



# Department of Defense MANUAL

DoDM 4151.23

June 24, 2016

Incorporating Change 1, August 31, 2018

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USD(A&S)

SUBJECT: DoD Organic Depot Maintenance Cost Comparability

References: See Enclosure 1

1. PURPOSE. In accordance with the authority in DoD Directive (DoDD) 5134.01 (Reference (a)) this manual implements policy, assigns responsibilities, and prescribes procedures for use by logistics and financial management staffs when conducting a cost comparability analysis of organic depot maintenance workloads pursuant to DoDD 4151.18 (Reference (b)).

2. APPLICABILITY. This manual applies to OSD, the Military Services, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within DoD (referred to collectively in this manual as the “DoD Components”).

3. POLICY. In accordance with Reference (b), it is DoD policy that:

a. DoD maintenance activities will be supported by valid financial management information as outlined throughout the Master Cost Comparability Workbook (also known and referred to in this manual as the “MCCW” (Reference (c))).

b. Maintenance programs will:

(1) Be structured to meet the required readiness and sustainability objectives (including mobilization and surge capabilities) of national defense strategic and contingency requirements.

(2) Employ the full spectrum of maintenance support structures available to sustain military materiel, including organic or unique military capabilities, performance-based logistics arrangements, robust, effective management information, commercial sector support, partnering, and competition in accordance applicable laws.

4. RESPONSIBILITIES. See Enclosure 2.
  
5. PROCEDURES. See Enclosures 3-5.
  
6. RELEASABILITY. **Cleared for public release**. This manual is available on the DoD Issuances Website at <http://www.esd.whs.mil/DD/>
  
7. SUMMARY OF CHANGE 1. This change reassigns the office of primary responsibility for this manual to the Under Secretary of Defense for Acquisition and Sustainment in accordance with the July 13, 2018 Deputy Secretary of Defense Memorandum (Reference (d)).
  
8. EFFECTIVE DATE. This manual is effective June 24, 2016.



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Under Secretary of Defense  
Acquisition, Technology and Logistics

Enclosures

1. References
2. Responsibilities
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ENCLOSURE 1

REFERENCES

- (a) DoD Directive 5134.01, "Under Secretary of Defense for Acquisition, Technology, and Logistics," December 9, 2005, as amended.
- (b) DoD Directive 4151.18, "Maintenance of Military Materiel," March 31, 2004.
- (c) Office of the Assistant Secretary of Defense for Logistics and Materiel Readiness, "Master Cost Comparability Workbook (MCCW)," current edition<sup>1</sup>
- (d) Deputy Secretary of Defense Memorandum, "Establishment of the Office of the Under Secretary of Defense for Research and Engineering and the Office of the Under Secretary of Defense for Acquisition and Sustainment," July 13, 2018
- (e) DoD Instruction 5015.02, "DoD Records Management Program," February 24, 2015.
- (f) Maintenance Executive Steering Committee (MESC)/ Joint Group on Depot Maintenance, current version
- (g) Office of the Assistant Secretary of Defense for Logistics and Materiel Readiness, "Cost Comparability Data Call Financial Workbook," current edition<sup>1</sup>
- (h) Defense Depot Maintenance Council, "Cost Comparability Handbook," January 1998
- (i) DoD 7000.14-R, "Department of Defense Financial Management Regulation (DoD FMR)," Volume 6A, "Reporting Policies and Procedures," June 2015
- (j) Title 10, United States Code

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1. Available on the OSD Maintenance Policy and Programs website at <http://www.acq.mil/log/mpp/policy.html>

ENCLOSURE 2

RESPONSIBILITIES

1. ASSISTANT SECRETARY OF DEFENSE FOR LOGISTICS AND MATERIEL READINESS (ASD(L&MR)). Under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology, and Logistics, the ASD(L&MR):

- a. Charters and leads general or flag officer and Senior Executive Service equivalent-level boards that review DoD maintenance policies, systems, programs, and activities.
- b. Coordinates with the DoD Component heads concerning the management of the DoD maintenance program.
- c. Reviews and approves supporting cost analyses conducted by Service-level cross-Service teams for depot maintenance workload associated with workload consolidations, maintenance efficiencies, and new workloads, as appropriate.
- d. Provides standardized procedures and techniques to facilitate a recurring cost comparability analysis between and among the DoD organic depot maintenance activities.
- e. Directs DoD Component heads to analyze depot maintenance workload cost comparability as necessary to comply with paragraph 1.c. of this section.

2. DoD COMPONENT HEADS. The DoD Component heads:

- a. Develop analysis tools and management procedures to implement the procedures prescribed in this manual within their respective Component.
- b. Improve the productivity and success of maintenance operations by applying the full range of analysis tools, including inter-servicing, consolidation, competition, and public-private partnerships as authorized by law.
- c. Develop and maintain written procedures to enable organic cross-Service depot maintenance cost comparisons and analysis of all factors of maintenance production.
- d. Periodically review depot maintenance workloads to identify opportunities for consolidation, regionalization, public-private partnerships, or other types of integrated support arrangements that may yield economies of operation while sustaining or improving responsiveness.
- e. As the authoritative decision maker for the Component, review and approve supporting cost analysis conducted by Service-level teams for depot maintenance workloads associated with workload consolidations, maintenance efficiencies, and new workloads, as appropriate.

ENCLOSURE 3

GENERAL

1. OVERVIEW OF DoD ORGANIC DEPOT MAINTENANCE COST COMPARABILITY PROCESSES AND PROCEDURES

a. Introduction. Maintenance managers will ensure the costs of operations can be reasonably ascertained in order to support management decision requirements, including determining the costs of ownership, costs of alternate sources of repair, use of standard cost accounting, and make-versus-buy decisions.

(1) The organic cost comparability procedures provide a standardized process for all DoD Components to use when comparing the cost of organic depot maintenance for like and similar workloads between two or more DoD depot maintenance activities.

(a) The procedures support the depot maintenance goal to identify and understand the differences in costs between two or more depot facilities and investigate the reasons for differences to determine the most cost effective DoD facility for a single commodity or group of similar commodities.

(b) This organic cost comparability method will be used as part of the decision-making process when determining the organic source of repair (SOR) for new workloads and the reallocation of existing workloads unless initial analysis results show a clear depot choice without further review.

(c) This manual covers the organic cost comparability process and is intended to augment the other SOR considerations (e.g., effect on readiness, reliability).

(2) Responsibilities and actions presented in this manual apply to all materiel that requires organic depot-level maintenance, regardless of source of funding.

(3) The cost comparability process will include many records of importance to the DoD and the individuals involved. As a result, the protection requirements “Records Management Program” and “Administrative,” as described in DoDI 5015.02 (Reference (e)), are applicable.

b. Methodology. The cost comparability process is an integral part of the DoD organic source of repair determination process and is not a stand-alone decision tool.

(1) The process recognizes there are different levels of repair, methods of accomplishing similar repairs, and management approaches to allocating and accounting for the costs of repairs.

(2) The cost comparability analysis process can be applied to both new and existing organically supported workloads whenever it is determined that cost is a decision factor.

(3) The cost comparability process is conducted in steps, as described in detail in Enclosure 5.

(4) Each step works within the confines of the business rules and assumptions presented in Enclosure 4.

c. Cost Comparability. Cost comparability is intended to meet overall DoD guidance and Congressional intent to use resources efficiently and avoid unnecessary duplication of organic depot-level maintenance and repair capabilities in accordance with the Maintenance Executive Steering Committee (MESC)/ Joint Group on Depot Maintenance (JG-DM) (Reference (f)), the Cost Comparability Data Call Financial Workbook (also known and referred to in this manual as the “DCFW” (Reference (g))), and the Cost Comparability Handbook (Reference (h)). During the cost comparability process:

(1) The Military Services establish a cross-functional team (referred to in this manual as the “team”) based on a number of reasons or circumstances related to depot maintenance workloads (including efficiency analysis, consolidation studies, or assignment of new core workloads) either to analyze the situation or develop recommendations. In some cases, the Military Service may identify new workloads and the consolidation of like workloads, requiring a cost comparability analysis. In cases of new workloads, a team member from the weapon system program management office should be assigned.

(2) The Military Services identify the proposed workload for comparison and purpose for the comparison, and will designate a team lead and team members to conduct depot maintenance workload analysis and perform the cost comparability study efforts. The Military Services will identify the candidate depots based on capabilities, infrastructure, and capacity.

(3) The designated team conducts an analysis to identify the organic depot-level maintenance activities that perform same or similar workloads to meet the program office–defined depot-level repair requirements based on the available data.

(4) The designated team identifies candidate depots and, in conjunction with the Service assigned study representatives, validates whether the capabilities and infrastructure are already in place at the candidate organic depots to ensure their ability to accept new or consolidated workload.

(5) In cases where multiple capable organic SORs exist, the designated team establishes a cost comparability team that includes lead agents from each Military Service under consideration (with the authority to act on behalf of their Service). The team analyzes organic workload cost applicability, agrees on a maintenance strategy, and establishes business rules for completing the cost comparability study.

(6) The team conducts a preliminary workload maintenance analysis to ensure the system functionality and the type or level of maintenance to be performed (e.g., return item to a completely serviceable condition (the Army 10/20 standard); inspect and repair only as necessary; modification; and overhaul) is comparable for analysis purposes.



(7) The team identifies points of contact for the cost comparability data call at the agreed upon depot maintenance locations and prepares the data call for distribution.

(a) The data call requests the most recently completed 3 years of actual production cost data to include maintenance costs (with documentation) and system downtime (with actual logs).

(b) Candidate depot assigned team members review the business rules and assumptions and educate their subject matter experts on the data call procedures.

(c) The team releases the data call, provides specific milestone dates for completion of required tasks, performs periodic status reviews of the cost comparability study, and provides regular status updates to the authoritative body.

(8) Candidate depot-level maintenance activities provide the data required to enable the team analysis in accordance with the data call instructions.

(a) The initial numbers provided cannot be changed in the initial workbook; however, remarks, comments, and corrected data will be captured in a new column of the workbook and documented in accordance with the workbook process outlined in Enclosure 4.

(b) The resulting data are substantiated by site or Service-level point of contact analysis, as outlined in the data call workbook and described in Enclosure 5.

(c) Candidate depot data are certified by the assigned Military Service's senior leader or designated Service team lead before providing the data to the team.

## 2. PRELIMINARY WORKLOAD MAINTENANCE ANALYSIS

a. System Functionality Analysis. The system type and function serve as the first layer for review before a data comparison is performed. The type of system, purpose and function, differences, and similarities are outlined first. Performing this initial functionality analysis ensures the system description and functionality are clearly identified and minimizes confusion as the analysis progresses. Outliers should be removed from the dataset before moving forward with the workload analysis. This becomes particularly important in the case of new workloads where the analysis uses data related to existing organic workloads. Workloads used must be selected to most closely represent the new workload's technology, reparability, capacity, and capability.

b. National Item Identification Number (NIIN) Isolation. The next level of analysis narrows the scope to similar NIINs being supported at each SOR. The NIIN is the item's identifier. When possible, comparing data at this level increases the value of the outcome. Narrowing the scope of NIINs considered during analysis allows for further leveling of the data set to enable a more similar comparison.

c. System Maintenance Analysis. Depots occasionally perform maintenance other than depot-level maintenance (e.g., Army 10/20 standard or Marine Corps screening programs). Including all data points in the analysis decreases the possibility for skewed outcomes, which makes the maintenance level more comparable. Upfront system maintenance workload analysis segregates or removes non-comparable levels of maintenance. By isolating the workload with comparable levels of maintenance performed, the accuracy of the data increases and the risk of an inaccurate depiction of maintenance costs decreases.

d. Analysis Results. Analysis results are compiled and presented to the authoritative body. The comparable and non-comparable features should be presented, with the final dataset recommended for further analysis. This is the decision point. The authoritative body will make a decision and provide guidance to the team on whether or not to proceed with further cost analysis and which dataset should be utilized. There are circumstances where dissimilar datasets may be utilized and the team should be cognizant of how these differences may drive cost in the comparison.

### 3. INITIAL WORKBOOK ANALYSIS

a. Candidate Depot Data Analysis. The candidate depots or Service lead must certify the data is complete and accurate and return the Service workbook to the team for comparative analysis.

b. Workbook Analysis Process. During their analysis, the team:

(1) Reviews the data call responses for adherence to instructions provided, business rules and assumptions, the financial workbook format, and the standard definitions of this manual.

(2) Performs a variance analysis on the data provided by each candidate depot and identifies, investigates, and resolves issues or requests clarification from the candidate depot.

c. Potential Data Call Issues. Any workbooks with missing data will be returned to the candidate depot and Service lead to obtain required information or an explanation of the exclusion. Any inconsistent or incorrect workbooks will be returned to Service lead for correction.

### 4. COST COMPARABILITY ANALYSIS FOR NEW WORKLOAD

a. General. A new depot maintenance workload is one that is introduced for the first time into the DoD inventory for which no organic repair capability has previously been established.

(1) Such workload decisions fall within the DoD Depot Source of Repair process. However, if it is determined that a more comprehensive cost comparison process is required to make a decision, the cost comparability analysis may be utilized.

(2) If a new workload stands alone and is unique, a workload maintenance analysis may not be needed, and the team should proceed directly with the cost comparability process.

(3) If a workload analysis is necessary, the team follows the four steps of the preliminary analysis (see paragraphs 2a through 2d of this enclosure). The authoritative body decides whether or not to continue with the cost comparability analysis.

(4) Once the candidate depots' Cost Comparability DCFWs are complete and approved, the team will begin a comparative analysis among the candidate depots. This begins the actual cost comparability analysis.

b. Comparison Process. Figure 1 diagrams the process for new workload comparisons.

Figure 1. New Workload Comparison



c. **System Function Comparability Analysis (Decision Point).** The system function comparability analysis outlines the system’s description and functionality to determine what the system is meant to do and how it currently functions. If systems are comparable, proceed to NIIN isolation. If systems are not comparable, remove them from the analysis or replace with a new system and proceed to NIIN Isolation.

d. NIIN Isolation (Decision Point). The NIIN isolation narrows the scope of the analysis to the similar NIINs that are supported. This enables an apples-to-apples comparison. If NIINs are comparable, proceed to proceed to system maintenance comparison. If NIINs are not comparable, remove them from the analysis or replace with new NIINs and proceed to system maintenance comparison.

e. System Maintenance Comparability (Decision Point). The system maintenance comparability analysis outlines the type of maintenance performed. This ensures the analysis compares systems that are receiving comparable maintenance. If system maintenance is found to be comparable, proceed to presenting impacts and results to the authoritative body. If system maintenance is not comparable, then they should be excluded from consideration and all actions taken presented to the authoritative body for approval.

f. Results Brief (Decision Point). Comparable and non-comparable findings and analysis results, once compiled, are presented to the authoritative body. At this decision point, the authoritative body recommends either further analysis or not to proceed with the analysis and to release the data call to the Military Service.

g. Cost Comparability Analysis. The team reviews the data call workbooks, educates new team members on the process, and identifies the points of contact.

h. Workbook Analysis Review (Decision Point). This review process applies to each candidate depot when analyzing new workloads and involves calculations and formulas preset within the data call workbook structure. Any data errors or inconsistencies found during this review are returned to the senior Service representative for correction or clarification before proceeding.

i. Factors Being Reviewed. The team reviews the outcomes, comparing total costs, direct cost, production overhead (POH), and general and administrative (G&A) costs.

j. Identification and Notification (Decision Point). The team identifies all the differences between the Military Services and their costs in the workbooks submitted by each candidate depot and documents the findings. If a cost difference exists, a deeper analysis of the data provided is conducted to determine if the differences are significant. If the differences are not significant, the team notifies the decision authority. Thorough documentation of all results is presented to the decision authority.

k. Cost Differences Relevant to a SOR Cost Analysis (Decision Point). Once notified of the need for a more thorough analysis, the team conducts a line-by-line analysis of the workbook data, removes costs that do not apply, reassesses the total costs, and provides detailed documentation of all changes.

(1) If there is no cost difference, the team documents all findings and reports back to the decision authority.

(2) If a cost difference exists, the team conducts a deeper analysis of each cost category and determines whether the differences are relevant to the cost analysis.

(3) The team documents all findings and removes any costs that do not apply.

l. Recurring Cost Analysis. Recurring costs that are relevant to the cost analysis are analyzed to:

(1) Validate cost rate to sales rate.

(2) Review fixed and variable costs.

(3) Perform sensitivity analysis on cost data when extensive variances in cost factors exist between candidate depots.

(4) Determine the effect on the receiving activity customers.

(5) Determine the effect on the subject workload.

m. Document and Report Findings. Any changes required are submitted in the form of written documentation.

## 5. COST COMPARABILITY ANALYSIS FOR EXISTING WORKLOAD

a. Cost Comparability Process. The cost comparability process for existing workloads should be preceded by a workload maintenance analysis, which scrubs the workload data to ensure the systems within the Service datasets are comparable from a technical, performance, and maintenance perspective.

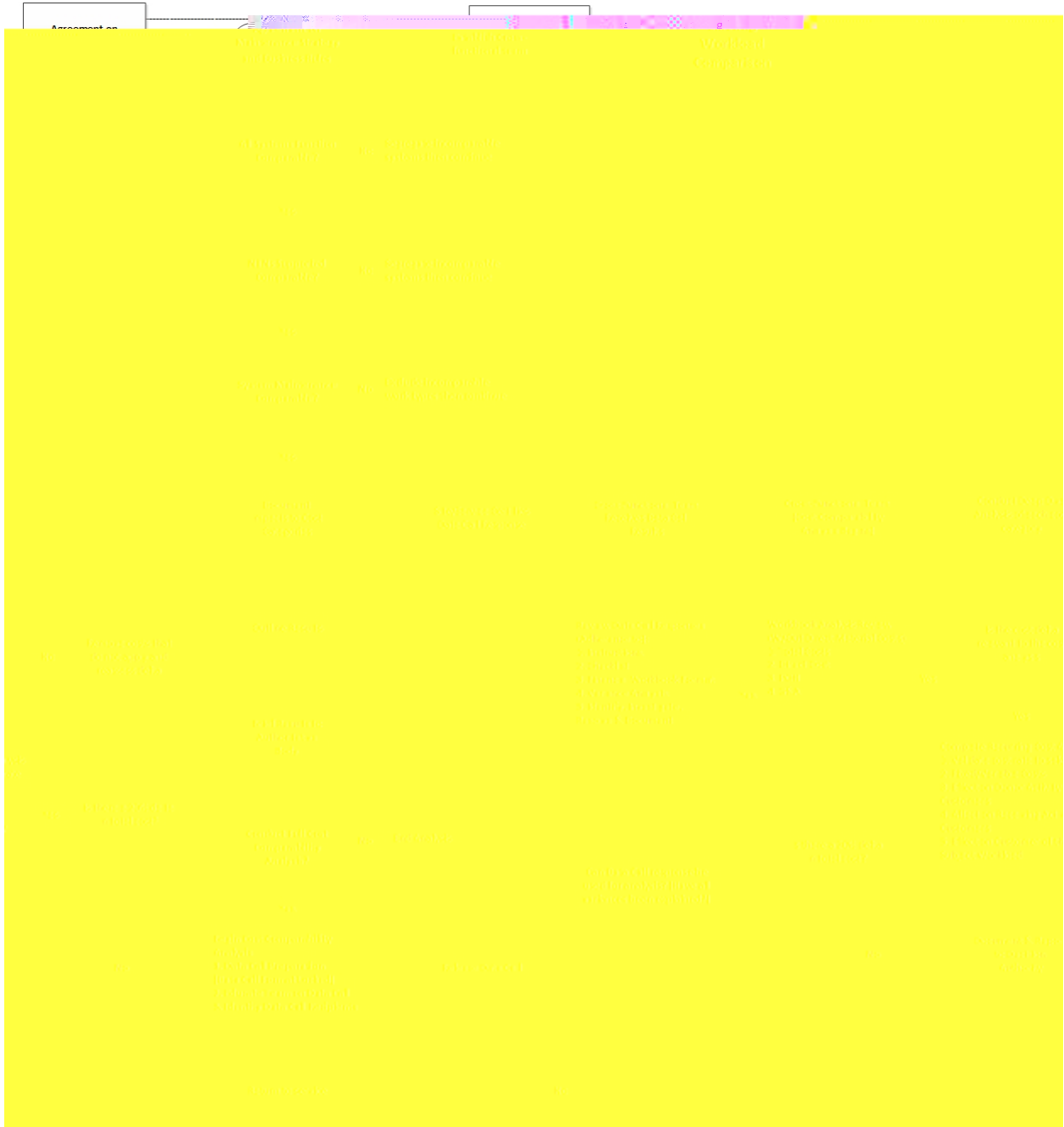
(1) The maintenance workload analysis identifies what the system is designed to do, how it functions, and the type of maintenance performed.

(2) The maintenance workload analysis only focuses on the current state; it does not consider future performance or maintenance capabilities.

(3) Following a decision that a maintenance workload analysis is necessary, the team follows the four steps of the preliminary analysis. The authoritative body or the designated decision authority decides whether to continue with the cost comparability analysis.

(4) The cost comparability process for existing workload consolidation candidates is performed as follows:

Figure 2. Existing Workload Comparison



b. System Function Comparability Analysis (Decision Point). The system function comparability analysis outlines the system's description and functionality and determines what the system is meant to do and how it currently functions. If systems are comparable, proceed to NIIN isolation. If systems are not comparable, remove them from the analysis or replace with a new system and proceed to NIIN isolation.

c. NIIN Isolation (Decision Point). The NIIN isolation narrows the scope of the analysis to similarly supported NIINs. This enables a line-by-line comparison.

d. System Maintenance Comparability. The system maintenance comparability analysis outlines the type of maintenance performed on the system. This ensures the analysis compares systems that are receiving comparable maintenance. If NIINs are comparable, proceed to system maintenance comparison. If NIINs are not comparable, remove them from the analysis or replace them with new NIINs and proceed to system maintenance comparison.

e. Results Brief (Decision Point). Comparable and non-comparable findings and analysis results are compiled and presented to the authoritative body. As part of the briefing to authoritative body, Military Services must identify any known significant changes (+/\_10 percent) to the size and scope of the workload under consideration. At this decision point, the authoritative body recommends either further analysis or not to proceed with the analysis and to release the data call to the Military Service.

f. Cost Comparability Analysis. The team reviews the data call workbooks, educates new team members on the process, and identifies the points of contact.

g. Workbook Analysis Review Decision Point. This review process applies to each candidate depot when analyzing existing workloads for consolidation. The review involves calculations and formulas preset within the data call workbook structure, including direct costs for material. Any data errors or inconsistencies found during this review are returned to the senior Service representative for correction or clarification before proceeding.

h. Factors Being Reviewed. The team reviews the analysis outcomes, comparing total costs, direct cost, production overhead, and general and administrative costs.

i. Identification and Notification (Decision Point). The team will identify the differences between the Military Services in the costs in the workbooks submitted by each candidate depot; document these deltas; and notify the decision authority if there is no significant cost difference. If a significant cost difference does exist (greater than 20 percent between one or more of the candidate depots), analysts will begin a deeper analysis of the data provided to determine and document the reasons for the differences and the impact on study outcomes.

j. Cost Differences Relevant to Cost Analysis (Decision Point). Once notified of the need for a more thorough analysis, the team conducts a line-by-line analysis of the workbook data, removes any costs that may not apply, reassesses the total costs, and provides detailed documentation of all changes.

k. Recurring Cost Analysis. If the cost delta is relevant to the cost analysis, the team will complete the recurring cost analysis by:

(1) Validating cost rate to sales rate.

(2) Reviewing fixed and variable costs.



(3) Performing sensitivity analysis on cost data when extensive variances in cost factors exist among candidate depots.

(4) Determining the effects on the receiving candidate depots' existing customers.

(5) Determining the effects on the receiving candidate depots' existing workload.

1. Document and Report Findings. The team reports any required changes in written form and submits the final analysis results to the decision authority.

ENCLOSURE 4

BUSINESS RULES AND ASSUMPTIONS

1. BUSINESS RULES. This enclosure provides the basic business rules that must be followed to achieve a thorough analysis for cost comparability. Additional ground rules may be used as part of the team analysis; however, they must be approved by the decision authority, documented as part of the analysis, and included in the analysis along with reason for their inclusion. Due to the sensitivity of data used in the analysis, all team members are required to sign a Non-Disclosure Agreement before being granted access to other Service data.

a. Cost comparability is a fact-based and data-driven process. The capture and documentation of all source data, and explanation of any variance, is required. Once submitted, original Service data cannot be changed. These procedures allow for documentation at each step of the process to capture updates and their rationale.

b. Designated Service representatives must be empowered to speak for their Military Service regarding the workloads under review.

c. The designated team will conduct a preliminary workload maintenance analysis before conducting the cost comparability process and procedures.

(1) The nature of the workload, technical requirements, and the work to be performed (repair versus replace) must be clearly understood and documented.

(2) Work content must be compared to determine whether the workloads being considered are similar to other workloads being performed at the candidate depots and between Military Services.

(3) The capability and capacity to perform the workload at candidate depots is evaluated and confirmed before conducting a cost comparability analysis. If a Military Service reports or if the capability and capacity analysis indicates a candidate depot lacks the capability or capacity to perform the particular workload, then that depot is removed from consideration.

(4) The workload maintenance analysis phase is not meant to serve as a replacement for the full cost comparability analysis; rather, it is an abbreviated, quick turn-around analysis to determine how comparable costs may be.

(5) System purpose and function, as well as the level of repair performed, must be reviewed during the workload maintenance analysis phase to provide an accurate portrayal of comparability of the systems being considered.

(6) The workload maintenance analysis phase serves as the precursor analysis for DoD leadership to recommend either to continue with a full cost-comparison analysis or to end the process.

d. Data Call

(1) The data call must capture no less than 3 years of actual data from existing depot cost accounting systems in accordance with the cost accounting standards contained in Volume 6A, Chapter 14 of DoD 7000.14.R (Reference (i)).

(a) In most cases, the most recent 3 years of complete data will be used.

(b) If fewer or more than 3 years are used, the reasoning must be documented as part of the cost comparability documentation (e.g., FY 2013 was an outlier due to the effects on depot costs from sequester; therefore, additional years may be used to reduce variability).

(2) Cost per direct labor hour (DLH) is the unit of measure for cost comparability purposes. DLHs should be actual hours (hours executed) versus earned hours (standard hours billed). Amounts given must be in whole numbers without any decimals.

(3) Each Military Service provides documented explanations for prorated costs (including final Service proration methodologies and formulas) and identifies supporting Service-specific or DoD issuances. The methods or formulas must remain consistent throughout the comparison. Any deviation must be agreed upon by the team and documented.

(4) Fixed or variable cost assignment is embedded in the analysis workbook and cannot be changed. Any difference among the Military Services' allocation methods for fixed or variable costs must be identified and documented in a report to the decision authority.

(5) When performing a cost comparability analysis on existing workloads, any delta greater than 20 percent between depot locations automatically warrants a deeper analysis of the costs (including a sensitivity analysis of the reasons for the difference). Any difference of less than 20 percent will be evaluated on a case-by-case basis by the authoritative body.

(6) For the purposes of the cost comparability worksheets, "raw" data refers to data submitted by the sites, "baseline" data refers to data after initial Service review, and "normalized" data refers to the data after it has been determined appropriate for comparison.

e. Post-Cost Comparability Rate Check

(1) Billing or sales rate comparisons are used during the rate check to validate the total cost comparison and to identify reasons for variance and their effect on a workload decisions.

(2) Workload costs based on cost comparability procedures or applicable cost center sales rates should not include material costs.

(3) If any significant difference is found in the billing rate versus the unit cost derived from the comparison, an explanation and potential effect on the outcome of the cost comparability study must be documented.

f. For the purpose of this manual, changes to recurring transportation costs driven by a change in source of repair (e.g., airframe transportation from east coast to west coast to central U.S. for depot delivery) are excluded and would be addressed in other cost considerations.

g. Workload volume is held constant for out-year computation purposes. Significant changes to out-year workload levels change the scope of the bottom-line estimates.

## 2. ASSUMPTIONS

### a. Workload Move, Assignment, or Consolidation

(1) Existing depot-level maintenance capability at the gaining location can accommodate the additional workload with training, technical data, and support equipment (including software).

(2) The gaining depot can meet the quality and required performance standards for the new or moving workload. DoD quality standards must be consistent from depot to depot.

(3) Work packages are unchanged. All depot maintenance work moved, realigned, or consolidated will be completed based on the original work package, and to the same performance standard.

(4) The number of DLHs and timeframe required to complete the work package will remain constant between depots. Actual work performance and cycle times will be governed by the receiving activities' processes.

(5) If depot maintenance workload moves are being considered, the cost comparability process assumes that direct material costs are unchanged for all workload decisions.

(6) Material cost will be assumed to be the same for each organic depot maintenance activity included in the new workload analysis based on the sustainment strategy established by the program office or item manager.

b. Statutory Compliance. Any potential outcome (workload move or workload assignment) will comply with Title 10, United States Code (Reference (j)).

c. Rationale. The cost comparability process provides a comprehensive means for comparing organic depot maintenance activities, by using the costs of specific depot maintenance locations as the basis of comparison.

ENCLOSURE 5

PROCEDURES

1. COST COMPARABILITY WORKBOOK INSTRUCTIONS

a. Introduction. This enclosure addresses the proper method for using the Cost Comparability DCFW and MCCW. While this manual provides examples for how to compare three depots, the MCCW can be used to compare any number of depots. It is meant to be read in conjunction with the DCFW and the MCCW so the reader can follow along in the workbooks. In the event the reader does not have access to the workbook files, it is possible to use the screen captures and instructions to replicate the tables needed for each step. All tables contain sample data for ease of following the calculations.

(1) The purpose of the DCFW is to collect and validate historical Service cost and direct labor hour (DLH) information between the Military Services for use in cost comparability calculations. All costs and direct labor data provided by Military Services for use in this process are the responsibility of the senior Service representative to this process and are to be provided from Service standard suites of financial information systems. The data call workbook does not include formulas and calculations. It focuses on producing accurate and validated data that can be used in later calculations.

(2) The purpose of the MCCW is to use the validated data collected from the DCFW to perform the actual cost comparability calculations. This enclosure will detail the steps needed to complete each worksheet and provides screen captures and formulas to aid in recreation in the event of loss of the original file.

(3) The DCFW includes nine worksheets:

(a) Depot FY1—contains depot data for the first of 3 fiscal years.

(b) Service Internal FY1—contains adjustments that result from an internal review of the depot data for the first fiscal year.

(c) Between Service FY1—contains adjustments that result from a cross-Service review of the depot data (validated in an internal Service review) for the first fiscal year.

(d) Depot FY2—contains depot data for the second fiscal year.

(e) Service Internal FY2—contains any adjustments that result from an internal review of the depot data for the second fiscal year.

(f) Between Service FY2—contains adjustments that result from a cross-Service review of the depot data for the second fiscal year.

(g) Depot FY3—contains depot data for the third fiscal year.

(h) Service Internal FY3—contains adjustments that result from an internal review of the depot data for the third fiscal year.

(i) Between Service FY3—contains any adjustments that result from a cross-Service review of the depot data for the third fiscal year.

(4) The MCCW includes 16 worksheets.

(a) Depot 1 Normalized Data—contains the normalized DLH and total cost for Depot 1 for all 3 fiscal years.

(b) Depot 2 Normalized Data—contains the normalized DLH and total cost for Depot 2 for all 3 fiscal years.

(c) Depot 3 Normalized Data—contains the normalized DLH and total cost for Depot 3 for all 3 fiscal years.

(d) Step 1: Cost per Hour—contains the average cost per DLH for all candidate depots, across all fiscal years; the data is generated automatically from the normalized data in the first 3 tabs.

(e) Step 1A: Analysis—contains a high-level comparison of depot cost elements (e.g., Depot 1 vs. Depot 2; Depot 1 vs. Depot 3; and Depot 2 vs. Depot 3); the data is generated automatically from the normalized data in the first three tabs. (See Table 3.)

(f) Step 1B: Deep Dive Summary—contains a deeper comparison of depot cost elements (e.g., comparison of cost element sub-categories); the data is generated automatically from the normalized data in the first three tabs. (See Table 4.)

(g) Step 2A: Depot 1 Deep Dive Adjustments—contains cost element data for Depot 1, appended with adjustments to the normalized data and an explanation of any adjustments. (See Table 4.)

(h) Step 2A: Depot 2 Deep Dive Adjustments—contains cost element data for Depot 2, appended with adjustments and an explanation of any adjustments.

(i) Step 2A: Depot 3 Deep Dive Adjustments— contains cost element data for Depot 3, appended with adjustments and an explanation of any adjustments.

(j) Step 2B: Revised Cost per Hour—contains a comparison of normalized and adjusted deep-dive data for all three depots. (See Table 6.)

(k) Step 2C: Checkpoint—contains a high-level comparison of depot cost elements, bot original (from Step 1A) and adjusted (from Step 2A). (See Table 7.)

(l) Step 3A: Fixed versus Variable—contains a column for designating cost elements as either fixed costs or variable costs. (See Table 8.)

(m) Step 3B: Basis of Analysis—contains cost data after any adjustments and organized by fixed and variable cost categories. (See Table 9.)

(n) Rate Sheet—contains a comparison of the depots' cost per hour to their sales rates. (See Table 10.)

(o) Consolidation Cost View—contains a high-level comparison of final cost data and the effect of workload transfer by cost category (e.g., G&A, POH). (See Table 11, Table 12, and Table 13.)

(p) Consolidation Outcome—shows the effect of various workload transfer scenarios. (See Table 14)

## 2. DCFW

a. Step 1: Append Workbook Title. Before entering data, append the workbook title (“Data Call Financial Workbook”) with a four-letter, depot identifier.

b. Step 1A: Depot FY1–3 (Tabs 1, 4, and 7)

(1) The team responsible for completing Tabs 1, 4 and 7 should be comprised of Service-designated senior representatives and the designated depot representatives.

(2) Each candidate depot will receive only the three “Depot FY” worksheets of the DCFW; there is one worksheet for each of the three consecutive fiscal years designated by the team for comparison purposes (FY2010, FY2011, and FY2012 are used in the examples).

(a) The candidate depots will list all requested cost elements and details for each fiscal year (a total of three spreadsheets) in the cost comparability study.

(b) The required cost elements, together with their definitions, are specified to ensure standard responses for the organic depot maintenance cost comparability process.

(c) Descriptions of each cost element and their definitions are provided in the Glossary to this manual.

(3) The following cost elements populate Column A of the worksheet:

(a) Direct costs and expenses, including:

1. Direct civilian labor

2. Direct contract labor

3. Direct material

4. Other direct costs

(b) Production overhead, including:

1. Indirect labor

2. Hazardous waste management and other Environment, Safety, and Occupational Health (ESOH) costs

3. Indirect production material

4. Information services and support

5. Defense Logistics Agency/Supply Storage and Distribution (DLA/SS&D)

6. Shop operating and floor supplies

7. Tools and equipment

8. Fuels

9. Office supplies and equipment

10. Depreciation

11. Utilities

12. Equipment maintenance

13. Facility maintenance

14. Contractual support

15. Other

(c) (G&A) expenses, including:

1. G&A civilian labor

2. G&A military labor

3. G&A material, supplies, and equipment



4. Management headquarters support
5. Information services and support
6. Defense Finance and Accounting Services (DFAS) costs
7. Utilities
8. Contractual support
9. DLA/SS&D services
10. Base operations support
11. Depreciation
12. Facility maintenance
13. Equipment maintenance
14. Other

(4) Row 1 lists the data required for each cost element. Descriptions and definitions of the cost data can be found in the Glossary to this manual. See Table 1 for an example. The data required for each cost element include:

- (a) Data source
- (b) Fiscal year DLHs (actual touch labor direct hours, in whole numbers)
- (c) Calculation and proration
- (d) Fiscal year total cost (actual whole number)
- (e) Fiscal year extraordinary one-time expense (actual whole number)
- (f) Any and all additional assumptions

Table 1. DCFW Layout

A (DEPOT)	B (DEPOT) FY2010	C DATA SOURCE	D FY2010 DLHs (Actual Touch Labor Direct Hours in Whole Numbers)	E CALCULATION/PRORATION	F FY2010 TOTAL COST (Actual Whole Number)
1 Production Overhead/ Indirect Labor	All labor indirectly supporting the production process that cannot be identified to a customer job order number. Indirect time of direct employees (temp, term, perm) to include supervision, training, safety meetings, wellness programs; Voluntary Early Retirement Authority (VERA), Voluntary Separation Incentive Pay (VSIP), Federal Employees Compensation Act (FECA), and awards.				
9 Hazardous Waste Management	Management, storage and disposal of hazardous waste resulting from the production process includes labor, material and contractual cost of cleaning air, water, ground and ground water.				
10 Indirect Production Material	All material and supplies indirectly supporting the production process that cannot be identified to a customer job order number and does not go onto a weapon system or end item. This is material and supplies that are consumed during the production				
11					

(5) Populate all cost elements and cost data (Column A and Row 1). For example, enter the FY2010 DLHs for direct civilian labor.

(6) Calculate the total workload percentage.

(a) Provide workload DLH and total depot DLH.

(b) List the production group DLH and production group costs.

(c) If the workload is part of a broader production group (e.g., if a component workload production overhead is shared with other components for billing and sales rate), identify the larger production group’s DLHs and production overhead total costs. If there are no data, insert “NA” to ensure fields are not accidentally left blank.

(7) Complete spreadsheets for each of the three most recently completed fiscal years, as described in paragraph 2.b.(5)-(6) of this enclosure.

(8) Submit to Service representatives for internal review and validation.

b. Step 1A: Service Internal FY1–3 (Tabs 2, 5, 8)

(1) The team responsible for completing Tabs 2, 5, and 8 should be comprised of internal Service or activity representatives.

(2) The primary purpose of the internal Service review tabs is to allow the internal Service representatives to review and validate the accuracy of data that has been submitted, and to ensure the data is in accordance with the larger Service picture. It also documents the validation process for record-keeping purposes and future corroboration. The internal Service representatives document any required adjustments in 3 additional columns tacked onto Row 1, and includes:

(a) Service internal adjustments (actual whole number delta [+/-] adjustment). The Military Services determine what adjustments are necessary to make the previously submitted data accurate and useable for further analysis.

(b) Results of Service internal adjustments (formula-driven adjustments). This is a new calculation of cost based on delta adjustment from the originally entered Service raw cost data entered in the DCFW.

(c) Documentation and explanation for Service internal adjustments. This step will provide necessary justification for all Service internal adjustments made to the original normalized data. These adjustments must be fact-based and data-driven.

(3) The team is to complete worksheets for all three recently completed fiscal years.

(4) Data is then submitted to the cost comparability team for review.

c. Step 1C: Between Services FY1–3 (Tabs 3, 6, and 9)

(1) The team responsible for completing Tabs 3, 6, and 9 should be comprised of cross-Service or activity representatives.

(2) The purpose of the cross-Service review is to allow each Military Service to review the other Services' data adjustments, suggest and document agreed-to changes, and collaborate to create an accurate and full picture of the cost data. Tabs 3, 6, and 9 include the same information as Tabs 2, 5, and 8, with three additional columns that add cost element detail.

(a) Enter cross-Service or activity agreed to data adjustments (actual whole number difference [+/-] adjustment).

(b) The result of cross-Service or activity adjustments is determined by a formula that calculates new cross-Service costs based on delta adjustment from original cost.

(c) The team will produce documentation and explanation for cross-Service activity adjustments. This step provides necessary justification for all cross-Service internal adjustments made to the original normalized data. Adjustments must be fact-based and data-driven.

(3) The team is to complete worksheets for all three recently completed fiscal years.

(4) Data is then submitted to the cost comparability team for review.

3. MCCW

a. Introduction. The MCCW presents the validated data from the DCFW, ready for compilation and calculation. The MCCW deals primarily with recurring costs. This is the first time that baseline data from all candidate depots are combined into one workbook.

b. Depot-received Data. Before the initial cost calculations, the cost comparability team must insert all the data received from the individual depots into the MCCW.

(1) The MCCW cost elements are in accordance with the DCFW. For Tab 1 (Depot 1 Normalized Data), data is pulled from the results of the cross-Services and activities column in Tab 3, 6, and 9 of the DCFW. The data (e.g., direct civilian labor) is populated into the appropriate baseline data column in the MCCW. Repeat this process for all fiscal years, data elements (all cost elements and DLH by total depot, specific workload, and production group), and depots (Tabs 1–3). See Table 2 for reference.

(2) Based on the baseline data entered, the workbook automatically displays a weighted cost per DLH under the “Normalized cost per hour” column using the baseline data (Tab 1: Depot Normalized Data). The cost per hour is displayed by cost element. This normalizes the data for comparison in Step 1A: Analysis.

(3) While this manual provides examples for how to compare three depots, the MCCW can be used to compare any number of depots.

**Table 2. Tab 1: Depot 1 Normalized Data**

A (Depot 1)	B (DEPOT 1) Normalized Costs and Hours	C FY2010 Normalized DLHs (Actual Touch Labor Direct Hours in Whole Numbers)	D FY2011 Normalized DLHs (Actual Touch Labor Direct Hours in Whole Numbers)	E FY2012 Normalized DLHs (Actual Touch Labor Direct Hours in Whole Numbers)
1 COST ELEMENTS	DOD DEFINITIONS↓ INSTRUCTIONS→	For each cost element, identify Expended Direct Labor Hours performed by government civilians (DLHs) and organic contractor augmentees (Other Direct Costs) during FY2010 in Actual Whole Numbers	For each cost element, identify Expended Direct Labor Hours performed by government civilians (DLHs) and organic contractor augmentees (Other Direct Costs) during FY2011 in Actual Whole Numbers	For each cost element, identify Expended Direct Labor Hours performed by government civilians (DLHs) and organic contractor augmentees (Other Direct Costs) during FY2012 in Actual Whole Numbers
2 DIRECT COSTS/EXPENSES		FY2010 DLHs (Actual Touch Labor Direct Hours in Whole Numbers)	FY2011 DLHs (Actual Touch Labor Direct Hours in Whole Numbers)	FY2012 DLHs (Actual Touch Labor Direct Hours in Whole Numbers)
3 Direct Civilian Labor	Civilian work that can be identified, without undue cost or difficulty, to a single, specific job order. Direct labor generally includes the hands-on maintenance, repair, overhaul, test, and related direct production effort that follow the established sequence and content of work necessary to accomplish the billable job. Direct labor does not include the support work identified as either indirect or general and administrative in nature. Includes temp, term, perm, and direct labor charged to a specific job order number. Direct labor costs includes regular, overtime, holiday, shift, and labor while TDY.	149,892	144,368	146,400

c. **Step 1: Calculate Cost per Hour.** The purpose of Tab 4 is to calculate the average cost per hour for each depot cost element by dividing the sum of total costs by the sum of total DLH. The majority of this worksheet is formula based. In order to complete this action, the team must:

(1) Calculate the cost per DLH for each cost element for Depot 1 (see Table 3).

(a) For each cost element, divide the total normalized costs from the “Depot 1 Normalized Data” tab by the total normalized DLH for direct costs and expenses.

(b) Cost-per-hour data is generated automatically from the normalized data in the first three tabs of the MCCW (e.g., direct civilian labor total normalized costs divided by total normalized DLH for direct costs and expenses).

(2) Repeat the process for Depots 2 and 3. (Change all formula references to Depot 2 or 3 as necessary.)

d. **Step 1A: High-Level Analysis.** The purpose of Tab 5 is to calculate the cost per DLH for the high-level cost element categories for each depot, and then to compare the variance in cost per DLH among depots.

(1) For Depot 1, insert data from Depot 1 Normalized Data (Tab 1) and Step 1: Cost per Hour (Tab 4) worksheets, where appropriate, and perform necessary calculations. Also, populate the depot workload and production hours. See Table 3 for reference.

(2) The high-level cost element categories and their calculations include:

- (a) DLH (3 years)
- (b) Direct cost (without material) per DLH
- (c) Indirect cost per DLH—production costs + G&A costs.
- (d) Total cost (without material) per DLH—direct without material + indirect costs
- (e) Material cost per DLH
- (f) Total cost per DLH

Table 3. Tab 4 : Cost per Hour

	A	B	C	D	E	F	G
1							
2	<b>Phase 1 Workload Cost Per Hour</b>						
3	<b>Workload Cost Per Hour</b>	<b>Depot 1</b>	<b>Depot 2</b>	<b>Depot 3</b>	<b>Depot 1</b>	<b>Depot 1</b>	<b>Depot 2</b>
4	<b>Direct Labor Hours (3 years)</b>	440,660	209,478	0	<b>vs 2</b>	<b>vs 3</b>	<b>vs 3</b>
5	Direct Cost w/out mtl per DLH	\$45.47	\$44.06	\$0.00	3%	\$0.00	\$0.00
6	Indirect Cost per DLH	\$96.89	\$101.69	\$0.00	-5%	\$0.00	\$0.00
7	Total Cost w/out mtl per DLH	\$142.35	\$145.74	\$0.00	-2%	\$0.00	\$0.00
8	Material cost per DLH	\$58.93	\$204.62	\$0.00	-71%	\$0.00	\$0.00
9	<b>Total Cost per DLH</b>	<b>\$201.28</b>	<b>\$350.36</b>	<b>\$0.00</b>	<b>-43%</b>	<b>\$0.00</b>	<b>\$0.00</b>

(3) Repeat the process for Depots 2 and 3.

(4) Compare the percentage difference in costs per DLH between depots for each cost category.

- (a) Depot 1 vs. Depot 2.

1. For each category (e.g., direct cost without material), subtract the Depot 2 value from the Depot 1 value and divide the result by the Depot 2 value.

2.  $(\text{Depot 1 value} - \text{Depot 2 value}) \div \text{Depot 2 value}$ .

3. If Depot 1 = \$45.47 and Depot 2 = \$44.06, the percentage difference is 3 percent.

(b) Depot 1 vs. Depot 3.

1. For each category (e.g., direct cost without material), subtract the Depot 3 value from the Depot 1 value and divide the result by the Depot 3 value.

2.  $(\text{Depot 1 value} - \text{Depot 3 value}) \div \text{Depot 3 value}$ .

3. If Depot 1 = \$96.89 and Depot 3 = \$101.69, the percentage difference is -5 percent.

(c) Depot 2 vs. Depot 3.

1. For each category (e.g., direct cost without material), subtract the Depot 3 value from the Depot 2 value and divide the result by the Depot 3 value.

2.  $(\text{Depot 2 value} - \text{Depot 3 value}) \div \text{Depot 3 value}$ .

3. If Depot 2 = \$142.35 and Depot 3 = \$145.74, the percentage difference is -2 percent.

(d) If any total difference is more than 20 percent, the team must go to the appropriate official and determine whether a subject matter expert should analyze the data further in order to explain the wide variation. If the total difference is less than 20 percent, all participants must agree to explore the cost differences.

e. Step 1B: Deep Dive Summary. The purpose of Tab 6 is to dive deeper into cost per DLH differences among depots and to calculate the cost per DLH for each detailed cost element category (as opposed to the high-level categories in the previous step).

(1) Tab 6 compares the cost per DLH between depots for each detailed cost element category. It also helps identify where expertise is needed for further analysis. See Table 4 for reference.

(2) Rather than comparing only the direct costs without material, the comparison in Tab 6 is a deep dive comparison of all of subcategories under that cost element (direct civilian labor, other direct costs, etc.).

Table 4. Tab 6: Deep Dive Summary

	A	B	C	D	E	F	G
1	As Is Phase 2 Deep Dive Summary	Depot 1	Depot 2	Depot 3	Depot 1 vs 2	Depot 1 vs 3	Depot 2 vs 3
2	<b>COST ELEMENTS</b>	Average of total three year cost by total three year DLHs	Average of total three year cost by total three year DLHs	Average of total three year cost by total three year DLHs			
3	DIRECT COSTS/EXPENSES	104.3931761	248.6746616	0	-58%	0%	0%
4	DIRECT COSTS WITHOUT MATERIAL	45.46654916	44.05897942	0	3%	0%	0%
5	Direct Civilian Labor	45.46654916	42.13278071	0	8%	0%	0%
6	Direct Contract Labor	0	0.579267744	0	-100%	0%	0%
7	Direct Material	58.92662689	204.6156821	0	-71%	0%	0%
8	Other Direct Costs	0	1.346930966	0	-100%	0%	0%
9	PRODUCTION OVERHEAD	71.68465762	78.80149881	0	-9%	0%	0%

(3) Compare the percentage difference in costs per DLH between depots for each cost category.

(a) Depot 1 vs. Depot 2.

1. For each category (e.g., direct cost without material), subtract the Depot 2 value from the Depot 1 value and divide the result by the Depot 2 value.

2.  $(\text{Depot 1 value} - \text{Depot 2 value}) \div \text{Depot 2 value}$ .

3. If Depot 1 = \$45.47 and Depot 2 = \$44.06, the percentage difference is 3 percent.

(b) Depot 1 vs. Depot 3.

1. For each category (e.g., direct cost without material), subtract the Depot 3 value from the Depot 1 value and divide the result by the Depot 3 value.

2.  $(\text{Depot 1 value} - \text{Depot 3 value}) \div \text{Depot 3 value}$ .

3. If Depot 1 = \$96.89 and Depot 3 = \$101.69, the percentage difference is 5 percent.

(c) Depot 2 vs. Depot 3.

1. For each category (e.g., direct cost without material), subtract the Depot 3 value from the Depot 2 value and divide the result by the Depot 3 value.

2.  $(\text{Depot 2 value} - \text{Depot 3 value}) \div \text{Depot 3 value}$ .

3. If Depot 2 = \$142.35 and Depot 3 = \$145.74, the percentage difference is 2 percent.

f. Step 2B: Depot (1–3) Deep Dive Adjustments (Tabs 7–9)

(1) The purpose of Tabs 7–9 is to note the original depot cost and DLH data, document any adjustments made by the team, and calculate the total adjustments. See Table 5 for reference.

(2) For Depot 1, populate the normalized DLH data for each cost element from Depot 1 Normalized Data (Tab 1) for all 3 fiscal years.

(3) Insert four columns to the right of the original data. Title these columns:

- (a) FY2010 DLH delta adjustment (whole number of change +/-).
- (b) FY2011 DLH delta adjustment (whole number of change +/-).
- (c) FY2012 DLH delta adjustment (whole number of change +/-).
- (d) Explanation of DLH delta Adjustments (reference supporting documentation).

Table 5. Tab 7 : Depot 1 Deep Dive Adjustments

	A	B	C	D	E	F	
	<b>Depot 1 Deep Dive Adjustments</b>	<b>FY2010 Normalized DLHs from Clean Data</b>	<b>FY2011 Normalized DLHs from Clean Data</b>	<b>FY2012 Normalized DLHs from Clean Data</b>	<b>FY2010 DLH Delta adjustment (whole number of change +/-)</b>	<b>FY2011 DLH Delta adjustment (whole number of change +/-)</b>	<b>FY2012 DLH Delta adjustment (whole number of change +/-)</b>
1							
2	<b>DIRECT COSTS/EXPENSES</b>						
3	Direct Civilian Labor	149891.8367	144368.0851	146400	0	0	0
4	Direct Contract Labor	0	0	0	0	0	0

(4) Note any team adjustments in these columns.

(5) (Depot 1) Populate the normalized total cost data for each cost element from the “Depot 1 Baseline Data” tab for all 3 fiscal years.

(6) Insert three columns to the right of the original data (see Table 5). Title these columns:

- (a) FY2010 Cost Delta adjustment (use whole numbers and identify change as positive or negative by using +/-).
- (b) FY2011 Cost Delta adjustment (use whole numbers and identify change as positive or negative by using +/-).
- (c) FY2012 Cost Delta adjustment (use whole numbers and identify change as positive or negative by using +/-).

(7) Note any team adjustments in these columns.



(8) Calculate the total deep dive adjusted DLH across all 3 years:

- (a) Total the normalized DLH for all 3 fiscal years.
- (b) Total the DLH adjustments for all 3 fiscal years.
- (c) Add the two totals.
- (d) Repeat for each cost element.

(9) Calculate the total deep dive adjusted costs:

- (a) Total the normalized costs for all 3 fiscal years.
- (b) Total the normalized cost adjustments for all 3 fiscal years.
- (c) Add the two totals.
- (d) Repeat for each cost element.

(10) Repeat paragraphs 3.f.(1)–(9) of this enclosure (Step 2B: Depot (1-3) Deep Dive Adjustments) using the Depot 2 and Depot 3 Deep Dive Adjustments worksheets, making sure to change formula references as necessary.

g. Step 2B: Revised costs per hour (Tab 10)

(1) The purpose of Tab 10 is to recalculate the average cost per DLH for each depot based on the data revisions made during Step 2A: Deep Dive Adjustments and to compare the depots to each other based on this new information. See Table 6 for reference.

Table 6. Tab 10 : Step 2B: Revised Costs per Hour

(2) Populate the Depot 1 column with the average total cost per DLH for each depot from Tab “As Is Step 2 Deep Dive Summary.”

(3) Calculate the new cost per DLH for each depot based on the deep dive adjustments from the Depot 1 Deep Dive Adjustments (Tab 7) for each cost element: Total deep dive adjusted cost (3 years) divided by total deep dive adjusted DLH (3 years).

(4) Repeat for Depots 2 and 3, making sure to change formula references as necessary.

(5) Compare the as-is deep dive summary costs per DLH between depots for each cost element (e.g., direct costs without material and direct civilian labor).

(a) Depot 1 vs. Depot 2.

1.  $(\text{Depot 1 cost element} - \text{Depot 2 cost element}) \div \text{Depot 2 cost element}$ .

2. Repeat for each cost element.

(b) Depot 1 vs. Depot 3.

1.  $(\text{Depot 1 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost element.

(c) Depot 2 vs. Depot 3.

1.  $(\text{Depot 2 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost element.

(6) Compare the “adjusted” costs per DLH between depots for each cost element (e.g., direct costs without material and direct civilian labor).

(a) Depot 1 vs. Depot 2.

1.  $(\text{Depot 1 cost element} - \text{Depot 2 cost element}) \div \text{Depot 2 cost element}$ .

2. Repeat for each cost element.

(b) Depot 1 vs. Depot 3.

1.  $(\text{Depot 1 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 direct cost without material per DLH}$ .

2. Repeat for each cost category.

(c) Depot 2 vs. Depot 3.

1.  $(\text{Depot 2 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost category.

(7) Document and explain any adjustments in comments section for each cost element.

h. Step 2B: Checkpoint (Tab 11)

(1) The purpose of Tab 10 is to provide a summary of the deep dive analysis for senior leadership to see the results. It compares the original costs per DLH for each depot to the adjusted costs per DLH for each depot to illustrate any difference between the two. See Table 7 for reference.

Table 7. Tab 10: Step 2B: Revised Cost per Hour

	A	B	C	D	E	F	G
1							
2	Phase 2 Checkpoint						
3	<b>Original Workload Cost Per Hour</b>	<b>Depot 1</b>	<b>Depot 2</b>	<b>Depot 3</b>	<b>Depot 1 vs 2</b>	<b>Depot 1 vs 3</b>	<b>Depot 2 vs 3</b>
4	<b>Direct Labor Hours (3 years)</b>	440,660	209,478	0			
5	Direct Cost w/out matl per DLH	\$45.47	\$44.06	\$0.00	3%	0%	0%
6	Indirect Cost per DLH	\$96.89	\$101.69	\$0.00	-5%	0%	0%
7	Total Cost w/out matl per DLH	\$142.35	\$145.74	\$0.00	-2%	0%	0%
8	Material cost per DLH	\$58.93	\$204.62	\$0.00	-71%	0%	0%
9	<b>Total Cost per DLH</b>	<b>\$201.28</b>	<b>\$350.36</b>	<b>\$0.00</b>	<b>-43%</b>	<b>0%</b>	<b>0%</b>
10							
11	<b>Adjusted Workload Cost Per Hour</b>	<b>Depot 1</b>	<b>Depot 2</b>	<b>Depot 3</b>	<b>Depot 1 vs 2</b>	<b>Depot 1 vs 3</b>	<b>Depot 2 vs 3</b>
12	<b>Direct Labor Hours (3 years)</b>	440,660	209,478	0			
13	Direct Cost w/out matl per DLH	\$45.47	\$44.06	\$0.00	3%	0%	0%
14	Indirect Cost per DLH	\$96.89	\$101.69	\$0.00	-5%	0%	0%
15	Total Cost w/out matl per DLH	\$142.35	\$145.74	\$0.00	-2%	0%	0%
16	Material cost per DLH	\$58.93	\$204.62	\$0.00	-71%	0%	0%
17	<b>Total Cost per DLH</b>	<b>\$201.28</b>	<b>\$350.36</b>	<b>\$0.00</b>	<b>-43%</b>	<b>0%</b>	<b>0%</b>

(2) To calculate the original costs per DLH comparison, begin with Depot 1 and populate existing data from Depot 1 Normalized Data (Tab 1) and Step 1: Cost per Hour (Tab 4) worksheets, where appropriate, and perform necessary calculations. High-level cost element categories and their calculations include:

(a) Direct labor hours (3 years)—insert total normalized DLH (sum of all 3 years) from Depot 1 Normalized Data (Tab 1) worksheet.

(b) Direct cost without material per DLH—insert Depot 1 direct civilian labor from Step 1: Cost per Hour (Tab 4) worksheet.

(c) Indirect cost per DLH—Insert Depot 1 production average total cost and add Depot 1 G&A average total cost from Step 1: Cost per Hour (Tab 4) worksheet.

(d) Total cost without material per DLH—sum of direct cost without material per DLH + indirect cost per DLH – material cost per DLH.

(e) Insert direct material average total cost (sum of all 3 years) from “Step 1: Cost per Hour (Tab 4) worksheet.

(f) Total cost per DLH—insert total cost per DLH (sum of all 3 years) from Depot 1 Normalized Data (Tab 1) worksheet.

(g) Repeat paragraphs 3.h.(2).(a)–(f) of this enclosure (Step 2B: Checkpoint for each depot).

(3) Compare the original workload percentage cost differences between depots for each cost element (e.g., direct cost without material). Each calculation should result in a positive or negative percentage.

(a) Depot 1 vs. Depot 2.

1.  $(\text{Depot 1 cost element} - \text{Depot 2 cost element}) \div \text{Depot 2 cost element}$ .

2. Repeat for each cost element.

(b) Depot 1 vs. Depot 3.

1.  $(\text{Depot 1 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost category.

(c) Depot 2 vs. Depot 3.

1.  $(\text{Depot 2 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost category.

(4) To calculate the adjusted costs per DLH, begin with Depot 1. Insert existing data from Step 2A: Depot 1 Deep Dive Adjustments (Tab 7) and Step 2B: Revised Costs per Hour (Tab 10) worksheets and, where appropriate, perform necessary calculations. High-level cost element categories and their calculations include the following:

(a) Direct labor hours (3 years)—insert total deep dive adjusted DLH (sum of all 3 years) from Step 2A: Depot 1 Deep Dive Adjustments (Tab 7) worksheet.

(b) Direct cost without material per DLH—Insert Depot 1 direct civilian labor from Step 2B: Revised Costs per Hour (Tab 10) worksheet.

(c) Indirect cost per DLH—insert sum of Depot 1 production overhead average total cost + Depot 1 G&A average total cost from Step 2B: Revised Costs per Hour (Tab 10) worksheet.

(d) Total cost without material per DLH—insert sum of direct cost without material per DLH + indirect cost per DLH.

(e) Material cost per DLH—insert direct material average total cost (sum of all 3 years) from Step 2B: Revised Costs per Hour (Tab 10) worksheet.

(f) Total cost per DLH—insert total cost per DLH (sum of all 3 years) from Depot 1 Normalized Data (Tab 1) worksheet.

(g) Repeat paragraphs 3.h.(4).(a)–(f) of this enclosure (Step 2B: Checkpoint for each depot).

(5) Compare the adjusted cost percentage differences between depots for each cost element (e.g., direct cost without material per DLH). Each calculation should result in a positive or negative percentage.

(a) Depot 1 vs. Depot 2.

1.  $(\text{Depot 1 cost element} - \text{Depot 2 cost element}) \div \text{Depot 2 cost element}$ .

2. Repeat for each cost element.

(b) Depot 1 vs. Depot 3.

1.  $(\text{Depot 1 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost element.

(c) Depot 2 vs. Depot 3.

1.  $(\text{Depot 2 cost element} - \text{Depot 3 cost element}) \div \text{Depot 3 cost element}$ .

2. Repeat for each cost element.

i. Step 3A: Fixed vs. Variable Costs (Tab 12)

(1) The purpose of Tab 12 is to designate each cost element as either a fixed or variable cost for each depot. This breaks up costs so they can be listed as partially fixed or partially variable in the next step (Step 3B). The designation of fixed or variable costs will also assist in the calculation of the final cost differences for different scenarios. Whenever a Military Service uses a fixed or variable cost designation different than those assigned in this manual, it is necessary that they document the process used and reasoning. See Table 8 for reference.

(2) Next to each cost element, designate whether each is fixed or variable.

(a) Direct costs are ALWAYS variable costs.

(b) A cost is fixed if it cannot be changed easily within 2–4 years.

(c) Next to the “Fixed or Variable” column, list the total deep dive adjusted cost (for 3 years) from the Step 2A: Depot 1 Deep Dive Adjustments (Tab 7) worksheet. (This will be the total cost, not the average cost.)

(d) In the next column, list any adjustments made in the deep dive (amount of cost that is different, in a positive integer, from the Fixed or Variable designator).

(e) Next to the adjustments, list justifications (backup justification with supporting data). All the military Services must agree on any adjustments made.

(f) Repeat paragraphs 3.i.(2) (a)–(e) of this enclosure (Step 3A: Fixed vs. Variable Costs) for each depot (three tables total).

Table 8. Tab 12 : Step 3A: Fixed Vs. Variable

	A	B	C	D	E
1	<b>Depot 1</b>				
	<b>DIRECT COSTS/EXPENSES</b>	<b>Fixed or Variable</b>	<b>Total Deep Dive Adjusted Cost (three years)</b>	<b>Adjusting Entry (amount of cost that is different, in a positive interger, from F/V designator)</b>	<b>Justification (backup with supporting data)</b>
2					
3	Direct Civilian Labor	V	20035286		
4	Direct Contract Labor	V	0		
5	Direct Material	V	25966602.8		
6	Other Direct Costs	V	0		
7	<b>PRODUCTION OVERHEAD</b>				
	Production Overhead/ Indirect Labor	V	13152090	0	0
8					
9	Hazardous Waste Management	V	145418.6968	0	0

j. Step 3B: Final Basis of Analysis (Tab 13)

(1) The purpose of Tab 13 is to aggregate the adjustments from the Step 3A: Fixed vs. Variable (Tab 12) worksheet and to designate what proportion of each cost element is fixed or variable for each depot. See Table 9 for reference.

(2) Create a table for Depot 1. List all of the cost elements in the first column.

(a) Calculate the fixed costs. Subtract the adjusting entry value from the total deep dive adjusted cost (3 years) value in the “Fixed vs. Variable” worksheet.

(b) Calculate the variable costs. Subtract the adjusting entry value from the total deep dive adjusted cost (3 years) value in the “Fixed vs. Variable” worksheet.

- (c) Calculate the sum of each cost category (production overhead, G&A, etc.).
- (3) Repeat for Depot 2 and Depot 3.

Table 9. Tab 13: Step 3B: Basis of Analysis

	A	B	C
1	<b>Depot 1</b>		
	<b>DIRECT COSTS/EXPENSES</b>	<b>Fixed</b>	<b>Variable</b>
2			
3	Direct w/out Material		20035286
4	Direct Civilian Labor		20035286
5	Direct Contract Labor		0
6	Direct Material		25966602.8
7	Other Direct Costs		0
8	<b>PRODUCTION OVERHEAD</b>	<b>5283182</b>	<b>26305373.62</b>
	Production Overhead/ Indirect Labor	0	13152090
9			
10	Hazardous Waste Management	0	145418.6968

k. Rate Sheet (Tab 14)

(1) Tab 14 has several purposes. The first is to compare the cost per hour to the sales rate for each depot. It is also used for information and validation purposes. The cost per hour and the sales rate should be relatively similar; if they are not, the depots should be prepared to explain why. See Table 10 for reference.

(2) Insert the direct cost without material per DLH, indirect cost per DLH, and total cost or rate without material per DLH values for each depot from the Step 2B: Checkpoint (Tab 11) into the “Adjusted Workload Cost per Hour” columns.

(3) Insert the sales rates (from the latest fiscal year) for each depot for direct cost without material per DLH, indirect cost per DLH, and total cost without material per DLH. Sales rate should not include accumulated operating result (AOR), because the data is based on actual cost (the AOR is a revenue effect, but it does not affect cost).

(4) Calculate the difference in adjusted cost and sales rate for each depot.

(a) Calculate Depot 1 costs.

1. Adjusted workload cost per hour – most recent fiscal year sales rate.





(a) For each cost category (e.g., production overhead), populate the total adjusted fixed- and variable-cost values from the Step 3B: Final Basis for Analysis (Tab 13) for all depots.

(b) Populate the workload DLHs with direct total deep dive adjusted DLHs (3 years) from each depot's Step 2A: Deep Dive Adjustments (Tabs 7–9) worksheets.

(c) Calculate the average 3-year production group costs.

1. In the Depot 1 column (and below the existing cost category totals), insert production group costs, production group DLHs, and depot DLHs from Depot 1 Normalized Data (Tab 1).

2. Divide each production group category by 3 to obtain the 3-year average.

3. Repeat paragraph 3.1.(2).(c).1–2 of this enclosure (Step 3B: Rate Sheet) using the worksheet for all depots.

(d) Calculate the 3-year average and cost per DLH for each cost element in each depot.

1. Divide each cost element by the workload DLH (e.g., direct cost without material ÷ workload DLHs) for Depot 1. This calculation does not need to be performed for the “direct material” cost element.

2. Repeat for all cost elements and all depots.

(e) Calculate the average 3-year costs and totals.

1. To obtain the 3-year averages, divide the numbers in the “Final Adjusted Totals” columns by 3 (e.g., Depot 1 direct material total ÷ 3)

2. For each depot, total the average costs at the bottom of the column.

(f) Calculate the total cost of workload by adding the total costs for Depots 1–3 (e.g., Depot 1 production overhead + Depot 1 direct material)

(g) Calculate the total workload DLHs by adding the totals for each depot from the “3 Year Average DLH and cost per DLH” column (e.g., Depot 1, 3-year average DLH and cost per DLH + Depot 2, 3-year average DLH and cost per DLH + Depot 3, 3-year average DLH and cost per DLH).

(3) Existing Workload. The purpose of Tab 15 is to combine all calculations that have been done throughout the workbook and provide cost information that can be used to make a final cost-based decision about where workload should be sited and treat each depot as both a donor and a receiver site to calculate the real cost-related effect for each possible donor and receiver combination.

(a) Repeat new workload process, as detailed in paragraph 3.1.(2) of this enclosure to obtain a general summary information for the first table.

(b) Calculate the cost-related effect for each depot—as both a donor site and a receiver site. Fixed costs will not be factored into these calculations because they will stay with the original depots, regardless of workload move. Calculations include the variable costs for each depot, the before and after average, and the cost per DLH for both G&A and POH.

(c) For each depot, calculate the effect of serving as a donor. See Table 12 for reference.

**Table 12. Tab 15 : Existing Workload—Donor**

	A	B	C	D	E	F	G	H	I	J	K
19	If Donor site, cost effect is										
20											
21	Depot 1		G&A						POH		
22	Variable	Direct Cost w/out matl	-\$6,678,428.67				Avg \$	Per Hour		Avg \$	Per Hour
23		Direct Material	-\$8,655,534.27	Before	\$193,993,705.86	\$25.20	Before	\$150,675,176.59	\$71.68		
24		Production Overhead	-\$8,768,457.87	After	\$193,973,035.86	\$25.69	After	\$141,906,718.72	\$72.59		
25		General & Administrative	-\$20,670.00		Delta	\$0.49	Delta	\$0.90			
26		Direct Labor Hours	(146,886.64)								

1. Determine variable costs for Depot 1 — populate with information from “Average 3-Year Cost and Totals” column in summary table (see Table 11), but list all values as negative.

2. Calculate G&A before and after costs for Depot 1 using Table 13 as a guide.

**Table 13. G&A Before and After Costs**

Calculation Instructions	Process Guide
Calculate cost per DLH before	Variable G&A 3-year average cost per DLH + fixed G&A 3-year average cost per DLH
Calculate G&A average cost before	Depot DLHs × G&A cost per DLH before.
Calculate G&A average cost after	G&A average cost before × (-) G&A variable cost
Calculate G&A cost per DLH after	G&A average cost after ÷ (Depot DLHs + Depot 1 variable DLHs)
Change in cost per DLH	G&A before average cost per DLH – G&A after cost per DLH

3. Calculate the production overhead (POH) before and after costs for Depot 1 by repeating the calculations used for the G&A process, but using POH numbers. If POH is not part of a larger workload group, it should be treated like G&A.

4. Repeat Steps 1 through 3 for all depots.

(d) For each depot, calculate the effect of serving as a receiver. See Table 13 for reference, Table 14 for a summary of the required calculations for summarizing variable costs and Table 16 for before and after G&A Cost per DLH.

**Table 14. Tab 15: Existing Workload—Receiver**

	A	B	C	D	E	F	G	H	I	J	K
43	If Receiver site, cost effect is										
44											
45		Depot 1				G&A				POH	
46		Direct Cost w/out matl	\$3,174,741.81			Avg \$	Per Hour			Avg \$	Per Hour
47	Variable	Direct Material	\$14,287,470.07	Before		\$193,993,705.86	\$25.20	Before		\$150,675,176.59	\$71.68
48		Production Overhead	\$4,168,284.36	After		\$194,003,531.81	\$24.98	After		\$154,843,460.95	\$71.30
49		General & Administrative	\$9,825.95			Delta	-\$0.23			Delta	-\$0.39
50		Direct Labor Hours	69,825.88								

**Table 15. Depot 1 Variable Costs**

Calculation Instructions	Process Guide
DLH	Sum the depot DLHs from Depots 2 and 3
Direct cost without material	Depot 1 average cost per DLH direct cost without material × variable DLHs
Direct material costs	Sum the average 3-year cost for Depots 2 and 3

1. Calculate variable costs for Depot 1 listing them as positive.
  - a. POH equals Depot 1 average cost per DLH POH cost × variable DLHs.
  - b. G&A equals Depot 1 average cost per DLH G&A cost × variable DLHs.
2. Calculate Depot 1 G&A average cost and cost per DLH before and after workload consolidation.

**Table 16. Before and After G&A Costs per DLH**

Calculation Instructions	Process Guide
Before cost per DLH	Sum the G&A fixed and variable 3-year average costs per DLH from the summary table (see Table 11).
After cost per DLH	After average total cost ÷ (average depot DLHs [from the summary chart] + average workload DLHs [from the summary chart]).
Before average total cost	Depot 1 average 3-year depot DLHs × G&A before cost per DLH.
After average total cost	Sum the before average total cost to the G&A negative variable cost
Difference between Before and After G&A cost per hour	After cost per hour – before cost per hour.

3. Calculate the POH before and after costs. Repeat the calculations used for the G&A process, but using POH numbers. If POH is not part of a larger workload group, it should be treated like G&A.

4. Repeat Steps 1 through 3 for all depots.

m. Consolidation Outcome (Tab 16).

(1) Tab 16 only needs to be completed if considering the transfer of an existing workload (not for new workload). See Table 18 for examples.

(2) The purpose of Tab 16 is to calculate and summarize the cost effect and net effects on all customers at both donor and receiving depots.

Table 17. Tab 16 : Consolidation Outcome

	A	B	C	D	E	F	G	H	I	J
1										
2	Step 2 Consolidation Outcome					Only if no data in Depot 3 columns				
3						Depot 1 to 2	Depot 2 to 1	Depot 1/2 to 3	Depot 1/3 to 2	Depot 2/3 to 1
4	Effect on Remaining Customers at Losing Activity					\$ 5,442,131	\$ 2,356,664	\$ 7,798,795	\$ 5,442,131	\$ 2,356,664
5	Effect on Current Customers at Gaining Activity					\$ (4,554,684)	\$ (2,544,393)	\$ -	\$ (4,554,684)	\$ (2,544,393)
6	Net Effect on Workload Customers					\$ (96,095)	\$ (369,201)	\$ (31,086,422)	\$ (96,095)	\$ (369,201)
7	Net Effect on all customers					\$ 791,352	\$ (556,930)	\$ (23,287,626)	\$ 791,352	\$ (556,930)

(3) Calculate the effect on other customers at the donor and receiver activities.

(a) The losing activity only alters remaining customer costs and left-behind hours. See Table 17 for reference.

(b) List the fixed 3-year G&A and POH total costs for each depot from the “Cost Consolidation View” tab.

Table 18. Tab 16 : Consolidation Outcome—Donor Activity

	A	B	C
10	<b>Effect on Other Customers (donor activity)</b>		
11			
12		<b>Depot 1</b>	
13		G&A	\$3,681,070.30
14		POH	\$1,761,060.67

(4) Calculate effect on workload customers.

(a) Direct material cost is treated “as is” and gained as a cost at the donor activity. If direct material analysis identifies a reason to change direct material cost, the team may overwrite it with actual new direct material cost and document reason for changes. See Table 19 for reference.

Table 19. Tab 16 : Consolidation Outcome—Receiver Activity

	A	B	C
26	<b>Effect on Other Customers (receiver activity)</b>		
27			
28		<b>Depot 1</b>	
29		G&A	-\$1,734,149.48
30		POH	-\$810,243.57

(b) Depot 1 (take data from Consolidation Cost View [Tab 15]). See Table 20 for reference.

1. G&A equals new G&A receiver cost per DLH × total workload DLHs.
2. POH equals new POH receiver cost per DLH × total workload DLHs.
3. Direct cost without material equals Depot 1 average direct cost without material cost per DLH × total workload DLHs.
4. Direct material equals sum of Depot 1–3 direct material 3-year average cost totals.

Table 20. Tab 16 : Consolidation Outcome—Workload

	A	B	C
40			
41	<b>Effect on Workload Customers</b>		
42			
43		<b>New Cost for work (average) if moved to</b>	
44			
45		<b>Depot 1</b>	
46		G&A	\$5,412,625.12
47		POH	\$15,451,424.84
48		Direct Cost w/out Mtl	\$9,853,170.47
49		Direct Material	\$22,943,004.33

(5) Calculate effects on customers.

(a) Determine effect on remaining customers at losing activity.

1. Depot 1 to Depot 2: sum of Depot 1 donor effect on other customers G&A and POH average costs.

2. Depot 2 to Depot 1: sum of Depot 2 donor effect on other customers' G&A and POH average costs.

3. Depot 1 and Depot 2 to Depot 3: sum of Depot 1 and Depot 2 donor effects on other customers' G&A and POH average costs.

4. Depot 1 and Depot 3 to Depot 2: sum of Depot 1 and Depot 3 donor effects on other customers' G&A and POH average costs.

5. Depot 2 and Depot 3 to Depot 1: sum of Depot 2 and Depot 3 donor effects on other customers' G&A and POH average costs.

(b) Determine effect on current customers at gaining activity.

1. Depot 1 to Depot 2: sum of Depot 2 receiver effect on other customers' G&A and POH average costs.

2. Depot 2 to Depot 1: sum of Depot 1 receiver effect on other customers' G&A and POH average costs.

3. Depot 1 and Depot 2 to Depot 3: sum of Depot 3 receiver effect on other customers' G&A and POH average costs.

4. Depot 1 and Depot 3 to Depot 2: sum of Depot 1 receiver effect on other customers' G&A and POH average costs.

5. Depot 2 and Depot 3 to Depot 1: sum of Depot 1 receiver effect on other customers' G&A and POH average costs.

(c) Determine net effect on workload customers.

1. Depot 1 to Depot 2: (Depot 2 effect on workload customer G&A + POH + direct cost without material + direct material) – total cost of workload [from Consolidation Cost View (Tab 15)].

2. Depot 2 to Depot 1: (Depot 1 effect on workload customer G&A + POH + direct cost without material + direct material) – total cost of workload [from Consolidation Cost View (Tab 15)].

3. Depot 1 and Depot 2 to Depot 3: (Depot 3 effect on workload customer G&A + POH + direct cost without material + direct material) – total cost of workload [from Consolidation Cost View (Tab 15)].

4. Depot 1 and Depot 3 to Depot 2: (Depot 2 effect on workload customer G&A + POH + direct cost without material + direct material) – total cost of workload [from Consolidation Cost View (Tab 15)].

5. Depot 2 and Depot 3 to Depot 1: (Depot 1 effect on workload customer G&A + POH + direct cost without material + direct material) – total cost of workload [from Consolidation Cost View (Tab 15)].

(d) Net effect on all customers.

1. Depot 1 to Depot 2: sum of Depot 1 to Depot 2 effect on remaining customers at losing activity, effect on current customers at gaining activity, and net effect on customers' workload.

2. Depot 2 to Depot 1: sum of Depot 2 to Depot 1 effect on remaining customers at losing activity, effect on current customers at gaining activity, and net effect on customers' workload.

3. Depot 1 and 2 to Depot 3: sum of Depot 1 and Depot 2 to Depot 3 effect on remaining customers at losing activity, effect on current customers at gaining activity, and net effect on customers' workload.

4. Depot 1 and Depot 3 to Depot 2: sum of Depot 1 and Depot 3 to Depot 2 effect on remaining customers at losing activity, effect on current customers at gaining activity, and net effect on customers' workload.

5. Depot 2 and Depot 3 to Depot 1: sum of Depot 2 and Depot 3 to Depot 1 effect on remaining customers at losing activity, effect on current customers at gaining activity, and net effect on customers' workload.

Appendixes

DCFW Cost Definitions

MCCW Cost Definitions



APPENDIX 1 TO ENCLOSURE 5

DCFW COST DETAIL DEFINITIONS

1. DATA SOURCE

a. For each cost element, identify system of record as well as database element. Examples: functional cost code and database code (Defense Industrial Financial Management System (DIFMS) FCC: KD equals Utilities).

b. Identify actual touch labor direct hours in whole numbers (FY20xx DLHs)

c. For each cost element, identify expended direct labor hours performed by government civilians (i.e., DLHs) and organic contractor augmentees (other direct costs, or ODCs) during FY20xx. Provide in actual whole numbers.

2. CALCULATION AND PRORATION

a. For each cost element, outline the calculation/proration method and equations used for indirect expenses, both within expense categories and between indirect and G&A (e.g., utility costs over direct hours).

b. Identify and explain all assumptions, variables, factors, formulas and numerical calculations used.

c. Show your work for all cost elements. For example, utilities equal total utility \$ (work center square feet ÷ total square feet) when square footage of the facility is used for the cost proration.

3. FY20XX TOTAL COST (ACTUAL WHOLE NUMBERS)

a. For each cost element, identify cost directly or indirectly assigned to cost element or identified workload during FY20 xx in actual whole numbers.

b. For example, \$10,000 (100 ÷ 1,000) = \$1,000.

4. FY20XX EXTRAORDINARY ONE-TIME EXPENSE (ACTUAL WHOLE NUMBERS)

a. For each cost element, describe extraordinary one-time expenses during FY20xx in cost element and provide cost.

b. Examples include settlements, permanent change of station, and Voluntary Early Retirement Authority/Voluntary Separation Incentive Payment (VERA/VISP).

5. ANY AND ALL ADDITIONAL ASSUMPTIONS

a. For each cost element, clearly describe any and all additional assumptions not covered by calculation/proration or extraordinary one-time expense together

b. Provide the reasoning behind each assumption.

6. SERVICE INTERNAL ADJUSTMENTS. Provide actual whole number delta [+/-] adjustment.

7. RESULTS OF SERVICE INTERNAL ADJUSTMENTS

a. Provide explanation with documentation and for Service-specific formula-driven internal adjustments.

b. The result of these adjustments will be a new cost based on delta adjustment from original cost.

APPENDIX 2 TO ENCLOSURE 5

MCCW COST DETAIL DEFINITIONS

1. ACTUAL TOUCH LABOR DIRECT HOURS (IN WHOLE NUMBERS). Expended direct labor hours (DLH) performed by government civilians and organic contractor augmentees.
  
2. NORMALIZED DLH BY FISCAL YEAR (FY). Expended DLH performed by government civilians and organic contractor augmentees including Other Direct Costs (ODCs) for a given FY.
  
3. TOTALED NORMALIZED DLH. The sum of three data call years' normalized DLH.
  
4. ACTUAL TOTAL COST (IN WHOLE NUMBERS). The sum of three data call years' actual costs.
  
5. TOTALED NORMALIZED COSTS. The sum of normalized costs across all three data call years. It is calculated as follows:
  - a. Year One normalized total cost.
    - (1) For each cost element, identify (in actual whole numbers) cost directly or indirectly assigned to cost element or identified workload during FY20xx.
    - (2) Example:  $\$10,000 \times (100 \div 1,000) = \$1,000$ .
  
  - b. Year Two normalized total cost.
    - (1) For each cost element, identify cost directly or indirectly assigned to cost element or identified workload during FY20xx+1.
    - (2) Example:  $\$10,000 \times (100 \div 1,000) = \$1,000$
  
  - c. Year Three normalized total cost.
    - (1) For each cost element, identify (in actual whole numbers) cost directly or indirectly assigned to cost element or identified workload during FY20xx+2.
    - (2) Example:  $\$10,000 \times (100 \div 1,000) = \$1,000$

GLOSSARY

PART I. ABBREVIATIONS AND ACRONYMS

DCFW	Data Call Financial Workbook
DFAS	Defense Finance Accounting Services
DIFMS	Defense Industrial Financial Management System
DLA/SS&D	Defense Logistics Agency/Supply Storage and Distribution
DLH	Direct Labor Hours
DoDD	DoD Directive
DoDM	DoD Manual
DSOR	Depot Source of Repair
ESOH	Environment, Safety, and Occupational Health
G&A	General and Administrative
MCCW	Master Cost Comparability Workbook
NIIN	National Item Identification Number
POH	Production Overhead
SOR	Source of Repair

PART II. DEFINITIONS

Unless otherwise noted, these terms and their definitions are for the purposes of this manual.

base operations support. Costs associated with support services (i.e., fire, security, grounds maintenance, HR, financial, vehicle leases, etc.) provided by the Host Command not specifically captured in other categories. This category is pre-transfer. (G&A Expenses)

best value analysis. An analysis that considers not only cost, but other quantifiable and non-quantifiable factors to support a decision. This can include, but is not limited to, impact on readiness, quality and cycle times.

capability. Availability of resources such as facilities, tools, test equipment, drawings, technical publication, trained maintenance personnel, engineering support, and spare parts required to carry out maintenance.

capacity. Capacity is expressed in DLH, that a product shop or activity can effectively employ annually on a single shift, 40-hour week basis while producing the product mix that the production shop or activity is designed to accommodate. Individual shop-level Baseline Capacity Indexes are calculated and then combined to determine the Baseline Capacity Index of the various production shop categories and an entire activity. (DoDI 4151.18-H, March 10, 2007).

commodity. A group or range of items that possess similar characteristics, have similar applications, or are susceptible to similar supply management methods.

component. An integral constituent of a complete (end) item. A component may consist of a part, assembly, or subassembly.

contractual support. Purchased services, otherwise not defined, that provide support to the production line but cannot be charged to a specific customer job order number. Examples include: copier and parts baseline contracts, training and tuition costs, contractual labor. (Production Overhead Costs)

data. “Baseline” data is data after the initial Service review. “Normalized” data is the data after it has been determined appropriate for comparison. “Raw” data is data submitted by the depots and sites.

depot maintenance. For the purposes of this manual, the processes of materiel maintenance or repair involving the overhaul, upgrading, rebuilding, testing, inspection, and reclamation (as necessary) of weapons systems, equipment end items, parts, components, assemblies, and subassemblies. Depot maintenance also includes all aspects of software maintenance; the installation of parts or components for modifications; and technical assistance to intermediate maintenance organizations, operational units, and other activities.

depreciation. Expense incurred as a fixed or capital asset is consumed over its useful life, based upon the purchase price. This includes minor construction. Military construction is not included. (Production Overhead Costs, G&A Expenses)

DFAS costs. Total DFAS support costs incurred. Includes expenses for providing accounting services such as: preparing and maintaining financial statements and vendor pay services. Does not include Central Design Activity (DIFMS) costs. This category is pre-transfer. (G&A Expenses)

direct civilian labor. Civilian work that can be identified, without undue cost or difficulty, to a single, specific job order.

Direct labor generally includes the hands-on maintenance, repair, overhaul, test, and related direct production efforts that follow the established sequence and content of work necessary to accomplish the billable job.

Direct labor does not include the support work identified as either indirect or general and administrative in nature.

Includes temporary, term, permanent, and direct labor charged to a specific job order number. Direct labor costs include regular, overtime, holiday, shift, and labor while on temporary duty. Includes civilian fringe benefits.

First line supervisors may be classified and charged as direct labor if they perform non-supervisory, direct labor tasks. (Direct Costs/Expenses)

direct contract labor. Contractual work that can be identified, without undue cost or difficulty, to a single, specific job order and generate associated DLHs.

Direct labor generally includes the hands-on maintenance, repair, overhaul, test, and related direct production effort that follow the established sequence and content of work necessary to accomplish the billable job.

Direct labor does not include the support work identified as either indirect or general and administrative in nature. (Direct Costs/Expenses)

direct material. All items such as raw materials, standard and specialized parts, and sub-assemblies required to assemble or manufacture a complete product. Direct material costs are assignable to a specific product and customer job order number. This includes costs for material issued out of inventory (i.e., bench stock, pre-expended bin, consumables) to a direct job; direct fuels; and material procured and receipted for at the production line (i.e., reparable items). (Direct Costs/Expenses)

DLA/SS&D Services. Includes DLA and SS&D function costs specifically attributable to production overhead. (Production Overhead Costs) DLA/SS&D services associated with supporting overhead staff, not specifically attributable to production overhead. (G&A Expenses)

donor depot. The depot which is being analyzed as a workload losing depot.

DSOR. The authorized organic, contract, or combination of organic and contract activity(s) or facility(s) that performs, or is planned to perform, depot level repair on an item.

DSOR determination process. An iterative process that ensures management control over the determination and assignment of depot-level sources of repair and allows for incremental planning and investment in organic industrial capabilities as system configuration stabilizes and matures.

end item. A final combination of systems, subsystems, components, parts, and other materiel that is ready for its intended use.

equipment maintenance. Labor and material for corrective/preventive/calibration maintenance of production equipment and tools. (Production Overhead Costs) Equipment maintenance not attributable to production. (G&A Expenses)

ESOH costs. ESOH Costs include costs of hazardous waste management, hazardous materials management, mishaps, Occupational Health and Safety violations, Environmental Notices of Violations, air and water pollution control permits, emission control equipment, personal protection equipment, occupational physicals, disability payments, National Environmental Policy Act compliance, etc.

facility maintenance. Captures facilities maintenance that is performed at each of the Production Plants to maintain the facilities that support throughput. Includes sustainment, restoration and modernization of facilities. Examples include: central repair shop, boiler plant support, public work support. (Production Overhead Costs). Captures facilities maintenance, not specifically attributable to production, to maintain G&A facilities. Includes sustainment, restoration and modernization of facilities. (G&A Expenses)

fuels. All fuel supporting the production process that cannot be identified to a specific customer job order number. Includes petroleum, oil, lubricants (POL). Examples are diesel and unleaded gasoline, motor oil, lubricants, kerosene and special gases such as nitrogen and helium. (Production Overhead Costs)

G&A civilian labor. G&A labor costs are associated with operating the organization. Includes supervisors, administrative functions, and business functions not specifically attributable to production overhead. Also includes awards, benefits, FECA, and VERA/VSIP for G&A civilian labor only. (G&A Expenses)

G&A materials, supply and equipment. Procurement of office supplies, communication supplies, purchased IT equipment, office furniture and training material associated with supporting overhead staff, not specifically attributable to production overhead. Office supplies are defined as those materials such as tablets, pens, pencils, staplers and other similar items. Includes safety supplies. (G&A Expenses)

G&A military labor. Costs of military personnel labor reimbursed to Military Personnel Appropriations. Includes Depot Commander and military staff. (G&A Expenses)

hazardous waste management. Management, storage and disposal of hazardous waste resulting from the production process; includes labor, material and contractual cost of baseline air, water, ground and ground water. (Production Overhead Costs)

indirect production material. All material and supplies indirectly supporting the production process that cannot be identified to a customer job order number and does not go onto a weapon system or end item. This is material and supplies that are consumed during the production process and post-production rework. (Production Overhead Costs)

information services and support. Costs specifically attributable to production overhead associated with all Information Technology/Automated Data Processing services support, Enterprise Resource and Planning systems support, Central Design Activity support (example: DIFMS), various IT/server maintenance contracts, current system maintenance and processing. Includes total Defense Information Support Agency (DISA) contract support costs incurred and other central processing centers. (Production Overhead Costs)

management headquarters support. Cost associated with reimbursing command headquarters' functions to perform services and support of operations. (G&A Expenses)

office supplies and equipment. Procurement of office supplies, communication supplies, purchased IT equipment, office furniture and training material for the production shops. Office supplies are defined as those materials such as tablets, pens, pencils, staplers and other similar items required to sustain production operations. (Production Overhead Costs)

other direct costs. Purchased services or expenses that can be directly tied to a customer job order number. Excludes any expenses captured in direct material, direct civilian labor or direct contract labor. Includes cost of contracts that do not generate direct labor hours (i.e., direct field support, sub-contracted maintenance efforts). Includes direct travel costs. (Direct Costs/Expenses)

other G&A expenses. Other reimbursed government support not attributable to production and other defined categories not covered in indirect costs. Identify all defined categories included in "Other" under "Assumptions". For example: travel, shipping/postal. (G&A Expenses)

other production overhead costs. Other defined categories not covered in production overhead or indirect costs. Identify all defined categories included in "Other" under "Assumptions". For example: travel, shipping/postal. (Production Overhead Costs)

Production Overhead/Indirect Labor. All labor indirectly supporting the production process that cannot be identified to a customer job order number. It includes indirect time of direct employees (temp, term, perm) to include supervision, training, safety meetings, wellness programs; Voluntary Early Retirement Authority (VERA), Voluntary Separation Incentive Pay (VSIP), Federal Employees Compensation Act (FECA), and awards. It includes civilian fringe benefits only for production overhead employees. (Production Overhead Costs)

receiver depot. A depot which is being analyzed as a workload gaining depot.

requiring DoD Component. The DoD Component that is funding or performing the procurement or acquisition function on behalf of the funding activity for the acquisition of military materiel maintenance or support.

shop operating or floor supplies. Material including, but not limited to, base lining supplies, rags, safety supplies (including Personal Protective Equipment), and Engineering Lab material. (Production Overhead Costs)



Single Source of Repair. A single repair activity where items require similar skills, equipment, and facilities in the repair process.

Source of Repair Analysis. An iterative process used to address depot maintenance requirements and the locations to provide depot maintenance.

The SORA process:

applies to new acquisition and fielded programs. It complies with the requirements of section 2424 of title 10, U.S.C., Core Depot-Level Maintenance and Repair Capabilities (Reference (j)).

starts at program initiation with a determination of the requirement for core logistics capabilities and the identification of DoD candidate depot(s).

continues throughout the life-cycle for sustainment planning and best value analysis.

culminates with a sustainment strategy determination and applicable source of repair locations.

The results of the SORA are coordinated across the DoD Components and documented as a DSOR.

This coordinated DSOR decision letter and supporting analysis are provided to the program office for action and inclusion the LCSP.

tools and equipment. All costs incurred in the acquisition or manufacture of minor equipment and tools and fixture fabrication for the production shop, excluding fixed or capital assets.

utilities. Utility costs are comprised of the cost of water, sewage, steam, electricity, natural gas, utility maintenance and the Industrial Waste Treatment Plant.