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AIR FORCE SUSTAINMENT CENTER**

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**DEPOT PROCESSES
AND PROGRAMS MANAGEMENT**

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This publication implements Air Force Policy Directive (AFPD) 20-1 and AFPD 63-1, *Integrated Life Cycle Management* and provides direction relative to DAFFPD 21-1, *Maintenance of Military Materiel*, and DAFFPD 23-1, *Materiel Management*.

This Air Force Sustainment Center Instruction (AFSCI) provides the minimum essential guidance and procedures for Depot Logistics Programs Management and outlines various depot enterprise principles and objectives. This publication applies to all military, civilian employees and contractors of the Regular Air Force, Air Force Reserve and Air National Guard (ANG), and to other individuals or organizations as required by binding agreement or obligation with the Air Force Sustainment Center. Any contractor requirements contained within this instruction must be contained within the contract, grant, or agreement to be enforceable.

This publication may be supplemented, but to ensure standardization, all supplements will be submitted to the Director of Logistics through the publication Office of Primary Responsibility (OPR) for approval before publishing.

This AFSCI provides directive guidance for depot maintenance processes and programs. Only current and verified technical data, as authorized by Technical Order (TO) 00-5-1, *Air Force Technical Order System*, shall be used for depot maintenance. For policies and procedures used in planning and administering depot level contract maintenance programs, refer to Department of the Air Force Instruction (DAFI) 63-101_20-101, *Integrated Life Cycle Management*, and DAFI 63-138, *Acquisition of Services*. This AFSCI applies to the Air Logistics Complexes (ALCs), Air

Force Sustainment Center (AFSC) Engineering (EN) and Software Directorate (SW), and other units deemed appropriate. It does not apply to the United States Space Force. Refer recommended changes and questions about this publication to the OPR using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Publication* (or equivalent). Route DAF Form 847 (or equivalent) from the field through the appropriate functional chain of command. The ALCs, AFSC/EN and AFSC/SW Directorate may supplement this manual by a local instruction but it must be provided to AFSC/A4M for review and coordination prior to publication and should follow guidance in Department of the Air Force (DAFI) 90-160, *Publications and Forms Management*, and Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*. Supplemental guidance (e.g., supplements, addendums, etc.) must identify required deviations (i.e., applicability, variance, and/or differences in organizational placement of responsibilities/processes) on the supplemental guidance with the abbreviation “(DEV)” directly preceding the affected paragraph number. Ensure that all records created as a result of the processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with (IAW) Air Force Disposition Schedule (RDS), which is in the Air Force Records Information Management System (AFRIMS). The waiver authority for this publication is AFSC/A3/4. Units developing separate publications based on requirements set forth in this publication will follow guidance in DAFI 90-160, and DAFMAN 90-161. 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.

SUMMARY OF CHANGES

This publication replaces AFSCMAN 21-102 “*Depot Maintenance Management*” 5 Apr 2021 Version. It should be reviewed in its entirety. It incorporates several updated depot processes and programs from vetted and approved AFSC Form 847s “*Recommendation For Change Of Depot Maintenance Management (DMM)*”.

Chapter 1—REQUIREMENTS REVIEW AND DEPOT DETERMINATION (R2D2)	5
1.1. Overview.....	5
1.2. Roles and Responsibilities.....	5
1.3. Requirements Review (R2).....	7
1.4. Depot Determination (D2).....	7
Table 1.1. Depot Maintenance Resource Rules.....	9
Table 1.2. AF Sustainment Center Rules of Engagement.....	10
Table 1.3. DO-CAT Rules.....	11
1.5. Reports and Other Deliverables.....	12
Table 1.4. Customer Code.....	13
Table 1.5. Repair Group Category.....	14

Section 1A—Section I Organic Resources.	16
Table 1.6. Section 1 Organic Resources.	16
1.6. Total Military Hours.	17
Table 1.7. Total Military Hours.	18
1.7. DPSH Produced (without CCIV or CA).	18
1.8. Man-Hours Per Month.	18
1.9. Summary of Work years:	18
1.10. Civilian End Strength.	19
1.11. Total Civilian End Strength.	19
1.12. Military End Strength.	19
1.13. FY## Civilian Direct End Strength, Civilian POH End Strength, and Civilian G&A End Strength.	19
1.14. End Strength by Employment Category.	19
1.15. Other Statistics.	19
Table 1.8. Direct Product Actual Hour (DPAH) conversion.	19
1.16. Percent of Total Paid Civilian Hours.	21
Table 1.9. Percent of Total Paid Civilian Hours.	21
Table 1.10. Additional Data (Memo Entries) – Cost Class IV Paid Hours.	22
Table 1.11. DPSH Yields.	22
Table 1.12. Total DPSH (Without Duty Code 14 and CA) previously provided.	22
Table 1.13. Other Various Yields.	23
Table 1.14. Other DPSH Yields.	23
Table 1.15. Factors.	24
1.17. Hiring:	24
1.18. Attrition.	24
Section 1B—Section II Contract Augmentee (CA).	24
Table 1.16. Section II Contract Augmentee (CA) also known as DO-CATs.	24
1.19. Section III Total Organic Capability.	26
Table 1.17. Section III Total Organic Capability.	27
1.20. Approval Process.	27
1.21. Annual Program (AP).	28
1.22. Performance Measurement and Reporting.	29
1.23. Information Systems Used.	30

Chapter 2—CAPITAL INVESTMENT PROGRAM	32
2.1. Capital Investment Activities.....	32
Figure 2.1. Systems Engineering Process.	41
Figure 2.2. Industrial Plant Equipment Systems Engineering Events & Reviews.	43
Figure 2.3. Industrial Plant Equipment (IPE) Requirements Management.	45
Figure 2.4. Sustainment Activities.	45
2.2. Funding Activities and Equipment Management.....	56
2.3. Economics, Benefits, and Simulation Analysis.	63
2.4. Comprehensive Cost and Requirements (CCaR) System.	65
Table 2.1. CSN Alphanumeric Structure.	68
Table 2.2. TLS Alphanumeric Structure.....	71
Table 2.3. Advice Alphanumeric Structure.	72
Chapter 3—AIR FORCE MATERIEL COMMAND DEPOT MAINTENANCE CAPACITY AND	74
3.1. Purpose and Applicability.....	74
3.2. Responsibilities.....	74
3.3. Qualifications.....	76
3.4. Capacity Data.....	76
Figure 3.1. Capacity Indices Area Expressed in DLH.	78
Figure 3.2. Example of A Work Position.....	78
3.5. Capacity-Based Shop Drawings.	80
Figure 3.3. AFSC Capacity Data Call Templates Note Templates are for illustrative purposes only; actual templates can vary slightly.....	81
3.6. Work Breakdown Structure (WBS) Definitions.	84
Chapter 4—ALC ENGINEERING ROLES AND RESPONSIBILITIES	89
4.1. Background Information.....	89
4.2. ALC Engineering Management Roles and Responsibilities	89
4.3. ALC Engineering Roles and Responsibilities.....	92
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	100

Chapter 1

REQUIREMENTS REVIEW AND DEPOT DETERMINATION (R2D2)

1.1. Overview.

1.1.1. R2D2 is Headquarters Air Force Materiel Command (HQ AFMC's) annual two-phased process to plan the resources necessary to support the projected funded customer orders for a specified period, usually two years. Phase I (R2) involves the identification of funded customer orders and provides an opportunity for suppliers and customers to hone the accuracy of those orders based on history and other factors. During Phase I, AFSC is responsible for Consolidated Sustainment Activity Group Supply (CSAG-S) funded customer orders and Other Funded Customer Orders (OFCO). In addition, AFSC is responsible for assisting outside agencies i.e., (Navy, Army, National Aeronautics and Space Administration (NASA), Department of Homeland Security (DHS), etc.) to file maintain their funded customer orders in the Sustainment Planning, Execution and Reporting System (SPERS)/D363.

1.1.2. Phase II (D2) entails the building of the Depot manpower capability plan in order to satisfy the funded customer orders. Within Phase II, AFSC is responsible for building the Depot manpower plan based on the consolidated results of Phase I of the R2D2.

1.2. Roles and Responsibilities.

1.2.1. AFSC/A4FD. In facilitating the annual AFSC level R2D2 process, AFSC/A4FD will be responsible for the following:

1.2.1.1. Maintain AFSC's R2D2 Enterprise Information Management (EIM) SharePoint web site to include posting of related documents and managing owner, user, and visitor access.

1.2.1.2. Write, coordinate, and issue annual AFSC level R2D2 Guidance and Schedule.

1.2.1.3. Establishing the internal schedule, milestones, products, and activities required to accomplish R2D2.

1.2.1.4. Review ALC and AFSC/SW submission of R2D2 deliverables for compliance with AFSC and higher-level policy and guidance.

1.2.1.5. Develop and use metrics to monitor compliance with this manual and the annual R2D2 guidance and report results to appropriate organizations.

1.2.1.6. Obtain approved Rates and Factors Table from HQ AFMC/FMR and post to the SharePoint site for use in computing Direct Product Standard Hours (DPSHs) of the various commodity workloads.

1.2.1.7. Obtain projected funded customer orders and post to the SharePoint site. Funded customer orders are obtained through a combination of three basic sources:

1.2.1.7.1. Weapon System Sustainment-Depot Purchased Equipment Maintenance (WSS-DPEM) orders. The Centralized Asset Management (CAM) office (HQ AFMC/A4F) manages and passes the DPEM orders via SPERS Funded Requirements Management (FRM) file.

- 1.2.1.7.2. CSAG-S orders. The 448th Supply Chain Management Wing (SCMW) manages the CSAG-S orders via the R2 Requirements File and passes the collaborated/approved orders to the Enterprise Supply Chain Analysis, Planning, and Execution (ESCAPE) Budget Tool.
- 1.2.1.7.3. Other Funded Customer Orders (OFCO) are those customer orders not otherwise contained in either the WSS-DPEM or the CSAG-S funding files, i.e., (modifications programs, partnerships, Test Program Sets (TPSs), etc.). Direct Cite customer orders are considered a part of OFCOs, i.e., Navy, Army, Foreign Military Sales (FMS), NASA, DHS, etc. OFCOs are captured and file-maintained in the Sustainment Planning, Execution and Reporting System (SPERS) system by five principal organizations: Air Force Life Cycle Management Center (AFLCMC), 448th SCMW, Air Force Nuclear Weapon Center (AFNWC), AFSC Software Directorate (AFSC/SW), and ALC/OBWs (Business Operations Workloading) at each of the ALCs. Once captured in SPERS, the OFCO data is exported for use in the ALCs' and AFSC/SW's capability plans.
- 1.2.2. 448th SCMW and AFSC/A4FD are jointly responsible for:
- 1.2.2.1. Supporting AFSC/A4FD in determining the exchangeable workload.
 - 1.2.2.2. Forecasting all CSAG-S funded customer orders to include repair group categories (RGCs) J, K, L and P, and OFCO to include Sustaining Engineering and TPS.
 - 1.2.2.3. Developing and updating the CSAG-S R2 Standard Guidance collaboration guide as needed.
 - 1.2.2.4. Presenting the results of their requirements review at the R2D2 meetings.
 - 1.2.2.5. Measuring the effectiveness of their forecasting efforts for the purpose of providing feedback to improve the process.
- 1.2.3. The ALCs, Oklahoma City – Air Logistics Complex (OC-ALC)/OBW, Ogden – Air Logistics Complex (OO-ALC)/OBW, and Warner Robins - Air Logistics Complex (WR-ALC)/OBW along with AFSC/SWA will:
- 1.2.3.1. Use the consolidated/approved funded customer orders to determine skills and direct workers required IAW manpower policies and any other objectives in the annual R2D2 guidance.
 - 1.2.3.2. Build and forward the Format 678 templates (F678) and Projected Manpower and Capability Report (8203) to AFSC/A4FD no later than (NLT) the due date stipulated in the AFSC annual guidance.
 - 1.2.3.3. Present execution plans at the R2D2 meeting and use the HQ AFMC/A4 approved R2D2 baseline as the execution plan.
 - 1.2.3.4. Participate in all monthly performance reviews which track execution to the final approved R2D2 baseline.
 - 1.2.3.5. Gather OFCO for those customers not having access to SPERS i.e., (Navy, Army, NASA, DHS, etc.).

1.3. Requirements Review (R2). The R2 phase of the R2D2 process consists of identification, validation, collaboration, supportability review, approval, and final aggregation of all funded customer orders. The term Funded Customer Orders is defined as that part of the total requirement, which is constrained by funding, performed organically by the Air Force and approved by the customer.

1.3.1. Identification. CSAG-S funded customer orders are identified using the Requirements File for RGC J, L, and P. OFCO belonging to CSAG-S such as TPS and Sustaining Engineering workloads are identified and captured in SPERS. OC-ALC/OB, OO-ALC/OB, WR-ALC/OB, and AFSC/SWA are responsible for coordinating with and assisting other non-Air Force agencies in identifying and file-maintaining their funded orders in SPERS.

1.3.1.1. Collaboration. CSAG-S Collaboration is to be managed cooperatively between the 448th SCMW and AFSC/A4FD IAW AFSC/A4FD Annual R2D2 Guidance. The 448th SCMW, in collaboration with maintenance complex Subject Matter Experts (SMEs) and other key supply chain stakeholders, will conduct a supportability review of the exchangeable funded customer order. The 448th SCMW will provide a preliminary Requirements File and collaboration guide. The review will consider such items as carcass availability, consumable materials, facilities, support equipment, training, etc. prior to requirement changes. A short narrative is provided for each change made. Instances requiring changes may include changes in flying hours, unit repair cost, labor and/or materials, undelivered orders, shop flow days, carcass constraints, etc.

1.3.1.2. Approval. The ALC OBs, AFSC/SW, and 448th are to obtain General Schedule (GS)-15 or O-6 equivalent review of their R2 results and forward them to AFSC/A4FD for final approval and posting to the SharePoint site. AFSC/A4FD will aggregate the /Funding Matrix and OFCO, out-brief AFSC leadership, and report the results to HQ AFMC/A4FD.

1.3.2. AFSC/A4FD will aggregate AFSC approved funded customer orders with DPEM customer orders into a final roll-up for use as the initial baseline during the Depot Determination phase. This file will be used to reconcile the ALCs' and AFSC/SWA's Format 6 submissions.

1.4. Depot Determination (D2). The D2 phase of the R2D2 process consists of the capability build (Depot Maintenance Manpower Plan), capability assessment, and approval of the D2 plan. The approved D2 plan then serves as the baseline for the execution year and CSAG budget (reference Performance Measurement and Reporting for further details). The approved D2 plan is revisited again just prior to the start of the Fiscal Year (FY) to determine the need to update (reference Annual Program for further details).

1.4.1. Depot Maintenance Manpower Plan. Air Force manpower resources are budgeted and controlled through the Department of Defense (DoD) program element structure. In turn, Headquarters United States Air Force (HQ USAF) established the Air Force Program Element Code (PEC) structure to allocate and account for authorized resources.

1.4.1.1. AFSC/A4FD has been designated specific authority to manage the depot maintenance PEC as an integral part of the R2D2 process.

1.4.1.1.1. AFSC manages its organic depot maintenance manpower program through the workload management process. Depot maintenance manpower levels are a function of AFSC depot maintenance customer projected funding levels. AFSC/A4FD is

responsible for reconciling the manning levels with current and projected levels of customer funding.

1.4.1.1.2. Depot maintenance manpower consists of three labor categories: Direct, production overhead (POH), and general and administrative (G&A) overhead. Definitions of each can be found in [Table 1.5](#).

1.4.1.1.3. The depot maintenance manpower program differs from manpower programs supported with appropriated funds. Depot maintenance manpower is supported from the Working Capital Fund (WCF), a revolving fund. The fund incurs costs, bills customers, and receives revenue from sales to customers for goods sold or services performed. No depot maintenance work is begun until customer funds are obligated. As resources (manpower, parts, and utilities) are expended (costs), bills are paid from the WCF account. Customers are then billed (sales) and payments are received to replenish the account (revenue). Customer funds are not recognized as revenue to reimburse the depot maintenance workforce until depot maintenance costs are incurred and recorded.

1.4.1.1.4. Distinguishing features of depot maintenance manpower are that its civilian workforce is managed via funded customer orders and not subject to end strength constraints. Per Title 10, United States Code (USC) § 2472, Prohibition on management of depot employees by end strength, "The civilian employees of the Department of Defense, including the civilian employees of the military departments and the Defense Agencies, who perform, or are involved in the performance of, depot-level maintenance and repair workloads may not be managed on the basis of any constraint or limitation in terms of man years, end strength, full-time equivalent positions, or maximum number of employees. Such employees shall be managed solely on the basis of the available workload and the funds made available for such depot-level maintenance and repair." The term "man years" is synonymous with work years. The statute means that the depot maintenance workforce is sized to the workload to be accomplished.

1.4.1.1.4.1. Title 10, USC § 2472, safeguards the civilian workforce against arbitrary manpower cuts as long as the authorization is appropriately identified as a depot maintenance resource and used according to the following rules.

1.4.1.1.4.2. A civilian may be identified as a depot maintenance authorization when the function being performed is providing 100 percent support to a depot maintenance operation.

Table 1.1. Depot Maintenance Resource Rules.

Item	Rule
1	<p>The 100 percent support rule alone does not automatically make an authorization a depot maintenance authorization. Some functions are inherently Operations and Maintenance (O&M) (primarily Base Operating Support (BOS) functions) and should remain O&M regardless of the level of support provided to depot maintenance. Examples would include personnel functions or civil engineering functions that may provide 100 percent of their efforts to supporting depot maintenance—these positions remain O&M. Depot maintenance reimburses O&M for the support. A “Y” shred has been designated as an identifier of depot maintenance reimbursed O&M when added to an O&M PEC. This shred will provide a clear separation of support services provided by O&M activities from functions performed as normal depot maintenance operations. In addition, CSAG-M reimbursable O&M “Y” shred positions should not reside in the ALCs nor AFSC/SW. These positions providing various types of support services to depot maintenance should be located outside the ALCs and AFSC/SW in the appropriate O&M activity [Air Base Wing (ABW), Contracting (PK), Personnel (DP), etc.]. Department of Defense Instruction (DoDI) 4000.19, Support Agreements, and AFI25-201, Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures, provide additional information regarding WCF activities reimbursing BOS costs.</p>
2	<p>A depot maintenance coded position must be fully embedded in a recognizable depot maintenance entity, such as a production group, or overhead support to a production group, not an authorization in an O&M or “other funded” organization. All depot maintenance positions on PEC 78211A, whether an authorization or an over hire, should be performing depot maintenance functions and should only be assigned within the Complex.</p>
3	<p>A depot maintenance coded position will not provide support to non-depot maintenance operations.</p>
4	<p>A depot maintenance coded position must have a clear identity to an activity identified as a “seller” of services or products. The depot maintenance resource management organization at the ALC and AFSC/SW will ensure buyer functions are performed by individuals and organizations separate from those engaged in seller functions, and vice versa.</p>
5	<p>The functions of a resource assigned to a depot maintenance authorization must be governed by policy and procedures established by a depot maintenance operation.</p>

1.4.1.1.5. Depot maintenance capability and R2D2. Policy will be developed in support of the workload management process. Policy will be issued in the annual R2D2 guidance in areas such as overtime and flexible workforce options required to meet direct objectives, savings, or efficiencies.

1.4.1.1.6. Flexible Capability. It is HQ AFMC policy to institute flexible capability based on workload fluctuations during the execution year. Specific targets or directives relative to the use of flexibility options will be provided in the annual R2D2 Guidance.

1.4.1.1.6.1. Overtime. Overtime is the primary tool for reacting to variability of workload. It has proven to be the least expensive on a cost per hour scale, as well as the quickest way to react to changes. The ALCs and AFSC/SW should base a portion of direct/overhead capability on overtime. General guidelines for the use and accounting of overtime are outlined in [Table 1.2](#).

Table 1.2. AF Sustainment Center Rules of Engagement.

Item	Rule
1	The ALCs and AFSC/SW are responsible for managing overtime. Each ALC and AFSC/SW will develop an annual capability plan that specifies expected overtime requirements. These plans will also include overtime for required overhead support functions over and above that required for direct labor and will be consistent with applicable budget guidance.
2	Normally, overtime is spread across all workload categories in order to prevent significant imbalances. The ALCs and AFSC/SW will periodically review actual overtime usage to ensure imbalances do not exist, and overtime expended is the minimum required to meet funded customer orders. Each ALC and AFSC/SW is responsible for ensuring procedures are in-place to adequately record and report the use of overtime. The ALCs and AFSC/SWA will ensure internal recordkeeping procedures are in place at all levels to provide documentation for advanced approval of overtime by local management, as well as documentation of the actual amount of overtime used IAW personnel policy governing overtime.

1.4.1.1.6.2. Depot On-Site Contract Augmentee Teams (DO-CATs). DO-CATs may augment only the direct labor civilian workforce at an organic depot by performing depot-level maintenance and modification on a short-term basis to ensure continued customer support and help mitigate risk associated with the fluctuation in customer requirements and new workloads.

Table 1.3. DO-CAT Rules.

Item	Rule
1	DO-CATs are not used to replace the requirement to plan capabilities lead-time away, but to aid in meeting increased requirements within lead-time. DO-CATs are funded with organic depot maintenance funds.
2	Due to the inflexible nature of some contract vehicles, the decision to include or exclude DO-CATS as a flexible component of capability will be made on a case-by-case basis.
3	DO-CATs perform depot-level maintenance and modification of assets including aircraft; aerospace ground equipment; communications, electronics, and metrological equipment; automated data processing and cryptology equipment; missile weapon systems, support equipment, etc. Direct labor is the only authorized labor category on DO-CAT contracts. DO-CATs shall not be used for production overhead. DO-CATs may not be used for personal services.
4	No constraints for the use of DO-CATs are directed by this instruction. However, constraints for the use of this resource may be provided in the annual R2D2 Guidance.

1.4.1.1.6.3. Supplemental Hiring Programs. These programs typically guarantee an employee a minimum amount of work with no provisions for extended or long-term employment. They are designed to allow depot maintenance managers to increase and decrease capability without impacting the permanent workforce. DoDI 1400.25, Civilian Personnel Management, shows a breakout of current hiring programs, types of appointments, and the rules that govern them.

1.4.1.1.7. Once R2D2 is complete and approved, AFSC/A4FD will determine if a reallocation of manpower authorizations between ALCs and AFSC/SW is required to balance authorizations to workload. If a reallocation is deemed necessary, AFSC/A4FD will request issuance of a Manpower Program Adjustment (MPA) memorandum from the Center Manpower and Organization office (AFSC/A1M) to redistribute authorizations. In addition, if depot maintenance is significantly short of authorizations to cover the government civilian capability required to produce the planned workload, or funded customer orders decreased necessitating the removal of authorizations, AFSC/A4FD will also request through AFSC/A1M, appropriate action to increase or decrease authorizations.

1.4.1.1.7.1. Once the AFMC/CC final approval for R2D2 is received, the business operations functional office within the ALCs and AFSC/SW will generate Manpower Changes Requests (MCR) for the approved increase, decrease or realignment and submit to the appropriate installation Manpower Office (MO) for processing to update the Unit Manpower Document (UMD).

1.4.1.1.7.2. The installation MO will process the requested changes to the UMD. In accordance with HQ AFMC/A1M Manpower Change Request (MCR) Guide, August 2021, due to the extensive vetting process, AFMC/A1M has granted permission to forego normal coordination for SAR (7 and 8), APDP, NUKE and PSC coded positions.

1.4.1.2. Workload and Capability Assessment: At this point, the workload and capability are reviewed for compliance with Title 10, United States Code (USC) 2472, and other applicable directives. IAW Title 10, USC 2472, the ALCs and AFSC/SW have full authority to hire to meet funded requirements. The ALCs and AFSC/SW shall provide a projected manpower/capability level IAW local policies and will coordinate this projection through the appropriate local channels. ALC and AFSC/SW projections will be submitted to AFSC/A4FD to be included as an adjunct submission to the R2D2 process.

1.4.1.2.1. Workload is comprised of carry-in plus new funded customer orders, less carry-out.

1.4.1.2.2. Carry-in and carry-out. Maintaining a balance between workload and capability includes an analysis of carry-in and carry-out workload. Normally, workload started in the previous year(s) is completed in the current year of execution (carry-in). Workload that is not completed in the year of execution will be carried forward to the next year (carry-out). HQ AFMC has carry-out targets in the form of Outlay Rates, to help ensure continuity of work and maintain a consistent level of workload within each ALC and AFSC/SW. These Outlay Rates are established annually in sync with budget guidance and are to be included in the annual R2D2 Guidance.

1.4.1.2.3. Capability review and management. The Source of Repair (SOR) uses the approved projected funded customer orders to complete the Format 6 portion of the F678. The SOR will not change the approved projected funded customer orders without approval of funds holders. The Format 7 portion of the F678 then automatically applies the applicable rates from the Rates and Factors Table and Outlay Rates, both obtained from HQ AFMC/FMR, to determine the minimum capability to plan for and maximum allowable carry-over expressed in DPSHs.

1.4.1.2.4. The Format 8 portion of the F678 draws upon the Format 7 data to aggregate capability requirements and carry-over at the commodity level in DPSHs. Results are documented on both the Format 8 and the 8203 report. A detailed description of the 8203 report is provided later in this chapter. The SORs then forward their completed F678 and the 8203 report to AFSC/A4FD.

1.4.2. AFSC R2D2 Final Submission: The review and approval of the final R2D2 package is used as the baseline for the execution year and CSAG-M budget.

1.5. Reports and Other Deliverables.

1.5.1. F678. Funded customer orders and depot maintenance capability data are reported using the F678 completed by the ALCs and AFSC/SW.

1.5.1.1. The F678 is structured such that funded/approved customer orders (from all funds-holders in dollars and by commodity) are translated into SOR dollar allocations from all source customers.

1.5.1.2. The funded/approved customer orders are then translated into funded DPSH using Resource Control Center or Repair Group Category (RGC) type-work sales rates; and finally into SOR planned workload and the capability to accomplish that workload using outlay rates assigned to reimbursable codes (customer codes). All sales rates/prices, factors, and outlay rates are obtained through HQ AFMC/FMR for use in the F678. RGC and Customer Codes and their definitions may be found in [Tables 1.4. and Table 1.5.](#)

Table 1.4. Customer Code.

CUST CODE	NAME	R2 SOURCE	CUST CODE	NAME	R2 SOURCE
0	JCSE	WSS-DPEM	I	USMC	OFCO
1	NASA	OFCO	J	Base Supt	OFCO
2	AFFSA	OFCO	K	Direct Cites	OFCO
3	Comm Cst Reimb	OFCO	L	AF Spec Ops	OFCO
4	USCG	OFCO	M	FMS	OFCO
5	USAFA	OFCO	N	US Navy	OFCO
6	Manuf Cent Proc	OFCO	O	AETC	OFCO
7	AFGSC	OFCO	P	AFMC RDT&E	WSS-DPEM
8	Inter-ALC	OFCO	Q	PACAF	OFCO
9	AFWA	OFCO	R	GSD-SMAG	OFCO
A	AFMC	WSS-DPEM	S	Comm Fx Price Part	OFCO
B	ANG	WSS-DPEM	T	AF Mod Prgms	OFCO
C	AFMC R&D Supt	OFCO	U	CSAG-SD	CSAG-S
D	AMC	OFCO	V	USAFE	OFCO
E	AMC TWCF	WSS-DPEM	W	Stab Rate/PP	OFCO
F	ACC	OFCO	X	CSAG-S UUT	CSAG-S
G	USSF	WSS-DPEM	Y	Nonmil Gov Act	OFCO
H	US Army	OFCO	Z	AFRC	WSS-DPEM

Table 1.5. Repair Group Category.

RGC	COMM GROUP	RGC NAME	CODE & NAME
I	STORAGE	STRG	I - STRG
A	AIRCRAFT	ACFT-PDM	A - ACFT-PDM
B	AIRCRAFT	ACFT-UDLM	B - ACFT-UDLM
C	MISSILES	MSSL-PDM	C - MSSL-PDM
D	MISSILES	MSSL-UDLM	D - MSSL-UDLM
E	ENGINES	ENG-PDM	E - ENG-PDM
F	ENGINES	ENG-UDLM	F - ENG-UDLM
G	OMEI	OMEI-PRG	G - OMEI-PRG
H	OMEI	OMEI-UDLM	H - OMEI-UDLM
J	EXCHANGEABLES	EXCH-MISTR	J - EXCH-MISTR
K	EXCHANGEABLES	EXCH-PD	K - EXCH-PD
L	EXCHANGEABLES	EXCH-SERV	L - EXCH-SERV
M	AREA SUPT/BASE TEN	AREA SUPT	M - AREA SUPT
N	AREA SUPT/BASE TEN	BASE/TEN	N - BASE/TEN
P	MANUFACTURING	MAN-STCK FND	P - MAN-STCK FND
R	MANUFACTURING	MAN-CNT PROC	R - MAN-CNT PROC
S	SOFTWARE	SFTWR	S - SFTWR

1.5.1.2.1. Public Private Partnership (PPP) workloads that have sales rates established within an Implementation Agreement (IA) will be updated in SPERS using the approved IA rate.

1.5.1.3. The F678 is also used to characterize risks taken in the form of dollars included/excluded from the plan and recording justification.

1.5.1.4. The F678 contains both automatic computations and cells for manual data entry. Formulas used for automatic computations are not to be altered or compromised by the user. Detailed functions and instructions for filling out the F678 are contained within the document.

1.5.1.5. The Yearly Organizational Distribution Allocation (YODA) report captures the funded customer orders and depot capability. The automation protocol distributes funded workloads forecast for induction to the Depot by group/squadron based on past history. This enables the determination of appropriate personnel equivalents by organization/sub-organization. The YODA captures reasons for adjustments made to the customer demand (R2) forecasts during the D2 phase. Any adjustments after the YODA submission shall be forwarded to AFSC/A4FD.

1.5.2. Weapon System/Engine Output Plan. An output plan will be provided by each ALC and AFSC/SW for each year under consideration during the R2D2 process. The output plan is given in answer to the customer's projected inputs for the same period. A template and accompanying guidance will be provided by AFSC/A4FD for use by the ALCs and AFSC/SW.

1.5.3. Manpower and Capability (8203) Report. The Projected/Actual Manpower and Capability Report, Reports Control Symbol (RCS): MTC-A4(M)8203, shall be provided for all years under consideration during the R2D2 process. The data source for the 8203 report are the Cost and Performance Budget Module (CPBM) H033/Budget Target Module (BTM) and Time and Attendance systems. The 8203 report is to be completed by the ALCs and AFSC/SW on the SharePoint site and will be used as an execution tracking document to show progress against plan. Up-to-date Hiring and Attrition Plans are required to be developed and maintained. The Civilian Employment Plan (CEP) will be completed by AFSC/A4FD based on the approved 8203 report for execution year.

1.5.3.1. Overview. The 8203 report consists of two parts: a Monthly and a Year-To-Date. Each part is composed of three sections: Section I, Organic Resources; Section II, Contract Augmentee (CA); and Section III, Total Capability (Civilian, Military & CA). Data used to compile all three sections of this report will be data associated with depot maintenance resources only.

1.5.3.2. A template will be provided by AFSC/A4FD before the beginning of each FY with correct man-hours per month for the upcoming year and the areas identified that requires manual input.

1.5.3.3. Templates with correct work years will also be provided for R2D2 for applicable years. The 8203 reports are due at the time all other deliverables are submitted. Protection has been enabled except where data is to be entered, thus entries need only be made in unprotected cells for monthly data. Year-to-date data is calculated from monthly data based on formulas residing in the spreadsheet. Do not change any formulas.

1.5.3.4. The 8203 report is submitted 13 times for each FY. The first 8203 report is a projection for the upcoming FY and is completed IAW the annual R2D2 guidance. The remaining 12 reports are due the 8th working day of the month immediately following the month just completed and will compare actual monthly performance against the projection.

*Section 1A—Section I Organic Resources.***Table 1.6. Section 1 Organic Resources.**

Item	Category	Description
1	Total Paid Civilian Hours	Total hours a depot maintenance civilian will be compensated. This line will be the total of civilian regular time, civilian overtime, and civilian leave.
2	Civilian Regular Time	Total on-duty regular hours (no overtime, no leave) of a depot maintenance civilian. This line will be the total of civilian regular time direct, production overhead, and G&A overhead.
3	Civilian Regular Time, Direct	Total regular time hours of a depot maintenance direct employee performing direct work. This should not include hours of a direct employee excepted out to other than direct functions. This would be the regular time direct product actual hour (DPAH), Duty Codes 11 and 12.
4	Civilian Regular Time, Production Overhead	Total regular time hours of a depot maintenance civilian performing duties classified as production overhead. This category would also include the on-duty hours a direct employee spends doing other than direct work, including cost class IV (CCIV)--Duty Code 14. Production Shop First Line Supervisors, both personnel and their hours, are to be classified as production overhead.
5	Civilian Regular Time, G&A Overhead:	Total regular time hours of a depot maintenance civilian performing duties classified as overhead "staff" work.
6	Indirect Time (Memo)	The time a direct depot maintenance employee spends performing other than direct work (.20 time). This time is excepted out to indirect and rolled into production overhead. Overtime is not to be included in the Indirect Memo Time of the 8203 report (or the IF3). Indirect Memo Time will only include civilians, no military and no overtime. Duty code 14 time is not included.
7	Civilian Overtime	Total overtime hours worked by depot maintenance civilian employees. This line will be the total of civilian overtime direct, production overhead, and G&A overhead.
8	Civilian Overtime, Direct	Total overtime hours expended by a depot maintenance direct employee.

9	Civilian Overtime, Production Overhead	Total overtime hours expended by a production overhead resource; including CCIV overtime.
10	Civilian Overtime, G&A Overhead	Total overtime hours expended by an employee performing duties classified as overhead "staff" work.
11	Civilian Leave Time	Total hours of leave expended by a depot maintenance civilian employee. This line will be the total of civilian leave time direct, production overhead, and G&A overhead.
12	Civilian Leave Time, Direct	Total leave hours of depot maintenance direct labor employees.
13	Civilian Leave Time, Production Overhead	Total leave hours of depot maintenance production overhead employees.
14	Civilian Leave Time, G&A Overhead	Total leave hours of depot maintenance employees performing duties classified as overhead "staff" work.

1.6. Total Military Hours. Total Military Hours are broken into nine different categories. See [Table 1.7](#) for total hours expended by depot maintenance military personnel on-duty and/or on leave.

Table 1.7. Total Military Hours.

Item	Category	Description
1	Military On-Duty Time	Total hours expended by depot maintenance military while in on-duty status. This line will be the total of military on-duty time direct, production overhead, and G&A overhead.
2	Military On-Duty Time, Direct	Total hours expended by depot maintenance military in on-duty status performing direct labor functions.
3	Military On-Duty Time, Production Overhead	Total hours expended by depot maintenance military in on-duty status performing production overhead functions.
4	Military On-Duty Time, G&A Overhead	Total hours expended by depot maintenance military in on-duty status performing duties classified as overhead "staff" work.
5	Military Leave Time	Total hours expended by depot maintenance military in leave status. This line will be the total of military leave time direct, production overhead, and G&A overhead.
6	Military Leave Time, Direct	Total hours expended by depot maintenance military direct labor personnel in leave status.
7	Military Leave Time, Production Overhead	Total hours expended by depot maintenance military production overhead personnel in leave status.
8	Military Leave Time, G&A Overhead	Total hours expended by depot maintenance military performing duties classified as overhead "staff" work in leave status.
9	Total Paid Hours (Civilian and Military)	Total hours for depot maintenance civilians and military.

1.7. DPSH Produced (without CCIV or CA). The applicable DPSHs, without CCIV or DO-CATs, for work accomplished by depot maintenance personnel during the report period.

1.8. Man-Hours Per Month. The number of paid hours based on a regular 8-hour work day for each month in the FY. This includes the 11 federally recognized holidays (New Years, Martin Luther King Jr, Washington's Birthday, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving, and Christmas). This number is automatically calculated based on the last two digits of the FY entered in cell M1 of the 8203 report.

1.9. Summary of Work years: This particular portion of the report will be a breakout of the work years directly associated with the civilian and military hours reported. The categories used are the same as used with the hours. Work years are derived by dividing hours by man-hours per month.

1.10. Civilian End Strength. This element of the 8203 report is intended to place each individual on-board, as of the end of the reporting period, into one of the three employment categories: permanents, on-calls or temporaries. It then allows further delineation by labor classification: direct, production overhead, or G&A overhead.

1.11. Total Civilian End Strength. This number is a roll-up of the information contained above.

1.12. Military End Strength. Total number of military on-board at the end of the reporting period. This number will include only those military personnel authorized as a part of the depot maintenance PEC.

1.13. FY## Civilian Direct End Strength, Civilian POH End Strength, and Civilian G&A End Strength. These numbers are intended to be a one-time entry for the previous year. When summed, they should equal the total assigned personnel as of 30 September for the year just completed.

1.14. End Strength by Employment Category. Provides end strength by category of employment. This section provides categories for every employee assigned within depot maintenance. This is delineated between the total on-board and the assigned, but not on board, during the report period. The check figure is intended to ensure that the Total Civilian End Strength matches the end strength number provided in this section. Both categories are intended to capture only the on-board number. Those employees assigned to depot maintenance, but not in the onboard number, are captured in the Total Leave Without Pay (LWOP) category. The LWOP combined with the total on-board number will equal the total assigned for depot maintenance for the month being reported.

1.15. Other Statistics. This area of the 8203 report contains built-in formulas that calculate the appropriate number from entries made elsewhere in the spreadsheet. Manual entries will not be made here.

Table 1.8. Direct Product Actual Hour (DPAH) conversion.

Item	Category	Description
1	DPAHs (Civilian and Military Capability) (With Overtime)	Civilian regular time direct, plus civilian overtime direct, plus military on-duty time direct hours.
2	DPAHs (Civilian and Military Capability) (Without Overtime)	Civilian regular time direct, plus military on-duty time direct hours.
3	DPAHs (Civilian Capability) (With Overtime)	Civilian regular time direct, plus civilian overtime direct hours.
4	DPAHs (Civilian Capability) (Without Overtime)	Civilian regular time direct hours.
5	Total Civilian DPAH Yield (With Overtime)	DPAHs (Civilian Capability) (With Overtime) x 12 Civilian Regular Time Work years + Civilian Leave Work years

6	Total Civilian DPAH Yield (Without Overtime)	DPAHs (Civilian Capability) (Without Overtime) X 12 Civilian Regular Time Work years + Civilian Leave Work years
7	Total Civilian and Military DPAH Yield (With Overtime)	DPAHs (Civilian and Military Capability) (with Overtime) x 12 Civilian Regular Time Work years + Civilian Leave Work years + Total Military Time Work years (Including Leave)
8	Total Civilian and Military DPAH Yield (Without Overtime)	DPAHs (Civilian and Military) (Without Overtime) x 12 Civilian Regular Time Work years + Civilian Leave Work years + Total Military Time (Including Leave)
9	Direct Civilian Labor DPAH Yield (With Overtime)	DPAHs (Civilian Capability) (With Overtime) x 12 Civilian Direct (Regular + Leave + Indirect) Work years
10	Direct Civilian Labor DPAH Yield (Without Overtime)	DPAHs (Civilian Capability) (Without Overtime) x 12 Civilian Direct (Regular + Leave + Indirect) Work years
11	Output/Paid Man Day (OPMD)	DPSHs Produced x 8 Total Paid Hours (Civilian and Military)
12	Direct Labor Efficiency	DPSHs Produced DPAHs (Civilian and Military Capability) (With Overtime)
13	Direct Overtime Percentage (Without Leave)	Direct Overtime Percentage (Without Leave)
14	Direct Overtime Percentage (With Leave)	Civilian Overtime Direct Civilian Regular Time Direct + Civilian Leave Time Direct
15	Overhead Overtime Percentage (Without Leave)	Civilian Overtime Production Overhead + Civilian Overtime G&A Overhead Civilian Regular Time Production Overhead + Civilian Regular Time G&A Overhead
16	Overhead Overtime Percentage (With Leave)	Civilian Overtime Production Overhead + Civilian Overtime G&A Overhead Civilian Regular Time Production Overhead + Civilian Regular Time G&A Overhead + Civilian Leave Time Production Overhead + Civilian Leave Time G&A Overhead
17	Total Overtime Percentage (Without Leave)	Civilian Overtime Civilian Regular Time
18	Total Overtime Percentage (With Leave)	Civilian Overtime Civilian Regular Time + Civilian Leave

1.16. Percent of Total Paid Civilian Hours . This area of the 8203 report contains built-in formulas that calculate the appropriate number from entries made elsewhere in the spreadsheet. Manual entries will not be made here.

Table 1.9. Percent of Total Paid Civilian Hours.

Item	Category	Description
1	Regular Time as a Percentage of Total Paid Civilian Hours	Civilian Regular Time Total Paid Civilian Hours
2	Overtime as a Percentage of Total Paid Civilian Hours	Civilian Overtime Total Paid Civilian Hours
3	Leave Time as a Percentage of Total Paid Civilian Hours	Civilian Leave Time Total Paid Civilian Hours Sick Leave (Memo) as a Percentage of Total Paid Civilian Hours: Civilian Sick Leave Hours Total Paid Civilian Hours
4	Civilian Sick Leave Hours	Indicates the sick leave hours consumed by depot maintenance civilian employees during the report period. This is a manual entry.
5	Percent Direct	Civilian Regular Time Direct + Civilian Overtime Direct + Civilian Leave Time Direct Total Paid Civilian Hours
6	Percent Production Overhead	Civilian Reg Time Prod Overhead + Civilian Overtime Prod Overhead + Civilian Leave Time Prod Overhead Total Paid Civilian Hours
7	Percent G&A Overhead	Civilian Reg G&A Overhead + Civilian Overtime G&A Overhead + Civilian Leave Time G&A Overhead Total Paid Civilian Hours
8	Percent Production Overhead and G&A Overhead	Percent Production Overhead + Percent G&A Overhead = Percent Production Overhead and G&A Overhead

Table 1.10. Additional Data (Memo Entries) – Cost Class IV Paid Hours.

Item	Category	Description
1	Civilian Duty Code 14	The total civilian labor (DPAHs) expended in Duty Code 14. The sum of Direct, Indirect, and Leave Cost Class IV.
2	Direct (Including Overtime)	The total direct civilian labor (DPAHs) expended in Duty Code 14.
3	Indirect (Including Overtime)	The total indirect civilian labor (DPAHs) expended in Duty Code 14.
4	Leave	The total leave (DPAHs) expended in Duty Code 14.
5	Overtime	Total Duty Code 14 overtime.
Note: Memo entry as each category above includes overtime, with the exception of leave.		

Table 1.11. DPSH Yields.

Item	Category	Description
1	Overtime DPAH	Civilian Overtime DPAH previously entered (manually) on Page 1 under Civilian Overtime, Direct.
2	Direct Labor Efficiency (DLE)	Civilian direct labor efficiency previously provided under Other Statistics.
3	Overtime DPSH	The applicable overtime DPSHs, excluding DO-CATs, for work accomplished by depot maintenance personnel during the report period.
4	Military DPSH	The applicable Military DPSHs, for work accomplished by Military personnel during the report period.

Table 1.12. Total DPSH (Without Duty Code 14 and CA) previously provided.

Item	Category	Description
1	DPSH Without Overtime	Self-explanatory
2	DPSH Without Military	Self-explanatory
3	DPSH Without Military and Overtime	Self-explanatory

Table 1.13. Other Various Yields.

Item	Category	Description
1	Civilian Regular Time + Leave Work Years	Self-explanatory.
2	Civilian Regular Time + Leave Work Years + Military	Self-explanatory.
3	Civilian Direct Hours (Regular + Leave + Indirect) - Military	Civilian direct regular time, plus civilian direct leave, plus indirect time of the direct employee.
4	Civilian Direct (Regular + Leave + Indirect) Work Years	Civilian direct regular time work years, plus civilian direct leave work years, plus indirect time of the direct employee work years.
5	DPAH Hours With Military	Self-explanatory.
6	Civilian and Military Direct Work Years	Self-explanatory.

Table 1.14. Other DPSH Yields.

Item	Category	Description
1	Total Civilian DPSH Yield with Overtime	DPSH Without Military x 12 Civilian Regular Time & Leave Work years
2	Total Civilian DPSH Yield Without Overtime	DPSH Without Military & Overtime x 12 Civilian Regular Time & Leave Work years
3	Total Civilian and Military DPSH Yield with Overtime	Total DPSH x 12 Civilian Regular Time & Leave Work years & Military
4	Total Civilian and Military DPSH Yield Without Overtime	DPSH Without Overtime x 12 Civilian Regular Time & Leave Work years Plus Military Reg Time & Leave Wkys
5	Civilian Direct DPSH Yield With Overtime	DPSH Without Military x 12 Civilian Direct (Regular & Leave & Indirect) Work years
6	Civilian Direct DPSH Yield Without Overtime	DPSH Without Military or Overtime x 12 Civilian Direct (Regular & Leave & Indirect) Work years
7	Civilian & Military Direct DPSH Yield With Overtime	Total DPSH x 12 Civilian & Military Direct Work years
8	Civilian & Military Direct DPSH Yield Without Overtime	DPSH Without Overtime x 12 Civilian & Military Direct Work years

Table 1.15. Factors.

Item	Category	Description
1	Leave Factor (.30 Time) (expressed as a ratio)	Civilian Leave Time, Direct Civilian Regular Time, Direct
2	Indirect Factor (.20 Time) Without Overtime (expressed as a ratio)	Civilian Regular Time, Indirect Time (Memo) Civilian Regular Time, Direct
3	Total Indirect Factor Without Overtime	The sum of the Leave Factor (.30 time) and Indirect Factor (.20 time) Without Overtime.

1.17. Hiring: Counts only new employees coming into depot maintenance, i.e., a new hire from off-the-street or from another organization external to depot maintenance. Moves within depot maintenance are not to be counted in this number. Nor are depot maintenance personnel returning to work from an LWOP status.

1.18. Attrition : Counts only those employees who have left depot maintenance roles entirely for whatever reason; i.e., quit, transferred out, retired, deceased, etc. Personnel moves within depot maintenance are not to be counted in this number. Depot maintenance personnel going into an LWOP status also are not to be counted.

1.18.1. Net Gain/Loss: The difference between Hiring and Attrition (above).

1.18.2. Attrition Rate (%): Attrition divided by Total On Board from previous month.

1.18.3. Retirements (Memo Entry) Provides a separate entry for the number of retirements included in the Attrition number.

Section 1B—Section II Contract Augmentee (CA).

Table 1.16. Section II Contract Augmentee (CA) also known as DO-CATs.

Item	Category	Description
1	CA Direct DPAH Hours With Overtime	Total direct CA hours produced in support of depot maintenance organic operations, including overtime.
2	CA Direct DPAH Hours Without Overtime	Total direct CA hours produced without overtime.
3	Work years With Overtime	Derived by dividing CA Direct DPAH Hours With Overtime by CA Man Hours Per Month.
4	Work years Without Overtime	Derived by dividing CA Direct DPAH Hours Without Overtime by CA Man Hours Per Month.
5	Production Overhead Hours With Overtime	CA production overhead hours, including overtime.
6	CA Production Overhead Hours Without Overtime	CA production overhead hours without overtime.

7	Work years With Overtime	Derived by dividing CA Production Overhead Hours With Overtime by CA Man Hours Per Month.
8	Work years Without Overtime	Derived by dividing CA Production Overhead Hours Without Overtime by CA Man Hours Per Month.
9	CA G&A Overhead Hours With Overtime	CA General and Administrative overhead hours, including overtime.
10	CA G&A Overhead Hours Without Overtime	CA General and Administrative overhead hours, without overtime.
11	Work years With Overtime	Derived by dividing CA G&A Overhead Hours With Overtime by CA Man Hours Per Month.
12	Work years Without Overtime	Derived by dividing CA G&A Overhead Hours Without Overtime by CA Man Hours Per Month.
13	CA Total Hours With Overtime	The sum of CA Direct, CA Production Overhead and CA G&A Overhead hours, including overtime.
14	CA Total Hours Without Overtime	The sum of CA Direct, CA Production Overhead and CA G&A Overhead hours, excluding overtime.
15	Work years With Overtime	Derived by dividing CA Total Hours With Overtime by CA Man Hours Per Month.
16	Work years Without Overtime	Derived by dividing CA Total Hours Without Overtime Hours by CA Man Hours Per Month.
17	CA DPSH Produced With Overtime	Self-explanatory.
18	CA DPSH Produced Without Overtime	Self-explanatory.
19	Direct Labor Efficiency (for CAs)	Obtained by dividing CA DPSH Produced With Overtime by CA Direct DPAH Hours With Overtime.
20	CA Man Hours Per Month	The number of available hours in each month of the FY for CAs. Excludes the 11 federally recognized holidays (New Years, Martin Luther King Jr, Washington's Birthday, Memorial Day, Juneteenth, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving, and Christmas).
21	Total CA DPSH Yield With Overtime	CA DPSH Produced With Overtime x 12 CA Total Work years Without Overtime
22	Total CA DPSH Yield Without Overtime	CA DPSH Produced Without Overtime x 12 CA Total Work years Without Overtime

23	CA Direct DPSH Yield With Overtime	CA Direct DPSH With Overtime x 12 x Direct Labor Efficiency Direct Work years Without Overtime
24	CA Direct DPSH Yield Without Overtime	CA Direct DPSH Without Overtime x 12 x Direct Labor Efficiency Direct Work years Without Overtime
25	Total CAs On-Board	Self-explanatory.
26	Total CA Direct Hours	Sum of On-Duty Direct and Indirect Labor Hours. (See Notes 1 and 2)
27	Indirect Labor Factor CAs	The time a direct CA spends performing other than direct work expressed as a ratio. Indirect Labor Hours (Prod O/H Only) CA Direct DPAH Hours With Overtime
28	Output Per Man Day (OPMD) CAs	The portion of an 8-hour day used by a CA producing a revenue-earning product. CA DPSH Produced With Overtime x 8 CA Total Hours With Overtime
<p>Note:</p> <p>1 - On-Duty Direct: Direct CA time spent performing direct work.</p> <p>2 - Indirect Labor Hours: Direct CA hours spent performing other than direct work.</p> <p>3 - Memo Entry for Personnel Force Innovation (PFI). This is a breakout of Guard and Reserve Active Duty Hours worked in support of DoD agencies. Hours are currently rolled into the Contract Augmentee hours directly above. This Memo Entry will provide visibility of the number of PFIs versus contractors we have each month and ensures that they will not be double counted.</p> <p>MEMO ENTRY (Included in CA hours above)</p> <p>PFI = Personnel Force Innovation</p>		

Section 1C - Section III Total Organic Capability.

1.19. Section III Total Organic Capability. Section III, Total Organic Capability (Civilian, Military, and CA). All data in this section is calculated from data contained in Sections I and II.

Table 1.17. Section III Total Organic Capability.

Item	Category	Description
1	DPAH (Civilian, Military & CA) With Overtime	DPAHs (Civilian & Military Capability) With Overtime + CA Direct DPAH Hours With Overtime.
2	DPAH (Civilian, Military & CA) Without Overtime	DPAHs (Civilian & Military Capability) Without Overtime + CA Direct DPAH Hours Without Overtime.
3	DPSH (Civilian, Military & CA) With Overtime	Total DPSHs CA + CA DPSHs Produced With Overtime.
4	DPSH (Civilian, Military & CA) Without Overtime	DPSH Without Overtime + CA DPSHs Produced Without Overtime.
5	Total DPAH Yield (Civilian, Military & CA) With Overtime	DPAH (Civilian, Military & CA) With Overtime x 12 Civilian Regular Time & Leave & Military Work years + CA Work years Without Overtime.
6	Total DPAH Yield (Civilian, Military & CA) Without Overtime	DPAHs (Civilian, Military & CA) Without Overtime x 12 Civilian Regular Time & Leave & Military Work years + CA Work years Without Overtime.
7	Total DPSH Yield (Civilian, Military & CA) With Overtime	DPSH (Civilian, Military & CA Capability) With Overtime x 12 Civilian Regular Time & Leave & Military Work years + CA Work years Without Overtime.

1.20. Approval Process.

1.20.1. R2D2 Approval. HQ AFMC/A4FD facilitates the “R2D2 Meeting” where the funded workload and depot capability are reviewed and discussed collectively by HQ AFMC/A4/A4FD/A4F/FMR, AFSC, AFSC/A1M, AFSC Center Senior Functional (or delegate), AFLCMC, AFNWC, and USSF.

1.20.2. AFSC/A4FD will prepare and present a briefing on the ALCs’ and AFSC/SW’s compliance with R2D2 Policy and annual R2D2 Guidance.

1.20.3. The output of the R2D2 meeting is an approved HQ AFMC/A4 “R2D2 Baseline” which becomes the ALCs’ and AFSC/SW’s execution baseline. This baseline will be used to measure actual execution performance during monthly execution reviews and will also be used to build the budget. HQ AFMC/A4 is the approval authority for R2D2.

1.20.4. Reporting. The 8203 report has cells for reporting usage of all categories of capability, including the flexible options. This report will be used to measure actual against projected hiring of all capability. All data elements must be provided in the yearly projection, as well as the monthly actual.

1.21. Annual Program (AP).

1.21.1. The purpose of the AP is to react to significant changes to funded Customer orders from budgeted program established in the R2D2 process. Significant change is defined as those inputs that cannot be absorbed using the flex capability contained within the plan, thus creating an inability to remain on time, on cost, and within efficiency targets. The AP should be finalized before the start of the FY, or as soon as practical near the beginning of the FY.

1.21.1.1. The Depots are accountable to manage their manpower and cost based on actual orders received and work skills mix and cost control within the ALC and AFSC/SW. The ALCs and AFSC/SW shall use good business sense and judgment in application and committal of resources.

1.21.1.2. For changes to be made to the approved R2D2 baseline, the following criteria must be met:

1.21.1.2.1. Changes in funded customer orders must be valid.

1.21.1.2.2. Funding must be from a traceable source.

1.21.1.2.3. Probability of occurrence must be high.

1.21.1.2.4. Must be greater than +/- 5 percent of total R2D2 baseline.

1.21.1.3. Changes among programs (work mix) that do not result in a change in the total R2D2 baseline are not required to be included in the AP, but are encouraged.

1.21.2. During the AP, the ALCs and AFSC/SW will perform the following:

1.21.2.1. Update assessment of expected carry-over (Format 8, right side).

1.21.2.2. Update customers forecasted funded orders (Format 6 of the F678).

1.21.2.3. Annotate all variances from approved R2 to D2 in the YODA and provide justification.

1.21.2.4. Update capability (Format 8, left side).

1.21.2.5. Update production schedule (Input/Output schedule).

1.21.2.6. Assess and document the risks associated with the changes being made in the AP.

1.21.3. Upon completion, the following deliverables are required:

1.21.3.1. Revised R2D2 briefing with order changes, risk assessment, change to capabilities, and updated input/output schedules.

1.21.3.2. AP 8203 report showing updated projections.

1.21.3.3. AP F678.

1.21.3.4. YODA.

1.21.4. AFSC/A4FD will be responsible for monitoring the AP process for compliance with all guidance to include carry-over/unbilled balance, yield, flex, cycle specific guidance, etc.

1.21.5. The results of the AP will be coordinated through the corporate structure for final approval by AFSC/Commander (CC). The coordination package will include a statement explaining why the changes being made were not part of the normal R2D2 cycle.

1.21.5.1. Once AP is complete and approved, AFSC/A4FD will determine if a reallocation of manpower authorizations between ALCs and AFSC/SW is required to balance authorizations to workload. If a reallocation is deemed necessary, AFSC/A4FD will request issuance of a Manpower Program Adjustment (MPA) memorandum from the Center Manpower and Organization office (AFSC/A1M) to redistribute authorizations. In addition, if depot maintenance is significantly short of authorizations to cover the government civilian capability required to produce the planned workload, or funded customer orders decreased necessitating the removal of authorizations, AFSC/A4FD will also request through AFSC/A1M, appropriate action to increase or decrease authorizations.

1.21.5.1.1. Once the AFSC/CC/CA final approval for AP is received, the business operations functional office within the ALCs and AFSC/SW will generate Manpower Changes Requests (MCR) for the approved increase, decrease or realignment and submit to the appropriate installation Manpower Office (MO) for processing to update the Unit Manpower Document (UMD).

1.21.5.1.2. The installation MO will process the requested changes to the UMD. In accordance with HQ AFMC/A1M Manpower Change Request (MCR) Guide, August 2021, due to the extensive vetting process, AFMC/A1M has granted permission to forego normal coordination for SAR (7 and 8), APDP, NUKE and PSC coded positions.

1.22. Performance Measurement and Reporting.

1.22.1. An AFSC Performance Review will be conducted monthly to track execution to the final approved R2D2 baseline. The following areas will be measured at the AFSC roll-up and individual complex level: Customer orders, input/output schedule, production, manpower, overtime, yield, DLE, and indirect labor factor (ILF). The ALCs and AFSC/SW will provide actual performance data monthly by way of the 8203 reports. The projected and actual 8203 reports will serve as the data source for production, manpower, overtime, yield, DLE, and ILF metrics.

1.22.2. Customer Orders. This metric will track actual funded order generation as compared to the forecast provided by the customer for us in the R2D2. Customer Orders will be categorized as follows: AFLCMC, 448th SCMW, Other, and AFSC total. This metric will facilitate early detection/timely reaction to changes in funded customer orders to the ALCs and AFSC/SW. AFSC will also use this data to determine if/when baselines should be revised to more accurately reflect production, overtime (OT), yield, and manpower targets vs. the original forecasted R2D2 plan.

1.22.2.1. AFLCMC orders include all funded customer orders managed by the System Program Office (SPO), AFLCMC, and HQ AFMC/A4F (CAM office). These orders include the following commodities: aircraft, missiles, engines, other major end items, exchangeables, area-base/tenant, manufacturing, software, and storage.

1.22.2.2. 448th SCMW (CSAG-S) orders include all funded exchangeable orders managed by the 448th SCMW. Exchangeable orders include the following Repair Group Categories (RGC): J – Exchangeable Management of Items Subject to Repair (MISTR), K – Exchangeable Programmed Project Directive, L – Service Work, and P – Manufacture for AF Stock Funds.

1.22.2.3. OFCOs includes all remaining orders not encompassed in the two previous paragraphs. OFCOs are obtained from SPERS and can include funded customer orders from agencies such as DHS, FMS, Coast Guard, NASA, etc. These orders can also include the following commodities: aircraft, missiles, engines, other major end items, exchangeable, area-base/tenant, manufacturing, software, and storage.

1.22.3. Production. The production metric will depict total DPSHs produced during the execution year. DPSHs will include Civilian, Military, and DO-CATs; both regular and overtime. Hours will be depicted in both monthly and year-to-date formats.

1.22.4. Input/Output Schedule. This metric will depict quantities of aircraft and engines projected to be input (inducted) by the customer and planned to be produced by the ALC/OB during the year of execution.

1.22.5. Manpower. This metric will measure actual against projected hiring of all capability. All data elements must be provided in the yearly projection, as well as the monthly actual.

1.22.6. Overtime. This metric will show overtime expressed as a percentage of total DPAHs produced.

1.22.7. Yield. This metric will track how well the ALCs and AFSC as a whole compare to the projected yields established as a result of the approved R2D2. HQ AFMC/A4FD provides AFSC/A4FD with an initial yield target annually for use during the R2D2 process. The ALCs' and AFSC/SW's planned yields, when taken in the aggregate, should equal or exceed the HQ AFMC/A4FD composite yield target. Once approved by HQ AFMC/A4, the R2D2 yield then becomes the target used during the year of execution.

1.22.8. Indirect Labor Factor (ILF). ILF represents the time spent by the direct worker not working on an end item i.e. training, leave, jury duty, meetings, etc. expressed as a ratio. The ILF metric shows the sum of the Leave Factor and the Indirect Factor, excluding overtime. The Leave Factor (.30 Time) excluding overtime is expressed as a ratio between Direct Paid Leave and Direct Paid Hours. The Indirect Factor (.20 Time) is expressed as a ratio between Indirect Time and Direct Paid Hours. The ILF includes any .21 supervisory time executed or budgeted in the direct Resource Control Center (RCC).

1.22.9. Direct Labor Efficiency (DLE). The DLE is the ratio between DPSHs earned and the DPAHs (actual time spent) earning those hours. Example: $1,333 \text{ (DPSH)} \div 1,457 \text{ (DPAH)} = 91 \text{ percent}$. When analyzing DLE, be aware that a low DLE can be an indication of low productivity. Conversely, a high DLE can be an indication of inflated labor standards.

1.23. Information Systems Used.

1.23.1. Depot Maintenance Workload Planning and Control System (G004C). System used to support workload planning and interface data to other systems.

1.23.2. Sustainment Planning, Execution and Reporting System (SPERS)(D363). Command repository for all depot maintenance requirements. It provides maintenance program planning, execution, and management functionality for maintaining major and secondary items. It provides a single source of requirements managed by the ALCs, AFSC/SW, and other Air Force Logistics facilities. Specific guidance may be found in DAFMAN 63-122, *Depot Source of Repair Planning and Activation*.

1.23.3. Depot Maintenance Accounting and Production System (DMAPS) Data Store System (DDSS). Data store for historical data elements which are either not held by the DMAPS suite of systems or not held on a long-term basis. DDSS is also a relational database repository allowing a variety of functional end users to inquire and retrieve production information. DMAPS is the financial system of record and management information system used to support organic depot maintenance execution at the three ALCs and AFSC/SW. The DMAPS program is a suite of systems and includes interfaces within the suite and with other systems. **Note:** DDSS and DDS are both acceptable acronyms when referring to the DMAPS Data Store System.

1.23.4. Defense Industrial Financial Management System (DIFMS). This is a DoD standard system, which is designed to support financial accounting and reporting. In the Air Force, DIFMS is the official financial system of record for organic depot maintenance.

1.23.5. Cost and Performance Budget Module (CPBM)-H033. H033 DMAPS application consists of the Cost and Production Performance Module (CPPM), the CPPM Maintenance Module, and the Budget Target Module (BTM). Cost Transfer Module (CTM) functionality is part of BTM. CPPM is a management information system that provides organic depot maintenance financial and production information as well as essential performance indicators to each ALC and AFSC/SW manager. CPPM reports support these managers by providing online, day-to-day visibility of their operating costs and production performance, allowing them to compare actual results with financial budget and production targets. BTM is an automated Organic depot maintenance budgeting tool that, when used in conjunction with the actual historical data captured in the CPPM, permits multiple iterations of the budget/target development process, as well as production and expense ‘what-if’ scenarios (reference AFSCMAN 65-101).

Chapter 2

CAPITAL INVESTMENT PROGRAM

2.1. Capital Investment Activities.

2.1.1. Purpose and Applicability. Congress authorized the establishment of the Capital Purchases Program (CPP), now known as the Capital Investment Program (CIP), within the Defense Business Operations Fund (DBOF), now known as the Defense Working Capital Fund (DWCF). The program was devised to provide a responsive avenue for the modernization of the Department of Defense (DoD) depot maintenance industrial base. The CIP allows CSAG to include capital depreciation in customer sales rates as one means of financing the replacement of capital assets. This concept places CSAG operations in a more business-like posture and allows business-like investments for transforming depot maintenance, replacing unserviceable or technologically obsolete capital assets, and providing for productivity enhancements and environmental improvements. In 2008, the Logistics Board of Advisors identified a need for the development of an enterprise-wide prioritization process based on Headquarters Air Force (HAF) directed weighted criteria. To achieve this objective, a Rapid Improvement Event (RIE) was conducted in 2009 and a draft prioritization process and template were developed. In 2011, the process and template were validated and adopted for use beginning in FY12 by the ALC/CCs. When the CIP was realigned under AFSC in 2013, AFSC/A3/4 and the ALC/CCs directed the continued use of the process.

2.1.2. Guidance.

2.1.2.1. This chapter applies to HQ AFMC/FM, AFSC/A3/4, AFSC/EN/FM/PZ, AFLCMC, OC-ALC, OO-ALC [(including 309th Aerospace Maintenance and Regeneration Group (AMARG)], WR-ALC, and Software Directorate.

2.1.2.2. The ALC and SW Directorate Commander/Director must ensure a supplement, OI, or Process Guide (PG) to this chapter is established that clearly defines specific roles, responsibilities, and timelines for complying with this chapter.

2.1.2.3. CIP is governed by DoD 7000.14-R, Volume 2B, Chapter 9, *Financial Management Regulation*. Whenever there is conflict between published guidance, the guidance issued by the higher level takes precedence (reference DAFI 33-360, *Publications and Forms Management*).

2.1.2.4. AFSC/A4FO-OIB must provide guidance, training, and direction for all aspects of the Capital Investment Program and conduct annual onsite program reviews at each of the ALCs.

2.1.2.5. Process Guides. AFSC/A3/4 will publish a process guide to help standardize processes by implementing the use of process control gates to improve obligations across the enterprise, and help assets achieve full operational capability in a timely manner. The process guide applies to all organizations, groups, and staff offices identified in AFMCI 21-100. **Note:** The AFSC/A3/4 process guide is maintained on the AFSC/A3/4 SharePoint site.

2.1.2.6. CIP Appointment Letters. The AFSC/A4FO-OIB Comprehensive Cost and Requirements System-Data Base Manager (CCaR-DBM), AFSC/A4FO-OIB CIP Managers, ALC and SW Directorate CIP Managers, and Group CIP Monitors/Managers must be formally appointed by letter at the appropriate level of leadership and provided to AFSC/A4FO-OIB.

2.1.2.7. Capital Investment Categories. CIP investments are submitted by specific capital investment categories (Automated Data Processing Equipment and Telecommunications Equipment, Minor Construction, Software Development, and Non-Automated Data Processing). The objective is to eliminate or reduce Secretary of the Air Force Financial Management and Budgeting (SAF/FMB) and Office of the Secretary of Defense (OSD) Comptroller line item approval of the CIP budget or reprogramming submission as well as enabling greater flexibility within the approved budget amount. This reduced oversight requires HQ AFMC, AFSC, and the ALCs and SW Directorate to be even more diligent in complying with all regulatory and accountability requirements.

2.1.2.8. CIP investments must be planned, programmed, obligated, expensed, and reported in one of the following four capital investment categories: Automated Data Processing Equipment and Telecommunications Equipment, Minor Construction, Software Development, and Non-Automated Data Processing Equipment.

2.1.2.9. Automated Data Processing Equipment (ADPE) and Telecommunications Equipment. This category consists of computer hardware, operating system software (including utility and communications software), and telecommunications equipment.

2.1.2.10. Minor Construction (MC). This category includes new facility construction or alteration of an existing facility that fall below the statutory Military Construction funding threshold. **Note:** The planning and design cost of an investment financed under MC are not counted as part of the statutory threshold. Therefore, the associated cost must be identified separately from individual projects in the Budget Estimate Submission.

2.1.2.11. Software Development (SW). This category includes the actual development and acquisition of the information systems (both organic and contractor support) as well as modifications that meet the capital expenditure threshold. This category does not include software developed for a customer that is necessary for the operation of and will become integrated into a weapon system (see DoD 7000.14-R, Volume 2B).

2.1.2.12. Non-Automated Data Processing Equipment (Non-ADPE). This category includes the following:

2.1.2.12.1. Test and Inspection Equipment (T&IE). This category includes new and replacement equipment purchases, rehabilitation of existing equipment, and modification of existing equipment specifically designed for performance of test and inspection on depot maintenance workloads.

2.1.2.12.2. Weapon System Sustainment (WSS). This category includes new and replacement equipment purchases, rehabilitation of existing equipment, and modification of existing equipment that is not designed for test and inspection. Under the Defense Federal Acquisition Regulation Supplement (DFARS) Subpart 208.70 - Coordinated Acquisition, there is: (a) Integrated Material Management (IMM) for consumable stock listed items (See 208.7003-1). (b) Coordinated Acquisition Program

(CAP) for non-stock commodities (See 208.7003-2). **Note:** Federal Supply Class Code 3400 stock listed items should be obtained from Air Force or DOD inventory before initiating a purchase under IMM to the Defense Logistics Agency (DLA). Otherwise, the Coordinated Acquisition Program (CAP) procedures will be followed.

2.1.2.13. A capital investment comprising a given capability must be defined within only one of the four capital funding categories and must produce a fully functional stand-alone capability. **Note:** If an investment can be categorized under more than one funding category, select the category with the larger dollar value. In addition, each CIP requirement, whether “singular” in nature (i.e., a requirement comprised of a lone capital asset) or grouped as “capability-based” (i.e., a requirement comprised of multiple assets) must include Budget Exhibit Fund 9a Capital Investment Summary (9a), Budget Exhibit Fund 9b Capital Investments Justification (9b), and be certified by an Economic Analysis (EA) as an individual line-item entity (see DoD 7000.14-R Volume 2B, Chapter 9, Section 090302, Fund 9B) A single EA can be used if the assets can be grouped as a “capability-based” requirement in which they all fall into the same investment category. **Note:** If multiple assets are being grouped, each asset must be identified in the EA to support equipment tracking and depreciation breakouts.

2.1.2.14. Specifically Excluded Capital Investments. The following items cannot be financed under CIP: Major Range and Test Facility Base; Military and Tenant support functions; Major Weapon Systems and general-purpose passenger type vehicles; Equipment and minor construction projects purchased to meet mobilization requirements, but not used during peacetime operations; Equipment initially procured and usually furnished as part of a weapon system and/or support system to include initial common support equipment for depot maintenance support of new weapon systems; Equipment normally funded by appropriated funds and provided to contractors as government furnished equipment; MC projects for non-DWCF activity or military support functions; Construction and facility investment projects that exceed the amount specified in Title 10 USC § 2805, Unspecified Minor Construction, for funding under Operations and Maintenance appropriations; Environmental projects financed or submitted for funding by the Defense Environmental Restoration Account; Capital investments for Morale, Welfare, and Recreation activities (see DoD 7000.14-R, Volume 2B). **Note:** For Real Property Installed Equipment (RPIE), reference DAFI 32-9005, *Real Property Accountability*.

2.1.2.15. Capitalization Thresholds. ADPE, SW, T&IE, and WSS investments must have a value of \$250K or greater. MC investments must have a value of \$250K to the maximum statutory threshold. All ADPE, MC, SW, T&IE, and WSS investments must have a useful life of two or more years.

2.1.2.16. Comprehensive Cost and Requirements System (CCaR). CCaR is a management tool designed to support a number of key facets of financial and program management.

2.1.2.17. All CIP requirements and supporting documents must be entered into CCaR in a timely manner. Furthermore, CCaR must be used for managing, tracking, and reporting: commitments, obligations, expenditures, procurement milestones, and full operational capability (FOC).

2.1.2.18. In the event that CCaR becomes unavailable for any prolonged period of time, the CCaR-DBA or AFSC/A4FO-OIB must institute alternative procedures. Once CCaR becomes available, the CCaR-DBA, AFSC/A4FO-OIB, and the ALC CIP manager must take appropriate action to update the CCaR data base.

2.1.2.19. The ALC Commander is ultimately responsible for all aspects of their Capital Investment Program. They must establish a process based on the Enterprise Prioritization and Approval Process for: Requirements development, review, validation, prioritization, and approval. Furthermore, a CIP Working Group (CIPWG) must be established consisting of the ALC CIP Manager and the Group CIP Monitors/Managers.

2.1.2.20. CIPWG Responsibilities. The CIPWG must review, verify, validate, and prioritize all proposed investments. Furthermore, they must ensure all proposed investments support the ALC strategy as well as the overarching AFSC, Major Command (MAJCOM), and AF strategies. In addition, the CIPWG must produce their ALC's 1-N Enterprise Requirement List of recommended investments for submission to their ALC corporate board for formal funding consideration. The corporate board should consist of the Group Technical Directors, Group Commander's/Directors, ALC Technical Director, ALC and SW Directorate CIP Manager, and Group CIP Monitors/Managers.

2.1.2.21. The AFSC and ALC Technical Directors will meet annually to explore opportunities to standardize best practices for acquisition of investments, discuss alternative solutions, availability of unutilized equipment, and proliferation of existing technologies IAW AFSCI 61-101, *Sustainment Technology Enterprise Process*, developed at each ALC through small business innovation research (SBIR), rapid innovation funding (RIF), or depot maintenance transformation (DMT).

2.1.2.22. AFSC/A6 or delegate is ultimately responsible for verifying, validating, and ensuring all ADPE, telecommunications equipment, and Information Technology (IT) requirements are in compliance with MAJCOM and higher-level guidance.

2.1.2.23. The project engineer will ensure their proposed ADPE, telecommunications equipment, or IT requirements are approved by the AFSC CIO prior to budget consideration.

2.1.3. Methodology.

2.1.3.1. Consolidated Sustainment Activity Group – Maintenance (CSAG-M). The ALCs and SW Directorate are charged with managing all CSAG-M funded assets to include transferred and contributed assets.

2.1.3.2. The CIP encompasses six phases: Strategic Planning, Requirements Development, Programming, Funding Activities, Execution Activities, and Post Obligation Activities.

2.1.4. Communications.

2.1.4.1. The ALC and SW Directorate CIP Manager is responsible for the transmittal of all official CIP communications and activities that require review, acknowledgement, coordination, or approval.

2.1.4.2. The ALC and SW Directorate CIP Manager is ultimately responsible for ensuring timely and accurate updating of the CCaR database.

2.1.4.3. AFSC/A4FO-OIB should conduct biweekly CIP management teleconferences. The ALC and SW Directorate CIP Manager or their alternates must participate in all teleconferences.

2.1.5. Strategic Planning.

2.1.5.1. Depot maintenance strategic planning is the process used by the AF to articulate depot maintenance goals and objectives so that funding, requirements, equipment, manpower, infrastructure, recapitalization, and business processes align to achieve these goals and objectives.

2.1.5.2. The ALC/CCs and SW/Director must ensure all investments are IAW the AF, MAJCOM, AFSC, and organization strategies/initiatives. Furthermore, they must ensure the depots are adequately and properly equipped to support existing depot maintenance workloads.

2.1.5.3. The ALC/CCs and SW/Director must ensure a three-year requirements plan (budget year plus two out years) is developed, vetted, and utilized. All requirements must be based on the ALC/Directorate's anticipated depreciation value.

2.1.5.4. The Group Commander's/Directors must ensure a lifecycle management plan for equipment replacement, rehabilitation, or modification is developed and utilized for all assigned equipment.

2.1.6. Requirements Development.

2.1.6.1. The requirement initiator must ensure their project will satisfy a valid documented need and will be IAW their ALC's strategic plan and initiatives. Also, the ALC and SW Directorate CIP Manager or Group CIP Monitor/Manager must ensure CCaR records are established for all requirement years.

2.1.6.2. Requirements initiate from a variety of drivers such as: corporate initiatives, weapon system health, safety, environmental interests, capability, reliability, maintainability, sustainability, and supportability.

2.1.6.3. All depot equipment purchases must be authorized IAW with AFMCI 21-100, *Depot Maintenance Management Principles, Volume 1* Chapter 1 and AFMAN 23-122, *Materiel Management Procedures*, **Section 5D**.

2.1.6.4. Implementation and Execution Plans. The project engineer must develop an Engineering Implementation Plan whenever an Engineering Execution Plan is not required. Alternatively, coordination with the above groups may be accomplished via an alternative review process so long as a) all of the groups in 2.1.6.4.2. are included, and b) the review is accomplished earlier in the CIP process.

2.1.6.4.1. Engineering Implementation Plan (EIP). The EIP must identify all the major actions that must be completed organically for the equipment to become functionally acceptable, certified for operation, production ready to perform the associated depot maintenance work load, and for declaring FOC. Furthermore, it must identify the responsible individual/organization for each action. The EIP must be attached to the project's CCaR record. **Note:** EIP's are not required for pre-FY18 projects.

- 2.1.6.4.2. Engineering Execution Plan (EEP). An EEP is required for any CIP project procuring industrial plant equipment (IPE) (including Automatic Test Equipment) that is not Commercial off-the-shelf (COTS) or ADPE, the production engineer will develop an EEP. An EEP is recommended for a single COTS IPE procurement and required for a multi-COTS integrated IPE procurement. The purpose of the EEP is to reduce risk, as non-COTS IPE procurements require design/build/test activities. The EEP will be coordinated with the following: ALC Safety office, ALC Environmental office or Maintenance Support Group (MXSG) Environmental liaison, Metrology and Calibration Flight, ALC Energy Manager or MXSG Energy liaison, Bioenvironmental Engineering Flight, MXSG (e.g., MXSG engineering, Precision Measurement Equipment Laboratory (PMEL), plant maintenance squadron, etc.), and the production squadron that will be using the IPE. The EEP must be approved by the Group Engineering Chief, or a first-level supervisor in the Group Engineering Chief's organization. Coordination documentation will be retained in a project management system (e.g. CCaR, project folder, paper folder). The approved EEP must be attached to the project's CCaR record.
- 2.1.6.5. Post Implementation Analysis Plan (PIAP). The project engineer must develop a PIAP for all investments \$1M or greater and for those costing \$250K or more that are for improved productivity and for replacement items that can outperform an existing item. At a minimum, the PIAP must identify the specific data elements used to justify the investment ("The What"), the associated actions ("The When"), and the method(s) for quantifying the associated data element(s) ("The How"). The PIAP must be attached to the projects CCaR record. **Note:** PIAPs are not required for pre-FY18 projects.
- 2.1.6.6. New Technology. If a proposed investment will utilize a new technology, the technology must have been demonstrated to be functional in an actual system application or operational environment IAW Title 10 USC § 2208, *Working-Capital Funds*. This definition is the equivalent of a minimum Technology Readiness Level (TRL) 8 as defined in DoDI 5000.2R, *Operation of the Defense Acquisition System*.
- 2.1.6.7. TRL 8. The CIP further defines TRL 8 assets as a successful production article or prototype (that will be brought up to production article capability) test and demonstration by the provider physically located in an ALC. The associated Program Office(s) and appropriate EA(s) must provide an approval document i.e., memorandum for record (MFR) to the ALC CIP management office stating they approve of the proposed investment and will utilize the new technology for the intended purpose. Furthermore, if a prototype will be used the MFR must state the prototype can and will be retrofitted to full-production article capability. **Note:** The associated Program Office approval document (i.e., MFR) must be obtained prior to submitting the recommended investment for formal funding consideration.
- 2.1.6.8. AFSCI 61-101, *Technology Development and Insertion Process* defines the process that the ALC must use to develop and implement new technologies. The use of new technologies and production enhancements must be taken into account during the requirements planning and development process. It is crucial that requirements introducing technology to modify, enhance, or supplement depot maintenance processes are thoroughly defined, validated, and documented IAW CIP policy and vetted among all interested parties before committing to an investment. When the new technology has not been documented

in the production technical or process orders, the cognizant engineering authority must provide supporting justification/approval (e.g., letter of intent) to use the new technology along with a Technology Transition plan. Furthermore, this supporting documentation must be attached to the project's CCaR record.

2.1.7. IT Hardware and Software.

2.1.7.1. The AFSC/CIO must verify and validate all ADPE and telecommunications equipment projects and ensure IT investments are in compliance with higher level guidance for IT investments. **Note:** The AFSC/CIO may delegate this responsibility to the local Air Base Wing Communications Directorate (ABW/SC) Director. The AFSC/CIO must work with the Cyberspace Systems Integrator-Base (CSI-B), ALC and SW Directorate CIP Manager, and the AFSC/A4FO-OIB CIP Management office on all potential ADPE and IT investments.

2.1.7.2. Software development and modifications must be approved through the appropriate functional review board to validate the requirement. For logistics IT systems, this process begins with AFSC/A6O and entails obtaining approval through the logistics IT governance structure. Separately, the required activity must demonstrate completion of actions to satisfy the Service Development and Delivery Process (SDDP), registration in the Information Technology Investment Portfolio Suite (ITIPS) and potential submission of a request for obligation authority through the Organizational Execution Plan (OEP) process for defense business systems that meet the requirements set forth in Title 10 USC § 2222, *Defense Business Systems: Architecture, Accountability and Modernization*, otherwise known as the National Defense Authorization Act (NDAA) approval.

2.1.7.3. Each proposed acquisition of a capital asset must be reviewed to ensure it satisfies the criteria found in DoD 7000.14-R, Volume 2B, Chapter 9.

2.1.7.4. While leasing is not a part of CIP, it may be appropriate for areas of fast changing technology or when workloads are expected to cease before the end of the program or payback period.

2.1.7.5. The acquisition must comply with AF, HQ AFMC, AFSC, and ALC or Directorate's long range planning and programming objectives and result in satisfying a documented need for a capability to perform valid operations, functions, or services that cannot be performed as effectively or economically by the use of existing equipment and facilities or by contract.

2.1.7.6. Acquisitions must comply with higher level policy directives and regulations that govern the acquisition and management of facilities, special tooling, and special test equipment as established by DoD 4275.5, *Acquisition and Management of Industrial Resources*, as well as other applicable policies and regulations governing the lease and acquisition of equipment and facilities.

2.1.7.7. The workload projections used to justify investments must take into account the results of inter-service decisions, workload posture planning decisions, readily available commercial alternatives, and other reasonable options available for accomplishing applicable workload.

2.1.7.8. Capital assets recommended for acquisition shall be those deemed to be most efficient and effective to accomplish the objective for which they are justified. For specific criteria see DoD 7000.14-R, Volume 2B, Chapter 9.

2.1.7.9. Workload capacity projections must consider similar/existing asset performance, effectiveness, and availability improvement potentials for accomplishing applicable workload.

2.1.7.10. Automated Test System (ATS) and Automated Test Equipment (ATE) Requirements. ATS and ATE requirements (re-host, modification, and purchase) not identified on the DoD family of testers must be coordinated on by the ATS Product Group Manager (PGM) office (AFLCMC/WNA) during the requirements development phase.

2.1.7.11. Computer Numerical Control (CNC) Equipment Requirements. CNC equipment is defined as any automated industrial plant equipment which incorporates CNC or Numerically Controlled (NC) machine control technology for the manufacture, repair, and inspection of end items.

2.1.7.12. Technology Application Insertion. Technology Application Insertion requirements are those requirements that apply existing proven technology that currently does not exist within a depot to solve problems and improve performance of production processes.

2.1.7.13. Environmental, Safety, and Health Investments. Investments of this nature must alleviate environmental, safety, or health deficiencies.

2.1.7.14. IAW with AFSCI 21-102, *Engineering Hierarchy of Controls*, the hierarchy of controls system must be used by the project engineer when addressing hazardous materials. The goal when using the hierarchy of controls system is to reduce the exposures below the Occupational Environmental Exposure Limit (OEEL). Per DoDI 6055.01, *DoD Safety and Occupational Health (SOH) Program*, the order in which to apply hierarchy of controls is: elimination, substitution, engineering and/or administrative controls, and the appropriate use of Personal Protective Equipment (PPE) when other options fail to mitigate the hazard.

2.1.7.15. Energy Conservation. Energy efficiency and conservation must be considered and addressed in the decision-making, prioritization, and selection processes. Documentation must show current energy consumption, consumption of each alternative considered, and where mission trade-offs were made. Trade-offs are defined as using the same or more energy, but yield much higher savings or impact in other areas such as labor, materials, cycle times, safety, environmental (e.g., hazardous waste generation), and other strategic initiatives and mandates.

2.1.8. Prioritization.

2.1.8.1. With the exception of OSD/HAF/SAF/HQ AFMC/AFSC directed investments, the ALC or Directorate is responsible for reviewing, validating, prioritizing, and approving their recommended investments.

2.1.8.2. Key Element of Enterprise Prioritization Process. CCaR was enhanced to include a project "Analysis" section that eliminated the use of the electronic Prioritization and Reporting Template (e-PART). The Analysis section is made up of three elements, the Project's Information, Prioritization, and Supporting Documentation. These elements are key to the AFSC Enterprise Prioritization and Approval Process.

2.1.8.3. Deleted.

2.1.8.4. Requirements Scoring. Criteria scored 1-9 must be supported by valid verifiable data. The lack of valid verifiable data will result in a lower criteria score during the AFSC Enterprise Prioritization and Approval Process.

2.1.8.5. A certified EA or an approved waiver to an EA is required for all ALC Commander or SW Director recommended investments regardless of their dollar value.

2.1.8.6. Economic Analysis (EA)- Investment Justification Letter. If an EA does not financially support the proposed project and the Group Commander (or designee) decides they want to pursue the project, an EA Justification Letter must be written that clearly states the reason for proceeding forward with the project. The EA Justification Letter must be endorsed by the Group Commander (or designee) and approved by the ALC/CC or AFSC SW/Director (or designee). Furthermore, the letter must be attached to the project's CCaR record.

2.1.8.7. Non-Passenger Vehicle Approval Document. Procurement of a non-passenger vehicle (such as a tow vehicle) must be approved by the unit's Vehicle Control Office (VCO). The VCO's approval must be attached to the project's CCaR record.

2.1.8.8. DoD Non-Family of Testers Approval. ATS and ATE requirements that are not identified as one of the DoD Family of Testers must be coordinated on by the ATS PGM office (AFLCMC/WNA) during the requirements development phase. **Note:** The ATS PGM office coordination (e.g. E-Mail, MFR, etc.) must be attached to the project's CCaR record.

2.1.8.9. ADPE Approval Document. All ADPE requirements must be approved by the AFSC/CIO (AFSC/A3/4P) or the ALC designee and the approval document must be attached to project's CCaR record.

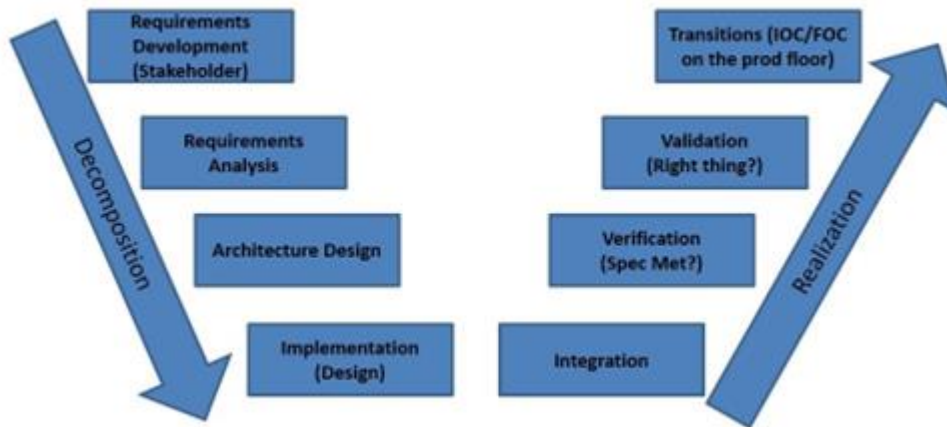
2.1.8.10. COTS. COTS is defined as a commercial item sold in the commercial marketplace and offered to the government, without modification, in the same form in which it was sold in the marketplace. An EEP is not required for single COTS IPE procurements, however, an EEP is recommended.

2.1.8.11. Multi-COTS integrated IPE procurements. An EEP is required for a multi-COTS integrated IPE procurement. An example of a multi-COTS integrated IPE procurement is laser de-paint. Multi-COTS integrated IPE procurement does not include multiple buys of similar COTS IPE such as purchasing 10 milling machines.

2.1.8.12. Technical Requirements for IPE. Technical requirements for IPE should employ a systems engineering process see [Figure 2.1](#) that addresses: technical data and software; technical events and reviews; acceptance; facilities and infrastructure; manpower and training; sustainment; IPE ancillary equipment; IT; and Environmental, Safety and Occupational Health (ESOH). Statements of Work/Performance Work

Specifications/Purchase Specifications or equivalent for all IPE purchases (excluding ADPE) will address these technical requirements as appropriate. Essential information that should be addressed for each of these technical requirements is discussed below.

Figure 2.1. Systems Engineering Process.



2.1.8.13. Technical Data and Software. Technical data includes recorded information of a technical nature necessary to purchase, operate, and support industrial equipment (e.g., drawings, specifications, manuals, spare parts and consumables list, test reports, COTS for equipment and software design, maintainability, commonly sized components, industry reliability standards, ergonomics, engineering controls). Software can include code, compiler, libraries, version description documents, etc. required to purchase, operate, and support industrial equipment. When applicable, the production engineer should ensure contract data requirements lists (CDRLs) are developed and included in the contract for each required technical data item and software item, with long term sustainment in mind.

2.1.8.14. Manuals. If a manual covers different models, series, configuration of the equipment, the differences should be included in the text or table(s) in the manual using applicability codes. The manual should precisely reflect the hardware configuration of the equipment/system. The amount of data required shall be determined by the complexity of the equipment and the maintenance concept and plan. The manual should consist of all data required for operation/maintenance/calibration of the equipment/system as determined by the contracting activity.

2.1.8.14.1. Operation Manuals. Operation manuals should effectively communicate in detail how to operate IPE.

2.1.8.14.2. Maintenance Manuals. Maintenance manuals should address, at a minimum, corrective, and preventive maintenance instructions. Diagnostic and prognostic maintenance procedures should be addressed depending on the complexity of the equipment being purchased.

2.1.8.14.3. Calibration Procedures Manuals. Calibration procedures manuals should effectively communicate in detail how to calibrate IPE.

2.1.8.15. Data Rights. A documented data rights strategy should be finalized with the contracting officer. The following are types of data rights: unlimited, limited, government purpose, special licensing, and restricted rights. Necessary data rights for technical data and software should be acquired to satisfy agency needs. IAW FAR Subpart 27.4, except for copyrighted works the Government has unlimited rights in, and should have access to, the following data:

2.1.8.15.1. Data first produced in the performance of a contract (except to the extent the data constitutes minor modifications to data that are limited rights data or restricted computer software).

2.1.8.15.2. Form, fit, and function data delivered under contract.

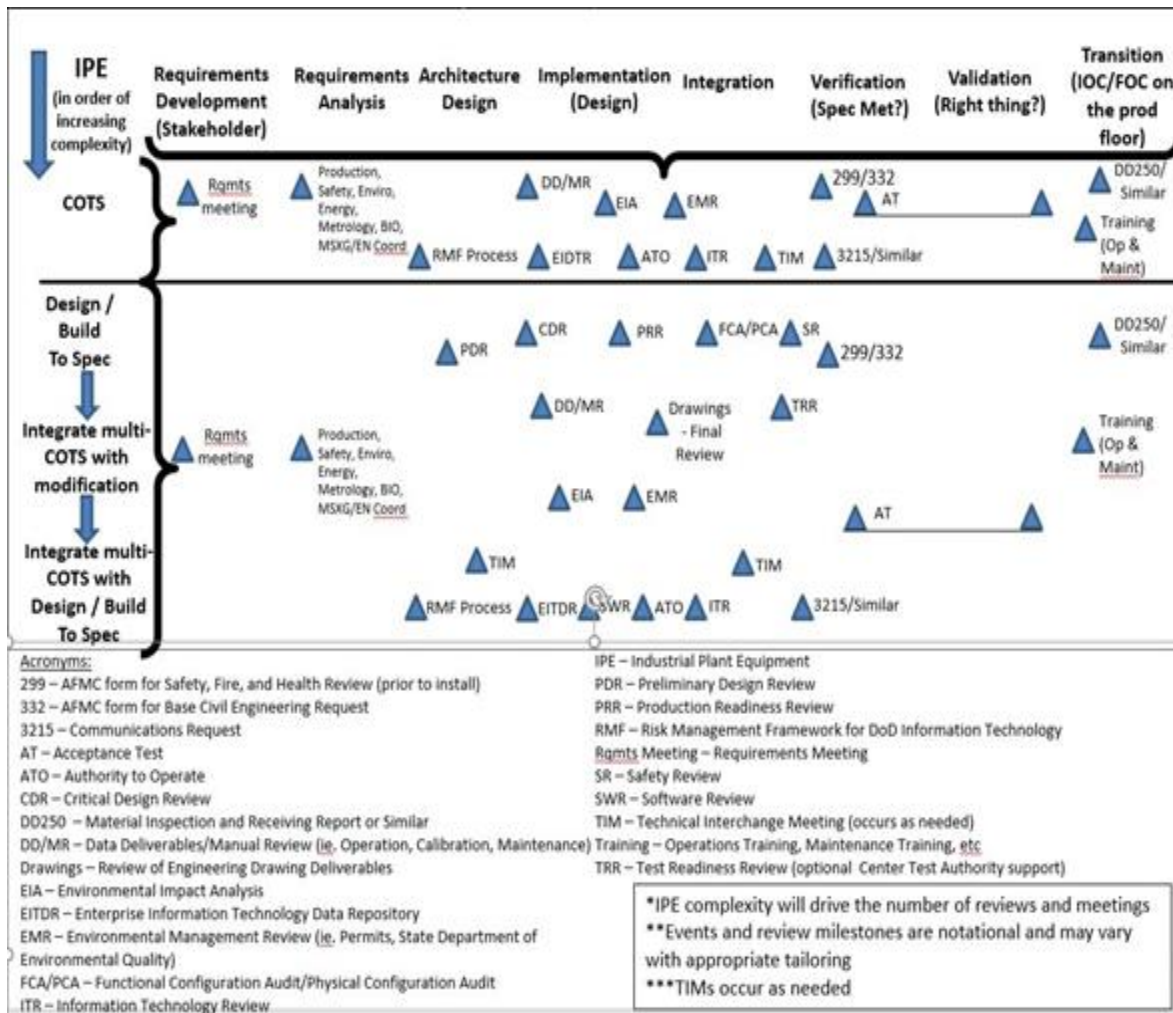
2.1.8.15.3. Data (except as may be included with restricted computer software) that constitute manuals or instructional and training material for installation, operation, or routine maintenance and repair of items, components, or processes delivered or furnished for use under a contract.

2.1.8.15.4. All other data delivered under the contract other than limited rights data or restricted computer software.

2.1.8.16. Technical Events and Reviews (e.g., Preliminary/Critical Design Reviews, Test Readiness Reviews, Acceptance Test). The number of technical events and reviews will be driven by the complexity of the project see **Figure 2.2**. The EEP should address the schedule and the entry/exit criteria for the associated technical events and reviews. During execution of the CIP project, a formal technical board chaired by the Group Engineering Chief (or delegated authority IAW AFSCI 21- 104, *Industrial Process Control*) will conduct the associated technical review(s) to ensure criteria/requirements/risks are addressed.

2.1.8.17. Events and reviews in **Figure 2.2** are notational and may vary with appropriate tailoring.

Figure 2.2. Industrial Plant Equipment Systems Engineering Events & Reviews.



2.1.8.18. The project engineer should conduct Technical Interchange Meetings (TIMs) with the vendor as needed to ensure CIP projects meet performance and schedule goals. Appropriate government representatives should be invited to ensure relevant technical requirements are adequately addressed.

2.1.8.19. When risk is assessed as medium or higher, the project engineer should consider mitigating the risk through acceptance tests or similar events at the manufacturer and/or at the install location. In addition, MXSG involvement should be considered based on complexity of the IPE project.

2.1.8.20. An Independent Engineering Review Board (IERB) is required for any significant ALC CIP projects that exceed \$10M or present a high risk per Military Standard (MIL-STD) 882E, *Department of Defense Standard Practice: System Safety*, and IAW AFSCI 21- 104, *Industrial Process Control*. Contents of the EEP's IPE technical requirements will be summarized and presented to the IERB. The IERB will determine the soundness of the EEP, evaluate its risk assessment, make recommendations for edits/additions/clarifications, and approve the EEP of the proposed CIP project.

2.1.8.21. The IERB membership will consist of AFSC/EN as chairperson, AFSC/EN OL Hill, AFSC/EN OL Robins, AFSC/EN Technical Director, ALC Technical Directors, AFSC/SE representative, and AFSC/ENS or their designees. AFSC/ENSP will serve as the secretariat for the IERB.

2.1.8.22. Acceptance. Acceptance of IPE should include the following (when applicable): performance/test requirements, baseline readings, production hardware, software, software data rights and license, implementation audits, and associated documentation necessary for final acceptance. Also state if an acceptance test plan or procedures are required to be supplied by the contractor [e.g., data item description] or developed/provided by the government.

2.1.8.23. Facilities and Infrastructure. Facilities and infrastructure technical requirements should address real property assets and infrastructure required for IPE support [e.g., delivery and installation, utilities such as electricity (use local standards to prevent need for transformers), natural gas, chilled water, compressed air, Industrial Waste Treatment Plant, real property requirements such as foundation details and roof penetrations, ventilation, space, storage, environmental compliance, and energy conservation].

2.1.8.24. Energy efficiency and conservation shall be evaluated when prioritizing funding for CIP projects. Project engineers will evaluate equipment energy consumption for potentially significant reduction of life cycle costs and improved energy performance IAW International Organization for Standardization (ISO) 50001, Energy Management Systems.

2.1.8.25. Any alterations to Real Property in support of the installation of IPE will require the submittal of an AF Form 332, *Base Civil Engineer Work Request*. Alterations include but are not limited to: foundations, trenches, cutting holes in the facility (e.g., floor, walls, or roof), tapping into utilities (e.g., sprinkler, water, main power supply, chilled water, and steam), adding heat load to a facility, and causing a significant increase in power requirements.

2.1.8.26. AFMC Form 299, *Safety, Fire, and Health Review*, will be submitted prior to IPE installation.

2.1.8.27. Manpower and Training. Technical requirements for manpower and training should consist of identifying resource needs, training needs (e.g., training manuals, associated workbooks, presentation materials, etc.), and skillsets required to operate and maintain IPE.

2.1.8.28. Sustainment. IPE is continually managed through a cycle of engineering implementation, sustainment, disposal, and new implementation see [Figure 2.3](#). Evaluation of IPE should consider this entire lifecycle. IPE enters the sustainment phase once it is installed and achieves FOC status. A sustainment plan that addresses technical tasks that ensure continued operation and maintenance of industrial equipment (see [Figure 2.4](#)) will be included in the EEP (e.g., calibration, preventative maintenance, predictive maintenance/reliability centered maintenance, equipment health monitoring (EHM), support/service contracts, calibration/maintenance requirements/schedule, warranty, extended spares kit). These tasks should be accomplished continually through sustainment. An AFSC Form 388, *Machine Tool and Equipment Historical Record*, or a local

equivalent, will be used on all newly acquired equipment for Facility and Equipment Maintenance (FEM) system.

Figure 2.3. Industrial Plant Equipment (IPE) Requirements Management.

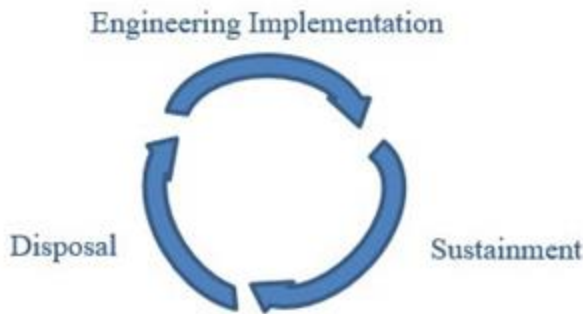


Figure 2.4. Sustainment Activities.



2.1.8.29. IPE Ancillary Equipment. Technical requirements for IPE ancillary equipment should include all equipment that is not inherently part of the primary industrial equipment unit, but is required for functional support and maintenance [e.g., Test, Measurement, and Diagnostic Equipment (TMDE), tools, heating, ventilation, and air conditioning (HVAC), generators, and consumables such as oils, lubricants, coolants, refrigerants, filters, batteries, fuses, and bulbs]. TMDE will be acquired IAW TO 00-20-14, *Air Force Metrology and Calibration Program*.

2.1.8.30. Information Technology. Technical requirements for information technology should include resources and infrastructure required to operate industrial equipment (e.g., network interface, authority to operate, risk management framework).

2.1.8.31. ESOH. Technical requirements for ESOH should include hazardous materials, physical hazards, failure modes and effects analysis (FMEA), and environmental considerations involved with operating IPE. Early integration of ESOH considerations will help reduce risk from actions that could cause damage to people, equipment, or the environment. Additional benefits include reduction of operations, support, and disposal costs.

2.1.8.32. Engineers will document utilization of the hierarchy of controls in the EEP when selecting equipment and processes IAW AFSCI 21- 102. The primary consideration should be the use of alternate hazard elimination and control methods before selecting equipment and processes which require PPE (e.g., hearing protection, respirators, etc.).

2.1.8.33. Hazardous materials documentation will be included in the EEP. Examples can include: authorization to bring on base, disposal, safe handling procedures, specific PPE requirements, and decontamination.

2.1.8.34. One of the following risk mitigation tools will be included in the EEP: FMEA, failure mode effects and criticality analysis (FMECA) and/or OSHA 3071, *Job Hazard Analysis*. A FMEA/FMECA should identify failure modes and their causes and effects, level of detail should be dictated by risk.

2.1.8.35. Environmental information and/or data (e.g., emissions or effluent information that would benefit either AF Form 813, Request for Environmental Impact Analysis, preparation or permit applications from state or the United States Environmental Protection Agency (EPA). Additional environmental resources can be found through National Environmental Protection Act (NEPA) and eDASH. Air Quality requirements can be found in Federal Regulation 40 Code of Federal Regulations (CFR) 70.3 and AFMAN 32-7002, *Environmental Compliance and Pollution Prevention*.

2.1.9. Programming.

2.1.9.1. Enterprise Prioritization and Approval Process.

2.1.9.2. The ALC/CC must ensure all recommended investments are: Fundable under the CIP, can be obligated in the FY, and in compliance with all strategic plans and initiatives.

2.1.9.3. The ALC's annual depreciation values are used for comprising the annual Budget Estimate Submission (BES) and President's Budget (PB) submission. **Note:** Under the AFSC/A3/4 Enterprise Prioritization and Approval Process the individual ALC depreciation value does not guarantee equivalent funding levels because all recommended investments compete for funding on their own merit.

2.1.9.4. The ALC CIP Management office must establish internal timelines for verifying, validating, prioritizing, and obtaining their ALC Commander's recommended requirements approval letter in time to meet the annual CIP Data Call suspense.

2.1.9.5. AFSC/A4FO must establish internal timelines for completing the Enterprise Prioritization and approval process in time to meet SAF/FM's annual suspense.

2.1.9.6. Annual Cycle and Milestones.

2.1.9.6.1. Milestone 1. The AFSC/A4FO-OIB must issue an annual CIP Data Call (budget year plus two additional years) by the last duty day of June with a last duty day of January suspense via a Task Management Tool (TMT). Unless otherwise directed, the following must be provided: ALC Commander's approval letter (for budget year recommended capital investments), estimated annual depreciation values (by fund category for the budget year and the two out years), and anticipated out year capital investments (by project for the two out years).

2.1.9.6.2. Milestone 2. The ALC and SW Directorate CIP Manager must ensure action is taken to verify, validate, prioritize, and approve their ALC's recommended requirements in accordance with this chapter. Also, the ALC and SW Directorate CIP Manager must ensure that each of the requirements identified on the Commander's approved requirements letter have all the mandatory documentation and additional supporting documentation attached to the project's CCaR record. Furthermore, they must ensure that project's score(s) were derived solely from the documentation attached to the project's CCaR record. If not, they must take action to revise the score(s) prior to formal submission. Moreover, they must ensure their ALC's submissions are in accordance with the CIP Data Call TMT.

2.1.9.6.3. Milestone 3. AFSC/A4FO-OIB must consolidate, verify, validate, identify and work submission shortfalls (with the ALC and SW Directorate CIP Manager), and score each of the requirement's (using only the documentation attached to the project's CCaR record). After scoring, representatives from AFSC/ENS/FMB/PZI will review the projects from their functional perspective (ENS: technical requirements and risk, FMB: EA assessment and Funds category, PZI: acquisition strategy) and provide recommendations based only on their functional area of responsibility. **Note:** A non-recommendation and the supporting comments made by AFSC/ENS/FMB/A4F/PZI do not disapprove a project. Upon completion, AFSC/A4FO-OIB must annotate the ALC's and AFSC's project scores in the Custom Date Fields of the appropriate CCaR record. Furthermore, they must provide a 1-N Enterprise Requirements List that includes AFSC/ENS/FMB/PZI's recommendations, comments, and documented concerns along with the two out-year requirements listings to AFSC/A4FO (Goal: late-March).

2.1.9.6.4. Milestone 4. AFSC/A4FO-OIB must brief the CIP 1-N Enterprise Requirements List to include documented recommendations and concerns along with the two out-year requirements listings to the Depot Maintenance Execution Group (DMEG) (Goal: early-April).

2.1.9.6.5. Milestone 5. AFSC/A4FO-OIB must brief the CIP 1-N Enterprise Requirements List to include documented recommendations and concerns along with the two out-year requirements listings to the AFSC Integration Board (Goal: mid-April).

2.1.9.6.6. Milestone 6. AFSC/A4FO-OIB must brief the CIP 1-N Enterprise Requirements List to include documented recommendations and concerns along with the two out-year requirements listings to the AFSC/CA. (Goal: late-April).

- 2.1.9.6.7. Milestone 7. AFSC/CA must render a funding determination on the proposed CIP 1-N Enterprise Requirements Lists. Once the determination is made, AFSC/CA must take action to formally approve a CIP 1-N Enterprise Investments List and acknowledge the two out-year requirements listings (Goal: late April).
- 2.1.9.6.8. Milestone 8. Upon receipt of the approved CIP 1-N Enterprise Investments List, AFSC/A4FO-OIB must generate an Authority to Advertise (ATA) Letter that identifies the approved investments as well as the out-year requirements for AFSC/A4FO/FMB/PZI signature. Upon obtaining all signatures, AFSC/A4FO-OIB must distribute the ATA letter to AFSC/FMB/FMRA, the ALC and SW Directorate CIP Managers, and the ALC's Military Interdepartmental Purchase Requests (MIPR) Support sections. (Goal: late-April).
- 2.1.9.6.9. Milestone 9. Upon receipt of the ATA letter, the ALC and SW Directorate CIP Manager must provide a copy of the letter to all the appropriate organizations/agencies/individuals for their action and suspense the project engineers to provide estimated submission dates for their associated procurement package.
- 2.1.9.6.10. Milestone 10. Upon receipt of the procurement package submission dates, the ALC and SW Directorate CIP manager must provide the appropriate contracting agency a copy of the ATA letter that identifies the projects requiring their action to include the estimated procurement package submission dates. The CIP manager must also initiate action to ensure skeleton accounting addresses are built for all investments prior to the start of the upcoming FY.
- 2.1.9.6.11. Milestone 11. Upon receipt of the ATA letter, the contracting agency must initiate action to assess the procurement strategies for each of the projects, identify the appropriate contracting milestones, and provide the estimated milestone dates to the ALC and SW Directorate CIP Manager prior to the end of August for development of the ALC's Obligation Baseline Plan.
- 2.1.9.6.12. Milestone 12. The ALC and SW Directorate CIP manager must develop their Baseline Obligation Plan, obtain their ALC Commander's approval, and submit the plan to AFSC/A4FO-OIB prior to the start of the FY.
- 2.1.9.6.13. Milestone 13. AFSC/A4FO-OIB will review the ALC's plans against the obligation goals and take action if necessary. Next, they must consolidate the ALC plans and take action via the corporate board process to obtain AFSC/CA approval.
- 4.1.10. Funding Activities.
- 2.1.10. Annual Operating Budget (AOB). The AOB provides Capital Obligation Authority by funds categories (ADPE, MC, SW, Non-ADPE). The Capital Obligation Authority represents a limitation subject to the provisions of Title 31 USC § 1517, *Prohibited Obligations and Expenditures*. Obligations are not to be incurred beyond the total approved amount shown for each year for the Capital Budget without the specific prior approval of SAF/FM. **Note:** The AOB is based on the most recent Congressional approval of the President's Budget (PB).
- 2.1.10.1. AFSC/FMRA/A4F must review the AOB against the AFSC CIP budget (CSAGM) submission and work with AFSC/FMB to resolve any issues.

2.1.10.2. Upon receipt of the SAF AOB, HQ AFMC/FMR must issue an AFMC CSAG-M AOB to AFSC/FMB/FMRA/A4F and the CCaR-DBA for their action.

2.1.11. Funds Distribution.

2.1.11.1. Upon formal receipt of the AOB, the CCaR-DBA must load the AOB dollar values to CCaR and AFSC/A4FO-OIB must initiate CCaR actions to distribute funding to the ALCs and SW Directorate.

2.1.11.2. As soon as FMRA loads the distributed funds into DIFMS, the ALC and SW Directorate CIP Manager must initiate a Target Load Sheet (TLS) for each of the approved investments to facilitate loading of funds into the General Accounting and Finance System (GAFS/BQ) at the Customer Order Number (CON) or project level. **Note:** Individual TLSs must be submitted for each of the appropriate funding categories (i.e., ADPE, MC, SW, T&IE, and WSS) within five business days.

2.1.11.3. AFSC/A4FO-OIB must review and coordinate on all TLSs to ensure that funds are being applied to the appropriate investment in the correct dollar amount.

2.1.11.4. AFSC/FMRA must review and approve all Advices and TLSs.

2.1.11.5. The ALC and SW Directorate CIP Manager must ensure approved TLSs have been processed into GAFS/BQ to support execution. **Note:** Funding documents other than planning purchase requests (PRs), will not be issued until TLSs have been processed.

2.1.11.6. AFSC/A4FO-OIB is the approval authority for authorizing the use of un-allocated, residual, fall-out, or plus-up funding. AFSC/A4FO-OIB must ensure all budget year investments as well as all prior year requirements are fully funded prior to distributing funding for other investments. Approval must be based on the enterprise priority, availability of funds, and ability to obligate the funds. **Note:** AFSC/A4FO-OIB has authority to provide funding for any project identified on the ATA letter.

2.1.12. Execution Activities.

2.1.12.1. The ALC and SW Directorate CIP Manager must ensure program execution IAW the AFSC/CA approved Baseline Obligation Plan, adhere to the OSD Obligation Goals, and strive to achieve the AFSC Obligation Goals.

2.1.12.2. OSD Obligation Goals. The OSD obligation goals are documented on the SAF AOB and are generally: 50 percent by the end of March, 75 percent by the end of June, and 100 percent by the end of the September.

2.1.12.3. AFSC Obligation Goals. The AFSC obligation goals are 25 percent by the end of December, 50 percent by the end of March, 80 percent by the end of June, and 100 percent by the end of August.

2.1.13. Obligation Planning and Reporting.

2.1.13.1. The ALCs and SW Directorate must develop a program year Baseline Obligation Plan that adheres to achieving the OSD and AFSC obligation goals and the ALC and SW Directorate CIP manager must submit the ALCs and SW Directorate Baseline Obligation Plan to AFSC/A4FO-OIB per Milestone 12.

2.1.13.2. **Obligation Review.** AFSC/A4FO-OIB must schedule an annual obligation review with the ALCs and SW Directorate to assess the risk of all unobligated investments (Goal: mid-May).

2.1.13.2.1. The ALC and SW Directorate CIP Manager must work with their leadership to assess the risk for each of their unobligated investments. Furthermore, they must provide their ALCs assessment and recommendations to AFSC/A4FO-OIB prior to the scheduled AFSC/A4FO obligation review.

2.1.13.2.2. AFSC/A4FO must conduct an obligation review with the ALCs and SW Directorate to discuss their assessments, proposed recommendations, and to render a decision on how to proceed.

2.1.13.2.3. Once AFSC/A4FO renders a decision, AFSC/A4FO-OIB must notify the appropriate ALC and SW Directorate CIP Managers and AFSC/FMB/FMRA of the decision.

2.1.13.2.4. Upon notification, the ALC and SW Directorate CIP Manager must notify the appropriate organizations/individuals of the obligation review decisions and initiate the appropriate actions.

2.1.14. Commitments and Obligations.

2.1.14.1. Obligation documents bind government dollars for specific investments. Examples of obligation documents include but are not limited to: formal contracts, Category (CAT) I Military Interdepartmental Purchase Requests (MIPRs); CAT II MIPRs (binding upon contract award); Miscellaneous Obligation Reimbursement Documents (MORDs).

2.1.14.2. AFSC/CA is the MIPR approval authority for all non-Program Executive Office (PEO) acquisitions \$500K or greater unless the MIPR is for equipment identified under Federal Supply Group 3400 that will be going to DLA. **Note:** A copy of the ATA letter must be attached to all MIPR packages to ensure the location's MIPR support section is aware of the fact that AFSC/CA has already approved the project.

2.1.14.3. Commitments and obligations are posted to Defense Finance and Accounting Service (DFAS) upon occurrence for each investment. Whenever a DFAS transaction occurs, the ALC and SW Directorate CIP Manager must ensure the transaction is correct or take immediate action to correct the discrepancy and must reconcile the transaction in CCaR. **Note:** A funding document is considered committed upon certification.

2.1.14.4. Obligation of funds must adhere to the stipulations of the AOB. Additionally, for SW development or modernization, obligation of funds must adhere to the requirements set forth within Title 10 USC § 2222 if the SW involves a defense business system and plans to spend over \$1.0M during the current year and the next five years. Any deviation from the AOB without prior approval from AFSC/FMB, HQ AFMC/FMR, or higher authority is subject to the consequences of the Anti-Deficiency Act and other public laws as appropriate (see DoD 7000.14-R, Volume 2B, Chapter 9).

2.1.14.5. AFSC/FMB must report the ALCs and SW Directorate' obligation status during all CIP Execution Reviews or as otherwise directed.

2.1.14.6. The ALC and SW Directorate CIP Manager is responsible for tracking and reporting the status of all MIPRs to their leadership and AFSC/A4FO-OIB on a monthly basis.

2.1.14.7. Upon contract award, the ALC and SW Directorate CIP Manager must take immediate action to return all unobligated/residual funds to AFSC/A4FO-OIB as soon as possible.

2.1.15. Realignment of Funds.

2.1.15.1. Realignment of funds is the movement of current year funds within the same category, e.g. WSS, T&I, MC, ADPE, SW. The ALC and SW Directorate CIP Manager must execute their program according to their funding authority and minimize or eliminate the need for realignment actions. If realignment of funds becomes necessary, the ALC and SW Directorate CIP Manager must request a realignment by accomplishing and processing a TLS.

2.1.15.2. Realignment of SW funds for investments supporting SW Development or Modernization. If the investment was previously required to submit a request for obligation authority under Title 10 USC § 2222, then an out of cycle request must be submitted to change the amount of obligation authority. The request will be worked through the local IT portfolio management organization and the applicable HQ AFMC functional organization.

2.1.15.3. Realignment Approval. AFSC/A4FO-OIB must review and coordinate on all requests and AFSC/FMRA must complete all approval actions in CCaR, document the 9a and 9c, and adjust funding advices. Upon notification of approval, the ALC and SW Directorate CIP Manager must ensure associated documentation, e.g., 9b, EA, MFR, and CCaR records, are annotated accordingly within five business days.

2.1.16. Reprogramming of Funds.

2.1.16.1. Reprogramming of funds is the movement of funds between different FYs (i.e., prior year cost increase) or funds categories. The ALC must make every effort to minimize or eliminate the need for reprogramming. If reprogramming of funds becomes necessary, the ALC and SW Directorate CIP Manager must inform AFSC/A4FO-OIB of their request and AFSC/A4FO-OIB must initiate the appropriate actions to garner approval.

2.1.16.1.1. Reprogramming of SW funds for investments supporting SW Development or Modernization. If the reprogramming of funds involves a software development or modernization investment and the IT system program involved was previously required to submit a request for obligation authority under Title 10 USC § 2222, then an Out-Of-Cycle request to change the amount of obligation authority must be worked through the local IT portfolio management organization and the applicable HQ AFMC functional organization.

- 2.1.16.1.2. Reprogramming Authority. The CSAG-M Division may without prior approval from OUSD(C) Operations Directorate reprogram up to \$5M between approved capital budget projects for minor construction and non-ADP equipment and reprogram up to \$1M between ADP and software projects in a fiscal year program. Deviations from the PB that are consistent with the reprogramming criteria noted above must be identified to the Director for Office of the Under Secretary of Defense (OUSD) Revolving Funds within 15 days of occurrence or during the quarterly execution reviews, whichever occurs first (see: Air Force Working Capital Fund (AFWCF) CSAG-M Fiscal Year Obligation Authority and DoD 7000.14-R, Volume 2, Chapter 9).
- 2.1.16.1.3. If reprogramming is required, AFSC/A4FO-OIB must work with AFSC/FMB to accomplish a reprogramming package to obtain AFSC/FM approval for submission to HQ AFMC/FMRS to staff the request for formal submission to SAF/FMBOR for consideration. If the request requires OSD approval, SAF/FMBOR will accomplish all additional actions.
- 2.1.16.1.4. Approved Reprogramming Request. Upon receipt of a new SAF AOB, HQ AFMC/FMRS must issue a new HQ AFMC AOB to AFSC/FMB/FMRA/A4F.
- 2.1.17. Carryover of Capital Authority.
- 2.1.17.1. Request for CIP Carryover Authority. Upon notification of OSD's Request for CIP Carryover Authority (generally June/July), AFSC/A4FO-OIB will provide the ALC CIP Manager a carryover template and instructions. The ALC and SW Directorate CIP Manager must annotate the request, obtain senior leadership approval, and submit the request to AFSC/A4FO-OIB for their action.
- 2.1.17.2. AFSC/A4FO-OIB will review the ALC submissions, work with the ALC and SW Directorate CIP Manager to resolve any shortfalls, consolidate the ALC's request, and submit the request to AFSC/FMB for their action.
- 2.1.17.3. AFSC/FMB will review the request to determine if adequately justified prior to submission to HQ AFMC/FMR for their action.
- 2.1.17.4. HQ AFMC/FMR will review and formally endorse the request for submission to the SAF/FMB Director for OUSD Revolving Funds for consideration. If OSD grants carryover authority, SAF/FMB will notify HQ AFMC/FM of the approval and identify the dollar value on next year's AOB under the Prior Year Capital Obligation Authority. IAW SAF/FMB direction, all funds approved for carryover must be obligated NLT the end of the first quarter unless otherwise directed.
- 2.1.18. Prior Year (PY) Cost Increases.
- 2.1.18.1. All validated within scope prior year cost increases must use current year (CY) CSAG-M budget authority to fund the increases.
- 2.1.18.2. When notified of a prior year cost increase, the ALC and SW Directorate CIP manager must initiate action for the accomplishment of a "Request for Prior Year Capital Obligation Authority Adjustment" and Electronic Staff Summary Sheet (eSSS).

- 2.1.18.2.1. Upon receipt of a “Request for Prior Year Capital Obligation Authority Adjustment” and eSSS, the ALC and SW Directorate CIP manager must review the request for accuracy, completeness, and that all the required ALC organizations have coordinated on the eSSS. The ALC and SW Directorate CIP manager must coordinate on the eSSS and submit it to AFSC/A4FO-OIB.
- 2.1.18.2.2. AFSC/A4FO-OIB must review all PY request for accuracy, completeness, and ensure the eSSS has all the required ALC coordinations. The ALC and SW Directorate CIP manager must coordinate on the eSSS, and submit it to AFSC/FMB.
- 2.1.18.2.3. AFSC/FMB must review all PY request for accuracy, completeness, and ensure the eSSS has all the required coordination. AFSC/FMB must coordinate on the eSSS and staff it with AFSC/FM for a funding determination. If AFSC/FM disapproves the request, they must annotate the eSSS accordingly and AFSC/FMB must return the request and eSSS to AFSC/A4FO-OIB and the appropriate ALC and SW Directorate CIP manager. If AFSC/FM approves the request, AFSC/FMB must return the request and eSSS to AFSC/A4FO-OIB and the appropriate ALC and SW Directorate CIP Manager. Furthermore, they must have AFSC/A4FO-OIB generate a reprogramming request for submission to SAF.
- 2.1.18.2.4. If SAF approves the request, they must take action to obtain OSD’s approval to issue a new AOB. Upon approval, SAF must issue a new AOB to HQ AFMC/FMR for their action.
- 2.1.18.2.5. Upon receipt of the new AOB, the CCaR-DBA must load the AOB to CCaR and adjust the funding values. AFSC/A4FO-OIB will initiate actions to distribute the required funding to the appropriate ALC and AFSC/FMRA will document the Exhibit Fund 9c.
- 2.1.18.2.6. Upon receipt of funds, the ALC and SW Directorate CIP Manager must ensure the associated documentation and CCaR records are annotated within one business day. Furthermore, the ALC and SW Directorate CIP Manager must ensure the funds are fully obligated prior to the end of the current fiscal year.
- 2.1.19. Out-of-cycle (OOC) Request.
- 2.1.19.1. The ALC/CC, Group Commander, or ALC CIP Management office can submit an OOC request at any time throughout the program year to add, cancel, or move a project between fiscal years.
- 2.1.19.2. The ALC and SW Directorate CIP Manager must ensure the OOC request includes the Project Title, Control Sequence Number (CSN), CCaR #, Dollar Value, Funding Category, Reason for the Request and that the letter was signed by the appropriate Group commander (or higher) prior to submitting it to AFSC/A4FO-OIB for their action.
- 2.1.19.3. AFSC/A4FO-OIB has authority to approve any OOC request to cancel a project, move a project between program years, or fund an out year project as long as the project is identified on the ATA letter. If the project is not on the ATA, the project must be staffed for AFSC/CA’s approval. However, if the request is for an urgent or emergency requirement, AFSC/CA has granted AFSC/A4FO authority to fund the project. After doing so, AFSC/A4FO must notify AFSC/CA of their action via an Items of Interest (IOI) or

other approved method. Upon approval of an OOC, AFSC/A4FO-OIB must return the request to the ALC and provide a copy to AFSC/FMRA. **Note:** Urgent or emergency requirements are defined as requirements that will eliminate work stoppages that are directly affecting production or requirements that will correct problems or violations involving health, safety, fire protection, pollution, or security which are serious, urgent, and hazardous.

2.1.20. Interim Payments.

2.1.20.1. If a contractor requests interim payments for commercial items, the ALC contracting office must work the request with the MAJCOM Director of Contracting, SAF/AQCK, SAF/FMPS, and AFSC/FMRA/A4FO-OIB (reference Air Force Federal Acquisition Regulation (AFFAR) Part 5332, *Contract Financing*).

2.1.20.2. The ALC contracting office will accomplish the following and submit to the MAJCOM Director of Contracting for action: eSSS; proposed SAF/FMPS memorandum requesting financing; background paper on commercial financing; determination of findings for use of commercial interim financing.

2.1.20.3. If the MAJCOM Director of Contracting approves an interim payment request, the request will be submitted to HQ AFMC/FM for review and for submission to SAF/AQCK and SAF/FMPS for action.

2.1.21. Current Year Cost Increases.

2.1.21.1. Upon notification of a current year cost increase, the ALC and SW Directorate CIP Manager or Group CIP Manager/Monitor will accomplish a "Request for Current Year Obligation Authority Adjustment" letter and submit it to AFSC/A4FO-OIB for action.

2.1.21.2. Upon notification of approval, the ALC and SW Directorate CIP Manager will ensure the associated documentation, e.g., Fund Exhibit 9b (during budget cycle) and CCaR record, is annotated accordingly within two business days.

2.1.22. Post Obligation Activities.

2.1.22.1. Upon in-house acceptance or contract award, the appropriate in-house or contracting agency must provide the ALC and SW Directorate CIP Manager a copy of the in-house agreement or contractual documentation to include an estimated delivery date.

2.1.22.2. The ALC and SW Directorate CIP Manager or Group CIP Manager/Monitor must attach all contractual documentation (e.g., MORD, CAT I MIPR, CAT II MIPR, or In-house agency agreement) to the project's CCaR records under the "Obligations – Attachments" section. Furthermore, they must determine the Original FOC date for the item by adding the EIP or EEP completion time frame to the estimated delivery date. Once the Original FOC date is determined, the date must be entered into the project's CCaR record under the Custom Dates section in the "Original FOC" date field (not the "Planned FOC" date field). **Note:** The "Original FOC" date will be the baseline date for the project.

2.1.22.3. If the estimated delivery date of an asset goes past due, the project engineer must notify their Group CIP Manager/Monitor or the ALC and SW Directorate CIP Manager, and immediately contact the appropriate contracting agency to take action to resolve the matter. Upon resolution, the ALC or Group CIP Manager/Monitor will change the estimated delivery date in the CCaR Custom Dates section.

2.1.22.4. Upon delivery of the asset, the ALC and SW Directorate CIP Manager or Group CIP Manager/Monitor must annotate the “Delivery date” in the Custom Dates section of the project’s CCaR record. Furthermore, they must work with the project engineer to review the project’s EIP or EEP to ensure the completion time frames are still good for the asset to achieve FOC by the date in the “Original FOC” field of the project’s CCaR record. If the Original FOC date is not achievable, the project engineer must take action to correct the plan and determine a new FOC date. Upon determining the new FOC date, ALC and SW Directorate CIP Manager or Group CIP Manager/Monitor must annotate that date in the project’s CCaR record under the Custom Dates section in the “Planned FOC” date field (not the “Original FOC” date field). **Note:** The “Original FOC” date is not allowed to be changed.

2.1.22.5. AFSC/A4FO-OIB will develop and provide an FOC reporting template to the ALC and SW Directorate CIP Manager.

2.1.22.6. The Group CIP Managers must use the FOC reporting template to report the current status of all their projects that have gone past their “Original FOC” dates. They must provide their report to the ALC and SW Directorate CIP Manager on a monthly basis. The ALC and SW Directorate CIP Manager must report their ALC’s FOC status to AFSC/A4FO-OIB NLT the seventh day of the month or as directed.

2.1.22.7. The ALC and SW Directorate CIP Manager and Group CIP Manager/Monitor are responsible for updating the CCaR database on a daily basis.

2.1.22.8. The ALC and SW Directorate CIP Manager must conduct a CCaR reconciliation on a weekly basis (or sooner) and take action to resolve any issues.

2.1.23. Post Implementation Analysis Plan (PIAP).

2.1.23.1. A PIAP and reporting is mandatory for all CIP investments of \$1M or greater and for those costing \$250K or more that are for improved productivity and for replacement items that can outperform an existing item. **Exception:** Environmental, hazardous waste reduction, or requirements mandated by a regulatory agency (state, local, or federal) including directed action by a higher DoD or component authority which does not allow a choice.

2.1.23.2. Once a CIP asset achieves FOC, the ALC and SW Directorate CIP Manager must initiate action for the project engineer to begin the post implementation analysis (PIA), also known as Post FOC analysis, identified in the project’s PIAP and notify the appropriate Group Commander. **Note:** The project’s post implementation analysis must be finished within three years IAW DAFMAN 65-605V1, *Budget Guidance and Technical Procedures*.

2.1.23.3. The Group Commander must ensure the project engineer completes the PIA within three year and that the project engineer provides their closing assessment to the ALC and SW Directorate CIP Manager within 30 days of completion.

2.1.23.4. ALC and SW Directorate CIP managers shall ensure PIA documentation is properly attached to a project's CCaR record within the CCaR database. Additionally, within the project record in CCaR, under the DIFMS Prioritization and Reporting tab, the FOC Analysis section shall be filled and completed by the project POC or ALC and SW Directorate CIP manager. Upon fulfilling these requirements, the PIA requirement will be deemed complete.

2.2. Funding Activities and Equipment Management.

2.2.1. Purpose and Applicability.

2.2.1.1. To ensure depot maintenance activities are adequately sustained for the CSAG-M industrial base and infrastructure.

2.2.2. Scope.

2.2.2.1. This area highlights the policies and justification process underlying the formulation of requirements.

2.2.3. Methodology.

2.2.3.1. The CIP provides all depot maintenance working capital funded organizations with a method for budgeting and funding capital equipment requirements. Assets will be capitalized and depreciated over the useful life and funds will be recovered through the sales rate charged to the customer.

2.2.4. Funding.

2.2.4.1. CIP funding can only be used to finance legacy systems and/or support systems. Specific items that must be financed with appropriated funds are listed in the DoD FMR 7000.14-R, Volume 2B, Chapter 9, Section 090104.E.

2.2.4.1.1. New weapon system and/or support systems must be financed with appropriated funds (activation funds) IAW DoD FMR 7000.14-R, Volume 2B, Chapter 9, Sections 090104.B. and 090104.H.2. Assets required for depot activation or stand up must be funded with appropriated funds (activation funds) IAW AFMCI 21-100. **Note:** The AF uses a single capital investment funding appropriation line in conjunction with an acquisition program.

2.2.4.2. Equipment financed by CSAG-M must be used by organic depot maintenance activities. The equipment must be utilized to the extent that full cost recovery is ensured through depreciation and rate structure so that equipment recapitalization may occur.

2.2.4.3. In cases where assets are co-used by non-CSAG-M activities, appropriate cost sharing will occur and a Memorandum of Agreement (MOA) or service level agreement will be established if the use is on a continuous basis. Payment for equipment use will be for actual cost (depreciation, maintenance, repair, and administrative costs). Payment can be in cash (treated as a refund) or an in-kind exchange (reduce base operating support payments). **Note:** CIP funding execution authority does not apply to non-CSAG-M interests.

2.2.5. Depreciation.

2.2.5.1. All CSAG-M capital assets (regardless of the initial capitalization source) are depreciated over the useful life (reference DoD FMR 7000.14-R, Volume 2B, Chapter 9, Section 090104 and Volume 4, Chapter 6, Section 060205.). Depreciation measures how much of a given resource is consumed and is part of the total cost of producing an output. The planned annual depreciation expense is recovered through the sales rates charged to the customer, thereby recovering the total asset cost over the useful life. Recovery of depreciation expense is the primary financing source for future capital investments.

2.2.5.1.1. Method of Depreciation. Apply straight-line depreciation based on capitalized amount less residual value including installation costs. DWCF will use the DoD recovery periods for depreciable assets (reference DoD FMR 7000.14-R, Volume 4, Chapter 6, Section 60205.J. and DAFMAN 65-605V1. DWCF activity will continue to report and depreciate capital assets until the book values of the assets reach zero or the residual value, as appropriate (reference DoD FMR 7000.14-R, Volume 2B, Chapter 9, Section 090104).

2.2.5.2. Transferred or Contributed Assets. ALCs must recover the remaining depreciation value of the assets (reference DoD FMR 7000.14-R, Volume 11B, Chapter 2, Section 020402.C.).

2.2.5.3. Public Private Partnership (PPP). Assets acquired through PPP are not depreciable unless the government obtains title of each asset (reference DoD FMR 7000.14-R, Volume 2B, Chapter 9, Section 090105.). **Note:** Any ATS/ATE acquired through PPP that becomes government owned must comply with DoD ATS standardization policy requirements.

2.2.5.4. Methodology. Accurate accounting is critical to ensure depreciation is captured for financing recapitalization. All CSAG-M equipment must be accounted for by the ALC in the DIFMS.

2.2.5.4.1. DIFMS is the financial management system that is used to capture and depreciate capital asset's cost according to the financial policies (reference AFSCMAN 65-101).

2.2.5.4.2. AMARG uses a local inventory/accounting system, and will follow the same policies and procedures as the ALCs and SW Directorate to the maximum extent possible.

2.2.5.5. Commencement of Depreciation.

2.2.5.5.1. CIP assets must be declared FOC before initiating depreciation. As soon as FOC is formally declared, the ALC and SW Directorate CIP Manager must take action to ensure depreciation commences and that the asset is recorded as FOC in DIFMS. The acceptance date must be recorded as the serviceable date.

2.2.5.5.2. Depreciation of Hardware ADPE assets. If one ALC is acting as the broker for an ADPE asset that will be used at another ALC, depreciation must be divided equally. Depreciation should begin in the month following the date the ADPE is installed and operational regardless of whether it is actually used. If the ADPE supports only one ALC, depreciation will be accomplished IAW DoD FMR 7000.14R, Volume 4, Chapter 6, Section 60205.J and DAFMAN 65-605V1.

2.2.5.6. Depreciation Reporting.

2.2.5.6.1. The DIFMS Fixed Assets report (7310-501) and the Assets Under Development report (7310-512) reports from the DIFMS On-Line-Report-Viewing (OLRV) will be used for deriving and reporting planned and actual depreciation values.

2.2.5.6.2. Each ALC must report their anticipated depreciation values for the budget year, plus two additional out years during the annual CIP Data Call cycle. **Note:** These values will be broken out by the funding category (i.e., ADPE, MC, SW, T&IE, and WSS) so that AFSC/FZR can submit them for inclusion in the BES.

2.2.5.7. Management. To enable results measurement, the ALCs and SW Directorate will maintain records of all capital assets procured through the DWCF or contributed to CSAG-M organizations via non-DWCF sources. Full accounting of all capital assets ensures realistic projections of depreciation costs accrued and enables full recapitalization.

2.2.6. Equipment Authorization. All depot equipment purchases must be authorized on the unit's equipment Authorization IDs. Depot activities at OO-ALC, OC-ALC, WR-ALC, Software Directorate, and 309 AMARG are authorized to use Allowance Source Code (ASC) 042 for non-stock listed equipment that directly supports depot programs or projects which has been determined to be a one-time buy (see AFMAN 23-122).

2.2.7. Project Folders.

2.2.7.1. The Group CIP Manager/Monitor must establish equipment/project folders for all equipment purchased through the DWCF or contributed via non-DWCF sources. Electronic project folders may be utilized if directed by the ALC leadership. Folders must be retained for the specific retention periods IAW DoD FMR 7000.14-R, Volume 1, Chapter 9, Figure 9-1.

2.2.7.1.1. At a minimum, each project folder must identify the following information: the date the project folder was last reviewed for completeness; organization/building location; national stock number (NSN); control symbol number (CSN); serial number; custodian account number; document number; nomenclature; procurement cost; installation cost; significant events; plant account number (PAN); applicable DIFMS Account Code 14, 24, or 84 documentation; any other information that further documents the asset. **Note:** Overarching guidance or local directives may require additional items be included.

2.2.7.1.1.1. DIFMS Account Code "14" (Purchased Equipment). The following will be included: copy of signed purchase contract, engineering specifications (local purchase only), EA with supporting data or a cost analysis, vital mission approval document (if accomplished), simulation model (if accomplished), post implementation benefits analysis (if \$1M or greater), DD Form 250, *Material*

Inspection and Receiving Report (optional), DD Form 1149, *Requisition and Invoice/Shipping Document*, DD Form 1150, *Request For Issue/Transfer/TurnIn*, DD Form 1348, *DoD Single Line Item Requisition System Document (Manual)*, DD Form 1423, *Contract Data Requirements List*.

2.2.7.1.1.2. DIFMS Account Code “24” (Contributed Equipment). The following will be included: copy of signed purchase contract or Mater Item Identification Database (MIIDB)/D043A, DD Form 250 (optional), DD Form 1149, DD Form 1150, DD Form 1348.

2.2.7.1.1.3. DIFMS Account Code “84” (Non-CSAG-M Owned Equipment). The following will be included: a maintenance agreement containing replacement responsibility, return rights, return date specified, and disposal instructions.

2.2.8. Turn-in of Excess Equipment.

2.2.8.1. DWCF equipment that is being replaced or is no longer required to support a valid workload/mission must be declared excess. Prior to transfer, turn-in, or disposal of DWCF funded equipment, the unit’s Equipment Custodian or Equipment Management Element must notify the Group CIP Manager/Monitor of their intent and await concurrence before initiating any formal actions.

2.2.8.1.1. The Group CIP Manager/Monitor will verify the asset isn’t required by another group within the ALC. If no other group requires the item, they will inform the ALC and SW Directorate CIP Manager of their intent to turn in the asset and notify the Equipment Custodian or Equipment Management Element to initiate formal turn-in action.

2.2.9. Equipment Installation.

2.2.9.1. Site preparation for the installation of equipment including costs such as direct foundation work (supporting concrete slab) and secondary utilities will be included in the total project cost and not as a separate minor construction cost.

2.2.9.2. The Equipment Custodian or Equipment Management Element must notify the project engineer and Group CIP Manager/Monitor of all equipment deliveries within five business days. Once the equipment arrives, the Group CIP Manager/Monitor or ALC and SW Directorate CIP Manager must annotate the delivery/acceptance date in the project’s CCaR record.

2.2.9.3. Once the equipment arrives, the project engineer must take action to ensure the equipment is installed and achieves FOC in accordance with the approved EIP or EEP. The Group CIP Manager/Monitor must monitor the project for compliance and report the status to the ALC and SW Directorate CIP Manager on a monthly basis until FOC is achieved. If the project engineer determines the equipment will not achieve FOC in accordance with the approved EIP or EEP, they must immediately notify the Group CIP Manager/Monitor or ALC and SW Directorate CIP Manager, revise the EIP or EEP, provide the revised EIP or EEP to their Group/Commander for concurrence, and provide the revised EIP or EEP to the Group CIP Manager/Monitor for submission to the ALC and SW Directorate CIP Manager.

- 2.2.9.3.1. Upon receipt of a revised EIP/EEP, the ALC and SW Directorate CIP Manager will take immediate action to obtain the appropriate ALC level of approval.
- 2.2.9.3.2. Upon approval, the ALC and SW Directorate CIP Manager will notify the Group CIP Manager/Monitor, project engineer, and AFSC/A4FO-OIB, and will document the revised FOC date in the "Planned FOC" data field versus the "Original FOC" data field of the Custom Dates section and attach the revised EIP or EEP to the CCaR record. The Group CIP Manager/Monitor will monitor the project for compliance and report the status to leadership and the ALC and SW Directorate CIP Manager on a monthly basis until FOC is achieved.
- 2.2.9.3.3. Upon notification of approval, the project engineer will take action to ensure FOC is achieved IAW the revised EIP or EEP and provide monthly status reports (or as directed) to the Group CIP Manager/Monitor and ALC and SW Directorate CIP Manager until FOC is achieved. Once all EIP or EEP criteria is achieved, the project engineer must formally report the asset as being FOC to the Group CIP Manager/Monitor who must report it to the ALC CIP Manager. **Note:** To declare an asset FOC, the project engineer will verify the asset is functionally acceptable, certified for operation, and production ready to perform the associated depot maintenance workload.
- 2.2.9.3.4. Once the ALC and SW Directorate CIP Manager receives notification that the asset is FOC, they must annotate the FOC date in project's CCaR record, ensure the asset is properly documented in DIFMS, initiate depreciation, and notify AFSC/A4FO-OIB/FMRA/FMRD.
- 2.2.10. Automatic Test System (ATS) and Automatic Test Equipment (ATE).
- 2.2.10.1. OSD and Department of the Air Force has provided guidance to minimize unique types of ATS being introduced into the DoD inventory (reference DAFI 63-101/20-101, *Integrated Life Cycle Management*). The intent is to provide an environment that reduces proliferation of unique, proprietary systems and to leverage the benefits of industry standards regarding hardware, software, and COTS technology. The ultimate goal is to reduce total ownership cost of ATS. **Note:** Additional information concerning ATS policy including ATS selection process guide can be accessed at: <https://www.acq.osd.mil/log/MR/ats.html>
- 2.2.10.2. DoD ATS Selection Process. Any time one of the following occurs, the DoD selection process applies: Adding new capability to a tester in the inventory; adding workload (new TPS(s) to an existing tester); purchasing more ATS of a tester already in the inventory; modification of an ATS; or buying new test equipment. **Note:** DoD has directed the use of a DoD approved ATS family of testers located at (<https://www.acq.osd.mil/log/MR/ats.html>) as the preferred solution for ATS requirements. All other ATS solutions require an ATS standardization deviation waiver routed through the AF ATS PGM (AFLCMC/WNA).
- 2.2.10.2.1. The Air Force's Versatile Depot Automatic Test System (VDATS) was identified as a member of the DoD standard family of testers. The first priority in selecting a tester for a weapon system requirement is to use VDATS or another DoD designated "Family of Testers".

- 2.2.10.2.2. ATS and ATE solutions not identified within the DoD “Family of Testers”. If a non-DoD “Family of Testers” is being pursued to satisfy a requirement, it must be coordinated on by the ATS PGM office (AFLCMC/WNA) during the requirements development phase prior to budget submission. **Note:** The ATS PGM office coordination (e.g. E-Mail, MFR, etc.) must be attached to the project’s CCaR record.
- 2.2.10.3. Depot-only ATS. Depot-only is defined as those systems residing only at the depots where field activities do not have like systems. This includes hardware, operating system software, and TPS (Unit Under Test (UUT)-specific hardware, software, and documentation).
- 2.2.10.4. Configuration Control. All ATS projects developed locally at a depot must be coordinated and validated through the ATS PGM office. The ATS PGM will address Integrated Logistics Support (ILS) elements and Operational Safety, Suitability, and Effectiveness (OSS&E) requirements for the Command. Unless the ATS PGM specifically grants local purchase authority, all ATS projects will be centrally procured through them. CSAG-M activities shall not modify or change configuration of ATS managed projects without ATS PGM office coordination and validation.
- 2.2.10.5. Engineering support activities associated with ATS/ATE investments cannot be funded with CSAG-M dollars.
- 2.2.11. Mechanized Materiel Handling System (MMHS).
- 2.2.11.1. CIP will fund all MMHS used and owned by CSAG-M activities. MMHS projects (\$250,000 or greater) will be planned, programmed, and budgeted like a normal equipment project. MMHS includes the composite methods, techniques, process controllers, and equipment shelters required for handling materials in a proven mechanized manner with a dedicated function. Examples of MMHS are wire or rail guided vehicles, pneumatic tubes, other small part conveying systems, automatic storage and retrieval systems, outdoor storage and retrieval systems, or any combination of the above.
- 2.2.12. Management of CNC Equipment.
- 2.2.12.1. The ALCs and SW Directorate adopted G-Code as a standard manufacturing language for CNC/NC machines. G-Code specifies a particular format for NC data. All CNC/NC equipment purchases will use G-Code as the standard language unless a compelling reason can be justified and documented.
- 2.2.13. Technology Application/Insertion Infrastructure.
- 2.2.13.1. Technology Application/Insertion Infrastructure projects are defined as those projects that apply existing proven technology that currently does not exist within a depot to solve problems and improve performance of production processes. **Note:** Projects which require basic research or development of unproven technologies do not qualify for CIP funding. However, if a given technology currently exists and a requirement calls for insertion of this proven technology into DWCF operations, the efforts necessary for introduction into depot operations can be funded with CIP.

2.2.13.2. Technology Application/Insertion Infrastructure projects will be planned, programmed, budgeted, and economically justified like all other projects.

2.2.13.3. All Technology Application/Insertion Infrastructure projects will be coordinated as part of the Technology Development and Insertion Process (TDIP) and submitted to AFSC/EN Technology Insertion Branch (reference AFSCI 61-101) prior to budget submission.

2.2.14. Environment, Safety, Health, and Energy.

2.2.14.1. CSAG-M assets purchased to alleviate environmental, safety, health, or energy deficiencies that qualify for CIP funding will be planned, programmed, budgeted, and economically justified like all other projects.

2.2.14.2. Consideration for safety and health will be a part of all equipment projects according to MIL-STD-882D, *Standard Practice For System Safety*, and DAFI 91-202, *The Department of the Air Force (DAF) Mishap Prevention Program*.

2.2.14.3. Environmental impacts will be assessed in the acquisition and management of CIP equipment according to AFPD 32-70, *Environmental Considerations in Air Force Programs and Activities*.

2.2.15. Technical Data Funding.

2.2.15.1. Financing the procurement and printing of technical data. The source of funds to procure and print technical data depends upon the appropriation or fund that procures the end item of equipment or system to which the data is applicable (see DAFMAN 65-605V1). The associated technical data will support the sustainment strategy of the end item, equipment or system. **Note:** Electronic media is preferred.

2.2.15.1.1. Modifications. Technical data required because of a modification to an end item of equipment or system will be paid for with the same appropriation (and budget program) or DWCF activity that pays for the modification.

2.2.15.1.2. Post-Acquisition and Modification Phase. Use O&M in these situations, but only when the technical data support equipment or systems are financed with procurement appropriations (3010, 3011, 3020, and 3080).

2.2.15.1.3. Use DWCF funds for the technical data and associated requirements when the equipment is procured by the DWCF or when modifications to that equipment require technical data after production or modifications.

2.2.15.2. The Performance Work Statement (PWS) for equipment should include a DD Form 1423 with data item descriptions specifying technical data (e.g., illustrated parts breakdown, repair/overhaul manuals, calibration procedures, etc.) as appropriate according to MIL-STD-961E, *Defense and Program-Unique Specifications Format and Content*, and MIL-STD-962D, *Defense Standards Format and Content*.

2.2.16. Stress Tension Shelters and Aircraft Sun Shades.

2.2.16.1. A stress tension shelter usually has a fabric membrane in tension over a ridge frame while an aircraft sun shade is a modular structure with a maximum of two sides and the sole purpose is to provide minimal shelter from the elements (reference DAFMAN 65-605V1).

2.2.16.2. Procurement of aircraft sun shades. The owning organization (group level or equivalent) will develop plans for purchase, installation, acceptance, maintenance, and lifetime sustainment of the aircraft sun shade including any installed utilities as defined in AFMCI 21-100, *Sun Shade Management*, Volume 3 Chapter 4. Approval will be obtained IAW AFMCI 21-100 prior to submitting the recommended investment for funding consideration.

2.2.16.3. Funding Determination. To determine the appropriate type of funding for stress tension shelters, aircraft sun shades, and other modular structures reference DAFMAN 65-605V1.

2.2.16.4. Upgrading or altering existing aircraft sun shades (including adding a wall(s) or bay) will be approved in the same manner as approval for a new aircraft sun shade IAW AFMCI 21-100. If allied support (e.g., electrical, water, communications, lighting, etc.) is required, reference DAFMAN 65-605V1.

2.3. Economics, Benefits, and Simulation Analysis.

2.3.1. Purpose and Applicability.

2.3.1.1. The decision for making capital equipment investments is driven by mission and economic factors. This chapter provides policy and guidance for the justification of CIP investments. The objective is to provide the structure for decision making regarding the capital outlay of DoD resources directed towards the modernization of AFSC depots.

2.3.2. Scope.

2.3.2.1. This policy applies to all capital investments funded by CSAG-M.

2.3.3. Governing Directives.

2.3.3.1. CIP is governed by the DoD FMR 7000.14-R, Volume 2B. Whenever there is conflict between published guidance, the guidance issued by the higher level takes precedence (reference DAFI 90-160).

2.3.3.2. The AF requires an EA to assist in making rational choices among competing alternatives (reference AFI 65-501, *Economic Analysis*).

2.3.3.2.1. AFSC/A3/4 has specified an alternative threshold of \$250K for accomplishing an EA for CIP investments to support AFSC's enterprise prioritization process.

2.3.3.2.2. For software development and modernization, an economic analysis is required to comply with the Clinger Cohen Act (CCA). Full details of CCA compliance to include the requirement to complete an economic analysis in support of software and modernization are contained in DoDI 5000.02, *Operation of the Defense Acquisition System*.

2.3.3.3. Instructions for accomplishing an economic analysis is contained in AFI 65-501 and AFMAN 65-506, *Economic Analysis*.

2.3.4. EA Initiation and Certification.

2.3.4.1. Initiation of an EA. An EA will be generated as soon as possible by the requirement generator and submitted for certification via the automated CCaR workflow in ample time to meet the annual CIP Data Call suspense. Under the AFSC Enterprise Prioritization and Approval Process, an EA is required for all requirements regardless of their dollar value unless a waiver to an EA is approved. **Note:** Waivers for SW and modernization are not available based on the CCA compliance requirements.

2.3.4.2. All EAs and waivers to an EA will be processed through AFSC/FMC for action.

2.3.4.3. Certification of an EA. AFSC/FMC will formally certify all EAs less than \$2M and HQ AFMC/FMC will formally certify all EAs \$2M or greater. Certified EAs will be attached to the project's CCaR record.

2.3.4.3.1. An EA is not required if any of the following criteria apply (reference AFI 65-501).

2.3.4.3.1.1. The cost of conducting the analysis clearly outweighs the potential informational benefits to the decision maker.

2.3.4.3.1.2. There is only one method possible to accomplish the objective. If this criterion is used, the justification will describe any possible alternatives and why the alternatives were not viable.

2.3.4.3.1.3. OSD or higher authority directs a new or modified program and specifies how to accomplish program goals.

2.3.4.3.1.4. Legislation specifically exempts the project from an EA or specifically directs the method of accomplishment.

2.3.4.3.1.5. The project corrects problems or violations involving health, safety, fire protection, pollution, or security which are serious, urgent, and hazardous.

2.3.4.4. EA Certification. Once an EA is certified at the appropriate level, the Certificate of Satisfactory Economic Analysis will be attached to the project's CCaR record.

2.3.5. EA Waiver Request.

2.3.5.1. When an activity determines an EA is not required, a waiver to an EA will be accomplished (reference AFI 65-501). **Note:** Waivers for SW development and modernization are not available based on the CCA compliance requirements.

2.3.5.1.1. Functional offices will prepare a waiver to an EA request using the format in AFMAN 65-506. The request will adequately explain and document the reason why the analysis is not necessary.

2.3.5.2. Approval Authority for a Waiver to an EA.

2.3.5.2.1. AFSC/FM Director/Deputy and FZ-OL at Hill and Robins have approval authority for EA waiver requests that are less than \$2M.

2.3.5.2.2. SAF/FMCE will approve all requests for investments with a cost of \$2M or greater. The OSD Comptroller is the final authority to grant waivers from EA requirements within DoD. **Note:** The functional OPR and MAJCOM Financial Management will both concur with waiver requests prior to submission to HAF A4/7PY for concurrence and submission to SAF/FMCE for approval consideration (reference AFI 65-501).

2.4. Comprehensive Cost and Requirements (CCaR) System.

2.4.1. Purpose and Applicability.

2.4.1.1. CCaR is a web-based tool designed to support a number of key facets of program management. In 2005, HQ AFMC/FM/XR endorsed CCaR and agreed that all agencies within HQ AFMC should use CCaR as the preferred tool for requirements management. In 2010, CCaR was designated as the official system of record for the CIP. CCaR collects detailed requirements from the project manager, coordinates the effort through an electronic workflow, and automatically reveals fund availability based on priority and budget authority. CCaR also supports the execution of established budgets by providing the capability to generate funding documents, develop forecasts for obligations and expenditures, and track commitments, obligations, and expenditures.

2.4.2. Scope.

2.4.2.1. This section highlights the utilization of CCaR for all CIP requirements and applies to all organizations within the ALCs and SW Directorate. **Note:** The contents of this section are not all inclusive.

2.4.3. Guidance.

2.4.3.1. Whenever there is conflict between published guidance, the guidance issued by the higher level takes precedence (reference DAFI 90-160).

2.4.3.2. CCaR will be utilized for all CIP transactions unless otherwise directed by AFSC/A4FO.

2.4.4. Policy.

2.4.4.1. The AFSC/A4FO-OIB CCaR Data Base Administrator (DBA) will establish CCaR user accounts, will notify users of CCaR changes/issues, and work to resolve all CCaR related matters.

2.4.4.2. CCaR Account Users. All potential users will accomplish the appropriate CCaR DCO training at http://www.webccar.com/DCO_Training.html prior to submitting a DD Form 2875, *System Authorization Access Request (SAAR)*, to AFSC/A4FO-OIB CCaR DBA to establish a CCaR account.

2.4.4.3. Establishing CCaR Records. CCaR records will be established as soon as possible for all budget year projects plus two additional years.

2.4.4.3.1. The ALC and SW Directorate CIP Manager is responsible for all aspects of CCaR records management and must ensure records are accurately updated in a timely manner and take action to resolve program issues.

2.4.4.3.2. AFSC/A4FO-OIB will maintain oversight of the ALCs and SW Directorate' CCaR records management, take action to resolve issues with ALC and SW Directorate CIP Managers, and ensure all program reporting to senior leadership is generated from CCaR.

2.4.4.3.3. AFSC/A4FO-OIB/FMRA and the ALCs and SW Directorate will initiate all documentation through CCaR unless there is network/configuration management issues. If this occurs, AFSC/A4FO-OIB will notify all users and implement backup measures. Upon resolution, all actions taken outside of CCaR must be updated in CCaR as soon as possible.

2.4.4.3.4. Archiving of CCaR records. The ALC and SW Directorate CIP Managers must obtain approval from AFSC/A4FO-OIB to archive a CCaR record.

2.4.4.4. Funding Documents.

2.4.4.4.1. All funding documents will be generated within CCaR to process through the Financial Funds Flow and Funds Control (FRC) systems unless approved for cause by AFSC/A4FO-OIB. CCaR provides the ability to create funding documents and interfaces with ABSS. Whether ABSS coordinators have CCaR access or not, FRC coordinators will receive the same notifications and have access to review/coordinate on any document initiated within CCaR. **Note:** Individuals who do not have a CCaR account, but are in the coordination process of ABSS, will receive notifications to review CCaR released document.

2.4.4.4.2. AFSC/A4FO-OIB is responsible for coordinating on all Target Load Sheet (TLS) and Operating Budget Account Number (OBAN)/Target Allowance Form (aka Advice). Furthermore, they are responsible for generating and coordinating on all advices.

2.4.4.4.3. AFSC/FMRA is responsible for approving all TLSs and advices.

2.4.5. Program Management (PM).

2.4.5.1. CCaR provides historical data for managing projects throughout their lifetime. Data may include schematics, diagrams, pictures, graphs, spreadsheets, supporting email, work statements, business cost estimates, analysis, funding allocation, and execution documents.

2.4.5.2. The CCaR data base has five modules of which four are currently being used. The modules are Program Management; Financial Management; Reconciliation; Reporting; Contract Management (not currently used).

2.4.5.2.1. Program Management Module. This module consists of three primary and subareas: Program Management – Tools; Requirements Management – CCaR List, Create New CCaR, Priority List; and PM Tools – Business Management Report (BMR), BMR Template, Funding Document Request, New Start Form, Government Purchase Card Requirement Form, BMR Chart Export Status.

2.4.5.2.2. Financial Management Module. This module consists of three primary and subareas: Budgeting – Budget Authority, Funding Profile Report, Incoming Documents, Distributed Budget Manager, Reimbursable Activities, Composite Budget; Target Load Tool – Accounting Address List, Target Load Sheet, GAFS Address request, Sub Allotments; and Execution – BMR, BMR Template, Forecasting Tool, Document Report, Annual Budget Execution Report (ABER), Budget Execution Report (BER), Document Coordination, BMR Chart Export Status, Plan Summary.

2.4.5.2.3. Reconciliation Module. This module consists of three primary and subareas: Reconciliation – COE Recon, Travel Recon, Un-Deleted DFAS Documents; DFAS Interfaces – DFAS Interface Configuration; Recon Reports – Mechanization of Contract Administration Services (MOCAS) data, Contract Recon.

2.4.5.2.3.1. The Reconciliation Module allows the user to track prior and current year execution transactions. The execution of funds are captured in the following sequence: first, the Commitment (certified funding document) reserves the funds for the project, second, the Obligation (identifies the purchase price of the services or items being procured), and finally, the Expenditure (payment) of funds disbursed for services rendered.

2.4.5.2.3.2. If a funding record is approved by AFSC/A4FO-OIB for creation outside of CCaR, the ABSS document will be manually backfilled by the CCaR DBA and the ALC and SW Directorate CIP Manager must attach a copy of the DFAS documents to the project's CCaR record.

2.4.5.2.3.3. Manually created commitment and obligation documents within CCaR must be manually linked to the DFAS document.

2.4.5.2.4. Reports Module. This module consists of the following four primary and subareas: Budget – Funding Profile Report, Annual Funding Report; Execution – Annual Budget Execution Report, Budget Execution Report, Document Report, MOCAS data, Contract Recon, Plan Summary; Advanced Reporting – Advanced Reporting; Coordination Reports – Document Coordination, Coordination Authority, Coordination Report.

2.4.5.3. CCaR File Maintenance. The ALC and SW Directorate CIP Manager must annotate all transactions as soon as possible and they must conduct a reconciliation every week.

2.4.6. Record Structure.

2.4.6.1. Project records are created, updated, stored, and maintained within the CCaR data base. Records can be reviewed as: Working copies, In-Process copies, Approved copies, and Historical changes.

2.4.6.2. Control Symbol Number (CSN). The CSN associates a specific project to the owning ALC, budget year, investment category, Maintenance Group (MXG), and project sequence. When establishing a new CCaR record, the CIP manager will establish a CSN identifier for each project by using the CSN alphanumeric structure. **Note:** The ALC and SW Directorate CIP Manager is responsible for generating, tracking, and ensuring configuration control for the CSNs. Additionally, they are responsible for outlining how positions five and six will be utilized.

2.4.6.3. CSN Alphanumeric Structure. The following alphanumeric sequence structure must be used for establishing CSN sequence numbers.

2.4.6.3.1. First position (one character) designates the specific ALC or AMARG: AMARG = A, OO-ALC = G, WR-ALC = L, OC-ALC = H.

2.4.6.3.2. Second position (one character) is a numeric identifier for the funding year. (i.e., 4, 5, 6)

2.4.6.3.3. Third position (one character) is an alpha identifier for the funding category: ADPE = A, MC = M, SW = S, T&IE = T, WSS = W.

2.4.6.3.4. Fourth position (one character) is an alpha identifier for the appropriate maintenance group.

2.4.6.3.5. Fifth position (one character) is a sequence identifier that can be alpha or numeric (IAW local guidance).

2.4.6.3.6. Sixth position (one character) is a sequence identifier that can be alpha or numeric (IAW local guidance).

Table 2.1. CSN Alphanumeric Structure.

Control Symbol Number	Description	Identifier
Position 1	ALC or AMARG	Alpha
Position 2	Funding Year	Numeric
Position 3	Funding Category	Alpha
Position 4	Maintenance Group	Alpha
Position 5	ALC and SW Directorate CIP Manager Determined	Alpha or Numeric
Position 6	ALC and SW Directorate CIP Manager Determined	Alpha or Numeric

2.4.6.4. CCaR Record List. All active and archived records are accessible from this list. The record list displays the projects by CCaR Number, Control Number, Title, OPR, Office (organization), FY, and Priority. In addition, there are custom fields that provide additional information such as the Project Capability, Project Category, Group, Initiative, AFSC/A4FO Score, and ALC Score. The initiative field is used to identify and track special interest projects such as Energy, Nuclear, OSHA, and Fall Protection. **Note:** The ALC and SW Directorate CIP Manager will populate the initiative field with the appropriate special interest from the dropdown menu when building a CCaR record.

2.4.6.4.1. Information Link. There are 11 sub-links that provide specific supporting segments or windows for a requirement. The links include: Overview; General; Custom Fields; Custom Dates; POCs; Associated CCaR; Description; Requirement Source; Impact; Basis of Estimate; Coordination.

2.4.6.4.1.1. Overview. The overview provides a description of the Project, Budget, FYs, and Execution Status.

2.4.6.4.1.2. General. This area is used to populate the CCaR Number, Project Title, Date, OPR, Phone Number, Office (organization), Period of Performance start and end dates, BAE-Email, and Project Description.

2.4.6.4.1.3. Custom Fields. The custom fields enhance the scope of the project and identify key project attributes such as Group, F Jon, RC/CC, Capability, Initiative, Asset Location, PAN, CAN, Project Category, Radio Frequency Identification Device ALC Score, HQ Score, SIR, FY, LCC, Technology Repair Center (TRC), and Document Type. **Note:** Mandatory fields are identified with an asterisk.

2.4.6.4.1.4. Custom Dates. The custom date fields are used to monitor, manage, and report the status of all funded investments. **Note:** The dates in these fields automatically populate the CCaR Milestone report. The ALC and SW Directorate CIP Manager must populate all the required custom date fields for the project (depending on the contracting vehicle being utilized, not all the fields are required) such as the estimated and actual fields for Submission of Procurement Package; Acceptance of Procurement Package; FM Certification/Approval of Procurement Package; Legal Review; Solicitation; Request For Bid; Contract Award; Delivery Date; Original FOC Date; Planned FOC Date; Actual FOC Date; Depreciation Start.

2.4.6.4.1.5. The ALC and SW Directorate CIP Manager will annotate all the appropriate custom fields and custom dates for all funded investments and continually monitor all funded investments to ensure timely obligations. When a custom date becomes past due, the ALC and SW Directorate CIP Manager will annotate the CCaR record with the reason, make any necessary changes to the follow-on custom dates, and notify AFSC/A4FO-OIB of the changes in a timely manner.

2.4.6.4.1.6. Points of Contact (POCs). This area is used to document project information such as E-mail addresses; POC Types; Names; Grades; and Phone numbers.

2.4.6.4.1.7. Associated CCaR link. This area is used for linking projects (i.e., phased projects) for ease of reference. It is used to document CCaR numbers; Titles; Categories; Priorities; and OPRs.

2.4.6.4.1.8. Description. This area is used to provide specific information about the project.

2.4.6.4.1.9. Requirement Source. This link identifies the source of funding. Examples of funding sources are Presidential Budget (PB), Congressional plus ups, Reprogramming support, or other types of funding initiatives.

2.4.6.4.1.10. Impact (known as risk assessment). This area is used by ALC and Command leadership to assess the impacts that will result if the project is not implemented.

2.4.6.4.1.11. Basis of Estimate. This area provides the specific funding breakdown for the cost of a project.

2.4.6.4.1.12. Coordination. This area is used to document the coordination cycle.

2.4.6.4.2. Funding Link. The Funding Link has five sub-links that assign the project's Capability and the anticipated FY the requirement will be funded. It also provides the ability to establish a baseline to forecast execution and track actual funding actions and execution status. The sub-links are Execution Status; Budgets/FY; FY/Budgets; Requirement History; and Funding Profile.

2.4.6.4.3. Tools Link. The Tools Link has four sub-links: Funding Document Requirement Forms; New Start; Attachments; Audit Log. The Attachments link is used to post all pertinent documents for the project such as the EA, SAR(s), MFR(s), ALC/CC's Requirements letter, Tech evaluations, etc.

2.4.6.4.4. CCaR Execution Window. The execution window under the Information link is where the Commitments, Obligations, and Expenditures information is located. Under the Commitments field are the actual commitments and forecast information. Under the Obligations field are the CCaR Obligations, DFAS Obligations, and Forecast. Under the Expenditures field are the CCaR Expenditures, DFAS Expenditures, and Forecast.

2.4.6.5. Target Load Sheet (TLS). The TLS is an automated CCaR document that is used by the ALC and SW Directorate CIP Manager to request permission to apply or remove project funding. TLS sequence numbers will be established by using the TLS alphanumeric structure.

2.4.6.5.1. Separate TLSs must be accomplished for each of the different funding categories (i.e., ADPE, MC, SW, T&IE, and WSS). However, multiple investments can be identified on each TLS for the specific funding category. **Note:** The investment title, CSN, CCaR number, and reason for the transaction must be annotated in the comments section of the TLS for all funding line entries.

2.4.6.6. TLS Alphanumeric Structure. The following alphanumeric sequence structure will be used for establishing TLS sequence numbers.

2.4.6.6.1. First Position (two characters) is for the specific ALC or AMARG: AMARG = AM, OO-ALC = OO, OC-ALC = OC, WR-ALC = WR.

2.4.6.6.2. Second Position (two characters) is for the FY (e.g. 22, 23, 24).

2.4.6.6.3. Third Position (two-four characters) is the funding category: ADPE, MC, SW, T&IE, WSS.

2.4.6.6.4. Fourth Position (two characters) is the sequence number (i.e., 01, 02, 03, etc.). **Note:** The first TLS sequence number for each funding category will always begin with 01.

Table 2.2. TLS Alphanumeric Structure.

TLS	Description
Position 1	ALC or AMARG
Position 2	Fiscal Year
Position 3	Funding Category
Position 4	Sequence Number (will begin with 01)

2.4.7. Planning.

2.4.7.1. CCaR records will be established for all requirements and submitted for funding consideration regardless of the FY. At a minimum, the ALC and SW Directorate CIP Manager will establish records for the upcoming budget year projects as well as the two out year projects identified on the ALC/CC's CIP Data Call submission.

2.4.7.2. Base-line Obligation Plan The base-line obligation plan is a program management tool for tracking obligation status throughout the program year. Once AFSC/CA approves the ALC's Base-Line Obligation Plan, the ALC and SW Directorate CIP Manager will monitor and report any deviation from the approved plan to leadership and AFSC/A4FO-OIB in a timely manner.

2.4.7.3. EAs will be initiated in CCaR via the automated process flow. This is accomplished by releasing it through the CCaR record coordination workflow in the "WORKING" copy of the associated record. The working copy provides visibility for all organizations involved.

2.4.7.3.1. There are two separate process flows for EA Certification. One process flow is for an EA with a dollar value less than \$2.0M. The other process flow is for EAs with a dollar value of \$2M or greater. **Note:** AFSC/FMC has certification authority for EAs valued at less than \$2M and HQ AFMC/FMC has certification authority for EAs valued at \$2M or greater.

2.4.7.3.2. If HQ AFMC/FMC have unresolved questions, HQ AFMC/FMC will generate an EA comments matrix which will be released to the ALC via the CCaR comments matrix workflow. **Note:** The ALC and SW Directorate CIP Manager is responsible for ensuring the comments matrix is accomplished by the appropriate individual/organization.

2.4.8. Accounting Addresses.

2.4.8.1. Upon receipt of the ATA, the ALC and SW Directorate CIP Manager must begin building Skeleton Accounting Addresses for all investments. **Note:** Once DFAS addresses are input into GAFS-BQ, the DFAS addresses can be linked in CCaR to automatically populate the TLS based on CSN selection.

2.4.9. Obligation Authority.

2.4.9.1. Upon receipt of an AOB, AFSC/A4FO-OIB must initiate funding actions to distribute the ALC's approved funds by the appropriate funds category. This is accomplished by generating an OBAN Target/Allowance Form (aka Advice).

2.4.9.2. An Advice is an automated CCaR document that is used to increase or decrease the ALC's obligation authority. The Advice sequence numbers will be established by using the Advice alphanumeric structure.

2.4.9.2.1. Once an Advice is approved, the CCaR-DBA must use the CCaR Budget Authority Editor to allocate the funds. The ALC CIP Manager will annotate the project's approved and authorized dollar values in CCaR.

2.4.9.3. Advice Alphanumeric Structure. The following alphanumeric structure will be used for establishing Advice sequence numbers.

2.4.9.3.1. First Position (two characters) designates the specific ALC or AMARG (AMARG = AM, OO-ALC = OO, WR-ALC = WR, OC-ALC = OC).

2.4.9.3.2. Second Position (two characters) is the FY (e.g. FY22 = 2, FY23= 3, FY24 = 4).

2.4.9.3.3. Third Position (three characters) is the sequence number (i.e., 001, 002, 003) that is auto populated by CCaR.

Table 2.3. Advice Alphanumeric Structure.

Advice	Description
Position 1	ALC or AMARG
Position 2	Fiscal Year
Position 3	Sequence Number (Auto Populated)

2.4.9.4. Once an Advice is approved in CCaR, AFSC/FMRA will load the distributed funds into DIFMS.

2.4.10. Funds Execution.

2.4.10.1. Amendments to the initial funding document must be amended from the original document created in CCaR.

2.4.10.1.1. Users can create a 'Manual' committing document within the CCaR record to capture the FRC/DFAS transactions. This process will require the user to manually link the DFAS and CCaR documents within the reconciliation module (reference [paragraph 2.4.5.2.3.](#)).

2.4.11. Reports.

2.4.11.1. The ALC and SW Directorate CIP Manager should utilize the automated CCaR Plan Summary Report and Milestone Report to track, monitor, and report project status to AFSC/A4FO-OIB. The ALC and SW Directorate CIP Manager will reconcile these reports on a weekly basis to ensure accuracy.

2.4.11.2. Canned Reports. Canned reports are pre-designed and auto-populated reports that are populated from the associated CCaR data such as Funding Profile, Annual Funding, Budget Execution, and Annual Budget Execution Reports.

2.4.11.3. Advanced Reports. The advanced reporting tool allows users to create customized reports using one of the predefined templates. Under the Advanced Reports window, there are several reports that have been specifically created for the ALC reporting structure. **Note:** Only individuals with CCaR supervisor authority can create these types of reports.

2.4.11.3.1. Milestone Report. The Milestone report is used for tracking project status from submission of a procurement package through contract award. This report is populated from the dates entered in the custom date fields of the project's CCaR records.

2.4.11.3.2. Plan Summary Report. The plan summary report allows users to view the forecast plan data for the selected budget(s) and FY(s). Users have the option of viewing suggested, current, and baseline plan data for commitments, obligations, and expenditures.

2.4.11.3.3. Business Management Report (BMR). The BMR enables the user to create slide presentations for an array of program reporting such as execution charts, event forecasting timelines, and CCaR/DFAS execution comparisons.

Chapter 3

AIR FORCE MATERIEL COMMAND DEPOT MAINTENANCE CAPACITY AND UTILIZATION MEASUREMENT

3.1. Purpose and Applicability .

3.1.1. Capacity and utilization measurement is required of all DoD depot maintenance activities to quantify organic capacity and capacity utilization providing indicators of the relative size and usage of DoD organic depot maintenance activities. This chapter applies to the organic Depot Maintenance Operations of the ALCs and AFSC/SW: OC-ALC, OO-ALC, WR-ALC, AFSC/SW. This chapter provides guidance on measuring, recording, and reporting capacity and utilization of organic depot maintenance operations. This chapter is written in conjunction with DoD 4151.18-H, *Depot Maintenance Capacity and Utilization Measurement Handbook*. Areas of application include on-site areas and Depot Field Teams (DFTs) in remote locations.

3.1.2. Any reference to ‘DoD methodology’ in this guidance will refer to the guidance in DoD 4151.18-H.

3.2. Responsibilities.

3.2.1. AFSC/A5X responsibilities include:

3.2.1.1. Air Force OPR for issues and inquiries pertaining to organic depot capacity.

3.2.1.2. Support the ALCs and AFSC/SW in the computation and reporting of capacity data.

3.2.1.3. Act as OPR requesting annual capacity data information from the ALCs and AFSC/SW for reporting purposes to higher headquarters.

3.2.1.4. Summarize each ALC’s and AFSC/SW’s capacity data and report this information annually to higher headquarters IAW this guidance and DoD 4151.18-H.

3.2.1.5. Conduct capacity verification visits annually or whenever substantial changes in product mix and/or shop configurations occur (reference DoD 4151.18-H). Visits will be conducted in the third fiscal quarter prior to the annual AFSC request for capacity data unless otherwise required at a different time of year.

3.2.1.5.1. A written summary or out brief shall be provided to the ALC/CC and AFSC/SW with a courtesy copy to all POCs within 30 days of the visit. The summary of the validation visit will be retained by the AFSC OPR for a minimum of two prior visits.

3.2.1.6. Ensure the ALCs and AFSC/SW are aware of new and existing DoD and Air Force capacity related guidance.

3.2.1.7. Host every other year capacity program review meetings for all Depot Capacity Leads (DCLs) and Group Capacity Leads (GCLs). In conjunction with the biennial program review meeting, provide a capacity training session for all personnel newly assigned to measure capacity.

3.2.1.8. Maintain individual ALC and AFSC/SW capacity data and rolled up AFSC summary data for a minimum of four prior FYs as well as the current FY.

3.2.1.9. Maintain a current level of knowledge regarding DoD and Air Force capacity related guidance and training.

3.2.1.10. Maintain this guidance and related computational templates.

3.2.2. ALC/CC and AFSC/SW Directorate responsibilities include:

3.2.2.1. Each ALC/CC and AFSC/SW is responsible for identifying a DCL for capacity and utilization measuring purposes. This person will serve as the central POC for their respective ALC and AFSC/SW. The title DCL is not meant to specify any particular job series or skill. Similarly, any references to capacity representatives in this guidance are not meant to specify any particular job series or skill. It is used in a general sense as a reference to anyone identified by the organization as being involved in the process of capacity measurement.

3.2.2.2. Provide resources to support training requirements and ensure core documents reflect capacity verbiage as prescribed in [paragraph 3.3](#).

3.2.3. DCL responsibilities include:

3.2.3.1. OPR at their respective ALC and AFSC/SW for inquiries and issues pertaining to organic depot capacity.

3.2.3.2. Act as liaison between AFSC/A5X and the Groups for issues pertaining to capacity.

3.2.3.3. Each DCL is responsible for identifying the GCLs responsible for capacity and utilization measuring purposes. This person will serve as the central POC for their respective Support Group. The title GCL is not meant to specify any particular job series or skill. Similarly, any references to capacity representatives in this guidance are not meant to specify any particular job series or skill. It is used in a general sense as a reference to anyone identified by the organization as being involved in the process of capacity measurement.

3.2.3.4. Coordinate with each GCL to ensure their respective Support Group's capacity is computed and reported accurately and in a timely manner. The DCL shall be available to help GCLs with determining work positions, preparing shop drawings, identifying Responsibility Center/Cost Center (RC/CC), Work Breakdown Structure (WBS) designations, etc.

3.2.3.5. Retain capacity data call submittals for all shops involved in depot maintenance activities for two previous FYs and the current FY.

3.2.3.6. Act as the ALC and AFSC/SW focal point regarding the collection of annual capacity data. The DCL will forward the annual AFSC request for capacity data to the Groups tasking them to provide their capacity data. The DCL will coordinate, and compile data submitted by the Groups for the annual data submission. Subsequently, the DCL will forward their summarized data to AFSC in the proper format at the request and direction of AFSC/A5X.

3.2.3.7. Maintain current level of knowledge regarding DoD and Air Force capacity related guidance and training.

3.2.3.8. Notify the Groups of annual capacity verification visits and biennial capacity program review meetings.

3.2.4. Support Group's Commander responsibilities include:

3.2.4.1. Each Support Group Commander is responsible for appointing a GCL for capacity and utilization measuring purposes. This person will serve as the central POC for their respective Support Group.

3.2.4.2. Ensure Support Group personnel associated with the collection of capacity data are trained in these duties as prescribed in [paragraph 3.3](#) of this guidance. Identify personnel to the DCL who are new or in need of capacity training.

3.2.4.3. Ensure the Support Group personnel assigned to capacity measurement maintain current level of knowledge of DoD and AF capacity-related guidance.

3.2.5. GCL Responsibilities:

3.2.5.1. Ensure all current shop capacity drawings are properly maintained. Drawings shall be reviewed and updated as necessary but at least once per year in preparation for the annual capacity data call. GCLs will ensure capacity-based shop drawings are available upon DCL request.

3.2.5.2. Summarize and report their respective Groups' capacity data annually upon DCL request.

3.2.5.3. Maintain a current level of knowledge regarding DoD and Air Force capacity related guidance and training.

3.3. Qualifications.

3.3.1. The DCLs and GCLs must have taken and passed the online Defense Acquisition University (DAU) Continuous Learning Module Capacity course, LOG 0260, *Depot Maintenance Capacity Measurement*.

3.3.1.1. DCL. Identifies and maintains a methodology for assessing the measurement of organic Depot Maintenance Capacity and Utilization IAW criteria established by DoD 4151.18-H and its supplemental instructions and all applicable AFSC instructions.

3.3.1.2. GCL. Documents and maintains specific measurements of Support Group Level Depot Maintenance Capacity and Utilization data IAW criteria established by DoD 4151.18-H and its supplemental instructions and all applicable AFSC instructions.

3.4. Capacity Data. Capacity is an indicator of the amount of workload based on a 40-hour workweek measured in direct labor hours (DLHs) which can be produced for a particular WBS. It enables comparisons of capacity and utilization data between activities. Capacity is expressed as an index. It is essential that capacity and utilization indices are not used as stand-alone planning tools. Indices are defined as composite numbers used to characterize different sets of data. Accordingly, indices are general indicators rather than precise measures. As index data are aggregated, the significance of the data will further diminish. The capacity and utilization indices

are an important part of analyzing depot capability but only when used in conjunction with other planning and management factors such as: operational costs, workloads, facilities, resources, etc.

3.4.1. Elements Used in Determining Capacity Data. Capacity data and calculations rely on two elements: the number of work positions and the associated workload. The measuring process always starts at the lowest organizational unit typically the RC/CC. At this level work positions are counted utilizing capacity based shop layout drawings. Sets of shop level data are aggregated to obtain a total for the ALC and AFSC/SW broken down by the WBS structure. Using these totals, capacity indices are determined.

3.4.1.1. Responsibility Center/Cost Center (RC/CC). The RC/CC is the lowest level at which workload and work positions are tracked. An RC/CC is typically a five- or six-digit alpha code tied directly to a direct labor shop. RC/CCs are unique to each shop at each ALC and AFSC/SW. These alpha codes are not duplicated within a depot or among the depots. An RC/CC may be associated with multiple WBSs and thus work positions are allocated between them. In addition, a single WBS may include several RC/CCs.

3.4.1.2. Capacity-Based Shop Drawings. Work positions are counted utilizing capacity based shop drawings. Capacity-based shop drawings are further explained in [paragraph 3.5](#).

3.4.1.3. Work Breakdown Structure (WBS). There are 11 major WBSs most with subcategories used to report capacity to DoD. However, AF reports capacity data for seven WBSs. WBSs are defined in [paragraph 3.6](#). WBSs in this guidance are identical to the WBSs defined within DoD 4151.18-H.

3.4.2. Capacity Data Calculation Recording and Reporting. AFSC calculates, records, and reports two capacity indices: Baseline Capacity Index and the Utilized Workload Capacity Index. The Baseline and Utilized Workload Capacity Indices are expressed in direct labor hour (DLH). The Baseline Capacity Index represents the amount of workload that an ALC and AFSC/SW can effectively employ annually on a single shift, 40-hour week basis. The individual WBSs added together forming the Baseline Capacity Index for the entire ALC and AFSC/SW. The Utilized Capacity Index is expressed in DLHs and represents the total number of DLHs required for the ALC and AFSC/SW to execute the funded annual workload requirements for each WBS.

3.4.2.1. Capacity Calculation Process. The method for determining Capacity data is detailed in DoD 4151.18-H and in the on line DAU Continuous Learning Module Capacity course, LOG 0260. Capacity shall be tabulated and reported utilizing the formats provided in [Figure 3.3](#). In general, capacity is calculated by determining the number of work positions within each shop and then assigning them to one or more appropriate WBS. Subsequently, the Baseline Capacity calculation is applied to produce the various Capacity Indices.

3.4.2.2. Eight Basic Steps Required to Tabulate Capacity Data by WBS. As detailed within DoD 4151.18-H, there are eight basic steps required to calculate Baseline Capacity:

3.4.2.2.1. Step 1: Obtain/update capacity based shop drawings.

- 3.4.2.2.2. Step 2: For each shop or RC/CC, determine/identify work stations and work positions, and designate one or more WBS (as applicable) for each RC/CC/Facility Code (FC) combination.
- 3.4.2.2.3. Step 3: Multiply the result of Step 2 (the total work positions) by the Availability Factor (AF), which is 0.95. (reference [paragraph 3.4.2.3.3.](#)).
- 3.4.2.2.4. Step 4: Multiply the result of Step 3 by the Annual Productive Hours (APH), which is 1,615. (reference [paragraph 3.4.2.3.2.](#)).
- 3.4.2.2.5. Step 5: Record the resultant baseline shop capacity index for each RC/CC.
- 3.4.2.2.6. Step 6: Allocate RC/CC shop capacity to the appropriate WBS.
- 3.4.2.2.7. Step 7: Allocate any DFT workload to the appropriate WBS.
- 3.4.2.2.8. Step 8: Tabulate the total DLH by WBS for the ALC and AFSC/SW.
- 3.4.2.3. Baseline Capacity Index. The Baseline Capacity Index is calculated by adding the work position-based capacity and the DFT based capacity.

Figure 3.1. Capacity Indices Area Expressed in DLH.

Baseline Capacity Index = Work Position-Based Capacity + DFT-Based Capacity where:
 Work Position Based Capacity = Work Positions X (APH) X (AF) therefore:
 Baseline Capacity Index = (Number of Work Positions) X (1,615) X (0.95) + DFT

3.4.2.3.1. Work Positions. The first step in calculating Baseline Capacity is to count the work positions shown on the capacity-based shop drawings. Work positions are converted to DLH by applying the two factors: APH and AF.

3.4.2.3.2. Annual Productive Hours (APH) Factor. This factor represents the potential availability of personnel, or the number of productive hours contributed annually by one work position. This factor takes into account that work positions are not continuously manned and will be down occasionally for indirect labor purposes such as meetings, training, holidays, and leave. It does not reflect a worker's performance efficiency but does reflect the DoD average or standard time spent on direct labor by subtracting out all known and estimated indirect labor hours. Therefore, a total of 2,080 annual paid hours is reduced to 1,607 DLHs per work position as follows:

Figure 3.2. Example of A Work Position.

2,080	Total Annual Paid Hours (52 weeks/yr X 40 <u>hrs/week</u>)
-88	Holiday Hours
-274	Leave Hours
<u>-111</u>	Other Indirect Hours (e.g., meetings, training, etc.)
Annual Productive Hours = 1,615 DLHs	

- 3.4.2.3.3. Availability Factor for Equipment/Facility. The equipment/facility availability factor reflects the percentage of time the equipment and/or facility required by a work position is available for direct production work. Reasons for nonavailability include equipment calibration, maintenance/repair, equipment installation, etc. To ensure DoD comparability, this factor is set at 95 percent or 0.95.
- 3.4.2.3.4. DFT-Based Capacity. DFT capacity is defined within DoD 4151-18H as the workload performed by an individual or group designated to perform maintenance and/or inspection of systems or equipment at an offsite or remote location other than the depot facility. Shop layout drawings are not required for DFT based capacity documentation. The capacity associated with DFT workload is tabulated and reported by WBS. DFTs may consist of civilian and military personnel, however; only the civilian hours will be used in the baseline capacity calculation. DFT capacity is not adjusted by the availability factor or the APH factor.
- 3.4.3. Utilized Capacity Index (Funded Workload). The Utilized Capacity Index is an indicator of the capacity expressed in DLH required by a shop or activity to support funded depot maintenance workload requirements. Thus, the Utilized Capacity Index is equal to the total number of DLHs projected for a shop or activity to execute funded workload requirements on an annual basis.
- 3.4.4. Process for Reporting Capacity Data. DoD 4151.18-H requires that capacity indices be reported annually for the past actual year, the current year, and three planning years. Capacity data will be compiled annually for all organic shops at each ALC and AFSC/SW.
- 3.4.4.1. AFSC/A5X Data Call. Capacity data is to be compiled annually and reported to AFSC/A5X by each ALC and AFSC/SW. AFSC/A5X will send out the annual capacity and utilization data call to each ALC and AFSC/SW following the close of the FY. The data call will include instructions and templates to be utilized to summarize the data required for the annual call.
- 3.4.4.2. DCLs shall compile the requested capacity data IAW the AFSC data call tasking instructions. Information is required and templates are provided which detail funded workload, baseline capacity, excessive/deficient capacity, and workload changes. The DCLs will submit their final coordinated and approved capacity data package to AFSC as requested.
- 3.4.4.3. Excessive/Deficient Capacity Utilization. Included with the annual capacity data report, each ALC and AFSC/SW is required to provide narratives for any WBS having utilization less than 75 percent, or greater than 125 percent. The template for this purpose is provided at [Figure 3.3](#). Narratives shall include a description of the current situation and reasoning which explains the utilization level for each situation.
- 3.4.4.4. Workload Changes. Included with the annual capacity data report, each ALC and AFSC/SW is required to provide narratives detailing deviations of +/- 10 percent between reported FYs. The template for this purpose is provided at [Figure 3.3](#). Narratives must identify the causes for the deviations (e.g., work load shifts, shop reconfigurations, Military Construction (MILCON), equipment changes, etc.).

3.5. Capacity-Based Shop Drawings. Each ALC and AFSC/SW will develop and maintain capacity-specific shop drawings for each shop within the depot maintenance organizations. Drawings will be updated once per year to maintain currency with annual reporting requirements. Updates may be the result of workload realignment, shop reconfigurations, equipment or facility acquisition, or any other actions which may cause a change in the number of work positions.

3.5.1. Capacity-based shop drawings shall contain as a minimum the following data:

- 3.5.1.1. Work stations.
- 3.5.1.2. Work positions within work stations.
- 3.5.1.3. Support equipment within work stations.
- 3.5.1.4. Total work positions.
- 3.5.1.5. RCC and Shop Name.
- 3.5.1.6. Page X of X for shops containing multiple drawings.

Section B for reporting workload changes

The following table must be completed by each ALC in conjunction with the annual AFSC Capacity Data Call. The template is to provide detailed information regarding WBS fluctuations of +/- 10% between reported fiscal years. This template is provided by AFSC as an attachment to the annual data call.

ALC		SECTION B: Workload Changes	
FY	WBS	Description of work	Narration is required for WBS showing more than +/- 10% change between fiscal years

Section C for reporting excessive/deficient capacity utilization

The following table must be completed by each ALC in conjunction with the annual AFSC Capacity Data Call. The template is to provide detailed information regarding WBS utilization under 75% and/or over 125% between reported fiscal years. This template is provided by AFSC as an attachment to the annual data call.

ALC		SECTION C: Excessive/Deficient Capacity Utilization		
FY	WBS	Description of work	% Utilization	Narration required for WBS with utilization < 75% or >125%

AFSC summarized capacity and utilization data for DoD					
AFSC [REDACTED] will summarize the annual capacity data call for DoD submission using the following format.					
FY###: DEPOT MAINTENANCE CAPACITY AND UTILIZATION SUMMARY					
AF Totals	DoD Fiscal Years				
	current FY	FY + 1	FY + 2	FY + 3	FY + 4
Baseline Capacity Index (DLH)					
Utilized Capacity Index (DLH)					
Funded Operations Utilization Indicator (%)					
OC-ALC Totals	DoD Fiscal Years				
	current FY	FY + 1	FY + 2	FY + 3	FY + 4
Baseline Capacity Index (DLH)					
Utilized Capacity Index (DLH)					
Funded Operations Utilization Indicator (%)					
OO-ALC Totals	DoD Fiscal Years				
	current FY	FY + 1	FY + 2	FY + 3	FY + 4
Baseline Capacity Index (DLH)					
Utilized Capacity Index (DLH)					
Funded Operations Utilization Indicator (%)					
WR-ALC Totals	DoD Fiscal Years				
	current FY	FY + 1	FY + 2	FY + 3	FY + 4
Baseline Capacity Index (DLH)					
Utilized Capacity Index (DLH)					
Funded Operations Utilization Indicator (%)					

3.6. Work Breakdown Structure (WBS) Definitions.

3.6.1. Aircraft.

3.6.1.1. Airframe. Covered and uncovered areas associated with processing the airframe for purposes such as: progressive aircraft rework, inspection/repair, maintenance, crash damage repair or overhaul, modernization, modification, etc. The work includes stripping, disassembly, airframe repair, reassemble, systems check, and refinishing for the following:

- 3.6.1.1.1. Rotary
- 3.6.1.1.2. Vertical/Short Take-Off and Landing (VSTOL).
- 3.6.1.1.3. Cargo/Tanker.
- 3.6.1.1.4. Fighter/Attack/Trainer.
- 3.6.1.1.5. Bomber

- 3.6.1.1.6. Other. Those areas used to perform airframe production work that is not included in categories 3.6.1.1.1. through 3.6.1.1.5.
- 3.6.1.2. Aircraft Components. Covered and uncovered areas associated with processing aircraft accessories for the following:
- 3.6.1.2.1. Dynamic Components. All aircraft moving components, such as transmissions, propeller shafts, etc., not otherwise classified.
 - 3.6.1.2.2. Hydraulic/Pneumatic Components. Includes fluid or air pumps and associated plumbing lines, components, air-driven accessories, ram air turbines, fluid driven accessories, etc. (also includes pneudraulics).
 - 3.6.1.2.2.1. Hydraulics. Fluid driven components, pumps, and associated plumbing lines.
 - 3.6.1.2.2.2. Pneumatics. Air pumps and associated plumbing lines and components, air-driven accessories, ram air turbines, etc.
 - 3.6.1.2.2.3. Pseudraulics Components. Hybrid fluid/air pumps and associated plumbing lines and components.
 - 3.6.1.2.3. Instruments. Indicators or measurement devices such as pressure, temperature, and humidity gages; air speed, direction, and other flight control instruments.
 - 3.6.1.2.4. Landing Gear. Wheels, strut assemblies, tires, brakes, etc.
 - 3.6.1.2.5. Aviation Ordnance. Delivery systems such as bomb racks, missile racks, launchers, and guns.
 - 3.6.1.2.6. Avionics/Electronics. Electronic equipment such as radar systems, radios, on-board computers, etc.
 - 3.6.1.2.7. Auxiliary Power Units (APUs). On-board systems not powered by aircraft primary sources used to supply electrical, hydraulic, or air power for short or temporary periods such as starting, heating of crew and passenger compartments, or emergency systems.
 - 3.6.1.2.8. Other. Those areas used to perform aircraft component production work that is not included in categories 3.6.1.2.1. through 3.6.1.2.7. Includes work performed away from production facilities by DFTs.
 - 3.6.1.2.8.1. Aircraft Structures. Airframe skin, spars, stiffeners, etc., that make up the skeleton and outer shell of the aircraft.
- 3.6.1.3. Aircraft Engines. Covered and uncovered areas associated with processing aircraft engines. The work functions include uncanning, disassembly, cleaning, metals examination, examination and evaluation, parts reconditioning, subassembly, final assembly, test, and preservation.
- 3.6.1.3.1. Turboprop/Turboshaft. Covered and uncovered areas associated with processing turboprop and/or turboshaft systems.

3.6.1.3.2. Turbofan Bypass. Covered and uncovered areas associated with processing turbofan bypass systems.

3.6.1.3.3. Turbofan/Turbojet Augmented. Covered and uncovered areas associated with processing aircraft turbofan/turbojet augmented systems.

3.6.1.3.4. Engine Exchangeable/Components (i.e., bearings, blades/vanes). Covered and uncovered areas associated with processing engine exchangeable components.

3.6.1.3.5. Other. Those areas used to perform productive work for aircraft engines that are not included in categories 3.6.1.3.1. through 3.6.1.3.4. Includes work performed away from production facilities by field teams.

3.6.2. Ground Vehicles. This WBS is not used for Air Force capacity reporting purposes includes: ground combat vehicles, amphibious vehicles, tactical (wheeled) vehicles, automotive, and/or construction equipment.

3.6.3. Sea Ships. This WBS is for Navy only capacity reporting purposes includes: aircraft carriers, submarines, surface combatants, etc.

3.6.4. Communications and Electronic Equipment. Work functions include disassembly, inspection, cleaning, repair, parts reconditioning and/or replacement, manufacture, calibration, reassembly, and test.

3.6.4.1. Radar. Covered and uncovered areas associated with processing radar equipment for overhaul, repair, conversion, and modification that are required in support of fixed, mobile, and portable electronic and communication systems. Radar equipment categories include navigation, search, surveillance, height finding, and identification.

3.6.4.2. Radio. Covered and uncovered areas associated with processing radio equipment for overhaul, repair, conversion, and modification that are required in support of fixed, mobile, and portable electronic and communications systems. Radio equipment categories include communication, control, navigation, auxiliary, relay, microwave, television, and radiological.

3.6.4.3. Wire. Covered and uncovered areas associated with processing wire communications equipment for overhaul, repair, conversion, rehabilitation, and modification that are required in support of fixed, mobile, and portable electronic and communication systems. Wire and communications categories of equipment include teletype, facsimile, telephone and telegraph, intercom and public address systems, sound recording and reproduction, visible and invisible light communication, and crypto logical systems.

3.6.4.4. Electronic Warfare. Covered and uncovered areas associated with processing electronic warfare equipment.

3.6.4.5. Navigational Aids. Covered and uncovered areas associated with processing of navigational aids.

3.6.4.6. Electro-Optics and/or Night Vision. Covered and uncovered areas associated with processing of electro-optics and night vision equipment.

3.6.4.7. Crypto. Covered and uncovered areas associated with processing of crypto equipment.

3.6.4.8. Computers. Covered and uncovered areas to perform depot maintenance on computer equipment.

3.6.4.9. Other. Covered and uncovered areas to perform depot maintenance on other types of communications-electronics equipment not covered in 3.6.4.1. through 3.6.4.8. Includes work performed away from production facilities by field teams.

3.6.5. Support Equipment.

3.6.5.1. Ground Support Equipment. Covered and uncovered areas associated with depot maintenance of ground support equipment (except aircraft and communications electronics), accessories, and components.

3.6.5.2. Generators. Covered and uncovered areas associated with the depot maintenance of ground generators, accessories, and components.

3.6.5.3. Test, Measurement, and Diagnostic Equipment (TMDE). Covered and uncovered areas used for depot maintenance of TMDE equipment.

3.6.5.4. Calibration. Covered and uncovered areas used to perform maintenance on all types of calibration equipment.

3.6.5.5. Other. Those areas used to perform support equipment production work that is not included in categories 3.6.5.1. through 3.6.5.4. Includes work performed away from production facilities by DFTs.

3.6.5.5.1. Electronic Support Equipment. Covered and uncovered areas associated with depot maintenance of electronic support equipment and its accessories and components.

3.6.6. Ordnance, Weapons, and Munitions.

3.6.6.1. Nuclear Weapons. Covered and uncovered areas associated with renovation, modification, repair, inspection, test, assembly, and demilitarization of nuclear weapons and associated materiel.

3.6.6.2. Chemical Weapons. Covered and uncovered areas associated with renovation, modification, repair, inspection, test, assembly, and demilitarization of chemical weapons, and associated materiel.

3.6.6.3. Biological Weapons. Covered and uncovered areas associated with renovation, modification, repair, inspection, test, assembly, and demilitarization of biological and/or bacteriological weapons, and associated materiel.

3.6.6.4. Conventional Weapon. Covered and uncovered areas associated with renovation, modification, repair, inspection, test, assembly, and demilitarization of all items of conventional weapons and ammunition.

3.6.6.5. Explosives. Covered and uncovered areas associated with renovation, modification, repair, inspection, test, assembly, and demilitarization of all explosives, including bombs, grenades, weapon warheads, rockets, mines, torpedoes, pyrotechnics, fuses, primers, etc.

3.6.6.6. Small Arms/Personal Weapons. Covered and uncovered areas associated with modification, repair, inspection, test, assembly, and demilitarization of small arms including all hand-held weapons, bayonets, and associated materiel.

3.6.6.7. Strategic Missiles. Covered and uncovered areas associated with processing strategic missile frames, motors, guidance systems and components, payload systems, accessories, launch equipment, and other components.

3.6.6.8. Tactical Missiles. Covered and uncovered areas associated with processing tactical missile frames, solid or liquid propellant, major inspection, and modification. The work functions include disassembling, cleaning, propellant examination and evaluation, parts reconditioning, subassembly, final assembly, and test and calibration.

3.6.6.9. Other. Those areas used to perform ordnance, weapons, and munitions productive work that is not included in categories 3.6.6.1. through 3.6.6.8. Includes work performed away from production facilities by DFTs.

3.6.7. Software.

3.6.7.1. Weapon Systems. Covered and uncovered areas used for depot maintenance of weapon systems software.

3.6.7.2. Support Equipment. Covered and uncovered areas used for depot maintenance of support equipment software.

3.6.8. Associated Fabrication and/or Manufacturing. Covered and uncovered areas associated with fabrication and/or manufacturing in support of depot maintenance.

3.6.9. Fleet Support. This WBS is usually for Navy only purposes. Those covered and uncovered areas used for support services not covered within the aircraft, missile, power plant, component rework, aircraft modification, or manufacturing programs. Fleet support includes services such as salvage, preservation and de-preservation, work incidental to acceptance and transfer of weapon systems at the depot; customer support provided directly to operating forces, component reclamation, and calibration.

3.6.10. Special Interest Items. This WBS is not usually used in reporting Air Force capacity. The items for this category will be identified in the annual capacity data call guidance if applicable.

3.6.11. Other. Those areas used to perform productive work away from production facilities by DFTs and not included in categories 3.6.1 through 3.6.10. above.

Chapter 4

ALC ENGINEERING ROLES AND RESPONSIBILITIES

4.1. Background Information . Depot operations require science and engineering involvement to ensure mission success through proper planning, design, implementation, execution, and maintenance of the technical and non-technical processes necessary to meet depot customer requirements. These requirements are to be met with ALC of the Future and AFSC methodologies such as Visioneering, Production Machine Science, and Constraint Resolution all focusing on the ‘Art of the Possible’. The diversity and complexity of the roles and responsibilities within ALC Engineering drives a requirement for a diverse and highly skilled technical workforce as well as an understanding of the sometimes overlapping nature of these roles and responsibilities. This includes a broad range of science and engineering disciplines including Industrial, Aerospace, Mechanical, Chemical, Material, and Electrical Engineers, as well as Computer Scientists, Physicists, and Chemists. They operate across all components which make up Depot Engineering including ALC Engineers (e.g., Aircraft Maintenance Group (AMXG), Commodities Maintenance Group (CMXG), Propulsion Maintenance Group (PMXG), etc.), SPO, Supply Chain (i.e., SCMW) Engineers, and Air Force Research Laboratory (AFRL) Engineers, each serving a role and managing its responsibilities. Engineering roles and responsibilities in this chapter are specific to ALC engineering, not applicable to AFSC/SW engineers.

4.1.1. Requirements. As new workloads develop and existing workloads evolve, Production Engineering must be involved from the very beginning to include organic ‘repair’ determinations primarily through the Depot Source of Repair (DSOR) process and is defined as having the primary responsibility to ensure technical requirements are documented, understood, and achievable.

4.1.2. Process. ALC engineering includes the activity of planning and developing all technical processes required to meet both customer workload requirements and technical requirements for a specific workload or for a series of similar workloads. These processes include engineering processes, industrial processes, supporting both technical processes and non-technical activities, including equipment, facilities, lab services, Nondestructive Inspection (NDI), process control, surveillance, contracting, planning, etc. This responsibility requires identification of resources and infrastructure (i.e., facilities, equipment, and instruments/tools). Once established, ALC engineering has the responsibility to baseline the process and control change through robust change management procedures. ALC engineering has the responsibility that all developed processes must be verified and validated against the technical requirements.

4.2. ALC Engineering Management Roles and Responsibilities

4.2.1. Technical Director (TD).

4.2.1.1. Technical Authority. The TD is the technical authority responsible for meeting the customer’s technical requirements. The TD serves as the senior functional authority, technical advisor to the ALC/CC, and senior technical authority.

4.2.1.1.1. Senior Functional Authority.

4.2.1.1.1.1. Provide science and engineering (S&E) personnel management through S&E career development.

- 4.2.1.1.1.2. Establish staffing levels for all S&E positions.
- 4.2.1.1.1.3. Serve as Organizational Senior Functional.
- 4.2.1.1.1.4. Develop qualification standards.
- 4.2.1.1.1.5. Develop and oversee implementation of training plans, career broadening, retention, and mentoring.
- 4.2.1.1.1.6. ALC senior functional for S&E GS-14 interviews.
- 4.2.1.1.1.7. Review/approve hiring packages, incentives, and other staffing.
- 4.2.1.1.2. Senior Technical Authority.
 - 4.2.1.1.2.1. Delegated Engineering Authority.
 - 4.2.1.1.2.2. Assure processes and facilities meet production requirements.
 - 4.2.1.1.2.3. Ensure technical compliance to customer requirements through robust process engineering.
 - 4.2.1.1.2.4. Technology insertion.
 - 4.2.1.1.2.5. Capital investment.
 - 4.2.1.1.2.6. Change management.
 - 4.2.1.1.2.7. ALC level chair/representative for AFMC Form 202s, Engineering Technical Assistance Request (i.e. ETAR), NDI, ESOH, and metrics.
 - 4.2.1.1.2.8. Acquisition certification official.
 - 4.2.1.1.2.9. Technical advisor for new business, workload, partnerships, etc.
 - 4.2.1.1.2.10. Integrates across groups within the ALC, with other Centers, and organizations the ALC interacts with.
 - 4.2.1.1.2.11. Provides technical oversight of group engineering chiefs and squadron directors and serves as formal appraisal reviewer.
 - 4.2.1.1.2.12. Chairs configuration control boards for which the ALC has a configuration responsibility to external customers.
- 4.2.1.1.3. Advisor to the ALC/CC.
 - 4.2.1.1.3.1. Part of the ALC/CC staff and participant in significant ALC senior leader meetings.
 - 4.2.1.1.3.2. ALC oversight for critical technical issues.
 - 4.2.1.1.3.3. Provide strategic guidance, oversight, direction, and problem resolution.
 - 4.2.1.1.3.4. Champion or team lead at the ALC level for strategic initiatives at the commander's discretion.
 - 4.2.1.1.3.5. Represent the ALC at the Engineering Advisory Board.

4.2.1.2. Delegated Engineering Authority (DEA)/AFMC Form 202/ETAR Engineer. The DEA Engineer will be delegated by the Chief Engineer the responsibility of developing the disposition instructions of the AFMC Form 202/ETAR. The DEA Engineer's signature means they are attesting that the recommended disposition is accurate and based on sound engineering. Furthermore, that if the recommendation is approved and implemented as they proposed, there will be no detriment to the OSS&E or airworthiness characteristics of the system. The DEA Engineer provides full spectrum support for the AFMC Form 202/ETAR process including review of AFMC Form 202s/ETARs for completeness, accuracy, soundness of engineering practices/principles, technical resolution proposed, and for cost/schedule and weapon system life cycle considerations; work to reduce the number of AFMC Form 202s/ETARs, streamline the process and notify the applicable program office when there is a need to correct/update TOs, drawings, and/or work specs.

4.2.2. Group Engineering Chief.

4.2.2.1. The Group Engineering Chief is responsible for overseeing SMEs and all associated subordinate Group engineers/technicians. The Group Engineering Chief will provide technical guidance to the production team to ensure appropriate consideration is given to governing technical information, drawings, process orders, and Work Control Documents (WCDs). The Group Engineering Chief is responsible for process engineering, and production science, and will perform risk management per DAFMAN 91-203, *Air Force Occupational Safety, Fire, and Health Standards* to identify and manage risk and coordinate with safety, bioenvironmental engineering, base fire department, and the appropriate engineering authority as required. The Group Engineering Chief has technical oversight for the MXG and is responsible to support production leadership in design, analysis, improvement, and monitoring of the production machine.

4.2.2.2. The Group Engineering Chief ensures end item test equipment:

4.2.2.2.1. Meets technical information test requirements.

4.2.2.2.2. Is adequately acceptance tested.

4.2.2.2.3. Has an established functional and physical baseline which is maintained as required.

4.2.2.2.4. Proper change control is maintained.

4.2.2.3. The Group Engineering Chief will coordinate with the appropriate software experts as applicable when root cause analysis identifies potential problems originating from software defects or malfunctions that potentially impact systems or interfaces.

4.2.2.4. The Group Engineering Chief and the SPO liaison team will provide guidance to the production team with respect to data gaps as identified in any technical information to clarify repair procedures. Any changes to maintenance processes, procedures, tools, etc. will be documented in writing using the appropriate methods to ensure proper documentation and approval of the change.

4.2.2.5. Group Engineering Chief shall maintain a list of all special processes executed in their respective groups.

4.2.2.6. The Group Engineering Chief or a first level supervisor in the Group Engineering Chief's organization will be the release authority on all process orders prior to distribution to ensure all aspects of technical data have been met.

4.2.2.7. The Group Engineering Chief has technical oversight for the MXG and executes the Industrial Process Control (IPC) program for the maintenance group IAW AFSCI 21-104, *Industrial Process Control*.

4.3. ALC Engineering Roles and Responsibilities.

4.3.1. The Production Engineer is the technical authority behind industrial process development, validation, and maintenance. It is the responsibility of the Production Engineer to ensure production processes meet all customer requirements. Deviations from established industrial processes must be approved by the production engineer prior to implementation. The Production Engineer has both the responsibility and the authority to suspend the operation of an industrial process for being out of approved tolerance, safety issues, violations of technical data, or other conditions that could result in quality deficiencies. The Production Engineer is responsible for workload activation, process improvement/human factors, strategic and tactical planning, specification writing, and cost effective readiness. Within the role of the Production Engineer are several sub-roles that focus on specific duties.

4.3.1.1. Industrial Engineer. The Industrial Engineer is the technical authority on the production machine. The Industrial Engineer advises production leadership on design, analysis, improvement, and monitoring of the production machine. The Industrial Engineer is responsible for the design layout of equipment, materials, and workspace to illustrate maximum efficiency.

4.3.1.2. Facilities Engineer. The Facilities Engineer is responsible for the readiness of facilities to support the mission assigned. This includes design of shop layouts, reliability management, repair contracts, and preventative maintenance analysis. The Facilities Engineer also maintains building drawings, develops facility health assessments, and writes/submits plant service requests.

4.3.1.3. Equipment Engineer. The Equipment Engineer is responsible for the readiness of equipment to support the mission assigned. Repair contracts, reliability management, and preventative maintenance planning for equipment are some to the Equipment Engineer's responsibilities. Additionally, the Equipment Engineer is responsible for calibration, certification, and recapitalization of equipment.

4.3.1.4. Manufacturing Engineer. The Manufacturing Engineer's responsibilities include tool and tool path design, fixture design, and composite design; prepares product and process reports by collecting, analyzing, and summarizing information and trends. Cutting tool selection and numerical control (NC) programming are also duties associated with the Manufacturing Engineer.

4.3.1.5. The Process Engineering SME is responsible for providing technical expertise in a particular field and/or with a particular process. The SME introduces advanced technology, writes process orders, is responsible for calibration and certification, and is the industrial process control authority. Additionally, the SME works with equipment designers to improve and develop cost effective processes.

4.3.2. Industrial Engineering Technician (IET) (e.g., Maintenance Planner). Under the guidance of the Production Engineer, the IET's role is to assist the Production Engineer with ensuring production processes are designed to meet all customer requirements and to monitor the industrial process. The IET is responsible for workload activation, process improvement, cost effective readiness, and human factors. As will, the IET does strategic, operational, and tactical planning, and contributes to production process orders.

4.3.3. NDI Program Management. NDI is the process of evaluating the properties of a material, component or system to determine component integrity without causing damage. AFSC considers NDI a critical process and therefore utilizes trained and certified Level 3s to ensure the individuals managing and executing the NDI program are subject matter experts.

4.3.3.1. The AFSC Commander will establish an AFSC NDI Program and will appoint a senior Level 3 as Program Manager (PM) responsible for ensuring compliance with the requirements of higher-level regulatory guidance in the management of the NDI Program. The AFSC Commander will ensure the Program office is adequately staffed and equipped.

4.3.3.1.1. The AFSC NDI Program Manager shall:

4.3.3.1.2. Develop and maintain an AFSC written practice to implement the requirements of National Aerospace Standard (NAS) 410, *Certification and Qualification of Nondestructive Test Personnel*, and DAFI 63-140 AFMCSUP, *Aircraft Structural Integrity Program and Air and Space Equipment Structural Management*.

4.3.3.1.3. Develop an AFSC NDI program plan to include, but not be limited to, long range planning, strategic objectives, equipment master plan, ALC NDI PM succession planning, and Level 3 development.

4.3.3.1.4. Provide AFSC NDI program direction and guidance to the ALC NDI PMs.

4.3.3.1.5. Monitor the actions, effectiveness, and progress of the ALC NDI programs. This may include, but not be limited to, probability of detection (PoD) testing to determine inspection capabilities as it relates to AFLCMC detection capability requirements.

4.3.3.1.6. Provide engineering, subject matter expert, and technical guidance to the ALC NDI PMs and Level 3s on NDI issues.

4.3.3.1.7. Develop and maintain policy that ensures all new or modified NDI procedures are developed IAW established protocols, ensures validation and verification is performed, and that inspector skill level and training requirements have been evaluated. Reference AFLCMC/EZ-Structural Bulletin (SB)-15-02, *Requirements for NDI Procedure Development, Validation, and Verification for Aircraft Structural Inspections During Operations and Support Phase* for aircraft structures.

4.3.3.1.8. Develop and maintain policy that ensures AFSC provides field level SME support to include, but not be limited to, procedure support, maintenance engineering assistance requests (ETARs), training, trouble shooting, evaluation of inspection results, etc.

- 4.3.3.1.9. Provide support to depot NDI personnel as requested to include, but not be limited to procedure support, training, trouble shooting, and evaluation of inspection results.
- 4.3.3.1.10. Provide single manager, PM/PGM, etc support to include, but not be limited to procedure development, support to the integrity programs (Aircraft Structural Integrity Program (ASIP), Engine Structural Integrity Program (ENSIP), Propulsion Structural Integrity Program (PSIP), Mechanical Systems Integrity Program (MECSIP), Landing Gear Structural Integrity Program (LGSIP), etc.), NDI non-conforming engineering support (202/ETAR), equipment supportability, training requirements, MAJCOM coordination, and technology development.
- 4.3.3.1.11. Participate in and provide support to the AF NDI program to include, but not limited to NDI Advisory Boards, NDI Integrated Process Teams (IPT), RIEs, AF NDI Working Groups, Executive Working Groups (EWGs), Working Group Meetings (WGMs) and the Executive Steering Groups (ESGs), etc., as needed for the resolution of field and depot related issues.
- 4.3.3.1.12. Promote NDI equipment and process standardization across AFSC and the field.
- 4.3.3.1.13. Advocate and support NDI technology development, evaluation, maturation and insertion across AFSC and the AF, to include identifying research requirements/gaps, evaluation of newly developed technology or equipment for potential utilization by the depots or the field, etc.
- 4.3.3.1.14. Advocate to ensure that appropriate ALC NDI PM and Level 3 resources and lab capabilities are maintained to provide responsive technical support to the field, the depots and AFLCMC.
- 4.3.3.1.15. Plan, program and submit NDI program related budget requests.
- 4.3.3.1.16. Develop and maintain policy that directs and guides root cause analysis (RCA) investigations are conducted IAW [paragraph 4.3.3.4](#) and that corrective/mitigating actions are implemented.
- 4.3.3.1.17. Support external agency audit requests such as National Aerospace and Defense Contractors Accreditation Program (NADCAP), ISO, Federal Aviation Administration (FAA), etc.
- 4.3.3.1.18. Act as the Certifying Official for AFSC NDI Level 3 personnel on staff. May also act as a Certifying Official for the ALC NDI PMs or ALC Level 3s.
- 4.3.3.1.19. Conduct special projects and studies on NDI as necessary.
- 4.3.3.2. The ALC Commander will establish an ALC NDI Program and will appoint a senior Level 3 as Program Manager (PM) responsible for ensuring compliance with the requirements of higher level regulatory guidance in the management of the NDI Program. The ALC Commander will ensure the Program Office is adequately staffed and equipped.
- 4.3.3.2.1. The ALC NDI Program Manager will:

- 4.3.3.2.1.1. Ensure all new or modified NDI procedures have a robust development IAW established protocols, ensure validation and verification is performed, and inspector skill level and training requirements have been evaluated and implemented where required.
- 4.3.3.2.1.2. Coordinate field-level SME support to the T.O. change, validation, and verification process with the appropriate MAJCOM NDI functional manager.
- 4.3.3.2.1.3. Provide field level SME support to include, but not be limited to procedure support, training, trouble shooting, and indication evaluation. Ensure field level personnel are sufficiently trained on new equipment and procedures before implementation.
- 4.3.3.2.1.4. Ensure only properly trained and certified personnel perform NDI related activities.
- 4.3.3.2.1.5. Support, review, coordinate and approve all ALC NDI equipment, facilities, materials and processes, including support processes, such as material handling. Provide updates on ALC unique equipment, facilities, materials and processes to the AFSC NDI PM.
- 4.3.3.2.1.6. Provide support to depot NDI personnel to include, but not be limited to, procedure support, maintenance engineering assistance requests (202s/ETAR), training, testing, and certification, trouble shooting, indication evaluation, etc.
- 4.3.3.2.1.7. Review and coordinate on all changes to NDI facilities, procedures, equipment, materials, and processes at the ALC when they impact inspection capability or change parameters outside specific technical order limits.
- 4.3.3.2.1.8. Provide single manager, PM/PGM, etc support, to include but not be limited to, procedure development, support to the integrity programs (ASIP, ENSIP, PSIP, MECSIP, LGSIP, etc.), NDI non-conforming engineering support (202/ETAR), equipment supportability, training requirements, MAJCOM coordination, and technology development.
- 4.3.3.2.1.9. Notify single manager, PM/PGM, etc. of changes to centrally procured equipment and recommend appropriate changes to weapon system specific and commodity T.O.s.
- 4.3.3.2.1.10. Develop and maintain ALC NDI policy. Ensure ALC unique policy is essential enough to be separate from AFSC NDI policy and cannot be incorporated beyond the ALC.
- 4.3.3.2.1.11. Plan, program, and budget for participation in and provide support to the AF NDI Program to include, but not be limited to NDI Advisory Boards, NDI IPTs, RIEs, AF NDI Working Groups, EWGs, WGMs, and the ESGs, etc., as needed for the resolution of field and depot related issues.
- 4.3.3.2.1.12. Advocate and support technology development, evaluation and insertion at the ALC and AF level.

- 4.3.3.2.1.13. Ensure that appropriate PM and Level 3 resources and lab capabilities are maintained to provide responsive technical support to AFLCMC, AFSC and the field.
 - 4.3.3.2.1.14. Plan, program and submit NDI Program Office related budget requests.
 - 4.3.3.2.1.15. Support and participate to ensure RCA investigations are conducted IAW **paragraph 4.3.3.4** and that corrective/mitigating actions are implemented for inspection misses. Report findings of all missed crack investigations to the AFSC NDI PM.
 - 4.3.3.2.1.16. Promote NDI equipment standardization across the depot and field to the greatest extent possible.
 - 4.3.3.2.1.17. Support external agency audit requests such as NADCAP, ISO, FAA, etc. Provide external audit support upon request.
 - 4.3.3.2.1.18. Maintain a qualification/certification program per AFSCI 20-114, *Qualification of Nondestructive Inspection Personnel*. Administer and approve NDI training and testing program and materials and appoint designated classroom instructors.
 - 4.3.3.2.1.19. Designate NAS 410 Level 3s to perform the above functions in the case that the NDI PM is unavailable for support.
 - 4.3.3.2.1.20. Act as Certifying Official for all ALC NDI Level 3 personnel and track all Level 3 qualifications.
- 4.3.3.3. AFSC and ALC Level 3s act as NDI subject matter experts and will:
- 4.3.3.3.1. Obtain and maintain Level 3 certification IAW NAS 410 and AFSCI 20-114, for each of the methods required.
 - 4.3.3.3.2. Develop and modify NDI technical data as required to include validation and verification. Obtain ALC NDI PM review and coordination prior to submission to the appropriate PM/Product Support Manager (PSM)/PGM/Cognizant Engineering Authority (CEAs) for approval. Ensure all new Complex NDI workload is properly vetted through ALC/OBW Authorization prior to development of NDI technical data.
 - 4.3.3.3.3. Provide field level support for all weapon systems managed at that ALC to include, but not limited to, procedure support, maintenance engineering assistance requests (ETARs), training, trouble shooting, indication evaluation, etc.
 - 4.3.3.3.4. Provide production support to include, but not limited to, ship side engineering support, procedure support, maintenance engineering assistance requests (202s/ETAR), training, trouble shooting, indication evaluation, Development Packet (DEVPAC) review, planning and scheduling, first article testing, capability assessments, process engineering, rapid improvement events, value stream mapping, materials and chemicals, radiation safety, quality assurance, confined space programs, etc.

- 4.3.3.3.5. Provide NDI SME support to AFLCMC integrity programs such as ASIP, ENSIP, PSIP, MECSIP, LGSIP, etc.
 - 4.3.3.3.6. Provide NDI classroom instruction if designated as an instructor by the ALC NDI PM.
 - 4.3.3.3.7. Qualify/Certify Level 1 and 2 inspectors if designated as a Qualification Official (QO) by administering written and practical examinations and maintain qualification and certification records IAW with AFSCI 20-114.
 - 4.3.3.3.8. Develop hands-on practical examinations, and NDI Training Guides, etc. as necessary.
 - 4.3.3.3.9. Provide engineering, subject matter expertise, and technical consultation for the budgeting, procurement, installation, repair and maintainability of depot NDI equipment and consumables, facility specifications and modifications, refurbishments, repair contracts, maintenance contracts, etc.
 - 4.3.3.3.10. Evaluate new equipment and new technology for the depot ensuring adequate testing is accomplished so that equipment meets depot requirements for safety, sensitivity, repeatability, reliability and maintainability, etc. prior to fielding. Interface with AFRL and other organizations in the development and insertion of new technology.
 - 4.3.3.3.11. Participate in AF, AFMC, AFLCMC and AFSC NDI related meetings, activities and policy decisions as requested.
 - 4.3.3.3.12. Support external agency audit requests such as NADCAP, ISO, FAA, etc. Provide external audit support upon request.
- 4.3.3.4. Nondestructive Inspection (NDI) Missed Crack Root Cause Analysis (RCA). Cracks missed by NDI represent a serious risk to the safety and integrity of a weapon system. When an NDI miss occurs, the single manager, PM/PGM, etc must reassess risk. Therefore, all cracks missed by NDI, or suspected missed cracks, shall be reported to the appropriate single manager, PM/PGM, etc, the ALC NDI PM and shall be investigated by the ALC NDI PM. The objective of reporting and investigating NDI missed cracks is to determine the root cause(s) and enable the identification of corrective actions required to prevent recurrence thereby protecting the safety-of-flight of AF weapon systems.
- 4.3.3.4.1. It is the responsibility of the ALC Commander to ensure that the Maintenance (MX) leadership and group directors are aware of the requirements for reporting when a missed crack is discovered and the subsequent missed crack investigation.
 - 4.3.3.4.2. The ALC Commander will ensure that all MX personnel understand they are required to and are responsible for the immediate reporting of any and all suspected NDI missed cracks to the first level supervisor/shop chief. The first level supervisor/shop chief will then immediately notify the ALC NDI PM.
 - 4.3.3.4.3. The ALC Commander will ensure that MX personnel at all levels provide full support to the ALC NDI PM during the missed crack investigation including, but not limited to, access to all involved personnel, component(s) involved, NDI equipment used, records, and other resources as determined by the ALC NDI PM.

- 4.3.3.4.4. The ALC NDI PM will conduct the RCA, in conjunction with single manager, PM/PGM, etc personnel, IAW with T.O. 33B-1-1, *Nondestructive Inspection Methods, Basic Theory, Appendix C*.
- 4.3.3.4.5. The ALC NDI PM will coordinate and work with MX to ensure corrective/mitigating actions are implemented to prevent future NDI misses due to the same root causes/causal factors.
- 4.3.3.4.6. NDI personnel typically perform inspections on multiple weapon systems. Upon conclusion of the RCA, the ALC NDI PM will contact the single manager, PM/PGM, etc of the other weapon systems serviced by the incident NDI shop of the missed crack and the results of the RCA to enable the single manager, PM/PGM, etc to assess changes to their risk.
- 4.3.3.4.7. The ALC NDI PM will provide results of the RCA to the AFSC NDI PM.
- 4.3.3.4.8. For the context of this document, an NDI miss or a missed crack is defined as a crack that was missed by NDI during its prescribed maintenance operation. If NDI missed a crack, but that crack was found later in the maintenance process, it is still an NDI miss and shall be investigated. Refer to T.O. 33B-1-1 Appendix C for determination of when an RCA is required and level of the RCA effort.
- 4.3.3.4.9. Misses may also apply to other defect types such as corrosion, stress corrosion cracking, defects in composite materials, or other discontinuities that the inspection was intended to detect.
- 4.3.4. ESOH Engineer. The ESOH Engineer is responsible for the development of the quality, health and welfare, and environmental policies and procedures in compliance with corporate, state, federal, and local regulations. The ESOH Engineer is responsible for programs including air quality, hazardous material/waste, storm/wastewater, recycling, fire protection, ergonomics, respiratory protection, occupational noise, and personnel exposure. Additionally, the ESOH Engineer researches, interprets, analyzes, and applies environmental, fire, and occupational health guidelines.
- 4.3.5. Energy Engineer. The Energy Engineer performs duties as they relate to Federal Energy Management Program (FEMP) requirements and initiatives. The Energy Engineer conducts tactical and strategic planning for energy efficiency and makes sound investments in technology, equipment, facilities, education, and training to accomplish energy and utility reduction and cost savings within the ALC. It is the responsibility of the Energy Engineer to ensure risk assessment and associated mitigation plans are developed for new technologies. Additional duties include:
- 4.3.5.1. Analyze facility and production system energy requirements.
 - 4.3.5.2. Conduct economic impact analyses.
 - 4.3.5.3. Provide project/program decisions to efficiently meet mission requirements.
 - 4.3.5.4. Measure progress and effectiveness of facility operations against established energy objectives.
 - 4.3.5.5. Delegate energy and utility reduction initiatives.
 - 4.3.5.6. Investigate and evaluate new energy savings technologies.

4.3.5.7. Actively support all forums involved in energy transition/transformation.

4.3.5.8. Analyze/model utility rate structures.

4.3.5.9. Ensure adequate meter coverage.

4.3.5.10. Analyze meter data to determine trends and identify areas of improvement.

4.3.6. Each AMARG/AMXG/CMXG/Electronics Maintenance Group (EMXG)/Missile Maintenance Group (MMXG)/PMXG production engineering office will assemble the lists of Production Engineering Evaluation Required (PEER) equipment by squadron. The list will include engineering notification POC's and alternates for each piece of PEER equipment. The PEER list will be reviewed upon addition or deletion of any major processing equipment within each process engineering squadron. The squadron engineering supervisor will validate the PEER list and any subsequent changes to the PEER list. Proposed changes will be coordinated with MXSG and will be submitted via a service request in FEMS.

4.3.6.1. Development of the PEER list should be based on the repair complexity, ease of detectability of proper repair, and criticality of the equipment's function.

4.3.6.2. 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.

4.3.6.3. AMARG/AMXG/CMXG/EMXG/MMXG/PMXG processing engineering will provide MXSG equipment specialists the lists of PEER equipment with the appropriate engineering POC's.

4.3.6.4. AMARG/AMXG/CMXG/EMXG/MMXG/PMXG processing engineering will train their respective personnel that place trouble calls on the proper method to notify the MXSG trouble call desk personnel (if applicable) that engineering signature is required for equipment on the PEER list.

4.3.6.5. The AMARG/AMXG/CMXG/EMXG/MMXG/PMXG engineering branches will train their engineers concerning the inspection and approval responsibilities for PEER equipment maintenance.

4.3.6.6. Engineering may enlist production personnel or maintenance personnel as necessary to assist in determining proper functionality of equipment prior to release.

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Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

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Title 10 USC § 2208, *Working Capital Fund*, 24 January 2020

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Title 10 USC § 2805, *Unspecified Minor Construction*, 11 June 2024

Title 31 USC § 1517, *Prohibited Obligations and Expenditures*, 1 July 1970

Prescribed Forms

AFSC Form 388, *Machine Tool and Equipment Historical Record*

Adopted Forms

AF Form 332, *Base Civil Engineer Work Request*

AF Form 813, *Request for Environmental Impact Analysis*

AFMC Form 202, *Engineering Technical Assistance Request*

AFMC Form 299, *Safety, Fire, and Health Review*

AFSC Form 847, *Recommendation for Change of Depot Maintenance Management (DMM)*

DAF Form 847, *Recommendation for Change of Publication*

DD Form 250, *Material Inspection and Receiving Report*

DD Form 1149, *Requisition and Invoice/Shipping Document*

DD Form 1150, *Request For Issue/Transfer/Turn In*

DD Form 1348, *DoD Single Line Item Requisition System Document (Manual)*

DD Form 1423, *Contract Data Requirements List*

DD Form 2875, *System Authorization Access Request (SAAR)*

Acronyms and Abbreviations

8203—Projected Manpower and Capability Report

ABER—Annual Budget Execution Report

ABSS—Automated Business Service System

ABW—Air Base Wing

ADPE—Automated Data Processing Equipment

AF—Availability Factor

AFLCMC—Air Force Life Cycle Management Center

AFNWC—Air Force Nuclear Weapon Center

AFRIMS—Air Force Records Information Management System

AFRL—Air Force Research Laboratory

AFSC—Air Force Sustainment Center

AFSCI—Air Force Sustainment Center Instruction

AFWCF—Air Force Working Capital Fund

ALC—Air Logistics Complex

AMARG—Aerospace Maintenance and Regeneration Group

AMXG—Aircraft Maintenance Group

ANG—Air National Guard

AOB—Annual Operating Budget

AP—Annual Program

APH—Annual Productive Hours

APUs—Auxiliary Power Units

ASIP—Aircraft Structural Integrity Program

ATA—Authority to Advertise

ATE—Automatic Test Equipment

ATS—Automatic Test System

BER—Budget Execution Report

BES—Budget Estimate Submission
BMR—Business Management Report
BOS—Base Operating Support
BTM—Budget Target Module
CA—Contract Augmentee
CAM—Centralized Asset Management
CAP—Coordinated Acquisition Program
CCA—Clinger Cohen Act
CCaR—Comprehensive Cost and Requirements
CCaR-DBM—Comprehensive Cost and Requirements-Data Base Manager
CDRL—contract data requirements list
CEA—Cognizant Engineering Authority
CEP—Civilian Employment Plan
CIO—Chief Information Officer
CIP—Capital Investment Program
CIPWG—CIP Working Group
CMXG—Commodities Maintenance Group
CNC—Computer Numerical Control
CON—Customer Order Number
COTS—Commercial off-the-shelf
CPA—Corporate Process Activity
CPBM—Cost and Performance Budget Module
CPP—Capital Purchases Program
CPPM—Cost and Production Performance Module
CSAG-M—Consolidated Sustainment Activity Group – Maintenance
CSAG-S—Consolidated Sustainment Activity Group-Supply
CSI-B—Cyberspace Systems Integrator-Base
CSN—Control Symbol Number
CTM—Cost Transfer Module
CY—current year
DAF—Department of the Air Force
D2—Depot Determination

DBA—Data Base Administrator
DBOF—Defense Business Operations Fund
DCLs—Depot Capacity Leads
DDSS—Data Store System
DEA—Delegated Engineering Authority
DEVPAC—Development Packet
DFARS—Defense Federal Acquisition Regulation Supplement
DFAS—Defense Finance and Accounting Service
DFT—Depot Field Team
DHS—Department of Homeland Security
DIFMS—Defense Industrial Financial Management System
DLA—Defense Logistics Agency
DLE—Direct Labor Efficiency
DLHs—direct labor hours
DMAG—Depot Maintenance Activity Group
DMAPS—Depot Maintenance Accounting and Production System
DMEG—Depot Maintenance Execution Group
DMT—Depot maintenance transformation
DO-CATs—Depot On-Site Contract Augmentee Teams
DoD—Department of Defense
DPAH—Direct Product Actual Hour
DPEM—Depot Purchased Equipment Maintenance
DPSH—Direct Product Standard Hours
DSOR—Depot Source of Repair
DWCF—Defense Working Capital Fund
EA—Economic Analysis
EEP—Engineering Execution Plan
EHM—equipment health monitoring
EIM—Enterprise Information Management
EIP—Engineering Implementation Plan
EMXG—Electronics Maintenance Group
EN—Engineering

ENSIP—Engine Structural Integrity Program
EPA—Environmental Protection Agency
e-PART—electronic Prioritization and Reporting Template
ESCAPE—Enterprise Supply Chain Analysis, Planning, and Execution
ESG—Executive Steering Group
ESOH—Environmental, Safety and Occupational Health
eSSS—electronic staff summary sheet
ETAR—Engineering Technical Assistance Request
EWG—Executive Working Group
FAA—Federal Aviation Administration
FEM—Facility and Equipment Maintenance
FEMP—Federal Energy Management Program
FMEA—failure modes and effects analysis
FMECA—failure mode effects and criticality analysis
FMS—Foreign Military Sales
FOC—Full operational capability
FRM—Funded Requirements Management
FY—Fiscal Year
G&A—General and administrative
GAFS—General Accounting and Finance System
GCLs—Group Capacity Leads
GS—General Schedule
HAF—Headquarters Air Force
HQ AFMC—Headquarters Air Force Materiel Command
IA—Implementation Agreement
IERB—Independent Engineering Review Board
IET—Industrial Engineering Technician
ILF—Indirect labor factor
IMM—Integrated Material Management
IOI—Items of Interest
IPC—Industrial Process Control
IPE—Industrial Plant Equipment

IPT—Integrated Process Teams
ISO—International Organization for Standardization
IT—Information Technology
ITIPS—Information Technology Investment Portfolio Suite
LGSIP—Landing Gear Structural Integrity Program
LWOP—Leave Without Pay
MAJCOM—Major Command
MC—Minor Construction
MECSIP—Mechanical Systems Integrity Program
MFR—Memorandum for record
MILCON—Military Construction
MIPR—Military Interdepartmental Purchase Requests
MISTR—Management of Items Subject To Repair
MMHS—Mechanized Materiel Handling System
MMXG—Missile Maintenance Group
MOA—Memorandum of Agreement
MOCAS—Mechanization of Contract Administration Services
MORDs—Miscellaneous Obligation Reimbursement Documents
MX—Maintenance
MXG—Maintenance Group
MXSG—Maintenance Support Group
NADCAP—National Aerospace and Defense Contractors Accreditation Program
NAS—National Aerospace Standard
NASA—National Aeronautics and Space Administration
NC—Numerically Controlled
NDAA—National Defense Authorization Act
NDI—Nondestructive Inspection
NEPA—National Environmental Policy Act
NLT—No Later Than
NSN—national stock number
OBW—Business Office Workload
O&M—Operations and Maintenance

OC-ALC—Oklahoma City – Air Logistics Complex
OEEL—Occupational Environmental Exposure Limit
OEP—Organizational Execution Plan
OFCO—Other Funded Customer Orders
OJT—On the Job Training
OLRV—On-Line-Report-Viewing
OO-ALC—Ogden – Air Logistics Complex
OOC—Out-of-cycle
OPMD—Output Per Man Day
OPR—Office of Primary Responsibility
OSD—Office of the Secretary of Defense
OSHA—Occupational Safety and Health Administration
OSS&E—Operational Suitability, Safety, and Effectiveness
OUSD—Office of the Under Secretary of Defense
PAN—plant account number
PB—President’s Budget
PEC—Program Element Code
PEER—Production Engineering Evaluation Required
PEO—Program Executive Office
PFI—Personnel Force Innovation
PG—Process Guide
PGM—Product Group Manager
PIA—post implementation analysis
PIAP—Post Implementation Analysis Plan
PM—Program Manager
PM—Program Management
PMEL—Precision Measurement Equipment Laboratory
PMXG—Propulsion Maintenance Group
POC—Points of Contact
PoD—probability of detection
POH—Production overhead
PPE—Personal Protective Equipment

PPP—Public Private Partnership
PSIP—Propulsion Structural Integrity Program
PSM—Product Support Manager
PWS—Performance Work Statement
PY—Prior Year
QO—Qualification Official
R2—Requirements Review
R2D2—Requirements Review and Depot Determination
RCA—root cause analysis
RCC—Resource Control Center
RC/CC—Responsibility Center/Cost Center
RCS—Reports Control Symbol
RDS—Records Disposition Schedule
RGCs—Repair Group Categories
RIE—Rapid Improvement Events
RIF—Rapid innovation funding
RPIE—Real Property Installed Equipment
S&E—science and engineering
SAF/FMB—Secretary of the Air Force Financial Management and Budgeting
SCMS—Supply Chain Management Squadron
SCMW—Supply Chain Management Wing
SDDP—Service Development and Delivery Process
SME—Subject Matter Expert
SOJT—Structured on the Job Training
SOR—Source of Repair
SPERS—Sustainment Planning, Execution and Reporting System (D363)
SPO—System Program Office
SW—Software Directorate
T&IE—Test and Inspection Equipment
TD—Technical Director
TDIP—Technology Development and Insertion Process
TIMs—Technical Interchange Meetings

TLS—Target Load Sheet
TMDE—Test, Measurement, and Diagnostic Equipment
TMT—Task Management Tool
TO—Technical Order
TPSs—Test Program Sets
TRL—Technology Readiness Level
TRC—Technology Repair Center
USAF—United States Air Force
USSF—United States Space Force
UUT—Unit Under Test
VCO—Vehicle Control Office
VDATS—Versatile Depot Automatic Test System
VSTOL—Vertical/Short Take-Off and Landing
WBS—Work Breakdown Structure
WCD—Work Control Document
WCF—Working Capital Fund
WR-ALC—Warner-Robins - Air Logistics Complex
WSS—Weapon System Sustainment
WSS-DPEM—Weapon System Sustainment-Depot Purchased Equipment Maintenance
YODA—Yearly Organizational Distribution Allocation

Office Symbols

448 SCMW—Supply Chain Management Wing
635 SCOW—Supply Chain Operations Wing
ABW/SC—Air Base Wing / Communications Directorate
AFMC/A4/10—Air Force Materiel Command, Directorate of Logistics, Civil Engineering, Force Protection, and Nuclear Integration
AFSC/A1—Air Force Sustainment Center / Directorate of Personnel Branch
AFSC/A1M—Manpower, Organization, and Resources Division
AFSC/A4FO—Air Force Sustainment Center / Strategic Plans, Programs, and Mission
AFSC/A4M—Air Force Sustainment Center / Logistics Readiness/Maintenance Division
AFSC/A5X—Air Force Sustainment Center / Strategic Planning, Programming, & Requirements Division
AFSC/A6—Air Force Sustainment Center / Cyberspace and Information Technology

AFSC/EN—Air Force Sustainment Center Engineering Directorate

AFSC/FMC—Cost & Economics Division

AFSC/FMRA—Air Force Sustainment Center / Integration Branch - Working Capital Funds

AFSC/FMRD—DMAG Cost Accounting Division

AFSC/A4FD—Air Force Sustainment Center / Depot Maintenance Processes & Productivity Branch

AFSC/A4M/R—Air Force Sustainment Center / Logistics Readiness/Maintenance Division

AFSC/SW—Air Force Sustainment Center / Software Directorate

ALC/OBW—Air Logistics Complex Workload & Analysis

HQ AFMC/A4F—Headquarters Air Force Materiel Command / Product Support Management Division Leadership

HQ AFMC/A4FD—Headquarters Air Force Materiel Command / Source of Repair Branch

HQ AFMC/FMR—Headquarters Air Force Materiel Command / Working Capital Funds Division Mission

OC-ALC/OB—Oklahoma City - Air Logistics Complex / Business Operations Office

OO-ALC/OB – OGDEN—Air Logistics Complex / Business Operations Office

SAF/FM—Secretary of the Air Force/Financial Management

WR-ALC/OB—Warner Robins – Air Logistics Complex / Business Operations Office

Terms

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.

eDASH—The Air Force's one stop source for Environmental and Sustainability Programs. eDASH® provides standard procedures and performance standards for more efficient and effective information management exchange, communications, document controls and reviews for programs at all levels.

ISO 50001, Energy Management Systems—Certification to the ISO 50001 standard ensures that you organization has a healthy energy management system, reducing energy consumption, environmental impact and increasing profitability. It specifies requirements for management practices that are important to obtain improved energy performance.

Outlay Rates—The rate at which budget authority becomes outlays in a fiscal year is called the spendout rate, or the outlay rate. The spendout rate varies among agencies' accounts depending on the timing of activity in each account. Budget authority may be made available for obligation for a one-year, multiyear, or no-year period.

Overhead Labor—There are two types of overhead labor: Production Overhead (POH) and General and Administrative (G&A). Labor expended by depot maintenance personnel performing the functions above a production RCC level at the Center is overhead labor. Staff and management functions are overhead labor. Overhead labor is administrative in nature and provides support to all programs involving maintenance responsibilities.

Revenue—The total amount of money brought in by a company's operations, measured over a set amount of time. A business's revenue is its gross income before subtracting any expenses. Profits and total earnings define revenue—it is the financial gain through sales and/or services rendered.

Yield—The productive time of an individual compared to the total available hours in a work-year (2080-2096). There are various yield calculations, both Direct Production Standard Hours (DPSH) and Direct Production Actual Hour (DPAH), including direct labor yield with and without overtime, and total yield with and without overtime. Direct labor yields include only the direct labor hours and work-years; while the total yield includes both direct and overhead hours and work-years.