COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

This publication implements Air Force Policy Directive (AFPD) 20-1/63-1, *Integrated Life Cycle Management* and provides direction relative to AFPD 21-1, *Maintenance of Military Materiel*, and AFPD 23-1, *Supply Chain Materiel Management*. This Department of the Air Force Instruction (DAFI) provides the minimum essential guidance and procedures for Repair Network Management and outlines enterprise repair network principles and objectives. This publication applies to the 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 Department of the Air Force. Any contractor requirements contained within this instruction must be contained within the contract, grant, or agreement to be enforceable. Ensure that all records created as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with Air Force Records Disposition Schedule located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication through your MAJCOM, to the office of primary responsibility (OPR) using Air Force Form 847, *Recommendation for Change of Publication*. This publication may be supplemented, but to ensure standardization all supplements will be submitted to the Director of Logistics, Deputy Chief of Staff for Logistics, Engineering, and Force Protection (AF/A4L) for approval before publishing. Supplements and addendums are written in accordance with DAFI 33-360, *Publication and Forms Management*. The authorities to waive wing/unit level requirements in this publication are identified with a tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See DAFI 33-360, Table 1.1 for a description of the authorities associated with the tier numbers. Submit requests for waivers on an Air Force Form 679, *Air Force Publication Compliance Item Waiver Request/Approval* through the chain of

command to the appropriate tier waiver approval authority or alternately, to the requestor's commander for non-tiered compliance items in accordance with DAFI 33-360. For questions on interpreting this instruction, first contact your major command (MAJCOM) maintenance or logistics readiness functional activity.   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 (AF).

SUMMARY OF CHANGES

This publication has been substantially revised and must be completely reviewed. Major changes include the addition of Enterprise Repair Manager (ERM), roles and responsibilities for the Chief of Repair Network Management for networked commodities, residing in the 635th Supply Chain Operations Wing (SCOW), the addition of metrics and reporting requirements, levels of repair change guidance, and clarification of Centralized Repair Facility (CRF) processes and checklists.

Chapter 1

REPAIR NETWORK MANAGEMENT

1.1. Overview. Repair Network Management (RNM) is the integrated and enterprise approach to managing repair to maximize effectiveness and efficiency. It is a process-driven effort focused on enterprise visibility and agile constraint resolution. The desired end-state/vision of RNM is integrated networks (depot, field, Total Force, and contract repair functions) overseen by a process owner with the ability to optimize Repair Network Capability and Capacity (CAP2). RNM seeks to achieve rapid, flexible, and agile responses to supplement mission generation requirements and a full range of military operations.

1.1.1. RNM is an Enterprise Logistics Governance chartered initiative designed as an incremental approach to integrate maintenance and materiel management functions and establish an enterprise approach to repair. The end goals of RNM are to enable management of the entire repair infrastructure; improve investment decision-making; rationally allocate manpower for the repair network; develop standardized and repeatable management processes; and lower total system costs while increasing maintenance's ability to respond to changing AF requirements with greater agility and effectiveness.

1.1.2. RNM objectives focus on improved decision-making, effective allocation of repair network resources, and institutionalization of standardized repair processes. Establishing RNM principles is the first step towards achieving fully integrated networks.

1.2. Integrated Network Attributes. The attributes of an integrated network include:

1.2.1. Enterprise Repair Management that dynamically adjusts to mission generation and combatant command requirements.

1.2.2. A proactive, flexible, responsive, and optimized (rightsized Repair Network CAP2 as measured against repair requirements) network construct that links maintenance repair and materiel management (supply) functions.

1.2.3. Network planning that aligns requirements with strategic capabilities and are core function lead supported and advocated in the Planning, Programming, Budget, Execution System process.

1.2.4. A frequent feedback loop across the logistics enterprise to include the Defense Logistics Agency (DLA), engineering and acquisition.

1.3. RNM Principles. RNM uses standardized, repeatable processes to analyze factors affecting weapon system availability (e.g., requisition objective fill rate, Repair Network CAP2, asset constraints) to optimize repair network performance and weapons system availability. RNM principles include:

1.3.1. Creation of networks of like-capability to enable an enterprise view of available resources, supply chain issues, repair constraints, and a community that stakeholders can leverage to identify and resolve enterprise issues.

1.3.2. Use of a management structure and collaborative mechanisms to adjust network configurations to maximize use of AF resources and support to mission generation.

1.3.3. Data driven, transparent and predictive processes/procedures and codified policy that facilitates collaboration, enterprise management and visibility of repairs, and information sharing across the logistics enterprise (e.g., maintenance, materiel management, DLA, engineering, acquisition, etc.). **NOTE:** Managers should maximize the use of existing processes, procedures, resources and data capturing technologies to achieve this principle.

1.3.4. Supply chain engagement of logistics stakeholders to resolve repair constraints, maximize the use of repair network resources, and ensure the enterprise completes repairs at the lowest level authorized while preventing unnecessary Not Repairable at This Station (NRTS) and condemnation actions.

1.3.5. Implementation of supply chain and repair network sense and respond mechanisms (i.e., make comparisons between metrics and desired outcomes and adjust the network(s) to address any negative trends found).

1.3.6. Development and use of enterprise performance measurements to assess performance and identify areas of improvement.

1.4. RNM Construct. The RNM construct consists of the ERMs, RNM Chief, Product Repair Managers (PRM), repair network managers and node managers. MAJCOMs/ANG, Air Force Sustainment Center (AFSC), Logistics Group (LG), Maintenance Group Commanders (MXG/CC), 448th Supply Chain Management Wing (SCMW) Item Managers and installation Logistics Readiness Squadrons (LRS) provide critical support to the overall construct through their participation in collaboration efforts (e.g., collaboration calls, system updates, requests for information). **NOTE:** Adhere to AFI 1-1, *Air Force Standards* and report through the appropriate functional chain of command.

1.4.1. A list of operational product repair groups, the PRM/RNM Chief and the supported products/weapons systems is available at **Attachment 2**.

1.4.2. The enterprise repair manager (ERM) is the authority that oversees and manages the entire collection of networks within a specific product group. The ERM offers strategic insight on efficiency opportunities and may make recommendations for process improvements.

1.4.3. The current Commodities Product Repair Groups will be extended across all appropriate weapon systems. The following additional Commodities Product Repair Groups (assigned to SCOW) have been identified: Air Force Repair Enhancement Program, Aerospace Ground Equipment, Armament, Fabrication (including Additive Manufacturing), Fuels, Secondary Power, and Wheels & Tires. **Attachment 2** will be updated as these networks become operational. For the most updated list, contact Air Force Lifecycle Management Center (AFLCMC) PRM or 635 SCOW/RNM Chief, **635SCOW.RNI.Management@us.af.mil**.

Chapter 2

ROLES AND RESPONSIBILITIES FOR REPAIR NETWORK MANAGEMENT

2.1. General. This chapter outlines responsibilities for key organizations and roles involved with RNM activities. Due to some unique differences between the two types of assets under RNM, additional center-specific roles and responsibilities are outlined in **Chapter 3** (**AFLCMC**) **and Chapter 4** (**AFSC**). See **Chapter 5** for additional responsibilities when implementing a new product repair group.

2.2. Deputy Chief of Staff for Logistics, Engineering & Force Protection (AF/A4). AF/A4 will:

2.2.1. Provide direction/guidance for the development of maintenance and materiel management repair network policy and procedures.

2.2.2. Review and provide guidance on network redesign recommendations, via the Logistics Governance structure.

2.3. Commander, Air Force Materiel Command (AFMC/CC). The Chief of Staff of the Air Force designated AFMC/CC as the process owner for the repair enterprise. AFMC/CC has designated AFLCMC and AFSC commanders as the responsible authorities for executing RNM.

2.4. Enterprise Repair Manager (ERM). Commander, AFLCMC (AFLCMC/CC) and AFSC (AFSC/CC) are designated as the ERM, responsible for the overall repair network enterprise. The ERM designation will:

2.4.1. Oversee network end item (e.g., propulsion) (AFLCMC) and network commodities (e.g., avionics) (AFSC) to ensure repair networks meet intended design based on asset characteristics and mission generation support capacity. (T-2).

2.4.2. Monitor enterprise repair performance, report to Logistics Governance and address elevated actions. (T-2).

   2.4.2.1. Formulate and coordinate metrics and key measurement standards at all levels to meet enterprise performance goals. (T-2).

   2.4.2.2. Provide metrics and reports to higher headquarters as requested. (T-2). The broad metrics area includes production (actuals versus planned), quality (efficiency, effectiveness and performance), cost (affordability), manpower capability, capacity and infrastructure. Each of these broad categories may contain a significant number of sub-metrics based upon the product repair group.

   2.4.2.3. Provide strategic insight on efficiency opportunities and make recommendations for process improvements. (T-2).

2.4.3. Ensure product repair groups identify commodity design deficiencies (product quality) and/or deficient repair procedures that adversely impact the repair network in accordance with Technical Order (TO) 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution* and submit TO changes through the Enhanced Technical Information Management System. (T-2).

2.4.4. Review changes to AF strategies, plans, policies, requirements, or priorities to determine potential impacts on Repair Network CAP2 and contract sources of repair. (T-2).

2.4.4.1. Disseminate appropriate guidance to the repair network managers in coordination with Enterprise Fleet Management. (T-2).

2.4.4.2. Develop actions plans to ensure programming changes to Repair Network CAP2 supports current and future AF mission objectives, including unit type code requirements. (T-2).

2.4.5. Implement a standardized process for providing input to the repair requirements computation process; review information being provided to requirements generator(s). (T-2).

2.4.6. Participate in periodic reviews, and provide inputs to Title 10 strategy. (T-2).

2.4.7. Facilitate in the resolution of network constraints. (T-2.)

2.4.8. Approve CRF or repair node stand-up. (T-2).

2.4.9. Elevate issues, as required, to AFMC/CC. (T-2).

2.5. Product Repair Groups Outside of RNM. For those product repair groups whose network would fall within a program executive officer structure, the authority is Assistant Secretary of the Air Force for Acquisitions, Technology and Logistics (SAF/AQ) and not AFLCMC. Any changes to assets managed solely by Contract Logistics Support contracts or Performance Based Agreements requires proper coordination and concurrence through the appropriate contracting office authority.

2.6. AFSC/LG. AFSC/LG is the primary office for communications and training coordination. AFSC/LG will:

2.6.1. Serve as OPR for overall RNM training modules designed to educate and inform stakeholders on RNM. (T-2).

2.6.2. Serve as OPR for repair network Information Technology (IT) solutions, to include Logistics Installations and Mission Support-Enterprise View/Repair Network View (LIMS-EV/RNV) upgrade requirements and changes. Refer to **paragraph 3.4.2.1** for Precision Measurement Equipment Laboratory (PMEL) Repair Network IT solutions. (T-2).

2.6.3. Plan and coordinate with AFLCMC and AFSC staffs for development of RNM IT solutions. (T-2).

2.6.4. Plan and coordinate with AFLCMC and AFSC staffs for development of RNM policy. (T-2).

2.6.5. Serve as OPR for enterprise repair network change management activities. (T-2).

2.7. Repair Network Managers. The repair network managers will:

2.7.1. Organize and facilitate network collaboration activities. (T-3). The repair network managers may use teleconferences to execute collaboration activities.

2.7.2. Establish and maintain point of contact listing for repair network stakeholders, such as item managers, node mangers, MAJCOMs/ANG, installation LRS and maintenance personnel. (T-3).

2.7.3. Tailor an agenda to deliver and/or collect relevant information, such as top Mission Impaired Capability Awaiting Parts (MICAP) within the network, issues highlighted through existing materiel management forums, NRTS trends, known constraints in the field and depot affecting materiel availability, anticipated losses in capability in the field. (T-3).

2.7.4. Document discussions, decisions, and outcomes from all collaboration activities. (T-3).

2.7.5. Utilize Repair Network CAP2 data using available IT solutions (e.g., LIMS-EV/RNV, Metrology Web (MetWeb®)) to inform constraint resolution activities. (T-3).

2.7.6. Make changes as necessary to the standard business rules for reporting Repair Network CAP2 as outlined in **Attachment 3**. (T-3). The Process in **Attachment 3** can be modified as necessary to facilitate network requirements.

    2.7.6.1. If applicable, in coordination with lead command functional managers, develop master repair list authorized by technical data. (T-3). Maintain and utilize master repair lists to enable assessment of Repair Network CAP2 and repair actions for each network. (T-3).

    2.7.6.2. Utilize available products to proactively identify repair constraints in the repair process. (T-3).

2.7.7. Facilitate the resolution of network constraints. (T-3). Methods may include, but are not limited to, temporary workload realignment within the network or temporary realignment of support equipment. Elevate unresolved constraints to the applicable MAJCOM/ANG, RNM office, or ERM. (T-3). **NOTE:** Moving unplanned and nonrecurring workload between different appropriated workforces in the execution year generally does not require reimbursement for manpower; however any movement of workload, equipment, or personnel that crosses different appropriations should be coordinated with MAJCOMs/ANG.

2.7.8. Conduct annual network performance assessment (NPA). (T-3).

    2.7.8.1. Submit NPAs to the appropriate PRM/RNM Chief within 15 days of annual close-out date (see **Chapter 3** and **Chapter 4** for additional guidance). (T-3). New product repair groups will submit their first NPA following one full year of Full Operational Capability (FOC). (T-3).

    2.7.8.2. Use **Attachment 4** as a guide to assess network performance. (T-3). Report applicable findings in NPA reports. (T-3).

    2.7.8.3. As necessary, coordinate with leadership to request network analysis support from MAJCOM/ANG, AFLCMC, AFSC, DLA or other key stakeholders. (T-3).

2.7.9. Recommend programmatic changes to LIMS-EV/RNV to AFSC/LG OPR, as required. (T-3).

2.7.10. Provide node managers with training requirements and IT links, upon appointment. (T-3)

2.8. MAJCOM A4s/ANG A4. MAJCOM A4s/ANG A4 are critical to the workload planning process. Communication with key stakeholders through RNM collaborative processes will assist with resolving repair constraints and identifying opportunities to improve repair efficiency and effectiveness for the enterprise. MAJCOM A4s/ANG A4 will:

2.8.1. Provide representatives to Integrated Product Teams and/or governance structures.

2.8.2. Participate in collaboration activities, as established by the RNM offices.

2.8.3. Participate in the development, monitoring, and assessment of network performance metrics, in conjunction with the appropriate repair network leaders.

2.8.4. Coordinate with repair network leadership when MAJCOM/ANG changes in repair capability and/or capacity have the potential to affect the enterprise. Changes may include adjustments to repair and materiel management policies, processes, procedures, and changes to capability.

2.8.5. Assist with monitoring the repair network for impact to mission generation support as networks change and mature.

2.8.6. Follow CRF Guidance outlined in **Chapter 5**; **Attachment 6**; AFI 21-101, *Aircraft and Equipment Maintenance Management*, and AFI 23-101, *Air Force Materiel Management*.

2.9. Maintenance Group Commander (MXG/CC) or equivalent. MXG/CCs support RNM efforts by effectively managing base-level nodes and backshops. MXG/CCs or equivalent delegable to the Maintenance Squadron Operations Officer/Maintenance Superintendent will:

2.9.1. Appoint node managers for each repair node under their command that is part of an identified repair network. **(T-2)**.

2.9.2. Ensure appointed personnel complete role-based training. **(T-2)**.

2.9.3. Appoint Quality Assurance representative(s) to monitor repair node activities and compliance with RNM guidance, to include maintenance activities and supply processing/transportation. **(T-2)**.

2.9.4. Follow additional CRF guidance outlined in AFI 21-101 and AFI 23-101. **(T-1)**.

2.10. Node Managers. The node manager is typically the section Non-Commissioned Officer In-Charge/first-line manager and supervisor of maintenance production and is the technical authority and advisor for the repair node. A node is a single organizational unit (e.g., maintenance backshop, CRF, or Air Logistics Complex). Node managers will:

2.10.1. Complete node manager training course within 45 days of being appointed as node manager. **(T-2)**. Node manager training specific to the applicable repair network may be used.

2.10.2. Update Repair Network CAP2 data annually, as significant changes occur (key personnel, tooling, equipment and facilities that impact CAP2), or as directed by the repair network managers, in LIMS-EV/RNV or applicable IT system. **(T-2)**. See **Attachment 3** on how Repair Network CAP2 is calculated. Perform initial validation of Repair Network CAP2 within 30 days of completing positional training as directed in **paragraph 2.9.1** **(T-2)**.

2.10.3. Participate in collaboration calls, requests for information (i.e., data calls), and other repair network collaboration efforts. **(T-2)**.

2.10.4. Report updates on repair capabilities to repair network managers and LRS/Flight Service Center activities as it occurs. **(T-2)**.

2.10.5. Up-channel repair constraints, production changes, and negative network performance trends through local chain of command, MAJCOM/ANG Functional managers and repair network managers. **(T-2)**.

2.10.6. Work to resolve repair constraints through collaboration with local chain of command MAJCOM/ANG Functional managers, repair network managers and other applicable stakeholders to keep repairs at the lowest level. **(T-2)**.

2.10.7. Verify the ability to order parts in support of repairs authorized by technical data. If unable to order parts due to system coding or other issues, consider this a repair constraint and up-channel to repair network managers. **(T-2)**.

2.10.8. Follow additional CRF Guidance outlined in AFI 21-101 and AFI 23-101. **(T-1)**.

Chapter 3

AFLCMC MANAGEMENT CENTER PRODUCT REPAIR GROUPS

3.1. Overview. This chapter outlines any additional responsibilities and processes specific to product repair groups that fall under the AFLCMC ERM.

3.2. Product Repair Manager (PRM). The PRM will:

3.2.1. Define network metrics that assess product repair group performance in terms of production throughput, materiel availability, and customer wait time. (T-3). These metrics form the baseline for improving operations and provide key data points for network adjustments. Metrics will vary by product repair group, but must provide insight into network effectiveness, efficiency, and utilization. (T-3).

3.2.2. Seek efficiencies within the product repair group and maintain awareness of MAJCOM/ANG or AF-level strategic issues that have the potential to impact product repair group performance. (T-3).

3.2.2.1. Meet with repair network managers quarterly to review and discuss network performance and impact of emerging strategic issues/initiatives. (T-3).

3.2.2.2. Provide repair network managers awareness of any MAJCOM/ANG or AF-level issues, events, developments, trends, or initiatives that may have an impact on the repair network. (T-3). These may include force shaping, budget constraints, operational plan changes, workforce concerns (e.g., accessions, realignments), weapon system fielding, significant repair cost or cycle time increases, depot workload increases, and/or shifts in maintenance and deployment concepts.

3.2.2.3. Ensure repair network decisions in one network do not adversely affect another. (T-3).

3.2.3. Collaborate with SAF/AQ, AF/A4L, program managers, and/or product support managers to ensure acquisition personnel are aware of repair network capabilities and principles that may influence development of the product support strategy. (T-3).

3.2.4. Ensure RNM offices document processes critical for organizational continuity. (T-3).

3.2.5. Provide product repair group implementation oversight and appoint Integrated Product Team leads, as necessary, to support analysis, network standup, network redesign, product repair group implementation, policy development, etc. (T-3).

3.2.6. Assign repair network managers and ensure they are resourced and properly trained. (T-3)

3.2.7. Establish and maintain RNM standardized repeatable processes. (T-3).

3.2.8. If necessary, submit network redesign initiatives for Enterprise Logistics Governance consideration. (T-3).

3.2.9. Ensure lifecycle management planning considers repair network principles and repair network managers recommendations. (T-3).

3.2.10. Work with AFSC/LG to develop effective IT solutions that support RNM efforts, to include assisting with the development of general repair network manager and node manager training modules. (T-3).

3.2.11. Where appropriate, develop additional training for assigned product repair groups. (T-3).

3.2.12. Draft a Product Repair Group Summary using the format in **Attachment 5**. (T-3.) The PRMs must summarize NPA results, recommend further analysis (if applicable), and staff to AFLCMC/CC no later than 15 January of the current fiscal year. (T-3).

3.3. Additional PRM Responsibilities. In addition to the responsibilities outlined in **paragraph 3.2**, The Propulsion PRM (AFLCMC/LP) will:

3.3.1. Coordinate, review, and implement annual workload plan across all MAJCOMs/ANG. (T-3).

3.3.2. Ensure the repair network managers adjust network production goals as demand changes occur. (T-3).

3.3.3. Communicate Repair Network CAP2 changes to applicable stakeholders affecting a network's ability to perform as projected/required. (T-3).

3.3.4. Ensure repair network managers and node managers track, assess, and report the following availability metrics by Type Model Series/network and repair node:

3.3.4.1. Engine non-mission capable for supply rates. (T-3).

3.3.4.2. War Readiness Engines levels as established by Air Force Manual (AFMAN) 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*. (T-3). **NOTE:** Users can find War Readiness Engine level data in LIMS-EV, Engines View.

3.3.4.3. Additional metrics as required by the Propulsion Director (AFLCMC/LP).

3.3.5. The PMEL PRM will:

3.3.5.1. Monitor product repair group performance, force structure changes, and budget constraints via the Air Force Metrology and Calibration (AFMETCAL) Metrics application/Repair Network CAP2, and provide strategic guidance to repair network managers and network stakeholders as necessary. (T-3).

3.3.5.2. Ensure repair network managers establish standardized Repair Network CAP2 reporting criteria for their respective networks and monitor compliance. (T-3).

3.3.5.3. Facilitate semiannual AFMETCAL Advisory Group meetings with repair network managers and MAJCOM/ANG Functional Managers. (T-3).

3.3.5.4. Present network redesign recommendations through the AFMETCAL Advisory Group process. (T-3).

3.4. Repair Network Managers. In addition to the responsibilities outlined in **paragraph 2.7**

3.4.1. The Propulsion Repair Network Manager will:

3.4.1.1. Coordinate with MAJCOM/ANG and repair networks to forecast and allocate a workload plan into applicable systems such as LIMS-EV/RNV. (T-3).

3.4.1.2. Provide workload plan, to include adjustment procedures and production data, to the PRM/RNM Chief, node managers, and customers (including DLA). (T-3).

3.4.1.3. Ensure all required agreements are in-place to support workload planning. (T-3).

3.4.1.4. Adjust annual workload plans to ensure alignment with execution year requirements. (T-3).

3.4.1.5. Prepare the annual NPA data for incorporation into the Product Repair Group Summary. Submit to PRM no later than 1 December of the current fiscal year. (T-3).

3.4.2. The PMEL Repair Network Manager will:

3.4.2.1. Utilize RNM solutions located in MyAFMETCAL Application, Lateral Support Application, Repair Network CAP2 and MetWeb®. (T-3).

3.4.2.2. Monitor all AFMETCAL RNM applications (e.g., MyAFMETCAL, Lateral Support, Repair Network CAP2, MetWeb®) for facility, environmental, and manning issues as required. (T-3).

3.4.2.3. Ensure node managers input RNM updates on MetWeb® by the 10th of each month for general RNM information and as status changes for Note Code capabilities affecting lateral support. (T-3).

3.4.2.4. Ensure MAJCOM/ANG Functional Managers review their respective node inputs and Note Code capabilities by the 10th of each month, in accordance with AFMAN 21-113, *Air Force Metrology and Calibration Program Management.* (T-3).

3.4.2.5. Conduct semiannual Advisory Group Network collaboration meetings with MAJCOM/ANG Functional Managers and other advisors. (T-3).

3.4.2.6. Prepare the annual NPA data to PRM by 1 December of the current fiscal year for incorporation into the Product Repair Group Summary. (T-3).

3.5. Node Managers. In addition to the responsibilities outlined in **paragraph 2.10**

3.5.1. The Propulsion Node managers will:

3.5.1.1. Communicate production deviations to repair network managers and chain-of-command. (T-2). Provide mitigation strategy to address negative performance deviations. **(T-2)**.

3.5.1.2. Develop prioritized production schedules to execute workload planning and implement production changes. **(T-2)**.

3.5.2. The PMEL Node managers will:

3.5.2.1. Maintain access to MetWeb® and the AFMETCAL Lateral Support Application for a minimum of three individuals per node. **(T-2)**.

3.5.2.2. Respond to Lateral Support requests/assignments within three (3) duty days. **(T-2)**.

3.5.2.3. Provide monthly updates to MetWeb® by the 10th of each month for general RNM data. **(T-2)**.

3.5.2.4. Provide immediate status change updates on MetWeb® as Note Code/Calibration capabilities change. **(T-2)**.

Chapter 4

AFSC PRODUCT REPAIR GROUPS

4.1. Overview. This chapter outlines any additional responsibilities and processes for those product repair groups under the AFSC ERM.

4.2. Chief, Repair Network Management (RNM Chief). The 635 SCOW is responsible for all Commodities Product Repair Groups. The RNM Chief will:

4.2.1. Define network metrics that assess product repair group performance in terms of production throughput, materiel availability, and customer wait time. (T-3). These metrics form the baseline for improving operations and provide key data points for network adjustments. Metrics will vary by product repair group, but must provide insight into network effectiveness, efficiency, and utilization. (T-3).

4.2.2. Seek efficiencies within the product repair group and maintain awareness of MAJCOM/ANG or AF-level strategic issues that have the potential to impact product repair group performance. (T-3).

4.2.2.1. Meet with repair network managers to review and discuss network performance and impact of emerging strategic issues/initiatives. (T-3). The RNM Chief will determine meeting frequency. (T-3).

4.2.2.2. Provide repair network managers with awareness of any MAJCOM/ANG or AF-level issues, events, developments, trends, or initiatives that may have an impact on the repair network. (T-3). These may include force shaping, budget constraints, operational plan changes, workforce concerns (e.g., accessions, realignments), weapon system fielding, significant repair cost or cycle time increases, depot workload increases, and/or shifts in maintenance and deployment concepts.

4.2.2.3. Ensure repair network decisions in one network do not adversely affect another. (T-3).

4.2.3. Collaborate with SAF/AQ, AF/A4L, program managers, and/or product support managers to ensure acquisition personnel are aware of repair network capabilities and principles that may influence development of the product support strategy. (T-1).

4.2.4. Ensure RNM offices document processes critical for organizational continuity. (T-3).

4.2.5. Provide product repair group implementation oversight and appoint Integrated Product Team leads, as necessary, to support analysis, network standup, network redesign, product repair group implementation and policy development. (T-3).

4.2.6. Assign repair network managers and ensure they are resourced and properly trained. (T-3)

4.2.7. Establish and maintain RNM standardized repeatable processes for commodities repair networks. (T-3).

4.2.8. Review network recommendations and inputs, up-channeling appropriate actions to the ERMs. (T-3). If necessary, submit network redesign initiatives for Enterprise Logistics Governance consideration.

4.2.9. Ensure lifecycle management planning considers repair network principles and repair network manager recommendations. (T-3).

4.2.10. Work with AFSC/LG to develop effective IT solutions that support RNM efforts, to include assisting with the development of general repair network manager and node manager training modules. (T-3).

4.2.11. Where appropriate, develop additional training for assigned product repair groups. (T-3).

4.2.12. Draft an annual NPA using the format in **Attachment 5**. (T-3).

4.2.12.1. Ensure network commodities NPAs are presented by Mission Design Series for the specified quarterly closeout:

4.2.12.1.1. Trainer aircraft: FY/Q1 (31 December) (T-3).

4.2.12.1.2. Fighter aircraft: FY/Q2 (31 March) (T-3).

4.2.12.1.3. Transport, Reconnaissance, Tanker and Rotary aircraft: FY/Q3 (30 June) (T-3).

4.2.12.1.4. Bomber aircraft: FY/Q4 (30 September) (T-3).

4.2.12.2. New commodity product repair groups will be incorporated into the overall Mission Design Series report following one year of FOC. (T-3).

4.2.12.3. Summary NPA results and recommended further analysis (if applicable) will be staffed to AFSC/CC no later than 15 days after quarterly close-out (i.e., 15 January, 15 April, 15 July and 15 October). (T-3)

4.2.13. When a new product repair group is identified, provide quarterly updates to the AFSC/CC, until initial operational capability (IOC) is achieved. (T-3).

4.2.14. Manage day-to-day operations of the various Commodities Product Repair Groups. (T-3)

4.2.15. Prioritize repair constraint resolution, stock fills, and requirements with an enterprise focus. (T-3).

4.2.16. Collaborate on RNM planning efforts, to include war plans. (T-3).

4.2.17. Based on recommendations from the repair network managers, review and approve temporary changes to repair network topography. (T-3).

4.3. Repair Network Managers. In addition to the responsibilities outlined in **paragraph 2.7**, Repair network managers will:

4.3.1. Provide monthly and quarterly metrics to MAJCOM/ANG Functional managers and node managers for each network, highlighting constraints. (T-3).

4.3.1.1. Monthly metrics should contain the health status of each National Stock Number in the repair network (Backorders, MICAPs, requisition objectives and percentages, depot status), to include item manager comments pertaining to certain constraints.

4.3.1.2. Quarterly metrics should provide an analysis deep dive, covering throughput and NRTS analysis. This analysis highlights exceptionally performing repair nodes, but also those that are underperforming. This provides the enterprise the chance to address constraints in an open forum during the collaboration call.

4.3.2. Coordinate with weapon system teams to resolve awaiting parts conditions impacting repair and mission generation. (T-3).

4.3.3. Conduct NRTS, condemnation, and other repair analysis to determine authorized level and optimum cost. (T-3).

4.3.4. Manage analysis of network capabilities and redistribute unserviceable assets (excluding assets that are controlled by another program office) to more capable repair facilities. (T-3).

4.3.5. Review identified, repairable supported assets Repair Cycle Records on a monthly basis to ensure alternate repair Stock Record Account Numbers (SRAN) are accurately reflected. (T-3)

4.3.6. Apply appropriate changes to asset Repair Cycle Records to ensure it aligns with CRF or other supporting maintenance units' current repair capability. (T-3).

4.3.6.1. Provide supported maintenance and LRS units with a listing of identified, repairable assets to be processed to CRFs or other supporting units. (T-3).

4.3.6.2. Collaborate with CRF Node Managers or other supporting units to ensure repairable asset listings reflect their current repair capability. (T-3).

4.4. Node Managers. In addition to the responsibilities outlined in **paragraphs 2.10** and **3.5**, Node managers will:

4.4.1. Ensure repair constraints are elevated to the repair network managers and associated stakeholders, in accordance with **paragraph 2.10.5**, at **635SCOW.RNI.Management@us.af.mil**. **(T-2)**.

4.4.2. Maintain repairable items listings to accurately reflect current maintenance and testing capability. (T-2).

4.4.3. Provide accurate repairable items listings to repair network managers and supported bases as required. (T-2).

4.4.4. Document F-Condition assets being supported at CRFs or other supporting bases using NRTS-D and DD Form 1577-2, *Unserviceable (Reparable) Tag Materiel* Green Tag as prescribed in TO 00-20-3, *Maintenance Processing of Reparable Property and the Repair Cycle Asset Control System* Table 3-1 and AFI 23-101. (T-2).

4.5. Director, 448th SCMW (448 SCMW/CL). The 448 SCMW/CL will ensure appropriate Item Manager(s):

4.5.1. Identify depot repair constraints and participate in actions to move unserviceable assets to alternative repair facilities, as needed. (T-2).

4.5.2. Assist in the order and release of Shop Replaceable Units to ensure repair nodes can complete repair authorized by technical data to the full extent of field capacity and capability. (T-2).

4.5.3. Coordinate with repair network managers and applicable MAJCOM/ANG to move assets that have been identified for collaborative action. (T-2).

4.6. Installation Logistics Readiness Squadron (LRS). Installation LRSs will:

4.6.1. Support collaborative repair network activities by facilitating lateral movement of unserviceable assets. **(T-2)**.

4.6.2. Ensure unserviceable assets received from outside organizations are routed to the appropriate repair facilities on their installation. **(T-2)**.

4.6.3. Monitor repairable assets listing(s) or other locally established listings to ensure all identified assets are processed to the appropriate CRF or other bases, as reflected in the Repair Cycle Record. **(T-2)**.

4.6.4. Process supported F-Condition assets to a designated alternate repair SRAN using NRTS-D and DD Form 1577-2 as outlined in AFI 23-101, TO 00-20-3, Table 3-1. **(T-2).**

4.6.5. Ensure that Transaction Exception Codes are not being used to override Alternate Repair SRANs identified in Repair Cycle Records for repairable assets supported at CRFs or other bases unless guidance has been received from the repair network manager/item manager. **(T-2)**.

Chapter 5

PRODUCT REPAIR GROUP IMPLEMENTATION

5.1. Overview. This chapter outlines the process and additional responsibilities used to establish a product repair group and its associated repair networks. The complexity of collaboration and stakeholder engagement is dependent on the breadth and depth of the networked activity. The effort to establish a new product repair group or redesign an existing product repair group should be focused on increasing repair efficiency/effectiveness and weapon system availability. The recommendation may originate from an ERM, the results of a Business Case Analysis, or a decision by the Enterprise Logistics Governance structure.

5.2. Enterprise Repair Mangers Responsibilities. Either AFSC or AFLCMC will oversee product repair groups based on the preponderance of the repair requirement. To implement a new product repair group, the applicable center commander will:

5.2.1. Identify the RNM office to lead implementation activities. (T-2).

5.2.2. Collaborate with AF/A4L and Directorate of Manpower, Personnel and Services, AFMC (AFMC/A1) to identify any additional manpower requirements necessary to support implementation and sustainment of proposed product repair groups/networks. (T-1).

5.2.3. Ensure applicable support from program managers/product support managers, MAJCOM/ANG, and DLA to facilitate the identification of items/commodities for inclusion in the product repair group. (T-2).

5.2.4. Prior to establishing a CRF, notify AFMC and affected installations no later than 120 days. (T-2).

5.3. Repair Network Manager Office Responsibilities. The RNM office (AFLCMC or 635 SCOW) assigned as the lead will work collaboratively with affected lead MAJCOM/ANG and their respective ERM to establish the bounds of a proposed product repair group. (T-3) The RNM office will:

5.3.1. Develop and evaluate a proposed list of National Stock Numbers to be included in the product repair group. (T-3) Considerations may include:

5.3.1.1. Utilizing Source Maintenance and Recoverability codes, in accordance with TO 00-25-195, *AF Technical Order System Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems, and Equipments* and TO 00-20-3.

5.3.1.2. Ensuring the proposed network design does not degrade Mission Generation Network support.

5.3.1.3. Identifying functional area(s) AF Specialty or civilian work series responsible for repair of proposed assets. **NOTE:** If the end item/commodity spans multiple functional areas or existing product repair groups, whichever product repair group performs the majority of repairs will manage the product/item.

5.3.1.4. Identifying the size of the AF Specialty or civilian workforce responsible for the asset repair.

5.3.1.5. Using MAJCOM/ANGs for the products/items. Once identified, request analysis and implementation support from affected MAJCOM/ANG Functional Manager.

5.3.2. Identify the proposed product repair group stakeholders, to include wing, group, squadron, and work center leadership (i.e., node managers) for all field and depot nodes. (T-3).

5.3.3. Analyze the proposed end items/commodities and worldwide repair locations/requirements to determine product repair group and network design. (T-3).

5.3.3.1. When considering the use of Air Reserve Component (Reserve/Guard) personnel, consult and comply with AFI 36-2619, *Active Duty Operational Support (ADOS) – Active Component (AC) Man-Day Program.* (T-3).

5.3.3.2. Final network design may be based on the functional area(s) responsible for the repair, regional repair concepts, weapon system, or other supply chain and organizational factors that provide enterprise repair management, improved supply chain efficiency, and/or costs savings.

5.3.4. Capture the below baseline data for each planned network no later than 30 days prior to IOC. (T-3).

5.3.4.1. Number of personnel. (T-3).

5.3.4.2. Equipment. (T-3).

5.3.4.3. Transportation costs. (T-3).

5.3.4.4. Repair cycle times for targeted commodities/end items. (T-3).

5.3.5. Assess the status of the network during implementation and declare IOC and FOC based on the criteria outlined in **paragraphs 5.4.2** and **5.4.3** (T-3).

5.4. Implementation Planning. Implementation requires persistent communication with all affected stakeholders. The desired output of implementation planning is a MAJCOM/ANG and AFSC/CC or AFLCMC/CC coordinated and approved plan that identifies an IOC date/period and steps necessary to reach FOC. The complexity of implementation planning activities varies with the size and scope of the product repair group design.

5.4.1. The PRM/RNM Chief, in coordination and conjunction with MAJCOM/ANG, must develop and publish a network implementation plan no later than 180 days prior to IOC. (T-2). An implementation plan must include the following:

5.4.1.1. Workload allocation guidance and prescribed timelines if required. (T-2).

5.4.1.2. Repair Network CAP2 initial upload guidance and required timelines. (T-2).

5.4.1.3. Completed/validated Repair Network CAP2 baseline data in applicable system no later than 120 days prior to IOC. (T-2).

5.4.1.4. Change management and communications plan that engages, informs, and involves stakeholders in the product repair group implementation process. (T-2).

5.4.1.5. Establish baseline metrics that will be used to determine IOC to FOC transition and product repair group future successes. (T-2).

5.4.1.6. If CRF implementation is included in the network design, see **paragraph 5.5** and **Attachment 6**.

5.4.1.7. Positional training plan to include all repair network management roles as specified in **paragraphs 2.7** and **2.10** (T-2).

5.4.2. Network IOC represents the transition from multiple dissociated nodes into a network of like repair capability overseen by a repair network manager. This transition period provides for phased implementation and adjustment to the implementation plan when necessary. IOC characteristics include:

5.4.2.1. MAJCOM/ANG and applicable Air Logistics Complex have agreed upon network design and all nodes have been notified.

5.4.2.2. Centers/RNM offices have identified and assigned repair network managers to the network.

5.4.2.3. Applicable MAJCOM/ANG organizations have completed Memorandums of Agreement/Memorandums of Understanding, if necessary.

5.4.2.4. The CRFs, if included in the network design, are able to support and receive repair assets from other units as designed.

5.4.2.5. The repair network managers have initiated collaboration calls.

5.4.3. Network FOC indicates the enterprise/MAJCOM/ANG have networked repair capability, as designed, and all network resources (manpower, equipment, processes, support systems, IT and baseline metrics) are in place and supporting enterprise repair management. FOC characteristics include:

5.4.3.1. The ERMs have compared baseline metrics and network costs to performance metrics captured during IOC.

5.4.3.2. The ERMs and MAJCOM/ANG have mitigated any negative effects to Mission Generation Network support.

5.4.3.3. MAJCOM/ANG have established CRFs, if included in network design, in accordance with all governing directives.

5.4.3.4. The CRF-supported units are shipping planned assets to designated CRFs for field repair.

5.4.3.5. The repair network managers have full participation from node managers on collaboration efforts.

5.5. Establishing a CRF. Implementation of a product repair group or repair network may involve stand-up of a CRF. **Attachment 6** (CRF Establishment Checklist) provides an outline of key tasks, identifies the responsible stakeholder, and a rough timeline of when actions need to be completed. The checklist is not an all-inclusive checklist and may fluctuate. Repair network managers will have the most current **Attachment 6**. When CRFs are included as part of the network design:

5.5.1. Responsible stakeholders will:

5.5.1.1. Complete assigned tasks identified in **Attachment 6** and in accordance with governing directives. **(T-1).**

5.5.1.2. Update the repair network managers of all status changes and completed tasks. **(T-2).**

5.5.2. The Repair network managers will:

5.5.2.1. Maintain and provide the most current CRF Establishment Checklist to all responsible stakeholders. (T-3).

5.5.2.2. Monitor CRF stand up timeline established within **Attachment 6**. (T-3).

5.5.2.3. Provide additional guidance and assistance, where necessary, to ensure successful establishment of the CRF. (T-3).

5.5.3. MAJCOM/ANG will:

5.5.3.1. Notify AFMC and affected installations a minimum of 120 days prior to establishment of CRF, in accordance with AFI 23-101.

5.5.3.2. Ensure effective command and control by closely monitoring CRF operations and providing supply chain and funding guidance to CRFs and supported units in accordance with AFI 21-101, AFI 23-101, and this AFI.

5.5.3.3. Ensure all required funding and lines of accounting are in place at CRF (i.e., Project Fund Management Record) no later than 30 days prior to initiation of CRF repair.

5.5.3.4. Liaison with supported MAJCOM/ANG Maintenance and Logistics Readiness staffs to ensure CRF capabilities are included in crisis action, contingency, and wartime planning.

5.5.3.5. Determine if the CRF is going to utilize the CRF EXPRESS Module for induction of unserviceable assets.

5.5.3.5.1. If determined that CRF EXPRESS Module will be used:

5.5.3.5.1.1. MAJCOM/ANG will coordinate with the repair network managers to establish accounts, as outlined in **Attachment 6**.

5.5.3.5.1.2. The repair network managers will monitor for issues and bottlenecks and up-channel to the appropriate MAJCOM Project Manager.

5.5.3.5.1.3. Node managers will maintain CRF EXPRESS proficiency and up-channel any changes and issues to the repair network managers. (T-2).

5.5.3.5.2. If CRF EXPRESS module is not used, node manager must coordinate with repair network manager for workload prioritization. (T-2).

5.5.4. Ensure CRFs have all required IT systems in accordance with AFI 23-101, and this AFI.

5.6. Continuous CRF Operations. After establishment of the CRF and completion of **Attachment 6** tasks, key stakeholders (MAJCOM/ANG, repair network managers, CRF Node Managers, etc.) will abide by roles and responsibilities outlined in **Chapters 2, 3, and 4.**

WARREN D. BERRY,
Lieutenant General, USAF
DCS/Logistics, Engineering & Force Protection

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 21-1**,** *Maintenance of Military Materiel*, 1 August 2018

AFPD 23-1*, Supply Chain Materiel Management*, 7 September 2018

AFPD 20-1/63-1, *Integrated Life Cycle Management,* 7 August 2018

AFI 1-1, *Air Force Standards*, 7 August 2012

AFI 21-101, *Aircraft and Equipment Maintenance Management*, 16 January 2020

AFI 23-101, *Materiel Management Policy*, 22 October 2020

AFI 33-322, *Records Management and Information Governance Program,* 23 March 2020

AFI 36-2619, *Active Duty Operational Support (ADOS) – Active Component (AC) Man-Day Program*, 25 November 2019

AFI 38-101, *Manpower and Organization,* 29 August 2019

AFMAN 21-113, *Air Force Metrology and Calibration Program Management,* 29 April 2020

AFMAN 20-116, *Propulsion Life Cycle Management for Aerial Vehicles*, 28 August 2017

DAFI 33-360, *Publications and Forms Management*, 1 December 2015

TO 00-20-3, *Maintenance Processing of Reparable Property and the Repair Cycle Asset Control System*, 10 July 2017

TO 00-25-195, *AF Technical Order System Source, Maintenance, and Recoverability Coding of Air Force Weapons, Systems and Equipments,* 1 October 2012

TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*, 1 September 2015

Adopted Forms

Air Force Form 679, *Air Force Publication Compliance Item Waiver Request/Approval*

Air Force Form 847, *Recommendation for Change of Publication*

DD Form 1577-2, *Unserviceable (Reparable) Tag Materiel*

Abbreviations and Acronyms

AF—Air Force

AFI—Air Force Instruction

AFLCMC—Air Force Lifecycle Management Center

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMETCAL—Air Force Metrology and Calibration

AFPD—Air Force Policy Directive

AFSC—Air Force Sustainment Center

ANG—Air National Guard

CAP2—Capability and Capacity

CC—Commander

CRF—Centralized Repair Facility

DLA—Defense Logistics Agency

ERM—Enterprise Repair Manager

FOC—Full Operational Capability

IOC—Initial Operational Capability

IT—Information Technology

LG—Logistics Group

LIMS-EV—Logistics Installations and Mission Support-Enterprise View

LIMS-EV/RNV—Logistics Installations and Mission Support-Enterprise View/Repair Network View

LRS—Logistics Readiness Squadron

MAJCOM—Major Command

MetWeb®—Metrology Web

MICAP—Mission Impaired Capability Awaiting Parts

MXG—Maintenance Group

MTTR—Mean Time To Repair

NPA—Network Performance Assessment

NRTS—Not Repairable at This Station

OPR—Office of Primary Responsibility

PMEL—Precision Measurement Equipment Laboratory

PRM—Product Repair Manager

RNM—Repair Network Management

SCOS—Supply Chain Operations Squadron

SCOW—Supply Chain Operations Wing

SRAN—Stock Record Account Number

TO—Technical Order

Terms

Calibration—A comparison between equipment items, one of which is a measurement standard of known accuracy, to detect, correlate, adjust and report any variation in the accuracy of the other item(s). Items requiring calibration are in a serviceable maintenance condition.

Centralized Repair Facility (CRF)—Consolidated maintenance and supply resources at a designated location that provides maintenance of unserviceable assets. These services are available to an organization that cannot service its own equipment or cannot perform field level maintenance on AF reparable assets.

Chief, Repair Network Management—The individual within 635th SCOW responsible for the day-to-day oversight of the Commodities Product Repair Groups. The RNM Chief reports directly to the 635 SCOW/CC to address higher level issues, offers strategic insight on efficiency opportunities, and makes recommendations for process improvements

Collaboration—The process of recurring and ad-hoc communication that engages maintenance and materiel management stakeholders (e.g., DLA, Weapon System Team, Air Logistics Complex) for the purpose of identifying and resolving constraints to repair. Repair network managers may use teleconferences, electronic mail, and other communication platforms to execute collaboration activities.

Enterprise Logistics Governance—The Enterprise Logistics Governance structure provides a governance venue for the logistics enterprise. It assists in developing logistics strategy, as well as providing governance for enterprise logistics issues, transformation efforts, and continuous process improvement of enterprise logistics processes. While the Enterprise Logistics Governance is a decision making body, it does not alter the statutory, functional, or program execution authorities of its members.

Enterprise Repair Manager (ERM)—The authority that oversees and manages the entire collection of networks within a specific product group. The ERM offers strategic insight on efficiency opportunities and may make recommendations for process improvements.

MetWeb®—MetWeb® provides dynamic data applications for use by the AF metrology community. This primarily includes personnel assigned to PMEL and their MAJCOM functional managers.

Mission Generation Network—The network that supports all organizational-level, on-equipment maintenance, and is optimized at the wing-level across the AF.

Network Performance Assessment (NPA)—The process of analyzing network capacity against anticipated requirements, identifying the need for corrective action plans if network performance falls below identified standards, and formulating network redesign options when necessary.

Node Manager—Typically, the Non-Commissioned Officer in Charge, first-line manager or supervisor of maintenance production and is the technical authority and advisor for the repair node.

Product Repair Group—A collection of repair networks required to ensure weapon system availability targets are met and to support specific groups of weapons systems, engines, sets of commodities, and/or other major end items. The primary focus is strategic oversight and management of all repair networks in the group to ensure supply chain experts balance competing priorities with weapon system availability objectives.

Product Repair Managers (PRM)—The individual within AFLCMC that offers strategic insight on efficiency opportunities and makes recommendations for process improvements.

Repair Network—Globally distributed repair nodes to enable rapid and flexible response to meet the demands of the sortie production efforts of the Mission Generation Network and ensure an effective and timely response to routine mission requirements, as well as mobilizations, national defense contingencies, and other emergency requirements. It provides centralized management of repair with an enterprise level management perspective. The focus is on field- and depot-level maintenance activities, as outlined in policy and technical data, exceeding the capability of the Mission Generation Network such as component inspection/repair, modification, and battle damage repair.

Repair Network Manager—The individual responsible for managing a collection of repair nodes within a specific product group. Repair network managers facilitate solutions to enterprise repair constraints by linking key stakeholders (e.g., maintenance, materiel management, and engineering).

Repair Node—A single organizational unit (e.g., maintenance backshop, CRF, or Air Logistics Complex) capable of testing and repairing RNM managed assets in an active network.

Total Force—AF organizations, units, and individuals that provide the capabilities to support the DoD in implementing the national security strategy. Total Force includes Regular Air Force, Air Force Reserve, ANG, AF civilian personnel (including foreign national direct and indirect-hire, as well as non-appropriated fund employees), contractor staff, and host-nation support personnel. Personnel/agencies must still maintain and adhere to appropriation integrity under the Total Force construct.

Attachment 2

OPERATIONAL PRODUCT REPAIR GROUPS

Figure A2.1. Operational Product Repair Groups.

Product Repair Group	PRM/RNM Chief	Supported Products/Weapon Systems
Commodities – Avionics	AFSC/635 SCOW	B-1, F-15, F-16
Commodities – Hydraulics	AFSC/635 SCOW	A-10, B-1, B-2, B-52, C-5, C-130, C-135, E-3, E-4, F-15, F-16, T-38
Commodities – Electrical & Environmental	AFSC/635 SCOW	A-10, B-1, B-2, B-52, C-5, C-130, C-135, C-17, E-3, F-15, F-16, KC-10, T-38
Propulsion	AFLCMC	F100-PW-220/229, F101-GE-102, F110-GE-100/129, F118, F119, J85, T400, T56, TF33, TF34-GE-100
PMEL	AFLCMC	AF calibration needs for air and space platforms and other wing organizations

Attachment 3

REPAIR NETWORK CAPABILITY AND CAPACITY CALCULATION PROCESS

A3.1. Capability. Personnel and associated skill set available to complete a repair.

A3.1.1. Personnel to account for:

A3.1.1.1. Authorized - Number of positions on node Unit Manning Document (Spaces).

A3.1.1.2. Assigned - Filled positions on node Unit Manpower Personnel Roster (Faces).

A3.1.2. Personnel types.

A3.1.2.1. Full-time military.

A3.1.2.2. Air Reserve Component full-time.

A3.1.2.3. Air Reserve Component part-time (traditional).

A3.1.2.4. Civilian.

A3.1.2.5. Contractor.

A3.1.3. Available shifts/days/hours derived from AFI 38-101, *Manpower and Organization*, where applicable.

A3.1.3.1. Number of shifts worked by node.

A3.1.3.2. Number of days worked per shift per week.

A3.1.3.3. Number of hours worked per shift.

A3.1.4. Account for military personnel by the following skill-levels:

A3.1.4.1. 3-level apprentice.

A3.1.4.2. 5-level journeyman.

A3.1.4.3. 7-level craftsman.

A3.1.5. Civilian equivalent skill-levels for personnel without USAF skill-level:

A3.1.5.1. Apprentice.

A3.1.5.2. Journeyman.

A3.1.5.3. Craftsman or advanced journeyman.

A3.1.5.4. For contractor personnel or field service teams, the assumption is that all contractors hold a journeyman skill level.

A3.1.6. Personnel productivity. Productivity percentages take into account tasks performed by personnel who are not accounted for in Standard Availability hours per AFI 38-101, but take away from direct touch man-hours. The productivity percentage takes into account both non-direct touch and direct touch personnel.

A3.1.6.1. Tasks may be unique to a particular node, MAJCOM/ANG, etc., but should be reviewed and agreed upon by the node's chain of command. These are tasks performed outside the network (e.g., commander's calls, safety down days, administrative tasks, etc.).

A3.1.6.2. Non-direct touch personnel will have their hours deducted as an assigned task.

A3.1.6.3. **Figure A3.1.** provides an example of how LIMS-EV/RNV calculates productivity percentage.

Figure A3.1. Productivity Calculation Example.

	Regular Air Force	Guard/Res Full-Time	Traditional Guard/Res	Civilian/Military Technician	Contract Full Time Equivalent
Available Hours*	1808 (AFI 38-101)	1720 (AFI 38-101)	312**	1720 (AFI 38-101)	1764 (AFI 38-101)
Mission Generation Tasks (Variable)	0	0	0	0	0
Additional/Administrative Duties (i.e., Maintenance Information System documentation, Bench Stock Monitor, Records Management, etc.)	450	450	4	450	450
CC Calls (1 per month for 1 hour)	12	12	12	12	12
Wing Training/Safety Down Days (1 day per Quarter)	32	32	32	32	32
Temporary Duty out of shop (variable but projectable)	0	0	0	0	0
Additional Training (1 day per month)	96	96	96	96	96
Total Available Hours to Provide Direct Touch Labor (max MTTR*)**	1218	1130	168	1130	1174
Productivity % to Enter into Repair Network CAP2	67.4%	65.7%	53.8%	65.6%	66.6%

*This is not an all-inclusive list of items that may impact available man-hours.

    ** This figure is determined by multiplying 12 months by 16 hours (drill days) and adding 120 hours (annual training).

    *** Mean Time to Repair (MTTR).

A3.2. Capacity. Equipment, physical infrastructure, or facilities, available to complete a repair. **NOTE:** Only submit RNM Capacity data within AF channels; capacity calculation methods may be different in other DoD services.

A3.2.1. Equipment data comes from Integrated Logistics Support-Supply and Defense Accountability and Property System.

A3.2.1.1. Constraining asset. A constraining asset is an equipment asset most likely to bottleneck production if unavailable.

A3.2.1.2. Constraining assets may change from commodity-to-commodity within each node.

A3.2.1.3. Constraining assets may change as equipment breaks down. For example, the unit lists an avionics test stand as constraining asset for a commodity, and a fixture needed for that commodity becomes unavailable. This causes a bottleneck in the production of that commodity but not for other commodities utilizing the avionics test stand. The fixture would then become the constraining asset for the affected commodities.

A3.2.2. Calculating capacity. Capacity is calculated two ways:

A3.2.2.1. Raw capacity considers the capacity hours available for equipment assets.

A3.2.2.2. Maintenance man-hour capacity considers the average crew size required to operate the equipment on a given task.

A3.2.2.2.1. Average crew size. The average number of people it takes to operate the repair equipment asset during normal repair of asset.

A3.2.2.2.2. Availability percentage. The percent of time that equipment asset is operational and available to do work. This accounts for any downtime the equipment-asset is not available to do work (for example, broken equipment or calibration time).

A3.2.2.2.3. Shared resource percentage. Percent of time personnel use repair equipment-asset on the product under assessment. For example, if the user is entering data for the F100-229 network at a node that also repairs another Type Model Series (e.g., F100-220) and if the units are sharing the engine rails, then the user must enter the percent of time the engine rail is used on the F100-229.

A3.2.2.2.4. The shared resource is 100% if units are not sharing the equipment.

A3.2.3. Production. Production takes into account average flow days (Propulsion only) and average direct touch man-hours.

A3.2.3.1. Average flow days. The average, or mean, number of days it takes a unit/personnel to repair an end-item from time of induction to time ready for shipment/storage as a serviceable asset. This calculation considers work-stoppage time.

A3.2.3.2. Average direct touch man-hours or MTTR. The number of direct-touch labor hours it takes to repair an end item (e.g., engines) or commodity.

A3.2.3.2.1. Includes actual repair time of commodity.

A3.2.3.2.2. Does not include downtime (e.g., awaiting maintenance or awaiting parts).

A3.2.4. Potential throughput. Potential throughput is determined by comparing the available hours of capability and capacity and is heavily driven by the average direct touch man-hours. Use the Maintenance Man-Hour Capacity Formula to make a fair comparison. For example, low average direct touch man-hours would result in a higher potential throughput and indicate additional hours are available for production. Potential throughput is the lesser of available capability or maintenance man-hour capacity multiplied by average direct touch man-hours.

Attachment 4

NETWORK PERFORMANCE ASSESSMENT GUIDE

A4.1. Overview. Repair network managers will utilize this guide as a tool when conducting a NPA in accordance with **Chapter 2**, **Chapter 3** and **Chapter 4**. This guide is not all-inclusive; centers and repair network managers may add assessment areas, issue supplemental guidance, and revise it to meet assessment needs. Consider the following performance assessment areas when conducting a NPA:

A4.2. Network Maturity.

A4.2.1. Has the network been FOC a minimum of 12 months?

A4.2.2. Have network changes been in place for longer than 12 months?

A4.3. Transportation/Throughput.

A4.3.1. Has throughput kept pace with the demand for the past four quarters?

A4.3.2. Have transportation lead times affected Mission Generation Network demand (e.g., increased spares requirements, increased MICAPs, etc.)?

A4.3.3. Does the current transportation infrastructure meet planned/future demand requirements?

A4.3.4. Is Repair Network CAP2 sufficient to meet throughput requirements?

A4.3.5. Are additional CRFs required to increase throughput?

A4.3.6. Are non-CRF locations capable of sustaining local, and if necessary, enterprise operations?

A4.3.7. Does network surge capability exist? Is it sufficient to meet wartime requirements?

A4.4. Workload/Workforce Utilization.

A4.4.1. Has workload been transferred between nodes? If so, how many times and what primary issues drove the need for the transfer (e.g., equipment, manpower, convenience, and infrastructure)?

A4.4.2. Are current CRF manpower requirements codified and modeled in the Logistics Composite Model?

A4.4.3. Are current LRS manpower requirements sufficient to support network operations?

A4.4.4. Were the results of the workload planning process accurate? If not, closely analyze and conduct root cause analysis as appropriate.

A4.5. Metrics.

A4.5.1. Do performance metrics indicate a negative trend? **NOTE:** Traditionally, analysts define a trend as a movement in a specific direction over a period of seven consecutive data points (metric measures). However, network managers should closely analyze and conduct root cause analysis when a network experiences three consecutive negative measures.

A4.5.2. Are current metrics realistic and achievable?

A4.5.3. Have root-cause analyses been conducted when metrics indicate negative trends? Have those causes been elevated when they affect enterprise operations? What actions are required to resolve the causes?

A4.5.4. Should additional metrics be developed and tracked at the enterprise, network, or node level?

A4.6. Requirements Analysis.

A4.6.1. Have allocated spares and consumables kept pace with repair requirements?

A4.6.2. Have network repair requirements changed based on technical data requirements, mission needs, and/or supply chain changes, etc.?

A4.6.3. Based on production deltas, is the current infrastructure sufficient? What changes are required?

A4.6.4. Are there pending requirement changes (e.g., increased flying hours, additional bench-check requirements)?

A4.6.5. Should the enterprise allow CRFs/units additional field repair capabilities to meet production requirements?

A4.7. Costs.

A4.7.1. Have the costs of CRF operations changed since FOC? To what degree and direction? What are the primary drivers?

A4.7.2. Have repair times changed? Have nodes identified the primary drivers of any changes?

A4.7.3. Have transportation costs increased? To what degree?

A4.8. Policy.

A4.8.1. Are there gaps in RNM or CRF policy (e.g., AFI 21-101, AFI 23-101, AFI 20-117) that have affected performance, caused delays, etc.?

A4.8.2. Are there local, material management, or MAJCOM/ANG policies the enterprise should codify in departmental publications?

A4.8.3. Are components appropriately coded? **NOTE:** Repair network managers should use TO 00-20-3 for baseline consideration.

A4.9. Strategic Issues.

A4.9.1. Do previous RNM performance reports identify/include unresolved network issues that AF agencies must address from the corporate/strategic level?

A4.9.2. Are there pending network redesign initiatives?

A4.9.3. Are there strategic issues (see **Chapter 2**) affecting network performance or that may affect network performance in the future?

Attachment 5

PRODUCT REPAIR GROUP SUMMARY TEMPLATE

Figure A5.1. Product Repair Group Summary Template.

Use Appropriate Official Letterhead

MEMORANDUM FOR [*APPLICABLE CENTER/CC*]

FROM: Product Repair Group Office
SUBJECT: *(Name of Product Repair Group, e.g., Hydraulics)* Product Repair Group
Summary

1. Individual Network Performance Assessment.
1.1. Network Name:
        a. Significant Repair Network CAP2 variance vs production.
        b. Overall changes/Lessons Learned/Continuous Process Improvement results.
        c. Constraints
        d. Performance Measures.

1.2. Continue with additional networks as required.
        a. Significant Repair Network CAP2 variance vs production.
        b. Overall changes/Lessons Learned/Continuous Process Improvement results.
        c. Constraints.
        d. Performance Measures.

2. Product Repair Group Redesign Recommendations *(give any recommendations for
individual network changes or overarching Product Repair Group changes).*
3. OPR contact name, organization, phone number, email address.

Digital Signature Block

Attachment 6

CENTRALIZED REPAIR FACILITY ESTABLISHMENT CHECKLIST

A6.1. Overview. Successful CRF stand-up requires maximum participation from all network stakeholders. General guidance is:

A6.1.1. When network design or stakeholder determination identifies the need for a CRF, the recommendation must be approved by the ERM.

A6.1.2. Upon approval, the appropriate MAJCOM/ANG becomes the overall OPR for ensuring CRF establishment.

A6.1.3. The repair network managers will guide and track CRF stand-up using the checklist at **Figure A6.1**

A6.1.3.1. This checklist is a basic guide.

A6.1.3.2. The repair network manager will work with MAJCOM/ANG POC and network stakeholders to develop a more detailed checklist, to include subtasks and recommended timelines for successful implementation.

Figure A6.1. CRF Checklist.

KEY ACTION	OPRs	Offices of Collateral Responsibility (OCR)	TIMELINE (days prior to IOC)
Establish Implementation Plan	PRM/RNM Chief	ERM MAJCOM/ANG	180
Establish Department of Defense Activity Address Code	AF/A4 MAJCOM/ANG 635 SCOW/437 Supply Chain Operations Squadron (SCOS)	DLA Gaining Host Wing LRS Repair Network Manager	120
Transfer of Equipment Assets, if required	MAJCOM/ANG 635 SCOW/440 SCOS 635 SCOW/437 SCOS	Host Wing MXGs Host Wing LRSs	90
Transfer of Financial Data	MAJCOM/ANG Host Wing MXGs Host Wing LRSs	DFAS Limestone 635/735 Supply Chain Operations Group, Gaining Host Wing Financial Management	60
Database Migration	MAJCOM/ANG 635 SCOW/437 SCOS Host Wing LRSs	AFLCMC Supported Installations	30-60
Day of Assumption	MAJCOM/ANG 635 SCOW Gaining Host Wing LRS	635 SCOW/437 SCOS	15-30