QVI on a PAC certified mechanic/technician performing a maintenance task or on a completed product. The intent of the EPE is to objectively evaluate/assess a QA inspector’s proficiency in conducting a PE or QVI. The EPE will be accomplished by QA Supervisors or designated leads to ensure the QA inspector appropriately conducts the PE or QVI while ensuring job proficiency and compliance with technical data requirements (e.g., tools, equipment, WCDs, safety, technical data, materiel, FOD, training, etc.) during the performance of a specific maintenance task without assistance. Each QA inspector, permanent or augmentee, must pass one EPE evaluating a PE and one EPE evaluating a QVI on their qualification. EPEs will be rated pass or fail and given a QAR rating. HQ AFSC will ensure ALCs develop comprehensive EPE processes and procedures.

8.3.4.2. **(AFSC)** A PAC qualified AGE mechanic can also be assessed a EPE. The QAS must check PAC/TSS for technician qualification prior to the start of the task.

8.3.4.2.1. **(Added-AFSC)** EPE interval methodology will be identified in the Manual/QAP/QASP. Interval will not exceed two years.

8.3.4.2.2. **(Added-AFSC)** EPEs must be input into LEAP and tracked in TSS/PAC.

8.3.4.2.3. **(Added-AFSC)** Individuals shall be disqualified by their supervisor for:

8.3.4.2.3.1. **(Added-AFSC)** EPE rating. Criteria for QAS disqualification includes but is not limited to:

8.3.4.2.3.1.1. **(Added-AFSC)** Failure to detect a major discrepancy with an inspection or work card requirement.

8.3.4.2.3.1.2. **(Added-AFSC)** Failure to detect a missed tech data step.

8.3.4.2.3.1.3. **(Added-AFSC)** Failure to detect a lack of technical proficiency or system knowledge.

8.3.4.2.3.1.4. **(Added-AFSC)** Failure to detect undocumented/overdue training and/or uncertified mechanics/technicians.

8.3.4.2.3.1.5. **(Added-AFSC)** Failure to detect a safety violation.

8.3.4.2.3.2. **(Added-AFSC)** An overdue EPE.

8.3.4.2.3.3. **(Added-AFSC)** Individuals will remain disqualified to perform the assessment type until requalified by successfully passing a future EPE.

8.3.4.2.3.4. **(Added-AFSC)** QA Augmentation. If a functional area does not warrant a full time position in QA and specialized expertise is warranted, select qualified technicians that are recommended by management and agreed to by QA to be augmentees. QA must maintain a list of current augmentees. Augmentees must meet all QAS training requirements. Reference Chapter 1 for additional selection criteria.

8.3.4.2.3.5. **(Added-AFSC)** QA Subject Matter Experts (SMEs). QA may use SMEs for areas without technical expertise. SMEs are to provide technical guidance and understanding, and not to function as a QAS. SMEs will work jointly with a QAS.

8.3.4.3. Quality Verification Inspection (QVI). A QVI is an assessment/evaluation of a maintenance procedure, process, product, or portion thereof, while it is being accomplished (In process) or after it has been completed and the task/WCD is certified (End process). While performing a QVI, a PE of a technician or team of technicians may be evaluated/assessed at the same time.

8.3.4.3.1. **(Added-AFSC)** Credit may be taken for both the QVI and PE. However, the QAS must identify their intentions to take credit for both inspections prior to the inspection/evaluation starting. It should be briefed that a failure of one could result in a failure of both inspections/evaluations.

8.3.4.4. Routine Inspection (RI). RIs are assessments of common depot production maintenance programs and processes that require continuous evaluation. RIs for each functional area will be conducted at least once every quarter.

8.3.4.4. **(AFSC)** RIs will not be performed in conjunction (during) with any other types of assessment such as a PE and QVI.

8.3.4.4.1. RI Checklists. All AFSC developed RI checklists must be included in the QASP if applicable. All questions, when applicable to the work center, must be evaluated for the assessment to qualify as a RI. Observed deficiencies within the scope of the RI being performed shall be recorded as part of the RI. Deficiencies beyond the scope of the RI being performed shall be recorded in LEAP under the category of Unscheduled Inspection (UI).

8.3.4.4.2. HQ AFSC will develop the RI checklist content of the following areas and gain AFMC/A4MY approval prior to publishing. AFSC may supplement this list with additional checklists. Units may add local requirements to Center RI checklists. ALCs may develop additional checklists when deemed necessary.

8.3.4.4.2. (AFSC) AFSC has developed RI checklist for the following areas. All RI checklists are maintained at SharePoint site:  [AFSC RIL Checklists](#)

8.3.4.4.2.1. Material Control.

8.3.4.4.2.2. Foreign Object.

8.3.4.4.2.3. Tool Control.

8.3.4.4.2.4. WCDs.

8.3.4.4.2.5. Production Acceptance Certification (PAC)/Special Skills Qualification (SSQ) Training.

8.3.4.4.2.6. Equipment.

8.3.4.4.2.7. Safety (Flightline/Industrial).

8.3.4.4.2.8. Technical Data (AFMC Form 202 or Process Orders).

8.3.4.4.2.9. Engine Management.

8.3.4.4.2.10. Aircraft Forms.

8.3.4.4.2.11. Technical Orders.

8.3.4.4.2.12. Explosive Safety.as applicable.

8.3.4.4.2.13. Maintenance Data Documentation as applicable.

8.3.4.4.2.14. Aircrew Flight Equipment (AFE).

8.3.4.5. Quality Verification Inspection Q-Stamp (QVIQ). The QVIQ is an AFMC, AFSC, or ALC developed list of required inspections to be accomplished by a qualified Quality Assurance

Specialist (QAS). QVIQ requirements should address those tasks affecting safety of flight, having historically high failure rates, and/or based on internal and external trend analysis. HQ AFSC, in conjunction with the ALCs, will develop, implement, and maintain a standardized process for QVIQ inspections to include, how QVIQs are identified, the method of accomplishment, measurement, documentation, and MSEP reporting.

8.3.4.5. **(AFSC)** All maintenance actions/functions listed on the QVIQ require mandatory notification to QA each time the maintenance action/function is accomplished. Waiver authority for a QVIQ inspection task may be granted by applicable Group/Branch QA Chief or appointed designee. The waiver process will be defined in the group QAP or quality manual.

8.3.4.5.1. A Q-Stamp is required for the completion of each QVIQ task/operation.

8.3.4.5.2. AFMC, AFSC, or the ALC may further identify minimum QVIQs for each MDS/Type Model Series (TMS) to resolve or prevent quality escapes.

8.3.4.5.2.1. **(Added-AFSC)** By Q-Stamping a task/operation, the QA inspector is verifying that the Q-Coded portion of a task/operation being inspected was performed IAW applicable technical data/instructions and the task/operation was correctly performed (i.e., meets form, fit, or function technical requirements).

8.3.4.5.2.2. **(Added-AFSC)** Any QA person stamping off Q-Coded tasks/operations must be PAC qualified in the specific tasks/operations/systems they are verifying as being accurately performed.

8.3.4.6. Management Inspection (MI). MIs cover a broad category and should be performed to follow-up on trends, conduct investigations, or conduct research to get to the root cause of problems. MIs, when driven by the analysis of assessment data may be conducted at the discretion of the local QA or requested by ALC/CC or equivalent, Maintenance Group Commander (MXG/CC) or equivalent, Squadron Commander (SQ/CC) equivalent, or work center supervisors. MIs will be rated at local discretion. MIs are designed to provide a flexible tool to compliment other quality assessment types.

8.3.4.6. **(AFSC)** Management Inspection (MI). MIs are data driven inspections, based on analysis of assessments. MIs may be conducted at the discretion of the local QA or any level of management (e.g., ALC/CC/CL/CD, Maintenance Group Commander (MXG/CC), Squadron Commander (SQ/CC) or work center supervisors). MIs should be performed to follow-up on trends, conduct investigations, or conduct research to determine the root cause of problems and may be rated or non-rated at local discretion. MIs may encompass PE/QVI trends and other inspection data, aborts, trends, in-flight emergency trends, high component or system failure rates, suspected training deficiencies, and tasks outlined in applicable -6 technical orders. Report MI results to the requester, and allow the individual latitude in exploring options prior to implementing corrective actions. At local discretion, MIs can be non-rated and may be counted in QA trends.

8.3.4.7. Isolated Violation (IV). This category represents observed events or conditions with safety implications, or technical violations not related to an inspection or evaluation, which may be

considered unsafe, not in accordance with established procedures, or in the case of equipment, unfit to operate. QAS will brief workcenter Supervisors of the detected IV. IVs will be rated as QAR-3 and documented as one of the following:

8.3.4.7.1. Detected Safety Violation (DSV). A DSV is an unsafe act by an individual. The inspector will stop the unsafe act immediately. Do not document a separate DSV on an individual undergoing a PE or an In Process QVI since the unsafe act automatically results in a “Fail” rating on the PE or In Process QVI. Use the word “Safety” when a safety violation is committed during a PE or In Process QVI.

8.3.4.7.2. Technical Data Violation (TDV). A TDV is an observation of any person performing maintenance without the proper technical data or not following available technical data. The technician must have knowledge of all general directives associated with the job prior to performing the task. However, those directives need not be present at the job site. Do not document a separate TDV on an individual undergoing a PE or an In Process QVI since failure to use approved technical data automatically results in a “Fail” rating.

8.3.4.7.3. Unsatisfactory Condition Report (UCR). An unsatisfactory condition is defined as an event/discrepancy that requires immediate supervisory intervention to ensure safety or process/product form, fit, or function reliability. Unsatisfactory conditions are deemed major and will be documented as a UCR. A condition of a minor nature shall be documented against the applicable checklist or its regulatory guidance.

8.3.4.8. Process Review (PR). A PR is a review of a process from cradle to grave, or a portion of the process. This may include a review of planning, technical data, WCDs, equipment, tools, training, materiel, and other key areas that affect the process. AFSC/ALCs will develop procedures for PRs.

8.3.4.8. (AFSC) The process review may include participation from all stakeholders: Engineering, AFLCMC, Business Office, QA, Safety, Environmental, and other SMEs as required. Process reviews should include results of program/process performance audits/inspections, customer feedback, product conformity, status of preventative/corrective actions, action items from previous management/program reviews, changes that could affect the Quality Management System (QMS), improvement opportunities, adequacy and effectiveness of training programs, and changes to authority requirements which could impact the organizational processes, products, systems, and programs. QA may perform PEs, QVIs, and applicable checklists during the process review. QA findings will be documented in LEAP. A final written report will be produced at the conclusion of the process review.

8.3.4.9. Unscheduled Inspections (UI). Unscheduled inspections are observations that are beyond the scope of a scheduled inspection in progress, not meeting the criteria of a DSV, TDV, or UCR. UI observed deficiencies will be recorded in LEAP under the category of an UI. UIs will be assigned a rating (i.e., QAR-1 or QAR-3) based on severity of the observation and will be analyzed to determine trends. All unscheduled inspections will have a defect class of either of Major or Minor. The deficiencies will be documented on a separate AFMC Form 343, *Quality Assurance Assessment*, as an UI in block 1. When determining the defect class on the AFMC Form 343,

reference the applicable RI checklist. If the defect is not listed on the applicable RI checklist, reference the definition of a major or minor below.

8.3.4.10. EPE, PE, QVI, and RI checklists will be used to standardize assessments. ALCs may supplement these checklists as needed. HQ AFSC will develop and maintain these checklists.

8.3.4.10. **(AFSC)** While conducting assessments/inspections, every step of the EPE, PE, QVI, and RI checklists will be followed.

8.3.4.11. **(Added-AFSC)** Activity Inspection (AI). Activity inspections may be conducted annually or when associated with an Inspector General (IG) inspection. When conducting Activity Inspections, use applicable checklists and process improvement tools to evaluate and provide actionable feedback for unit leadership. SMEs may be used while conducting the Activity Inspection. Each unit will receive an in brief, out brief, and a report as part of the Activity Inspection.

8.3.4.11.1. **(Added-AFSC)** The Activity Inspection must encompass a statistical sampling of all sections/flights of the organization being inspected and a statistical sampling of all facets of the operation to include unit self-inspections within each inspected section/flight. Whenever possible, locally required inspections conducted by outside agencies (e.g., safety, training, security, logistics readiness squadron (LRS), bio-environmental, and/or the fire department) should be accomplished in conjunction with the QA activity inspection. This reduces the number of disruptions to the organization being inspected and also increases the comprehensiveness of the activity inspection.

8.3.4.11.2. **(Added-AFSC)** Activity Inspection Reports. The report must be objective and factual with specific definitions of problem areas. Inspectors should work with the inspected organization to assist in performing root cause analysis and developing corrective action plans for ALC wide systemic issues.

8.3.5. Quality Assessment Results (QAR) Rating. A QAR rating is a value reflecting the results of quality assessments. These rating shall be input into the Command approved QA database. Assessments will be rated; however, MIs will be rated at local discretion. Observed deficiencies shall be classified as major or minor deficiencies. A minor deficiency is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, affect safety of flight, jeopardize equipment reliability, or warrant discontinuing a process or equipment operation. Minor deficiencies identified during an inspection/assessment will be documented and remain as minor deficiencies regardless of the assigned QAR rating. A major deficiency is defined as a condition that would endanger personnel, affect safety of flight, jeopardize equipment reliability, or warrant discontinuing process or equipment operation.

8.3.5.1. QAR-1. This rating indicates the evaluated process/product met the established standard. This rating is considered a pass rating.

8.3.5.2. QAR-3. This rating indicates an evaluated process/product did not meet the established standard because one or more major deficiencies were detected, or the number of minor

deficiencies exceeded the AQL. This rating is considered a fail rating. QA personnel must assign a QAR-3 rating if:

8.3.5.2. (AFSC) When a QAR-3, condition is observed, QA personnel will notify production supervision immediately. Under no circumstances will a safety error or equipment reliability error go uncorrected. If an assessment is being performed, QA personnel will consider the seriousness of the error committed when deciding whether or not the assessment should be allowed to continue. When QAR-3 rating that is directly attributable to a certified technician's proficiency, that individual, team, or team member will be de-certified. De-certification and re-certification procedures are defined in Vol. 1, Chapter 4.

8.3.5.2.1. A TO "warning" is overlooked or a safety error that could result in personal injury is detected.

8.3.5.2.2. A TO "caution" is overlooked or an equipment reliability error that could result in equipment or system unreliability or damage is detected.

8.3.5.2.3. The person or team accomplishing the task being evaluated demonstrates a lack of technical proficiency.

8.3.6. Rating Evaluations. Each assessment will be based on the AQL standard. A pass/fail rating applies only to the specific task evaluated.

8.3.6.1. Pass. A Pass rating is the result of an evaluation when the number of minor discrepancies does not exceed the AQL standard.

8.3.6.2. Fail. A Fail rating is the result of an evaluation when any of the following occur:

8.3.6.2.1. The number of minor discrepancies exceeds the established AQL standard.

8.3.6.2.2. Individual fails to detect a major discrepancy while completing with an inspection or work card requirement.

8.3.6.2.3. Individual fails to comply with a step of prescribed technical data that could affect the performance of the equipment involved or cause injury to personnel.

8.3.6.2.4. Individual demonstrates a lack of technical proficiency or system knowledge for the specific task.

8.3.6.2.5. Individual commits a safety violation.

8.3.6.2.6. Individual fails to document maintenance actions in appropriate equipment records.

8.3.7. Data Collection and Analysis.

8.3.7.1. AFMC Form 343, *Quality Assurance Assessment*. Quality assessment data will be documented on the AFMC Form 343 and recorded in LEAP. LEAP collects, indexes, files, stores, and maintains applicable AFMC Form 343 data.

8.3.7.1.1. **(Added-AFSC)** Control and Processing of an AFMC Form 343. Quality assessment data will be documented on a computer generated AFMC Form 343 and recorded in LEAP.

8.3.7.1.2. **(Added-AFSC)** QA personnel will input assessments into the Command approved QA database within one workday. Production personnel responsible for the deficiency/finding will provide a viable corrective/preventative action plan within eight business days. A corrective/preventative action plan will be developed to prevent or minimize the potential for recurrence. QA will review the corrective action plan and will either accept or reject the corrective/preventative action plan within two business days. AFSC/ALCs shall further identify AFMC Form 343 processing procedures to include extension of suspense dates and identify process to complete follow-up actions. During periods of LEAP system unavailability, QA personnel will document and retain assessment data on an electronic AFMC Form 343 for input into LEAP within one workday of when the system becomes available. When there are numerous AFMC Form 343 entries (backlog), organizations will develop a burn down plan and will work to input assessments as quickly as possible. Production personnel responsible for the deficiency/finding will provide a viable corrective/preventive action plan within 8 business days after the assessment data is input into LEAP.

8.3.7.1.3. **(Added-AFSC)** Follow-up Assessments. Depending on the severity of the discrepancies, the QAS, QA supervisor, or management may direct specific follow-up actions. Results of follow-up assessments will be recorded in the approved database.

8.3.7.2. Logistics Evaluation Assurance Program (LEAP). LEAP is the approved depot maintenance QA database. AFSC will utilize LEAP to collect and compile QA data. This information will allow management to make informed and responsible decisions about the quality system. The organization assessed is responsible for ensuring the corrective/preventive action plan is input into LEAP. Personnel using LEAP must be trained to the extent necessary to effectively use the system. AFSC will process assessments in a timely manner.

8.3.7.2. **(AFSC)** This data will be reviewed monthly to analyze results, identify trends, and will be reported to management in the appropriate forum.

8.3.7.3. Quality Metrics. The purpose of quality metrics is to measure efficiency, effectiveness, and provide regular feedback to management on the health of the processes, products, systems, programs, and personnel evaluated. HQ AFSC will ensure ALCs establish mandatory metrics, evaluation criteria, level/frequency of reporting, and other pertinent information. The formula for all metrics described below is the number of QAR-1 (pass) assessments divided by the total number of that type of assessment conducted in an organization for a given time period (e.g., total QAR-1 RI Tool assessments divided by the total number of RI Tool assessments performed in a Squadron/Group per month or quarter). IVs will be briefed to ALC leadership as an average of the number of detected IVs per month. Metrics data will be extracted from LEAP database for EPE, PE, QVI, RI, MI, and UI assessments.

8.3.7.3.1. Grading. The results of the total number of inspections accomplished during the period will be assigned one of the following five tier ratings based on number of inspections passed versus completed. In addition, the results of the total number of inspections accomplished during the period may be rolled up to create a cumulative rating by Squadron, Group, and ALC.

8.3.7.3.1.1. Outstanding 95%-100%

8.3.7.3.1.2. Excellent 90%-94.99%

8.3.7.3.1.3. Satisfactory 80%-89.99%

8.3.7.3.1.4. Marginal 70%-79.99%

8.3.7.3.1.5 Unsatisfactory 0%-69.99%

8.3.7.4. MSEP Summary. The MSEP summary will be compiled and reported by Group on a quarterly basis. HQ AFSC will ensure ALCs include the following in the MSEP Summary and formatted IAW the MSEP Summary Template in **Attachment 3**:

8.3.7.4. (AFSC) Metrics will be reported to Group monthly and to the ALC/CC quarterly.

8.3.7.4.1. An Executive Summary.

8.3.7.4.2. QASP Assessments results.

8.3.7.4.3. Observed Isolated Violations (TDV, DSV, UCRs) as a monthly average.

8.3.7.4.4. Top defect code drivers.

8.3.7.4.5. Number of overdue PEs and EPEs.

8.3.7.4.6. Visual information, graphs, narratives.

8.3.7.4.7. Quality trends identified through all inspection categories and evaluations, discussions of common problem areas, and must contain an analysis of MSEP results, a summary of significant discrepancies, technical inspections, and recommendations for improvement.

8.3.7.4.8. Pertinent internal and customer reported metrics as outlined below. In addition to reporting quality metrics, Complex QAs will collect and report other internal metrics (e.g., QVIQ, and Joint Deficiency Reporting System high profile deficiencies [i.e., quality escapes] IAW TO 00-35D-54, etc.) related to production quality during the MSEP quarterly review.

8.3.7.4.9. The MSEP summary shall be provided to Complex and Group CC/CL or equivalent. MSEP Summary and supporting LEAP data for the reporting period will be distributed to AFSC/LG and AFMC/A4M by the 20th of the month following the quarter.

8.3.7.4.10. MSEP Summaries and supporting data will be compiled and analyzed for accuracy and trend analysis at Center-level prior to forwarding to AFMC/A4MY. AFSC/LG will provide AFMC/A4M a consolidated AFSC MSEP report by the 1st of the month (30 days after the end of the reporting period).

8.3.7.4.10. (AFSC) The AFSC Share-Point repository for ALC MSEP Summary reporting can be found at the following link:
<https://usaf.dps.mil/sites/TMCA19219/LZR/lgpm/AFSC%20QA%20Folder/Forms/AllItems.aspx?id=%2Fsites%2FTMCA19219%2FLZR%2Flgpm%2FAFSC%20QA%20Folder%2FMSEP%20Summary&viewid=daf7b5c4%2D6b78%2D4a57%2D88cb%2D53642821198a>

8.4. Quality Assurance Training.

8.4.1. HQ AFSC will ensure a standardized QA training program is developed and implemented. QA personnel will attend within 60 days of completing required On-the-Job (OJT) to conduct MSEP assessments. Document QA inspector training in individual training records or approved Maintenance Information System (MIS). QA training as a minimum will include:

8.4.1.1. CRXMAO0007000SU *Depot Maintenance Quality Assurance (QA) Program*.

8.4.1.2. CRXMAO0007100SU *Logistics Evaluation Assurance Program (LEAP) (Module 1 – Evaluators)*.

8.4.1.3. CRXMAO0007102SU, *Logistics Evaluation Assurance Program (LEAP) (Module 3 – Administrators)*.

8.4.1.4. Depot Maintenance QA Course recurring training will be accomplished every three years from the date of initial/last training.

8.4.2. Training shall cover inspection and evaluation techniques, how to document inspection worksheets, and actions to prevent personnel injury or equipment damage. Document QA inspector training in individual training records or approved MIS.

8.4.3. (Added-AFSC) ALC QA Directors shall ensure the following training requirements are met:

8.4.3.1. (Added-AFSC) All QA inspectors and evaluators (i.e., QA personnel) must be trained IAW AFI 36-2650, AFMC Supplement and training requirements outlined in the AFMC GS-1910 CTP.

8.4.3.2. (Added-AFSC) QA personnel are not required to be PAC certified on tasks being assessed, but must meet any qualification (mandatory formal training) requirements as defined in Vol. 1, Chapter 4 of this supplement. Section III-Q or the PAC record will be used to document QAS task qualifications.

8.4.3.3. **(Added-AFSC)** All QA inspectors must complete Egress training before evaluating Egress tasks IAW Volume 2, Chapter 7.5 of this instruction. Where formal Air Education and Training Command (AETC) Egress training is non-existent, production will develop and route Egress training requirements to the ALC training office who verifies and validates all information. The ALC Training Office will forward the requirement to HQ AFMC/A4PT for final approval.

8.4.3.4. **(Added-AFSC)** All QA inspectors evaluate welding operations and processes IAW TO 00-25-252, *Aeronautical Equipment Welding*.

8.4.3.5. **(Added-AFSC)** All QA inspectors must be trained on all associated safety requirements prior to performing inspections on fuel systems or fuel systems repair facilities IAW TO 1-1-3, *Inspection and Repair of Aircraft Integral Tanks and Fuel Cells*.

8.4.3.6. **(Added-AFSC)** All QA inspectors evaluating NDI technicians during QVIs and PEs are trained and qualified on the method being evaluated.

8.4.3.7. **(Added-AFSC)** All QA inspectors who conduct engine run evaluations are trained on initial course requirements.

8.4.3.8. **(Added-AFSC)** All QA inspectors evaluating Low Observables maintenance maintain minimum experience requirements as mandated by the applicable MDS.

8.4.3.9. **(Added-AFSC)** All QA inspectors evaluating Aircrew Flight Equipment are trained IAW AFMAN 11-301V1 prior to evaluating Aircrew Flight Equipment (AFE) tasks.

8.5. Deficiency Reporting, Investigating and Resolution (DRI&R). The DRI&R process provides the Air Force with a means of identifying deficiencies, resolving those deficiencies within the bounds of the contractual requirements, program resources and the appropriate acceptance of risk for those deficiencies that cannot be resolved in a timely manner. This process is designed to provide feedback to the warfighters and other users in the field on the resolution of Deficiency Report(s) (DRs) originated by their organizations. Transmittal of system deficiency reports from user MAJCOMs to the program office provides the Program Manager with the information needed to assess the operational risk posed by deficiencies identified on their systems and empowers them to account for the Operational Safety, Suitability and Effectiveness (OSS&E) of their systems. HQ AFSC will:

8.5.1. Define processes and procedures for documenting deficiencies, corrective and preventive action, and follow-up action data into approved QA database.

8.5.2. Define requirements to analyze quality deficiencies and recommend appropriate corrective and preventive action.

8.5.3. Define procedures for QA investigations of internal or external reported DR deficiencies.

8.5.3. **(AFSC)** Refer to paragraph 8.3.1.1.12. of this Volume for QA investigations of internal or external reported DR deficiencies.

(Added-AFSC)

JEFFREY R. SICK, SES, DAF

Air Force Sustainment Center, A3/4 Director

Attachment 1
GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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Prescribed Forms

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(Added-AFSC) AFSC Form 94, *DIOH Out of Balance Reconciliation Worksheet.*

(Added-AFSC) AFSC Form 95, *Issue Request*

(Added-AFSC) AFSC Form 100, *Floating Line Fill Floating Stock*

(Added-AFSC) AFSC Form 101, *Verification of Content Removal Tag*

(Added-AFSC) AFSC Form 102, *Verification of Content Removal Label*

(Added-AFSC) AFSC Form 105, *Workload Record*

(Added-AFSC) AFSC Form 137, *Routed Order (Proj Dir)*

(Added-AFSC) AFSC Form 173, *MDS/Project Operation Assignment*

(Added-AFSC) AFSC Form 206, *Temporary Work Request*

(Added-AFSC) AFSC Form 237, *Temporary Labor and Material Plan*

(Added-AFSC) AFSC Form 240, *Temporary Labor and Material Plan Addendum*

(Added-AFSC) AFSC Form 304, *Service Order*

(Added-AFSC) AFSC Form 305, *Plant Management Work Order*

(Added-AFSC) AFSC Form 306, *Preventative Maintenance Instructions*

(Added-AFSC) AFSC Form 355, *Operator Maintenance Certification*

(Added-AFSC) AFSC Form 388, *Machine Tool and Equipment Historical Record*

(Added-AFSC) AFSC Form 400, *Inventory Control Sheet*

(Added-AFSC) AFSC Form 501, *Request for Quote/Rough Order of Magnitude*

(Added-AFSC) AFSC Form 503, *AWP Checklist/Worksheet*

(Added-AFSC) AFSC Form 504, *Post Dock Review Checklist*

(Added-AFSC) AFSC Form 600, *Production Order*

(Added-AFSC) AFSC Form 847, *Recommendation For Change Of Depot Maintenance Management (DMM)*

(Added-AFSC) AFSC Form 930, *G004L File Maintenance Transactions*

(Added-AFSC) AFSC Form 957, *Work Control Document (WCD) Change Request*

(Added-AFSC) AFSC Form 959, *Maintenance Work Request (MWR) Discrepancy Log*

Adopted Forms

DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*

DAF Form 847, *Recommendation for Change of Publication*

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AF Form 332, *Base Civil Engineer Work Request*

(Added-AFSC) AF Form 813 – *Request For Environmental Impact Analysis*

AF Form 2400, *Functional Check Flight Log*

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(Added-AFSC) AFTO Form 95, *Significant Historical Data*

AFTO Form 103, *Aircraft/Missile Condition Data*

AFTO Form 244, *Industrial/Support Equipment Record*

AFTO Form 245, *Industrial/Support Equipment Record*

(Added-AFSC) AFTO Form 252 – *T.O. Publication Change Request*

(Added-AFSC) AFTO Form 350, *Repairable Item Processing Tag*

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

(Added-AFSC) AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*

(Added-AFSC) AFMC Form 36, *Purchase Request*

(Added-AFSC) AFMC Form 181 – *Project Order*

AFMC Form 202, *Engineer Technical Assistance Request*

(Added-AFSC) AFMC Form 299, *Safety Fire and Health Review*

(Added-AFSC) DD Form 200, *Financial Liability Investigation of Property Loss*

(Added-AFSC) DD Form 250, *Material Inspection and Receiving Report*

(Added-AFSC) DD Form 1149, *Requisition and Invoice/Shipping Document*

(Added-AFSC) DD Form 1348-1, *DoD Single Line Item Release/Receipt Document*

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(Added-AFSC) DLA Form 1838, *Organic Manufacturing Quote*

FAA Form 7460-1, *Notice of Proposed Construction or Alteration*

Abbreviations and Acronyms

(Added-AFSC) AAC – Acquisition Advice Code

ABOM—Automated Bill of Material

(Added-AFSC) **ABOM/NIMMS** - Automated Bill of Material/Naval Air Systems Command Industrial Material Management System

ABW—Air Base Wing

(Added-AFSC) **ACO** – Administrative Contracting Officer

(Added-AFSC) **ACOQ** – Annual Customer Order Quantity

(Added-AFSC) **AEDC** – Arnold Engineering and Development Center

(Added-AFSC) **AETC** – Air Education and Training Command

(Added-AFSC) **AFCAIG** --Air Force Cost Analysis Improvement Group

AFI—Air Force Instruction

(Added-AFSC) AFIF – Air Force Industrial Fund

(Added-AFSC) AFJMAN - Air Force Joint Manual

AFLCMC—Air Force Life Cycle Management Center

AFMCI—Air Force Materiel Command Instruction

AFMCMAN—Air Force Materiel Command Manual

AFMAN—Air Force Manual

(Added-AFSC) AFMETCAL – Air Force Metrology and Calibration

AFOSH—Air Force Occupational Safety, Fire, and Health Standards

AFPD—Air Force Policy Directive

(Added-AFSC) AFPSL – Air Force Primary Standards Laboratory

(Added-AFSC) AFRAMS – Air Force Recoverable Assembly Management System

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFSC—Air Force Sustainment Center

(Added-AFSC) AFSO 21 – Air Force Smart Operations for the 21st Century

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

(Added-AFSC) AI – Activity Inspection

AIDR—Acceptance Inspection Deficiency Reports

ALC—Air Logistics Complex

(Added-AFSC) ALO – Air Liaison Officer

ALSDS—AFMC Labor Standards Data System

(Added-AFSC) AMARG—Aerospace Maintenance and Regeneration Group

(Added-AFSC) AMP – Asset Management Plan

AMR—Aircraft and Missile Requirements

(Added-AFSC) AMRD – Aircraft Missile Requirements Data

(Added-AFSC) AMT – Aircraft Maintenance Team

(Added-AFSC) AMXG – Aircraft Maintenance Group

ANG—Air National Guard

(Added-AFSC) ANSI – American National Standards Institute

(Added-AFSC) AoP – Art of the Possible

(Added-AFSC) APO – Automated Project Order Form System

(Added-AFSC) APP – Authorize for Procurement Purposes

(Added-AFSC) APSR – Accountable property system of record

(Added-AFSC) ARMS – Aviation Resource Management System

(Added-AFSC) ART – AWP Resolution Time

(Added-AFSC) AS – Aerospace Standards

(Added-AFSC) ASCN – Authorization Serial Control Number

(Added-AFSC) ASHRAE – American Society of Heating, Refrigerating and Air Conditioning Engineers

(Added-AFSC) ASME – American Society of Mechanical Engineers

(Added-AFSC) ASNT – American Society of Nondestructive Testing

(Added-AFSC) ASQ – American Society for Quality

(Added-AFSC) ATE – Automated Test Equipment

AQL—Acceptable Quality Level

AWM—Awaiting Maintenance

AWP—Awaiting Parts

(Added-AFSC) BC – Budget Code

BCE—Base Civil Engineering Group

(Added-AFSC) BIT – Built In Test

(Added-AFSC) BITE – Built In Test Equipment

(Added-AFSC) BLC – Budgeted Labor Cost

BOM—Bill of Material

(Added-AFSC) BOMIs – Bill of Material Indicators

(Added-AFSC) BOW – Bill of Work

(Added-AFSC) CAI – Customer account identity

(Added-AFSC) CAM—Centralized Asset Management

(Added-AFSC) CAMS - Core Automated Maintenance System

CANN—Cannibalization

(Added-AFSC) CAP – Contractor Acquired Property

(Added-AFSC) CAVAF – Commercial Asset Visibility – Air Force

CBM+—Condition Based Maintenance Plus

(Added-AFSC) CBT – Computer Based Training

(Added-AFSC) CC – Cost Code

(Added-AFSC) CCB – Configuration Control Board

CCIP—Commander’s Inspection Program

(Added-AFSC) CDD – Contract Delivery Dates

CE—Civil Engineering

CEMS—Comprehensive Engine Management System

(Added-AFSC) CFHS – Carry Forward to Home Station

(Added-AFSC) CFT – Contract Field Team

(Added-AFSC) CI – Configuration Items

(Added-AFSC) CI² – Continuous Improvement and Innovation

CIP—Capital Investment Program

CIR—Custodian Inventory Report

(Added-AFSC) CIVR—Configuration Item Verification Review

(Added-AFSC) CJCSI – Chairman of the Joint Chiefs of Staff Instruction

CM—Corrective Maintenance

(Added-AFSC) CMMS – Computerized Maintenance Management System

(Added-AFSC) CMRP – Certified Maintenance and Reliability Professional

(Added-AFSC) CN – Control Number

(Added-AFSC) CNC – Computer Numerical Control

COMM—Communications

(Added-AFSC) CONEN – Conversion Engine

(Added-AFSC) COPA – Center of Parts Activity

(Added-AFSC) COTS—Commercial off-the-shelf

(Added-AFSC) CPFH - Cost Per Flying Hour

(Added-AFSC) CR – Change Request

(Added-AFSC) CRI – Consolidated Repairable Inventory

(Added-AFSC) CRI Est – Consolidated Repairable Inventory Estimated

(Added-AFSC) CSA – Configuration Status Accounting

CSAG-M—Consolidated Sustainment Activity Group-Maintenance

CSAG-S—Consolidated Sustainment Activity Group-Supply

(Added-AFSC) CSI – Consolidated Serviceable Inventory

(Added-AFSC) CSI OH – Consolidated Serviceable Inventory On Hand

(Added-AFSC) CSS—Customer Support Specialist

CTP—Civilian Training Plan

DAF—Department of the Air Force

DAFI—Department of the Air Force Instruction

DAFMAN—Department of the Air Force Manual

(Added-AFSC) DAU – Defense Acquisition University

(Added-AFSC) DCWA – Depot Customer Workload Agreement

(Added-AFSC) DDE – Demand Data Exchange

(Added-AFSC) DDR—Daily Demand Rate

(Added-AFSC) DDS – DMAPS Data Store

(Added-AFSC) DEA – Delegated Engineering Authority

(Added-AFSC) DEMIL – Demilitarize

(Added-AFSC) DEV PAC - Development Packet

(Added-AFSC) DFAS – Defense Finance and Accounting Service

(Added-AFSC) DFS – Depot Forecasting Specialist

(Added-AFSC) DHA – Demand History Adjustment

DIFM—Due In From Maintenance

DIFMS—Defense Industrial Financial Management System

DIOH—Due In from Overhaul

DIPE—Depot Industrial Plant Equipment

(Added-AFSC) DIT – Demand Input Templates

(Added-AFSC) DL – Direct Labor

DLA—Defense Logistics Agency

(Added-AFSC) DLADS – DLA Disposition Services

(Added-AFSC) DLM – Depot Level Maintenance

(Added-AFSC) DLR – Depot Level Repairable

(Added-AFSC) DLSC – Defense Logistics Services Center

(Added-AFSC) DM – Depot Maintenance

DMAG—Depot Maintenance Activity Group

DMAPS—Depot Maintenance Accounting and Production System

(Added-AFSC) DME – Depot Maintenance Equipment

DMISA—Depot Maintenance Interservice Support Agreement

DMMSS—Depot Maintenance Material Support System

(Added-AFSC) DMS – Depot Maintenance Systems

(Added-AFSC) DMSI – Depot Maintenance Systems Integration

DMSMS—Diminishing Manufacturing Sources and Material Shortages

DMWM—Depot Maintenance Work Measurement

DoD—Department of Defense

(Added-AFSC) DOE – Department of Energy

DOFM—Due Out from Maintenance

(Added-AFSC) DOP – Dropped Object Prevention

DOTM—Due Out To Maintenance

DPC—Data Processing Code

(Added-AFSC) DPEM – Depot Purchased Equipment Maintenance

(Added-AFSC) DPSH—Direct Product Standard Hours

DR—Deficiency Report

(Added-AFSC) DRCT—Depot Repair Cycle Time

DRI&R—Deficiency Reporting, Investigating and Resolution

(Added-AFSC) DSCM—Depot Supply Chain Management

(Added-AFSC) DSS – Distribution Standard System

DSV—Detected Safety Violation

DWMS—Depot Work Methods and Standards

(Added-AFSC) E&I – Evaluation and Inspection

(Added-AFSC) EBS – Enterprise Business System

(Added-AFSC) ECN – Engineering Change Notice

(Added-AFSC) EDD – Estimated Delivery Date

(Added-AFSC) EI – End Item

(Added-AFSC) EIA – Electronic Industries Alliance

(Added-AFSC) EIHR – End Item Hourly Rate

(Added-AFSC) EII – End Item Identity

EISP—End Item Sales Price

(Added-AFSC) EMC – Expense Material Cost

(Added-AFSC) EMSS – EXPRESS MAJCOM Scenario Subsystem

(Added-AFSC) EOM – End of Month

(Added-AFSC) EOY – End of Year

EPE—Evaluator Proficiency Evaluation

(Added-AFSC) EPP – EXPRESS Prioritization Processor

EPS—Exchangeables Production System

(Added-AFSC) ERP – Enterprise Resource Planning

ERRC—Expendability Recoverability Reparability Category

(Added-AFSC) ERRP—Engineering Requirements Review Process

(Added-AFSC) ES – Equipment Specialist

(Added-AFSC) ETAR - Engineering Technical Assistance Request

(Added-AFSC) eWCD – Electronic Work Control Document

EXPRESS—Execution and Prioritization of Repairs Support System

FAA—Federal Aviation Administration

(Added-AFSC) FAD – Force Activity Designator

(Added-AFSC) FAR – Federal Acquisition Regulation

(Added-AFSC) FAT – First Article Test

(Added-AFSC) FAX – Facsimile

(Added-AFSC) FCA – Functional Configuration Audit

(Added-AFSC) FCB – Functional Configuration Baseline

FCF—Functional Check Flight

(Added-AFSC) FCI – Functional Configuration Identification

(Added-AFSC) FCRN – Fund Classification Reference Number

FEM—Facility and Equipment Maintenance

(Added-AFSC) FIABS – Financial Inventory Accounting and Billing System

(Added-AFSC) FLIS – Federal Logistics Information System

(Added-AFSC) FMEA – Failure Modes and Effects Analysis

(Added-AFSC) FMM – Financial Management Systems Branch

(Added-AFSC) FMRD – Depot Maintenance Activity Group

(Added-AFSC) FMS—Foreign Military Sales

FO—Foreign Object

(Added-AFSC) FOB – Found on Base

FOD—Foreign Object Damage

FOM—Facilitate Other Maintenance

FPWS—Fixed Price Work Sheet

(Added-AFSC) FQ – Fiscal Quarter

(Added-AFSC) FSC – Federal Stock Classes

(Added-AFSC) FSS – Federal Supply System

(Added-AFSC) FWP - A code defined as an item previously in fully parts supportable status that is ready for scheduling and repair assets

(Added-AFSC) FY—Fiscal Year

G&A—General & Administrative

(Added-AFSC) GEIA – Government Electronics & Information Technology Association

(Added-AFSC) GIDEP – Government Industry Data Exchange Program

(Added-AFSC) GPC – Government Purchase Card

GS—General Schedule

(Added-AFSC) GSD – General Support Division

(Added-AFSC) GSU—Geographically Separated Unit

(Added-AFSC) HAZMAT – Hazardous Materiel

(Added-AFSC) HHQ – Higher Headquarters

HQ—Headquarters

HQ AFMC—Headquarters Air Force Materiel Command

(Added-AFSC) HQ AFSC – Headquarters Air Force Sustainment Center

(Added-AFSC) HSC – Home Station Check

(Added-AFSC) HVAC – Heating, Ventilation, and Air Conditioning

IAW—In Accordance With

(Added-AFSC) ICP – Inventory Control Point

(Added-AFSC) IE – Industrial Engineering

(Added-AFSC) IEEE- Institute of Electronic and Electrical Engineers

(Added-AFSC) IET – Industrial Engineering Technician (Maintenance Planner)

IET—Industrial Engineering Technician

IM—Item Manager

(Added-AFSC) IMC – Investment Material Cost

(Added-AFSC) IN-MA – IN Maintenance

(Added-AFSC) INS/NSO - Insurance/Numerical Stockage Objective

(Added-AFSC) INW – In Work

(Added-AFSC) IOC – Initial Operating Capability

(Added-AFSC) IOE – Initial Outfitting Equipment

(Added-AFSC) IPB – Illustrated Parts Breakdown

IPE—Industrial Plant Equipment

(Added-AFSC) IPV – Industrial Product-Support Vendor

(Added-AFSC) I&S – Interchangeability and Substitutability

(Added-AFSC) IR – Infrared

(Added-AFSC) ISO – Isochronal

(Added-AFSC) ISO – International Organization for Standardization

(Added-AFSC) ITN – Inventory Tracking Number

ITS—Inventory Tracking System

IV—Isolated Violation

(Added-AFSC) IWCS – Industrial Waste Collection System

(Added-AFSC) JAG – Judge Advocate General

(Added-AFSC) JCS – Joint Chiefs of Staff

(Added-AFSC) JD – Job Designator

(Added-AFSC) JDRS – Joint Deficiency Reporting System

JOAP—Joint Oil Analysis Program

JON—Job Order Number

JOPMS—Job Order Production Number Master System

JOQ—Job Order Quantity

(Added-AFSC) JSC – JON Status Code

(Added-AFSC) LDMS – Lean Depot Management System

LEAP—Logistics Evaluation Assurance Program

(Added-AFSC) LI – Local Instruction

(Added-AFSC) LIMS-EV – Logistics, Installations, and Mission Support – Enterprise View

(Added-AFSC) LOM – List of Material

(Added-AFSC) LOTO – Lock-out/Tag-out

LRDP—Logistics Requirements Determination Process

(Added-AFSC) LRS – Logistics Readiness Squadron

(Added-AFSC) LSM – Labor Standard Master

(Added-AFSC) LSN – Local Stock Number

(Added-AFSC) LSR – Labor Standard Review

(Added-AFSC) M&S – Modeling and Simulation

(Added-AFSC) MABSM – Maintenance Business System Modernization

(Added-AFSC) MDARS - Malfunction Detection Analysis & Recording System

MAJCOM—Major Command

(Added-AFSC) MCF – Metrology and Calibration Flight

(Added-AFSC) MCM – Machine Conditioning Monitoring

(Added-AFSC) MDR – Monthly Demand Rate

MDS—Mission-Design Series

MI—Management Inspection

(Added-AFSC) MIL-SPEC – Military Specification

(Added-AFSC) MIP – Material Improvement Project

MIS—Maintenance Information System

MICAP—Mission Impaired Capability Awaiting Parts

MICT—Management Internal Control Toolset

MILCON—Military Construction

MISTR—Management of Items Subject To Repair

(Added-AFSC) MLA - Master Labor Agreement

(Added-AFSC) MM – Material Manager

(Added-AFSC) MM – Material Management

(Added-AFSC) MMTL – Material Management Team Lead

(Added-AFSC) MOD—Modification

MPS—Material Processing System

(Added-AFSC) MQ – Material Quantity

(Added-AFSC) MRO – Maintenance, Repair, and Overhaul

(Added-AFSC) MRP – Material Requirements Planning

(Added-AFSC) MRSP – Maintenance Requirements Supportability Process

(Added-AFSC) MRT – Maintenance Review Team

(Added-AFSC) MSD – Material Support Division

(Added-AFSC) MSDS – Material Safety Data Sheet

MSEP—Maintenance Standardization and Evaluation Program

(Added-AFSC) MSOR – Multiple Source of Repair

(Added-AFSC) MSS – Material Support Specialist

(Added-AFSC) MTBCF – Mean Time Between Critical Failure

(Added-AFSC) MTBF – Mean Time Between Failure

(Added-AFSC) MTBM – Mean Time Between Maintenance

(Added-AFSC) MTBOMF – Mean Time Between Operational Mission Failure

(Added-AFSC) MTBR – Mean Time Between Repair

(Added-AFSC) MTM—Methods Time Measurement

(Added-AFSC) MTTD – Mean Time To Diagnose

(Added-AFSC) MTTF – Mean Time To Failure

(Added-AFSC) MTTR – Mean Time To Repair

(Added-AFSC) MWMS – Maintenance Workload Management System

(Added-AFSC) MWR – Maintenance Work Request

(Added-AFSC) MXG – Maintenance Group

MXG/CC—Maintenance Group Commander

MXSG—Maintenance Support Group

(Added-AFSC) MXSS – Maintenance Support Squadron

(Added-AFSC) NASA – National Aeronautics and Space Administration

(Added-AFSC) NATO – North Atlantic Treaty Organization

NAVAIR—Naval Air Systems Command

NCE—Nuclear Certified Equipment

(Added-AFSC) NDI – Non-Destructive Inspection

(Added-AFSC) NFPA – National Fire Protection Association

(Added-AFSC) NHA—Next Higher Assembly

(Added-AFSC) NIIN – National Item Identification Number

NIMMS—NAVAIR Industrial Material Management System

(Added-AFSC) NIST – National Institute of Standards and Technology

NLT—No Later Than

(Added-AFSC) NOCM – Nuclear Ordnance Commodity Management

(Added-AFSC) NonCLSSA - Non-Cooperative Logistics Supply Support Agreement

(Added-AFSC) NRO – Net Repair Objective

NSN—National Stock Number

NWRM—Nuclear Weapons Related Materiel

(Added-AFSC) O&A – Over and Above

(Added-AFSC) OB – Business Operations

(Added-AFSC) OBW – Business Operations Workloading

(Added-AFSC) OCC FAC—Occurrence Factor

(Added-AFSC) OCL – Operation Count Limit

OCM—On Condition Maintenance

(Added-AFSC) ODC – Other Direct Cost (TDY, etc.)

(Added-AFSC) OEM - Original Equipment Manufacturer

(Added-AFSC) OI – Operating Instruction

OJT—On the Job Training

OM—Operator Maintenance

OMEI—Other Major End Item

(Added-AFSC) ON – Operation Number

(Added-AFSC) OOB – Out of Balance

(Added-AFSC) OPC – Ownership Purpose Code

OPR—Office of Primary Responsibility

(Added-AFSC) OPS – Operational Check

(Added-AFSC) ORR – Operational Readiness Review

OS—Operations

(Added-AFSC) OSH – Operation Standard Hours

(Added-AFSC) OSHA—Occupational Safety and Health Administration

OSS&E—Operational Safety, Suitability and Effectiveness

OWO—On Work Order

(Added-AFSC) P&A – Procedures and Analysis

PAC—Production Acceptance Certification

(Added-AFSC) PAO – Project Administration Officer

(Added-AFSC) PAP—Predetermined Acceptance Probability

(Added-AFSC) PAQ – Production Analysis Quantity

(Added-AFSC) PARS – Prioritization of Aircraft Repairables

(Added-AFSC) PAT – Planner Address Table

(Added-AFSC) PCA/FCA – Physical Configuration Audits and Functional Configuration Audits

(Added-AFSC) PCN - Program Control Number

(Added-AFSC) PCO – Procuring Contracting Officer

PDM—Programmed Depot Maintenance

PdM—Predictive Maintenance

(Added-AFSC) PDMC—Planning for DLA Managed Consumables

PDMSS/G097—Programmed Depot Maintenance Scheduling Systems

PDN—Production Number

(Added-AFSC) PDN/CTRL – Production Numbers/Control

(Added-AFSC) PDRR – Post Dock Records Review

(Added-AFSC) PDRT – Post Dock Review Team

PE—Personnel Evaluation

PF&D—Personal Fatigue and Delay

(Added-AFSC) PFT – Product Focus Team

(Added-AFSC) PII – Pre-Induction Inspection

(Added-AFSC) PJM – Permanent JON Master

PM—Preventive Maintenance

(Added-AFSC) PM – Program Manager

(Added-AFSC) PME – Precision Measuring Equipment

PMEL—Precision Measurement Equipment Laboratory

(Added-AFSC) PMS – Production Management Specialist

(Added-AFSC) P/N – Part Number

PO—Program Office

POC—Point of Contact

(Added-AFSC) POH—Production Overhead

POL—Petroleum, Oils, and Lubricant

(Added-AFSC) PON – Project Order Number

(Added-AFSC) POS – Peacetime Operating Stock

(Added-AFSC) POU – Point of use

PPE—Personal Protective Equipment

PPPT—Pre-Production Planning Team

PPT—Production Planning Team

PQDR—Product Quality Deficiency Report

PR—Process Review

(Added-AFSC) PR – Purchase Request

(Added-AFSC) PS&D – Plans, Scheduling, and Documentation

(Added-AFSC) PSC - Product Support Center

PSF—Production Support Flight

(Added-AFSC) PSFC – Production Support Flight Chief

(Added-AFSC) PSM – Product Support Manager

(Added-AFSC) PSSD—Production Section Scheduling Designator

PST—Production Support Technician

(Added-AFSC) PWC – Performing Work Center

QA—Quality Assurance

QAP—Quality Assurance Plan

QAR—Quality Assessment Results

QAS—Quality Assurance Specialist

QASP—Quality Assurance Surveillance Plan

QAWG—Quality Assurance Working Group

QASG—Quality Assurance Steering Group

(Added-AFSC) QC – Quarterly Condemnations

(Added-AFSC) QC – Quality Control

QDR—Quality Deficiency Rates

(Added-AFSC) QDR – Quality Deficiency Report

(Added-AFSC) QMS – Quality Management System

(Added-AFSC) QPA – Quantity Per Assembly

(Added-AFSC) QPT – Quantity Per Task

(Added-AFSC) QSC – Quarterly Serviceable Completions

(Added-AFSC) QSI – Quarterly Sales Indicator

(Added-AFSC) QUP – Quantity Unit Pack

(Added-AFSC) QVC – Quality Verification Center

QVI—Quality Verification Inspection

QVIQ—Quality Verification Inspection Q-Stamp

(Added-AFSC) R&D – Research and Development

(Added-AFSC) R&M – Reliability and Maintainability

(Added-AFSC) RA – Receipt Acknowledgement

(Added-AFSC) RAC – Risk Assessment Code

(Added-AFSC) RACOQ – Remaining Annual Customer Order Quantities

(Added-AFSC) RAM – Reliability, Availability, and Maintainability

(Added-AFSC) RBL—Readiness Based Leveling

RCC—Resource Control Center

(Added-AFSC) RC/CC – Resource Control/Cost Center

RCM—Reliability Centered Maintenance

(Added-AFSC) RDB – Requirements Data Bank

(Added-AFSC) RDD – Required Delivery Date

RDS—Records Disposition Schedule

REMIS—Reliability and Maintainability Information System

RFQ—Request for Quote

RGC—Repair Group Categories

RI—Routine Inspection

(Added-AFSC) RIE—Rapid Improvement Event

RM—Risk Management

(Added-AFSC) RMS – Requirement Management System

(Added-AFSC) RNM – Request Number Master

(Added-AFSC) ROM—Rough Order of Magnitude

(Added-AFSC) ROS – Report of Survey

RPIE—Real Property Industrial Equipment

(Added-AFSC) RQA – Request for Quality Assistance

(Added-AFSC) RSP – Readiness Spares Packages

(Added-AFSC) RWM – Read-Write Memory

(Added-AFSC) SBIR – Small Business Innovative Research

(Added-AFSC) SBSS – Standard Base Supply System

(Added-AFSC) SC&D – Stock Control and Distribution

(Added-AFSC) SCM—Supply Chain Manager

(Added-AFSC) SCMG - Supply Chain Management Group

(Added-AFSC) SCMW – Supply Chain Management Wing

(Added-AFSC) SCR – Supply Chain Representative

(Added-AFSC) SDS – Safety Data Sheet

SE—Safety

(Added-AFSC) SE – Support Equipment

SFD—Shop Flow Days

(Added-AFSC) SGM – Sub Group Master

(Added-AFSC) SME—Subject Matter Expert

(Added-AFSC) SMR – Source, Maintenance & Recoverability

(Added-AFSC) SNB – Serial Number Bin

(Added-AFSC) SNUD – Stock Number User Directory

(Added-AFSC) SOJT – Structured on the Job Training

(Added-AFSC) SOPI – Status of Planning Indicator

(Added-AFSC) SOR – Source of Repair

(Added-AFSC) SOS – Source of Supply

(Added-AFSC) SOW – Statement of Work

(Added-AFSC) SP – Supply Planner

(Added-AFSC) SPAWS – Single Prioritization Across Weapon Systems

(Added-AFSC) SPG—Sales Price Generator

(Added-AFSC) SPM – System Program Manager

(Added-AFSC) SPM – Sales Price Master

(Added-AFSC) SPM – Service Parts Management

(Added-AFSC) SPO—System Program Office

SQ/CC—Squadron Commander

(Added-AFSC) SRAN – Stock Record Account Number

(Added-AFSC) SRD - Standard Reporting Designator

SRRB—Spares Requirement Review Board

(Added-AFSC) SRU – Shop Replaceable Unit

(Added-AFSC) SSC – Shop Service Center

(Added-AFSC) SSHA – System Safety Hazard Analysis

SSQ—Special Skills Qualification

(Added-AFSC) SVR – System Verification Review

TAA—Time and Attendance

(Added-AFSC) TCE – Thermal Coefficient of Expansion

(Added-AFSC) TCTO—Time Compliance Technical Order

TDR—Teardown Deficiency Report

TDV—Technical Data Violation

TERPS—Terminal Instrument Procedures

(Added-AFSC) TMC – Tool Management Center

TMDE—Test, Measurement and Diagnostic Equipment

TMS—Type Model Series

(Added-AFSC) TMT – Task Management Tool

(Added-AFSC) TNB – Tail Number Bin

TO—Technical Order

(Added-AFSC) TFIRR – Trouble Failure Inspection/Rejection Report

(Added-AFSC) TOC – Total Operational Cost

(Added-AFSC) TRC – Technology Repair Center

(Added-AFSC) TSH – Total Standard Hours

TSS—Training Scheduling System

(Added-AFSC) UAW – United Auto Workers

(Added-AFSC) UCA – Uniform Cost Accounting

UCR—Unsatisfactory Condition Report

(Added-AFSC) UDLM—Unprogrammed Depot Level Maintenance

UFC—Unified Facilities Criteria

UFGS—Unified Facilities Guide Specifications

UI—Unscheduled Inspection

(Added-AFSC) UID – Unique Identifier

(Added-AFSC) UND – Urgency of Need

(Added-AFSC) UOM – Unit of Measure

(Added-AFSC) UPA – Units per Assembly

(Added-AFSC) UR – Unsatisfactory Report

(Added-AFSC) URC – Unit Repair Cost

(Added-AFSC) VI – Visual Inspection

(Added-AFSC) VPP – Voluntary Protection Program

(Added-AFSC) WA – Work authority

WAD—Work Authorization Document

(Added-AFSC) WARRS – Wholesale and Retail Receiving and Shipping

(Added-AFSC) WBS—Work Breakdown Structure

WCD—Work Control Document

WIP—Work in Process

(Added-AFSC) WL – Working Levels

(Added-AFSC) WMSME – Work Measurement Subject Matter Expert

(Added-AFSC) WTC – Workloader Technician Code

(Added-AFSC) WUC – Work Unit Code

Office Symbols

(Added-AFSC) 309th AMARG – 309th Aircraft Maintenance and Regeneration Group

(Added-AFSC) 583 MMXS – 583 Missile Maintenance Squadron

AFMC/A4/10—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration

AFMC/A4/10/A4M—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Maintenance Division

(Added-AFSC) AFSC/A4M - Air Force Sustainment Center, Depot Maintenance Division

(Added-AFSC) AFSC/A4M/R - Air Force Sustainment Center Depot Maintenance & Supply Divisions

AFMC/A4/10/A4MY—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration, Maintenance Division, Aviation Support Equipment, Depot Maintenance Policy, and Maintenance Training Branch

(Added-AFSC) AFMC/A4PT - Air Force Materiel Command, Director of Logistics, Training

(Added-AFSC) AFSC/A4R – Maintenance Modernization & Investment Branch

AFMC/IG—Air Force Materiel Command Inspector General

(Added-AFSC) AFSC/CA - Air Force Sustainment Center Executive Director

(Added-AFSC) AFSC/FM – Air Force Sustainment Center Financial Management

AFSC/LG—Air Force Sustainment Center, Logistics Directorate

(Added-AFSC) ALC/CC – Air Logistic Complex Commander

(Added-AFSC) ALC/IG – Air Logistic Complex Inspector General

(Added-AFSC) ALC/OB – Air Logistics Complex Business Operations

(Added-AFSC) AMXG – Aircraft Maintenance Group

(Added-AFSC) AMXG/CC –Aircraft Maintenance Group Commander

(Added-AFSC) AMXG/CD – Aircraft Maintenance Group Civilian Director

(Added-AFSC) AMXG/DD – Aircraft Maintenance Group Deputy Director

(Added-AFSC) MXG/CC – Maintenance Group Commander

(Added-AFSC) OC-ALC – Oklahoma City Air Logistic Complex

(Added-AFSC) OO-ALC – Ogden Air Logistics Complex

(Added-AFSC) WR-ALC – Warner Robins Air Logistic Complex

Terms

(Added-AFSC) Acquisition – Acquisition is the conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal of weapons and other systems, supplies, or services (including construction) to satisfy DoD needs, intended for use in or in support of military missions.

(Added-AFSC) Ad Hoc - Ad hoc is a word that originally comes from Latin and means “for this” or "for this situation." In current American English it is used to describe something that has been formed or used for a special and immediate purpose, without previous planning. In the military, ad hoc units are created during unpredictable situations, when the cooperation between different

units is suddenly needed for fast action, or from remnants of previous units which have been overrun or otherwise whittled down.

(Added-AFSC) Backrobbing – “rob-back”

(Added-AFSC) Benchmark - Something that serves as a standard by which others may be measured or judged. a stock whose performance is a benchmark against which other stocks can be measured.

(Added-AFSC) Cannibalization—Removing an assembly, subassembly, component, or part from an end item by a maintenance activity for use on an end item undergoing depot repair. The end item that will be cannibalized of component part(s) may be drawn from the warehouse, or from items currently in work in the shop. The appropriate supply chain manager/prime Materiel Manager, and/or SPO/SPD must authorize and pay for this action. DMAG is not authorized to conduct cannibalizations without the proper authorizations and payments.

Capability—The ability to execute a specified course of action.

Cognizant Engineering Authority—An organization or individual delegated engineering authority by the USAF Technical Airworthiness Authority.

(Added-AFSC) Carcass - the structural framework of a building, ship, or piece of furniture. the remains of something being discarded, dismembered, or worthless. "the floor is littered with the carcasses of newspapers"

(Added-AFSC) Commodities - A good that is sold freely to the public. It can be agriculture, fuel, or metals. It is traded in bulk in the commodity or spot market. A commodity is a basic good used in commerce that is interchangeable with other goods of the same type. Commodities are most often used as inputs in the production of other goods or services. Thus, the term usually refers to a raw materiel used to manufacture finished goods.

(Added-AFSC) Conduit – A conduit is a hollow tube that wires are pulled through during installation. This differs from cable, which is a group of wires encased inside a flexible protective sheathing. The most common type of cable used in home wiring is non-metallic (NM), or Romex, cable.

(Added-AFSC) Confined Space - A confined space also has limited or restricted means for entry or exit and is not designed for continuous occupancy. Confined spaces include, but are not limited to, tanks, vessels, silos, storage bins, hoppers, vaults, pits, manholes, tunnels, equipment housings, ductwork, pipelines, etc.

Contingency—A situation requiring military operations in response to natural disasters, terrorists, subversives, or as otherwise directed by appropriate authorities to protect U.S. interests.

Corrosion Control Facility—A facility where activities are conducted to treat, prevent or repair corrosion control for aircraft or associated components and equipment; these activities may include wash, treatment, repair, stripping, and repainting processes. Corrosion control shops also support

vehicles, weapons and munitions, and avionics shops. Additionally, it provides space for the corrosion control shop which includes preparation and drying areas, abrasive blasting rooms, paint booths for mixing and/or applying paint, tool storage, lockers, and administrative areas.

(Added-AFSC) Critical Path – is an algorithm for scheduling a set of project activities.^[1] A critical path is determined by identifying the longest stretch of dependent activities and measuring the time^[2] required to complete them from start to finish. Critical path analysis is commonly used with all forms of projects, including construction, aerospace and defense, software development, research projects, product development, engineering, and plant maintenance, among others. Any project with interdependent activities can apply this method of mathematical analysis.

(Added-AFSC) Deleterious – harmful often in a subtle or an unexpected way.

Depot Maintenance—Any action performed on materiel or software in the conduct of inspection, repair, overhaul, or the modification or rebuild of end-items, assemblies, subassemblies, and parts that requires extensive industrial facilities, specialized tools and equipment, or uniquely experienced and trained personnel that are not available in lower echelon-level maintenance activities, and is a function and, as such, is independent of any location or funding source and may be performed in the public or private sectors (including the performance of interim contract support or contract logistic support arrangements. Depot-level maintenance and repair also includes the fabrication of parts, testing, and reclamation, as necessary; the repair, adaptive modifications or upgrades, changes events made to operational software, integration and testing; and in the case of either hardware or software modifications or upgrades, the labor associated with the application of the modification.

Depot maintenance capability—The aggregation of all resources (including facilities, skilled personnel, tools, test equipment, drawings, technical publications, ongoing training, maintenance personnel, engineering support, and spare parts) required for performing depot level maintenance.

(Added-AFSC) IN Maintenance (IN-MA) – A term applied to the sum of the quantities in data fields OWO, AWM, and AWP. This sum reflects the number of assets in the maintenance complex and is used to reconcile the DIOH balances in DO35K by stock number and ownership purpose code combinations.

Manufacturing—The making of something, normally from raw materials, by hand or, especially, by machinery, often on a large scale and with division of labor.

(Added-AFSC) Materiel - The word 'materiel' is commonly used to refer to any items, items, or supplies that can be used to create something else. 2. The word 'materiel' specifically refers to the equipment, supplies, and materiels used by military forces.

Organic—Assigned to and forming an essential part of a military organization.

Organic depot maintenance—Maintenance performed by a military service under military control using government owned or controlled facilities, tools, test equipment, spares, repair parts, and military or government civilian personnel.

(Added-AFSC) Per Diem – Per diem is a Latin phrase that means “by the day.” In the work world, it generally refers to daily allowances given to employees to cover daily business-related travel expenses.

(Added-AFSC) Pilferage - To steal, especially in small quantities. The action of stealing things of little value. the act or practice of stealing small quantities or articles.

(Added-AFSC) Plating – An outer covering of broad, flattish sections, typically of metal. Plating is a finishing process in which a metal is deposited on a surface. Plating has been done for hundreds of years; it is also critical for modern technology.

(Added-AFSC) Requisitioning – Demand the use or supply of, especially by official order and for military or public use. Demand the performance or occurrence of.

(Added-AFSC) Reverse Engineering – The reproduction of another manufacturer's product following detailed examination of its construction or composition. Reverse engineering (also known as backwards engineering or back engineering) is a process or method through which one attempts to understand through deductive reasoning how a previously made device, process, system, or piece of software accomplishes a task with very little (if any) insight into exactly how it does so. Depending on the system under consideration and the technologies employed, the knowledge gained during reverse engineering can help with repurposing obsolete objects, doing security analysis, or learning how something works.

Source of repair—An industrial complex (organic or commercial) with required technical capabilities to accomplish repair, overhaul, modification, or restoration of specific types of military hardware or software.

(Added-AFSC) Spoilage - Deals with the deliberate wastage, destruction or damage of non-military real or private property. Willful and wrongful destruction, wastage, spoilage and damage draws punishment as decided through a court martial process. 'Real' property refers to land and whatever structures are erected on land and whatever is growing on land. Burning down a building, cutting trees on private property, damaging a fence, etc. may all constitute an offense.

(Added-AFSC) Staccato – Cut short or apart in performing: Disconnected.

(Added-AFSC) Support Agreements - A support agreement is a document that defines the rights and obligations of one more party offering services or goods to another party. A support agreement can be a technical or software support agreement, but it can also be a stockholder or shareholder support agreement.

Surge—The act of expanding an existing repair depot maintenance repair capability to meet increased requirements by adjusting shifts or by adding equipment, spares, repair parts, and skilled personnel to increase the flow of repaired or manufactured materiel to the using activity or for serviceable storage.

(Added-AFSC) Thermodynamics - The focus of thermodynamics in aerospace engineering is on the production of work, often in the form of kinetic energy (for example in the exhaust of a jet engine) or shaft power, from different sources of heat. For the most part the heat will be the result of combustion processes, but this is not always the case.

(Added-AFSC) Weibull Analysis - Weibull Analysis is a statistical method that interprets life data by using various distributions, which provide curves that can identify key reliability metrics, such as probability of failure over time. It's an effective method of determining reliability characteristics and trends of a population using a relatively small sample size of field or laboratory test data. Weibull Analysis is a methodology used for performing life data analysis. Life data is the result of measurements of a product's life.

Workload—An amount of work, usually specified in direct labor hours or workdays, that relates to specific weapon systems, equipment, components, or programs and to specific services, facilities, and commodities.

Attachment 2 Volume/Chapter Breakdown		
VOLUME 1 DEPOT MAINTENANCE PRINCIPLES	VOLUME 2 DEPOT MAINTENANCE PRODUCTION	VOLUME 3 DEPOT MAINTENANCE PRODUCTION SUPPORT
Chapter 1	Chapter 1	Chapter 1
Depot Maintenance Management Principles	Depot Maintenance Production Labor Entry	Depot Maintenance Work Measurement
Chapter 2	Chapter 2	Chapter 2
Roles and Responsibilities	Work Control Documents and Technical Data	Depot Maintenance Production Support
Chapter 3	Chapter 3	Chapter 3
Safety, Security, and Housekeeping	Tools and Equipment Management	Operational Workloading, Planning, and Scheduling Control
Chapter 4	Chapter 4	Chapter 4
Maintenance Training	Foreign Object Damage/Dropped Object Prevention Programs	Sunshade Management
Chapter 5	Chapter 5	Chapter 5
Impoundment	Maintenance Operation Center and Aerospace Vehicle Distribution Officer	Depot Maintenance Plant Management
Chapter 6	Chapter 6	Chapter 6
Workplace Communications and Maintenance Cyber Discipline	Depot Engine Management	Material Management
Chapter 7	Chapter 7	Chapter 7
Additional Program Requirements	Aircrew Egress Systems Maintenance Program	Functional Check Flight Program
	Chapter 8	Chapter 8
	Maintaining Commercial Derivative Aircraft	Quality Assurance
	Chapter 9	
	Oil Analysis Program	
	Chapter 10	
	Depot Field Teams	
	Chapter 11	
	Ground Instructional Trainer Aircraft	
	Chapter 12	
	Additional Program Requirements	

Attachment 3
MSEP SUMMARY TEMPLATE

Figure A3.1. MSEP Summary Template.

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document shall be referred to XX-ALC/QA.



U.S. AIR FORCE

XX AIR LOGISTICS COMPLEX

Maintenance Standard Evaluation Plan Quality Assurance Summary
X QTR FYXX
(Mon-Mon Year)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Total Quarterly Metrics for the ALC - COMBINED/RATED/NON-RATED and total pass rate percentages (without deduction and with deductions). Number of overdue PEs and EPEs. Any Management Inspection results that are directed by Executive Leadership and performed to follow-up on trends, conduct investigations, or conduct research to determine the root cause of problems and may be rated or non-rated.

QASP ASSESSMENTS RESULTS

CHARTS/GRAPHS broken down by ALC and Group, Rated/Non-Rated and Assessment/Inspection type w/pass rate. Quarterly and FY to date. Also include Number of overdue PEs and EPEs broken down by ALC and Group.

TOTAL OBSERVED ISOLATED VIOLATIONS (TDV, DSV, UCRs)

CHARTS/GRAPHS broken down by ALC and Group.

TOP 5 DEFECT CODE DRIVERS

Self-Explanatory.

Number of overdue PEs and EPEs

Self-Explanatory.

Visual information, graphs, narratives

Throughout.

Quality trends

Identified through inspections and evaluations, discussions of common problem areas, and must contain an analysis of MSEP results, a summary of significant discrepancies, technical inspections, and recommendations for improvement.

Pertinent internal and customer reported metrics

Include data display or a working link to AIDR/Quality Escapes.

Executive Summary

Quality Assurance Specialists conducted 12,646 assessments supporting the XX-ALC Maintenance Standardized Evaluation Program (MSEP). There were 12,381 rated assessments and 201 non-rated assessments. There were 64 isolated violations (IV). Evaluated groups included the Group (1), Group (2), Electronics Group (3), Group (4), Group (5), Group (6), and Group (7). **Management Inspection Target Areas:**

Quality Assurance Specialists conducted 462 Personnel Evaluations (PE), 4,592 Quality Verification Inspections (QVI), 825 Quality Verification Inspections Q-Stamp (QVIQ), 6,388 Routine Inspections (RI), 15 Unscheduled Inspections (UI), and 99 rated Management Inspections (MI). Of these assessments, 5 PEs, 148 QVIs, 22 QVIQs, 359 RIs, 6 UIs, and 4 MIs received Quality Assessment Ratings of QAR3 (failed rating). MSEP quality assessment pass rates: PEs 98%, QVIs 96%, QVIQs 97%, RIs 94% and MIs 95% (*ensure evaluation type breakdown order matches Pass Rate sequence in paragraph*). **Overdue Personnel Evaluations (PE):**

Total Rated							
	PE	QVI	QVIQ	RI	UI	MI	All
	Inspections	Inspections	Inspections	Inspections	Inspections	Inspections	Inspections
XX-ALC	462	4592	825	6388	15	99	12381
Group (1)	33	859	443	757	9	4	2105
Group (2)	139	1618	59	1839	5	6	3666
Group (3)	127	996	22	869	0	0	2014
Group (4)	28	286	0	774	0	68	1156
Group (5)	92	461	301	1103	1	21	1979
Group (6)	43	372	0	1006	0	0	1421
Group (7)	0	0	0	40	0	0	40

Overall Rating					
ORG	Total Inspections	Total Inspection Passed	% of Compliance	 # of <u>Isolated Violations</u>	% Comp - IV (- .5% per IV)
XX-ALC	12381	11837	95.6%	64	63.6%
Group (1)	2105	1984	94.2%	13	87.7%
Group (2)	3666	3448	94.0%	32	78.0%
Group (3)	2014	1904	94.5%	7	91.0%
Group (4)	1156	1128	97.5%	6	94.5%
Group (5)	1979	1968	99.4%	2	98.4%
Group (6)	1421	1367	96.1%	4	94.1%
Group (7)	40	38	95.0%	0	95.0%

Overdue Personnel Evaluations (PE)

	FY22-2				FY22-3		
	Jan	Feb	Mar		Apr	May	Jun
Group (1)	10	2	1	Group (1)	1	0	0
Group (2)	11	15	10	Group (2)	14	10	6
Group (3)	8	3	3	Group (3)	0	0	0
Group (4)	1	0	0	Group (4)	0	0	0
Group (5)	1	3	1	Group (5)	3	0	0
Group (6)	10	10	3	Group (6)	1	0	0
Group (7)	N/A	N/A	N/A	Group (7)	N/A	N/A	N/A
Total	41	33	18	Total	19	10	6

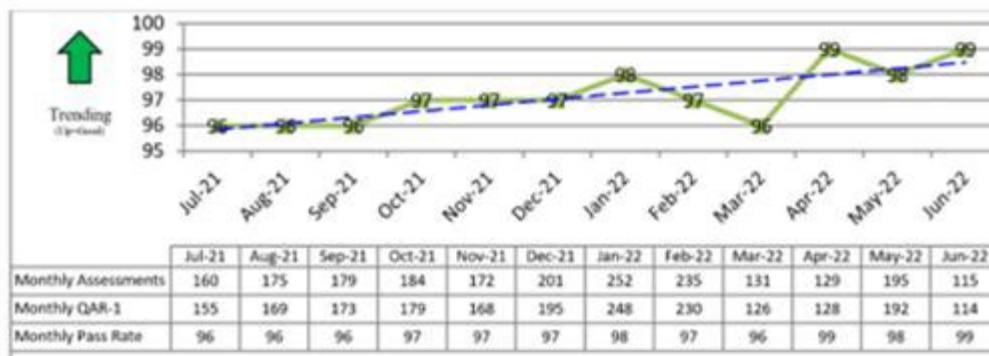
Overdue Evaluator Proficiency Evaluations (EPE)

	FY22-2				FY22-3		
	Jan	Feb	Mar		Apr	May	Jun
Group (1)	0	0	0	Group (1)	0	0	0
Group (2)	0	0	0	Group (2)	0	0	0
Group (3)	0	0	0	Group (3)	0	0	0
Group (4)	0	0	0	Group (4)	0	0	0
Group (5)	0	0	0	Group (5)	0	0	0
Group (6)	0	0	0	Group (6)	0	0	0
Group (7)	N/A	N/A	N/A	Group (7)	N/A	N/A	N/A
Total	0	0	0	Total	0	0	0

Personnel Evaluations (PE)

For FY22-3 the Complex had an overall Outstanding pass rate of 98%.

PE 12-Month Pass Rate Trend



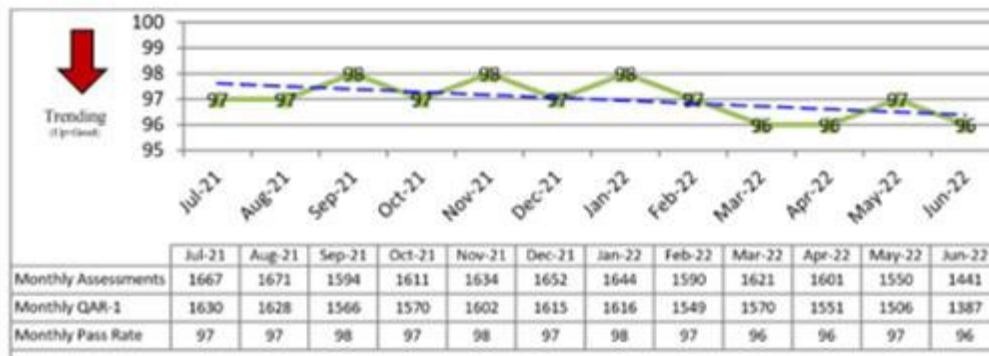
During the past 12 months 2,128 PEs were performed. 2,077 passed for an overall 12 month pass rate of 97%. PE pass rates for 12 months are trending up.

The high drivers for failed PEs over the last 12 months are work performed contrary to technical data and technician failed to demonstrate proficiency.

Quality Verification Inspections (QVI)

For FY22-3, the Complex had an overall Outstanding pass rate of 96%.

QVI 12-Month Pass Rate Trend

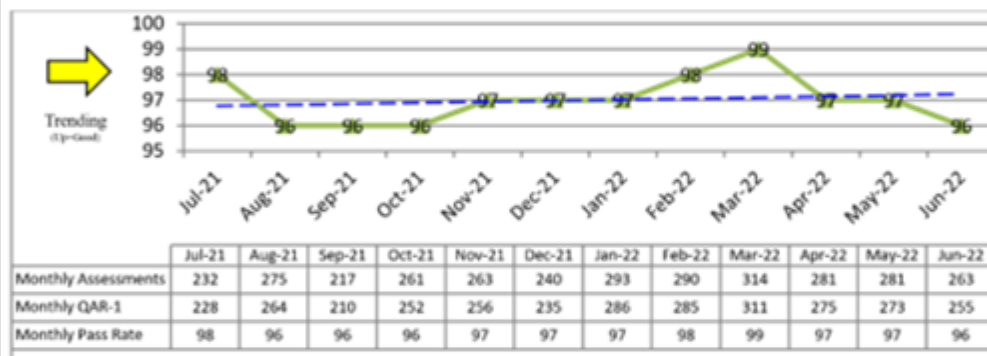


During the past 12 months 19,276 QVIs were performed, 18,790 passed for an overall 12 month pass rate of 97%. QVI pass rates for 12 months are trending down. The high drivers for failed QVIs over the last 12 months are improper installation, work performed contrary to tech data, secondary certifier failed to identify workmanship defect, work accomplished and not signed off, employee not certified, and product does not meet specifications.

Quality Verification Inspections Q-Stamp (QVIQ)

For FY22-3, the Complex had an overall Outstanding pass rate of 97%. QVIQs accounted for 16% of all QVI inspections completed.

QVIQ 12-Month Pass Rate Trend



During the past 12 months 3,210 QVIQs were performed. 3,130 passed for an overall 12 month pass rate of 97%. QVIQ pass rates for 12 months are trending level. The high drivers for failed QVIQs over the last 12 months are foreign objects (FO) discovered in aerospace vehicle, improper installation, and does not meet specifications.

Unscheduled Inspections (UI)

There were 15 Unscheduled Inspections in FY22-3: 9 QAR1 and 6 QAR3. The 6 failed inspections were across numerous programs with no discernable trends. The high driver for UIs over the last 12 months is for tool kits not secured.

Management Inspections (MI)

The Complex had an overall Excellent pass rate of 94% in FY22-3. There were 305 Management Inspections: 98 QAR1, 6 QAR3, and 201 non-rated. The 6 failed inspections were across numerous programs with no discernable trends. The high driver for MIs over the last 12 months is for not meeting specifications/drawings conformance requirements.

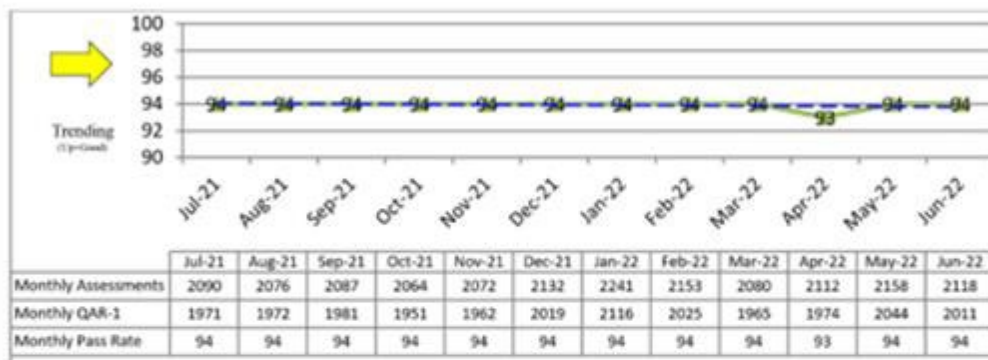
Routine Inspections (RI)**Routine Inspection Score Card FY22-3**

	Product Quality							Supportive Programs							
	PE	VI	QVIQ	Tech Data	Training	Form Documentation	Tech Orders	Material	FOD	Safety	Equipment	Tools	Engine Management	UI	MI
XX-ALC	98	96	97	94	98	94	99	94	86	96	92	92	100	60	95
Group (1)	96	95	96	100	100	90	100	96	78	89	91	95	100	33	25
Group (2)	98	97	94	92	99	95	99	86	79	94	90	89	100	100	100
Group (3)	99	95	95	88	99	90	92	96	96	94	90	88			
Group (4)	100	97		100	100	95	100	97	95	98	87	100			98
Group (5)	100	100	99	100	100	98	100	100	98	100	98	94	100	100	100
Group (6)	97	94		97	92	96		98	100	96	95	96			
Group (7)								100		100	85				

For FY22-3 the Complex had an overall Excellent pass rate of 94%.

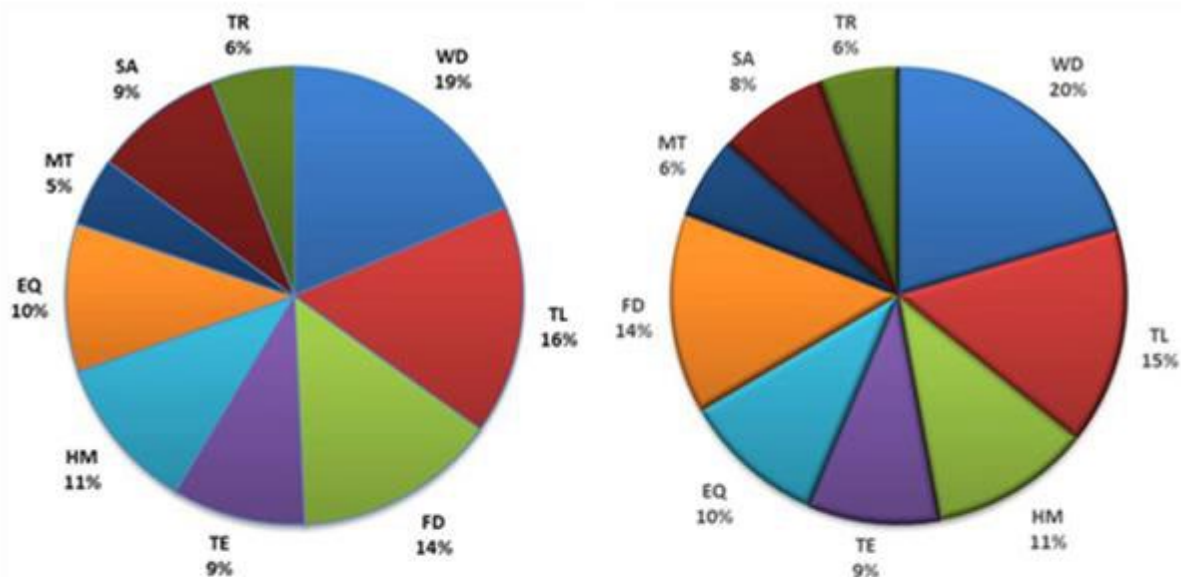
Outstanding 95 – 100%	Excellent 90 – 94.99%	Satisfactory 80 – 89.99%	Marginal 70 – 79.99%	Unsatisfactory <69.99%

RI 12-Month Pass Rate Trend



During the past 12 months there were 25,383 RIs performed. 23,991 passed for an overall 12 month pass rate of 94%. RI pass rates for 12 months are steady.

RI Defect Breakout by Category FY22-3 12 Months



The high drivers for all RI inspections for FY22-3 as well as the last 12 months are caps, plugs and covers not in use, FO discovered in aerospace vehicle, and tool kits not secured.

Routine Inspection (RI) Summary by Category

Three areas scored 100% for FY22-3: Nuclear Weapons Related Material (NWRM), Nuclear Certified Equipment (NCE), and Engine Management.

There were two areas with an increased pass rate compared to last quarter: Material 94% and Safety 96%.

Three areas had a decreased pass rate compared to last quarter: Equipment 92%, Tech Data 94% and Tools 92%.

Three areas remained the same compared to last quarter: FOD 86%, Tech Orders 99% and Training 98%.

Defect Data Recommendations

The following is the defect data recommendations for each group RI category rated Marginal or Unsatisfactory.

FOD: The Complex had an overall Satisfactory pass rate of 86% with 674 inspections completed: 580 QAR1 and 94 QAR3.

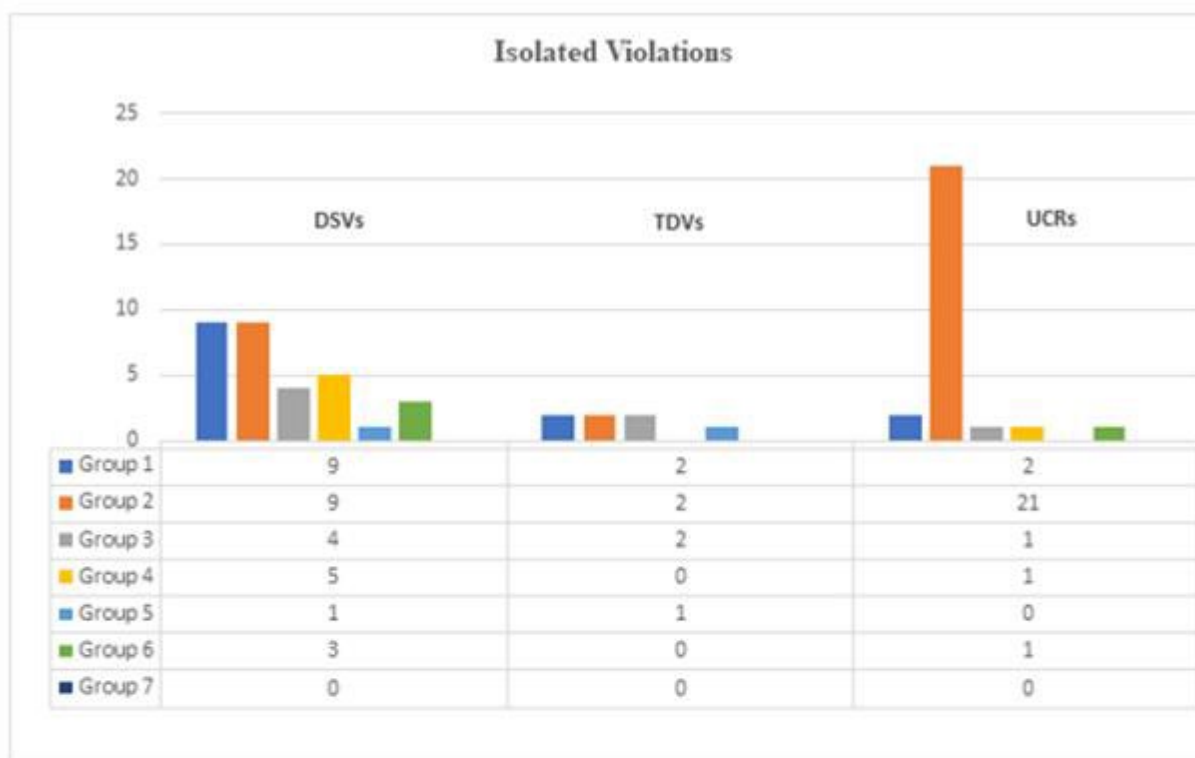
Group (X) had a Marginal pass rate of 79% with 64 of 307 inspections failed.

XX-ALC (QA Group) Recommendation: The main contributors to FOD findings were miscellaneous uncontrolled hardware/metal shavings in aircraft and missing caps and plugs. Ensure technicians are cleaning up during and after task accomplishment (Clean as You Go). Ensure the correct caps and plugs are readily available to technicians and are being used. Caps and plugs can be controlled through an additional step on work control documents. Periodic and focused FOD inspections built into work packages would show improvements in FOD areas. First level supervisors should monitor their assigned aircraft to ensure FOD program requirements are being met.

Group (X) had a Marginal pass rate of 78% with 23 of 106 inspections failed.

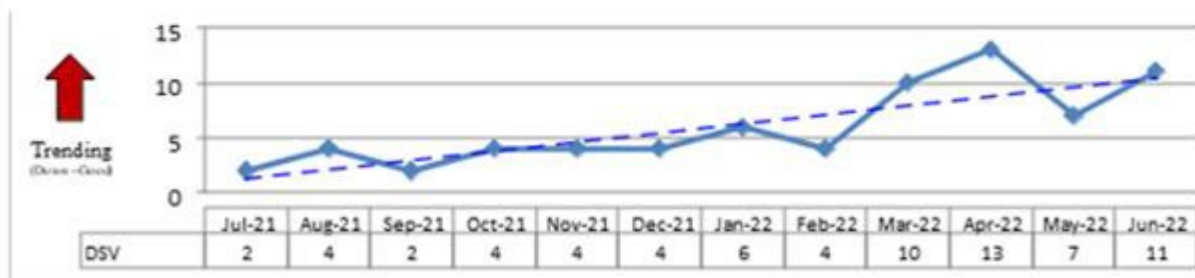
XX-ALC (QA Group) Recommendation: Technicians need to pay attention to detail, ensure secondary certifiers pay attention to detail and follow up with 6S/5S for end of shift clean up, and using the "Clean as You Go" process.

Isolated Violations (IVs) by Group



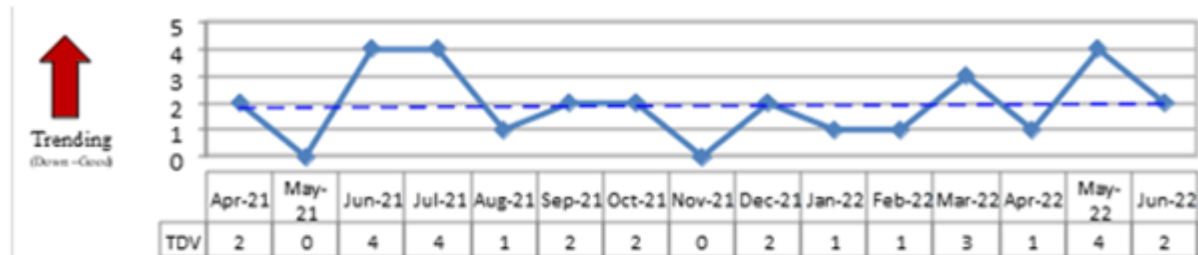
For FY22-3 there were a total of 64 Isolated Violations: 31 DSVs, 7 TDVs and 26 UCRs.

Detected Safety Violations (DSVs)



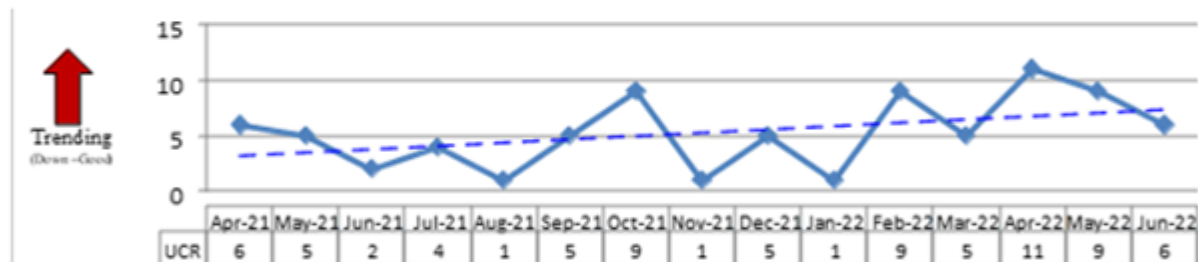
The DSVs this quarter included Personal Protective Equipment (PPE) not in use/fitted/worn incorrectly, fall protection equipment not in use and jewelry worn while performing maintenance. DSVs for the past 12 months are trending up.

PPE not in use/fitted or worn correctly accounts for 65% of all DSVs over the last 12 months

Technical Data Violations (TDVs)

The TDVs this quarter included tech data available but not in use as required, work performed without an approved WCD, tech data unavailable, and explosive safety violation. TDVs for the past 12 months are trending slightly up.

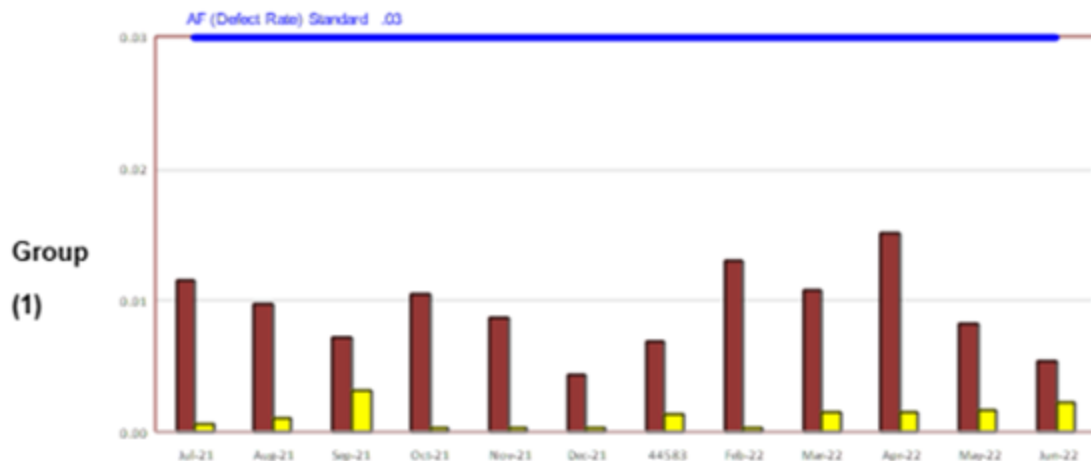
Tech Data available but not in use, tech data unavailable, and work performed contrary to technical data are the high drivers for the last 12 months.

Unsatisfactory Condition Reports (UCRs)

The UCRs this quarter included work accomplished and not signed off, safety feature absent, and tool kit not secured. UCRs for the past 12 months are trending up.

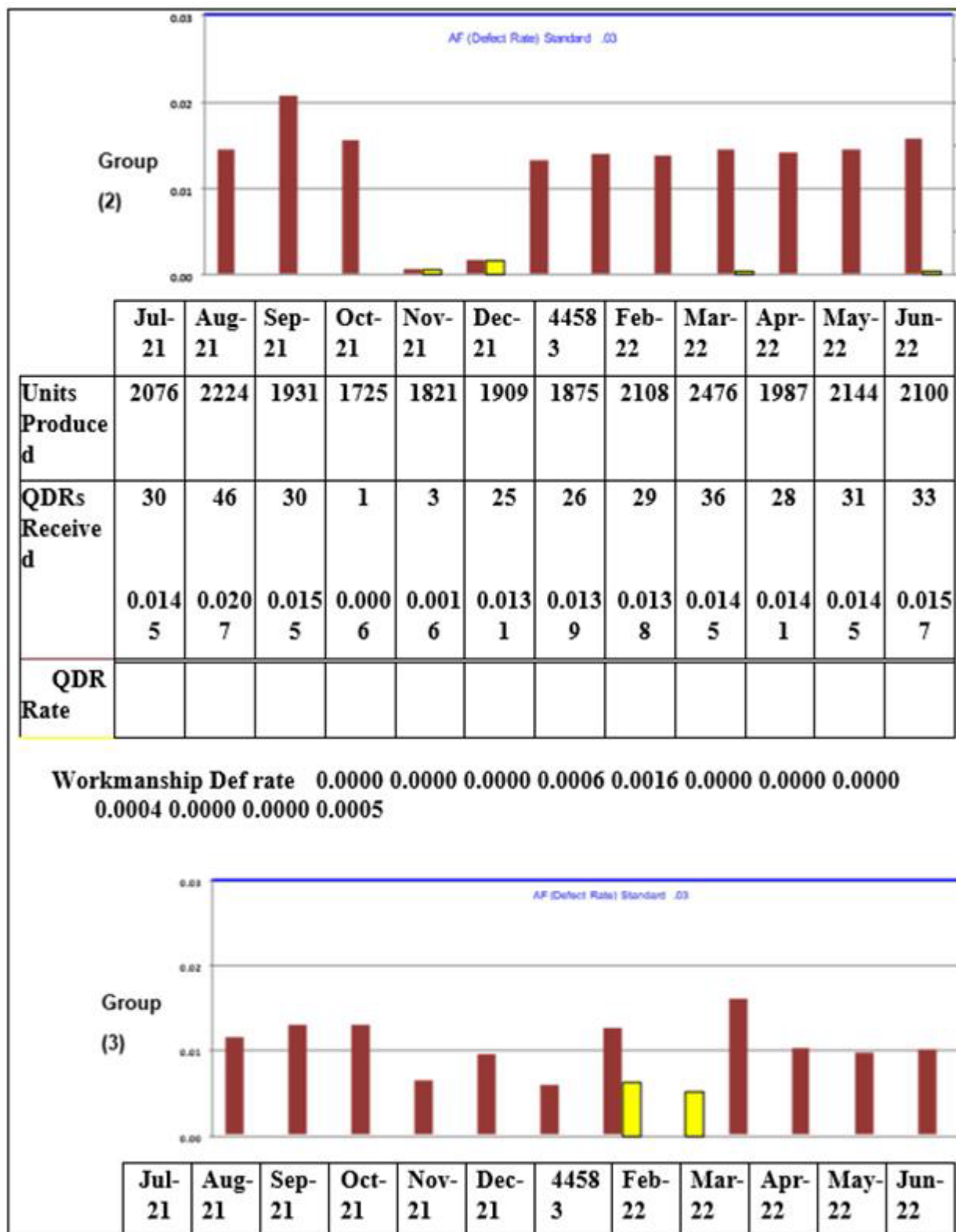
Tool control procedures not followed, work accomplished and not signed off, and safety feature absent were the high drivers for UCRs for the past 12 months.

12 Month Quality Deficiency Rates (QDR)/ Quality Escapes Trends



	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	44583	Feb-22	Mar-22	Apr-22	May-22	Jun-22
Units Produced	3178	3556	3208	2683	2893	3035	3037	3083	3772	3182	3547	3092
QDRs Received	37	35	23	28	25	13	21	40	41	48	29	17
	0.0116	0.0098	0.0072	0.0104	0.0086	0.0043	0.0069	0.0130	0.0109	0.0151	0.0082	0.0055
QDR Rate												

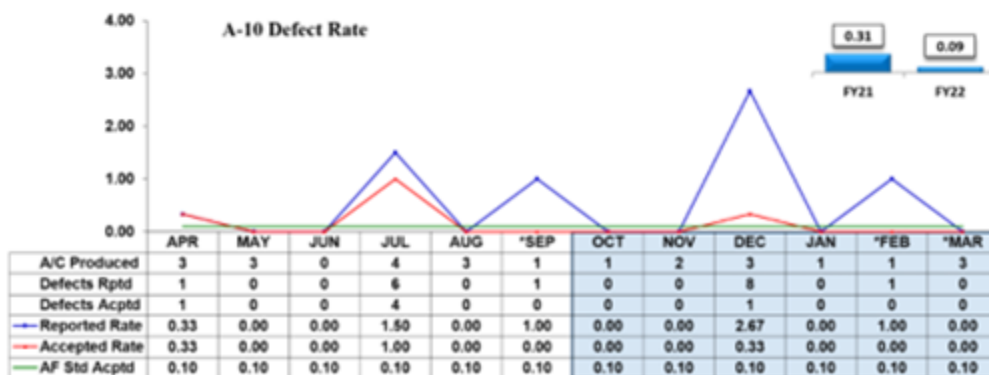
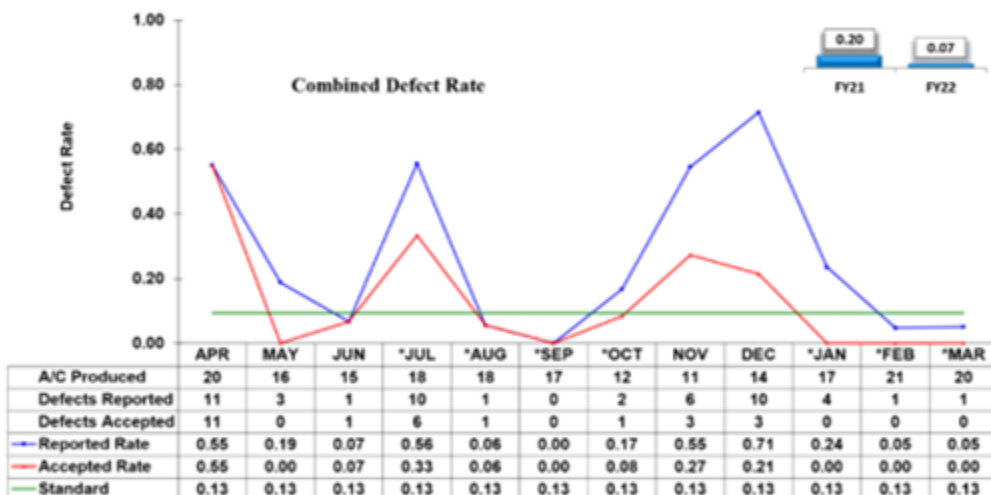
Workmanship Def rate 0.0006 0.0011 0.0031 0.0004 0.0003 0.0003 0.0013 0.0003
0.0016 0.0016 0.0017 0.0023

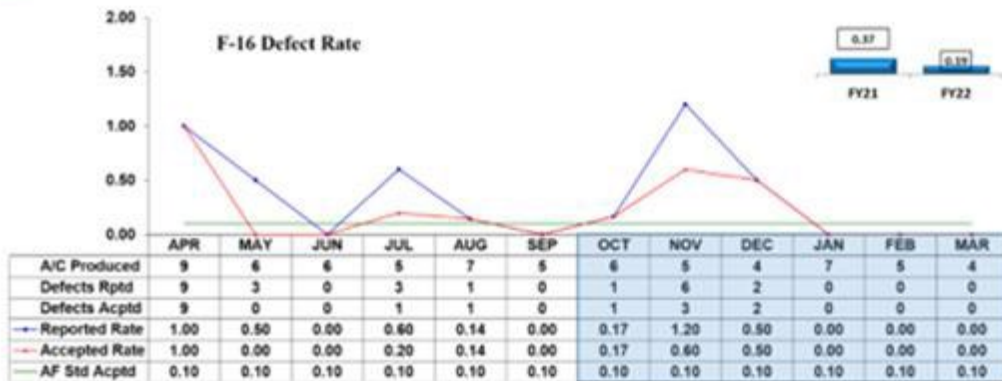
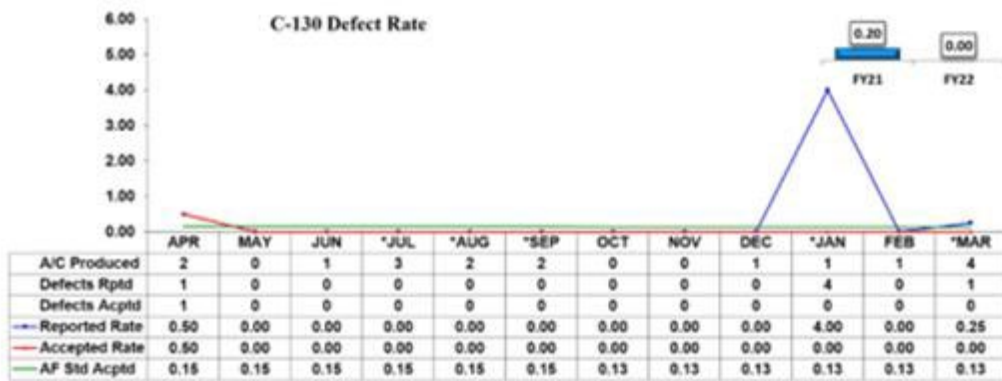


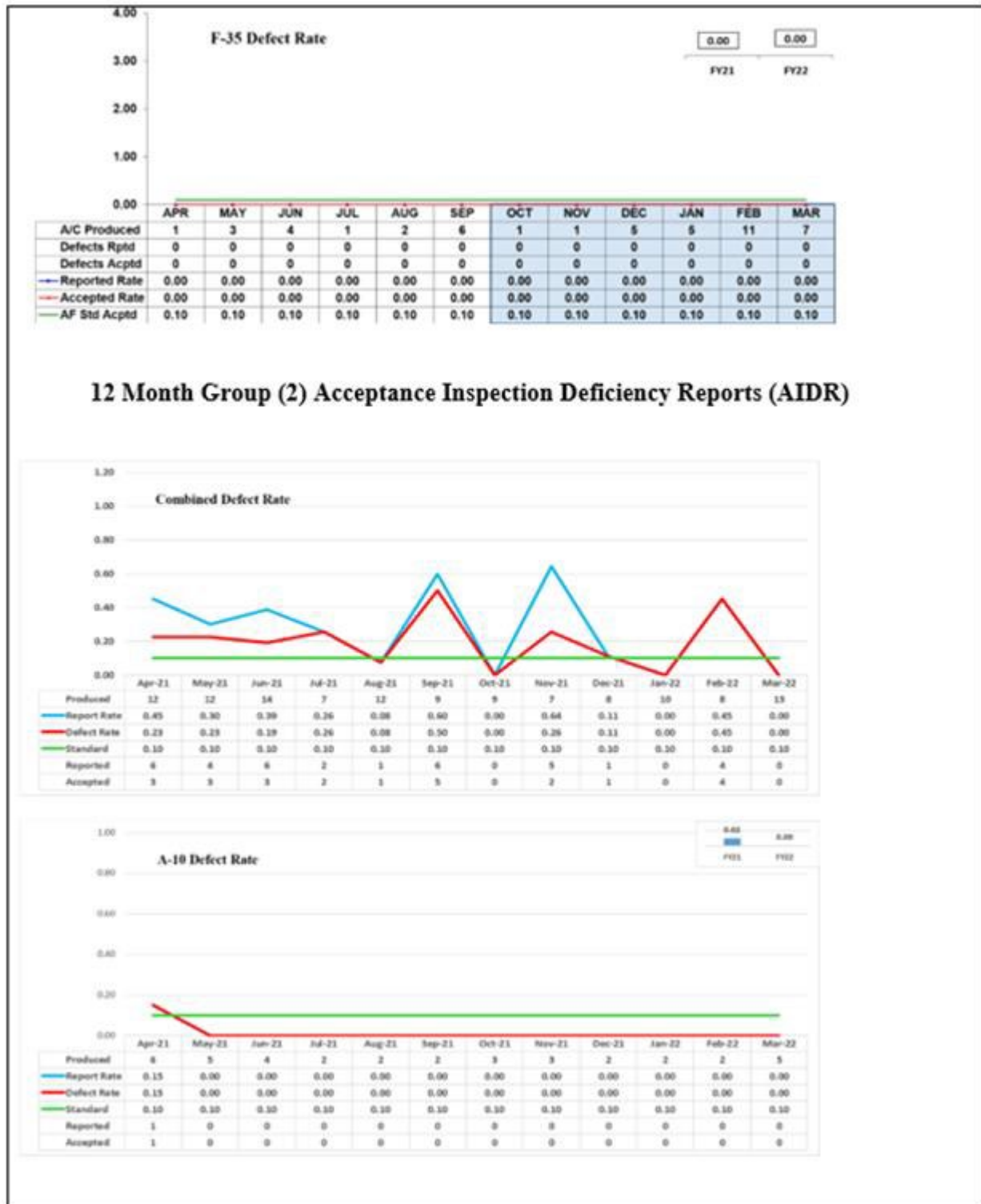
Units Produced	173	230	230	157	209	168	159	192	247	195	306	395
QDRs Received	2	3	3	1	2	1	2	0	4	2	3	4
QDR Rate	0.0116	0.0130	0.0130	0.0064	0.0096	0.0060	0.0126	0.0000	0.0162	0.0103	0.0098	0.0101

Workmanship Def rate 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0063 0.0052
0.0000 0.0000 0.0000 0.0000

12 Month Group (1) Acceptance Inspection Deficiency Reports Trends (AIDR)









Director, Quality Assurance Office
XX-ALC/QA