DoD Manual 4245.15

Management of Diminishing Manufacturing Sources and Material Shortages

Originating Component:	Office of the Under Secretary of Defense for Acquisition and Sustainment
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Approved by:	Christopher J. Lowman, Assistant Secretary of Defense for Sustainment

Purpose: In accordance with the authority in DoD Directive 5135.02 and the policy in DoD Instruction (DoDI) 4245.15, this issuance:

- Assigns responsibilities and prescribes procedures for management of diminishing manufacturing sources and material shortages (DMSMS).
- Implements a risk-based, proactive DMSMS management approach for all DoD systems and the DoD items (e.g., the parts, equipment, assemblies, components, material, and software) that comprise them throughout their life cycles.
- Establishes the charter for the DoD DMSMS Working Group.

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SECTION 1: GENERAL ISSUANCE INFORMATION

1.1. APPLICABILITY.

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

SECTION 2: RESPONSIBILITIES

2.1. UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT (USD(A&S)).

The USD(A&S) oversees the implementation of DMSMS management, in accordance with DoDI 4245.15, to minimize the impact of DMSMS on the acquisition and sustainment of DoD systems and items.

2.2. ASSISTANT SECRETARY OF DEFENSE FOR SUSTAINMENT (ASD(S)).

Under the authority, direction, and control of the USD(A&S), the ASD(S) oversees the implementation of DMSMS management, in accordance with DoDI 4245.15, to minimize the impact of DMSMS on the sustainment of DoD systems and items.

2.3. ASSISTANT SECRETARY OF DEFENSE FOR ACQUISITION.

Under the authority, direction, and control of the USD(A&S), the Assistant Secretary of Defense for Acquisition:

a. Supports the implementation of DMSMS management, in accordance with DoDI 4245.15, to minimize the impact of DMSMS on the acquisition of DoD systems and items.

b. Designates a primary point of contact to serve as the Office of the Assistant Secretary of Defense for Acquisition's lead representative for the DoD DMSMS Working Group.

2.4. UNDER SECRETARY OF DEFENSE FOR RESEARCH AND ENGINEERING (USD(R&E)).

The USD(R&E) oversees the implementation of DMSMS management in systems engineering, manufacturing, technology protection, and test and evaluation, in accordance with DoDI 4245.15, to minimize the impact of DMSMS.

2.5. DOD CHIEF INFORMATION OFFICER.

The DoD Chief Information Officer:

a. Coordinates with DoD Components when needed to support risk mitigation or resolution of DMSMS issues.

b. Provides information on how to address the impact of cyber supply chain management on the implementation of DMSMS resolutions to protect the acquisition and sustainment of digital capabilities in accordance with DoDI 5200.44.

2.6. DOD COMPONENT HEADS.

The DoD Component heads:

a. Implement DMSMS management procedures in accordance with DoDIs 4140.01, 4245.15, 5000.75, 5000.80, 5000.81, 5000.85, and 5000.87.

b. Use guidance in Defense Standardization Program Office standardization-related documents (SDs) -22 and -26 to implement best practices for DMSMS management.

c. Establish, develop, allocate resources for, and implement integrated risk-based, proactive policy, procedures, guidance, and training to minimize the impact of DMSMS issues throughout the life cycles of DoD systems for:

(1) Program offices and supply chain organizations.

(2) Engineering, logistics, maintenance, and industrial base offices.

d. Evaluate all designs and redesigns of DoD items for potential DMSMS issues that could arise during the system's life cycle and address DMSMS management in:

(1) A systems engineering plan using the outline found on the Deputy Director for Engineering website https://ac.cto.mil/erpo/.

(2) A life cycle sustainment plan using the outline found on the Defense Acquisition University website https://www.dau.edu.

e. Designate a DoD Component lead office to provide internal DMSMS management oversight and allocate resources for this lead office.

f. Designate an individual to serve as the Component's lead representative to the DoD DMSMS Working Group and allocate resources for those efforts.

g. Review and address the adequacy of DMSMS risk evaluation, mitigation, and resolution during systems engineering technical reviews and independent technical risk assessments as they relate to:

(1) System design and redesign.

(2) Parts selection.

(3) Mission and system assurance.

(4) Sustainment.

(5) Manufacturing.

h. Establish DMSMS management metrics and internal reviews of the DMSMS management metrics to address DMSMS issues, reduce cost, and improve efficiency.

i. Allocate and implement resources for improvements to DMSMS management processes throughout the life cycles of all DoD systems and items for which the Component is responsible.

j. Share information on DMSMS issues, and resolutions thereof (as applicable), within 10 business days of occurrence among all DoD Components using the Government Industry Data Exchange Program (GIDEP) and collaborate on resolutions where feasible.

k. Direct supply organizations to develop and implement processes to identify and assess DMSMS issues and risks using supply system data and communicate that information to the responsible DMSMS management organizations and affected program offices.

l. Direct acquisition program offices and other organizations responsible for DMSMS management in support of an acquisition program office, referred to in this issuance as "DMSMS management performing organizations" (DMPOs), to establish the five-step process described in Paragraphs 3.2. through 3.6. and execute this process repeatedly in a risk-based, proactive manner throughout the life cycles of DoD systems and items.

m. When needed to support risk mitigation or resolution of DMSMS issues, coordinate with other DoD offices such as:

(1) Defense-wide Manufacturing Technology Office.

(2) Industrial Base Analysis and Sustainment Office.

(3) Defense Production Act Title III Office.

(4) Office of the Deputy Assistant Secretary of Defense for Industrial Policy.

(5) Office of the Chief Information Security Officer.

SECTION 3: PROCEDURES

3.1. DMSMS MANAGEMENT PROCESS.

The DMPOs:

a. Establish a risk-based, proactive DMSMS management process in accordance with DoDI 4245.15, SD-22, and SD-26 to manage and avoid:

(1) Schedule delays.

(2) Increased costs for production and sustainment.

(3) Impacts to operational readiness and system availability.

b. Operate the DMSMS management process throughout the life cycles of DoD systems and items based on the following steps:

(1) Prepare for DMSMS management operations.

(2) Identify DMSMS issues and create cases to track their status.

(3) Assess the need, timing, and level of resolution for DMSMS issues.

(4) Analyze DMSMS cases to determine the optimal resolutions.

(5) Implement the resolutions.

c. Allocate and apply the resources necessary to follow the procedures in this manual that have been designed to implement policy.

3.2. PREPARE FOR DMSMS MANAGEMENT OPERATIONS.

The DMPOs:

a. Establish the foundations for DMSMS management, in accordance with Section 3.1 of SD-22, to:

(1) Determine how to address risk when identifying what DoD items to monitor.

(2) Initiate DMSMS management as soon as possible after DoD Acquisition Milestone A and before system requirements review as described in DoDI 5000.85 or the equivalent review in accordance with DoDIs 5000.75, 5000.80, 5000.81, or 5000.87.

(3) Define roles, responsibilities, expectations, and operating guidelines for the DMSMS management team (DMT).

b. As described in Section 3.3 of SD-22, form and retain ultimate responsibility for all decisions of a DMT that:

(1) Develops and executes the DMPO's leadership approved DMSMS management plan (DMP).

(2) Enables communication between DMT members, facilitates the assignment of DMSMS management actions, and shares the status of those actions among the DMT members.

(3) Includes team members, internal and external to the DMPO, as described in Section 3.3.1 of SD-22, including:

(a) A DMT lead that:

1. Serves as the spokesperson for the DMT.

2. Represents the views of the DMPO.

3. Oversees day-to-day DMSMS management operations.

4. Coordinates DMT meetings.

5. Manages corresponding action items.

6. Identifies potential funding sources and funding availability.

7. Requests funding and other resources.

8. Oversees the development of requirements for DMSMS management support contracts and agreements.

9. Interfaces with the DMPO's configuration control board for DoD items affected by the resolution of a DMSMS issue.

10. Identifies DMSMS risks during technical, logistical, and programmatic reviews.

(b) A DMSMS subject matter expert (SME):

1. With training and experience in the requirements, activities, and tools used in DMSMS management.

2. That coordinates with the organizations supporting the execution of DMT management processes and the development of DMT management products.

(c) A representative with engineering skills needed to:

1. Coordinate with the DMT members on the acceptability of the functional and technical requirements of proposed resolutions and their implementation.

2. Serve as the DMT interface to the DMPO teams that develop road maps and other plans for DoD item modifications and redesigns.

3. Ensures the update of DMSMS related technical data and the intellectual property rights covering such technical data pertaining to the resolution of DMSMS issues.

(d) A representative with logistics expertise needed to coordinate with the DMPO's engineering function to provide data and analysis related to product supportability road mapping and the implementation of resolutions to DMSMS cases.

(e) A prime or subcontractor representative, depending upon the terms of the contract, who serves as the interface between the DMPO and the contractor.

(f) Other permanent or ad hoc members who provide other required perspectives depending on the size and complexity of the DoD system and item, the DMSMS issue, and the DMPO. Areas where these permanent or ad hoc members provide subject matter expertise include:

1. Foreign military sales.

2. Contracting.

3. Software.

4. Supply support.

5. Intellectual property.

c. In accordance with DoDI 4245.15 and as described in Section 3.2 of SD-22, assign a DMT to develop and update, as appropriate, a DMP that:

(1) Defines the DMPO's distinctly tailored DMSMS management approach.

(2) Explains the near-term and long-term objectives of the DMPO with details on the requirements that drive the issuance of the DMP.

(3) Addresses the DMP's scope and applicability, including:

(a) A description of the system, including how and where it will be used.

(b) The acquisition category of the system, established in accordance with DoDI 5000.02.

(c) The current life cycle phase of the system within the system's acquisition pathway.

(d) Salient information from the acquisition strategy, including:

1. Contracting approach.

2. Sustainment strategy.

3. Maintenance approach.

(e) Any planned milestone dates.

(f) Major stakeholders, such as foreign military sales or industrial base organizations.

(4) Addresses the DMSMS management approach by discussing:

(a) Which organization has primary responsibility for performing DMSMS management for the system and how the U.S. Government will maintain oversight of DMSMS management activities.

(b) The degree to which the DMPO will implement proactive DMSMS management for the system and how the DMPO will mitigate the risks associated with reactive DMSMS management.

(c) The independent DMSMS management SME organization(s) that the DMPO will use.

(d) The services and tools used in managing DMSMS issues and when they should be acquired.

(e) The approach to technology management, including the location of key documents such as technology insertion plans, technology roadmaps, and use of open systems architecture.

(f) How the DMPO will incorporate its technology management approach into DMSMS management.

(g) Contingency plans for programmatic changes (e.g., unplanned service life extension or funding gaps).

(5) Addresses the composition and role of the DMT by discussing:

(a) The composition and responsibilities of the DMT.

(b) The DMT's training requirements.

(c) The relationships between the DMT and other teams in the DMPO that support the system, including how the DMT will interact with specific groups regarding engineering, finance, contracting, and sustainment.

(d) The DMT's communication plan with other teams and stakeholders.

(e) The frequency of DMT meetings.

(6) Addresses DMSMS operations by discussing:

(a) The way the DMT will ensure that design decisions consider DMSMS resilience.

(b) Tailoring of DMSMS management operations from those described in SD-22 to meet the DMPO's objectives.

(c) How the DMT will provide oversight of the contractor's DMSMS management efforts.

(d) The acquisition of bills of materials (BOMs) for DMSMS monitoring and the methodology for keeping those BOMs current.

(e) The risk-based approaches used to prioritize subsystems and items for DMSMS monitoring.

(f) The methods used for monitoring DoD items for DMSMS issues, including the frequency of such monitoring.

(g) The frequency for receiving notifications that the sale of an item will be discontinued.

(h) The approach to DMSMS case management including:

1. A summary of the DMSMS case management process.

2. The location of DMSMS case records.

3. The methods used to track DMSMS case-related actions (e.g., implementation activities).

(i) The risk-based approach used to determine the priority of DMSMS cases.

(7) Addresses DMSMS management funding by discussing:

(a) The methods used to determine budgetary needs for DMSMS operations and resolutions.

(b) The process used to communicate budgetary needs to the DMPO's management.

(c) The current budgets for DMSMS management operations and resolving DMSMS issues.

(8) Addresses DMSMS contract requirements by discussing:

(a) The contracting approach for DMSMS management.

(b) A summary of the specific DMSMS management requirements to be provided or performed by contractors and references to specific sections in the contract(s).

(c) A summary of the DMSMS management contract data requirements list (CDRL) requirements for contractors and references to the specific CDRL numbers in those contract(s).

(d) If contracts are not yet in place, information on what parts of the DMP will require updating when contracts are in place.

(e) Intellectual property rights, as appropriate.

(9) Addresses DMSMS management metrics, data collection, reporting, and quality management systems by discussing:

(a) The DMSMS management metrics the DMPO will analyze and report. Reference other documents that include DMSMS management metrics, where possible.

(b) The type and frequency of data collection, analysis, and reviews.

(c) The use of metrics (e.g., to evaluate and improve DMSMS management quality and performance, to inform programming and budgeting).

d. Establish DMSMS operational processes, as described in Section 3.4 of SD-22, to:

(1) Secure resources for DMSMS management operations for funding:

(a) DMSMS management tools required to support the DMPO's DMP.

(b) The identification and procurement of the services of third-party DMSMS providers.

(c) The availability of BOMs.

(2) Develop interfaces to advocate for DMSMS-resilient designs:

(a) To reduce the likelihood of near-term DMSMS issues.

(b) To increase the probability of a quick recovery when DMSMS issues occur.

(c) With a modular, open system approach, along with other supportability-related design considerations in conjunction with part-selection procedures that choose DoD items with significant time left in their life cycle, and with viable replacement options, whenever possible.

(3) Continuously evaluate the performance of the DMPO's DMSMS management efforts.

(4) Obtain, store, and access the data for required Level 1 DMSMS management record keeping data elements in Table 1 and optional Level 2 DMSMS management record keeping data elements in Table 2. Use the DMSMS management metrics derived from this record keeping to:

(a) Analyze data on DMSMS case management and DMSMS management operations as described in Appendix 3.A and defined in Appendix H of SD-22.

(b) Obtain or derive insight into the DMPO's DMSMS management activities.

(5) Develop a quality management system that includes:

(a) The organizational structure of the DMPO.

(b) Responsibilities.

(c) Methods.

(d) Data management.

(e) Processes.

(f) Resources.

(g) Customer satisfaction.

(h) Continuous improvement.

(6) Manage and track DMSMS cases from initial notification to final resolution and, if required, maintain a DMSMS case management system with stakeholder access.

(7) Award supporting contracts that contain contract language and CDRLs appropriate to the system's life cycle, and the DMPO's DMSMS management approach. See Section 3.4.6 of SD-22 and the entire SD-26 for best practices in developing effective contracts for DMSMS management.

3.3. IDENTIFY DMSMS ISSUES.

a. To identify DMSMS issues, the DMPO will:

(1) As described in Section 4.1 of SD-22, prioritize systems that pose potential DMSMS risks that include:

(a) Safety.

(b) Mission criticality.

(c) High costs to resolve DMSMS issues.

(d) Existing, or historical, DMSMS maintenance or reliability problems.

(e) Data availability in early life cycle phases and obsolescence impact in later life cycle phases.

(f) Sustainment strategy.

(g) Lack of or incomplete technical data.

(h) Security.

(i) Vulnerability to supply chain exploitation.

(2) As described in Section 4.3 of SD-22, collect and prepare items data to monitor high priority systems as follows:

(a) BOM data for systems that includes sufficient detail to identify the item's manufacturer and the DoD item's location within the system's hierarchy.

(b) The technical and logistics data necessary to support DMSMS monitoring and analysis tools and processes.

(3) As described in Section 4.3.2 of SD-22, analyze DoD items' DMSMS risk to develop:

(a) A list of items to manage proactively.

(b) A list of items to manage reactively, including:

1. Long life DoD items no longer produced and not easily manufactured once the production and sparing are complete, along with the data to remanufacture them (e.g., drawings, models, engineering data, specifications, processes, or tooling).

2. All other DoD items that can easily be replaced in a short time.

(c) A list of DoD items that require additional information or research to determine whether DMSMS monitoring is necessary. That determination will consider potential risk factors, such as:

1. Item criticality.

2. Time to resolve DMSMS issues.

3. Supply chain vulnerability.

(4) Monitor items, analyze potential issues, and open DMSMS cases. See Section 4.4 of SD-22 for methods to analyze item availability and identify DMSMS issues by:

(a) Determining the production status of high-risk DoD items, including software, by applying one, or a combination, of the following monitoring approaches:

1. Direct contact with the manufacturer.

2. Collection and review of DMSMS notifications.

3. The use of a commercial service that specializes in determining the production status of certain types of DoD items.

4. The use of the Defense Logistics Agency (DLA) Shared Data Portal or the GIDEP.

5. The use of a tool or service designed for DMSMS management.

6. The use of supply chain or industrial base analysis for high-risk DoD items where monitoring does not provide sufficient information.

7. Critical materials analysis of DoD items often not found in BOMs, as described in Section 4.4.3 of SD-22.

(b) Processing and compiling DMSMS notifications and associating notifications with the systems being monitored.

(c) Validating initial DMSMS notifications as required.

(d) Establishing DMSMS cases for all validated DMSMS issues.

(e) Transmitting validated DMSMS issues to the GIDEP using GIDEP procedures and processes.

(5) Review new and revised designs to assess DMSMS risk, as described in Section 4.5 of SD-22.

(6) Identify technology and product trends and use predictive tools, as described in Section 4.6 of SD-22, to forecast future obsolescence and inform the appropriate teams to incorporate these forecasts into technology refresh and insertion planning.

b. To identify whether DMSMS issues or DoD supply systems that procure, store, and issue most of the DoD items used in DoD systems, the DMPO will:

(1) Assess supply system data.

(2) Provide information on DMSMS issues to:

(a) The GIDEP using the GIDEP procedures and processes.

(b) Affected DMPOs.

3.4. ASSESS NEED, TIMING, AND LEVEL OF A DMSMS RESOLUTION.

The DMPO will:

a. In order to efficiently and effectively expend its efforts on the most critical issues, assess and evaluate:

(1) The likelihood that a DMSMS issue will impact production or sustainment.

(2) The date the impact will likely occur.

(3) Whether or not, as well as when and at what level of assembly, to address the DMSMS issue.

b. Obtain data needed for the DMSMS assessment process. Section 5.1 of SD-22 provides descriptions of the following types of data the DMPO may need to obtain:

(1) Programmatic data:

(a) Life cycle phase.

(b) Planned technology insertion or refreshment schedules.

(c) Planned end of life date for the system.

(d) Usage density within the system.

(e) Number of systems in inventory over time.

(f) Planned average operating hours.

(g) Cross-organizational use of the DoD item.

(2) Availability data for the DoD item and its higher levels of assembly.

(3) Criticality data for the DoD item and its higher levels of assembly.

(4) Engineering and logistics data for the DoD item and its higher levels of assembly:

(a) Demand data.

(b) Reliability data.

(c) Inventory data.

(d) Maintenance approach.

(e) Repair history.

(f) Repair survival rates.

(g) Item cost.

(h) Wear out rates.

c. Assess each DMSMS issue as described in Sections 5.2 and 5.3 of SD-22, to determine:

(1) Whether, and when, the DMSMS issue will impact the system, and if it warrants further action (e.g., stock on hand is insufficient to produce and sustain the system until the end of need).

(a) If no action is required, the DMPO will:

1. Update and close the DMSMS case in the appropriate DMSMS case management system.

2. Reopen the DMSMS case and implement the procedures described in Paragraphs 3.5. and 3.6. of this issuance, if necessary.

(b) If action is required, the DMPO will implement the procedures described in Paragraphs 3.5. and 3.6. of this issuance.

(2) The priority of a given DMSMS case in relation to other DMSMS cases by:

(a) Using a risk-based health assessment to document, by year, the effect of known or projected DMSMS issues on the ability to produce or sustain the system, considering:

1. Time to impact.

2. Potential for readiness or availability problems.

3. Number of DoD items affected.

4. Cost and complexity of the DoD item.

5. Other factors based on the DMPO's needs.

(b) Periodically review DMSMS case prioritization to confirm the risk factors have not changed, and taking action as required.

d. Determine the optimal level of assembly to apply the resolution, as described in Section 5.3.3 of SD-22, considering:

(1) The number and complexity of DMSMS issues in higher levels of assembly.

(2) The reliability of DoD items in higher levels of assembly.

(3) The cost of mitigation at different levels of assembly.

(4) The life-cycle phase of other DoD items in higher levels of assembly.

(5) The potential for enhancing mission capabilities by redesigning or replacing DoD items.

3.5. ANALYZE RESOLUTION OPTIONS.

a. The DMPO will:

(1) Determine the available options for resolving a DMSMS issue among those in Table 12 of SD-22 for resolving the DMSMS issue, considering DMSMS resolution options, definitions, and examples described in Section 6.2 of SD-22.

(2) Determine the cost of implementing each viable DMSMS resolution option identified, considering the cost elements shown in Section 6.1 and Table 13 of SD-22.

(3) Determine which organizations could be affected by the DMSMS issue and, if so:

(a) Collaborate on the DoD item's resolution with all organizations that could be affected by the DMSMS issue or its resolution.

(b) Inform and consult with personnel responsible for the DoD item's inventory management on the resolution of the DMSMS issue.

(4) Determine the optimal resolution for the DMSMS issue, using a business case analysis or equivalent analysis that considers inputs from all stakeholders. Update the GIDEP with proposed resolution information. See the process flowchart in Figure 18 of SD-22 and guidance in Section 6.3 of SD-22.

b. DoD supply organizations will coordinate with DMPOs on courses of action regarding the resolution of DMSMS issues.

3.6. IMPLEMENT RESOLUTION OPTIONS.

a. The DMPO will oversee and monitor the implementation of resolutions to DMSMS issues through completion by:

(1) Programming and budgeting for resolutions for known and forecasted DMSMS issues, as described in Section 7.1 and Appendix L of SD-22.

(2) Implementing resolutions to DMSMS issues, as quickly as possible and as described in Section 7.3 of SD-22, to avoid higher costs and increased impacts on schedule and readiness.

(3) Tracking the implementation of DMSMS issue resolutions through certain activities:

(a) Confirm all stakeholders understand their roles and responsibilities for resolution implementation, as established when the DMT formed.

(b) Work with all stakeholders to define the implementation steps needed to complete the resolution.

(c) Use DMSMS cases to track the progress of the implementation.

(d) Verify the successful completion of appropriate technical actions (e.g., qualification of a new item or procurement of a DoD item).

(e) Obtain status on the progress of resolution implementation and determine supplemental mitigation actions, if this status indicates a schedule delay.

(f) Update BOMs to reflect the configuration changes upon resolution completion.

(g) Update supply organization data affected by the implementation.

(h) Update the GIDEP with final DMSMS issue resolution information for the DoD item.

b. DoD supply organizations will coordinate with DMPOs on courses of action regarding the resolution of DMSMS issues.

APPENDIX 3A: DMSMS MANAGEMENT RECORD KEEPING

Table 1. Required Level 1 DMSMS Management Record Keeping Data Elements

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Type of Resolution Approved	Cost	Approved item	See SD-22 for description.
		Life-of-need (LON) buy	See SD-22 for description.
		Simple substitute	See SD-22 for description.
		Complex substitute	See SD-22 for description.
		Extension of production or support	See SD-22 for description.
		Repair, refurbishment, or reclamation	See SD-22 for description.
		Development of a new source	See SD-22 for description.
		Design refreshment	See SD-22 for description.
		Redesign of the next higher assembly (NHA)	See SD-22 for description.
		Redevelop the item	See SD-22 for description.
		Redesign complex or system replacement	See SD-22 for description.
Resolution Cost	Cost	Cost to develop and implement (exclude LON item costs and costs to procure non-developmental and test items)	Costs related to engineering and design of the resolution, including: • Engineering and engineering data revision. • Qualification of new items. • Software development or modification. • Startup costs. • Tooling. • Equipment. • Software and one-time costs related to the implementation of the resolution.

Table 1. Required Level 1 DMSMS Management Record Keeping Data Elements, Continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
			• Computer programs and documentation. • Interim support. • Supply and provisioning data. • Support and test equipment. • Technical manuals. • Training and training equipment Installation costs. The cost of items for LON purchases and of the actual item beyond testing items should not be included. For a multi-phase resolution, capture this information for each phase.
Source of DMSMS Resolution Cost	Cost	Actual costs	This item is selected if the development and implementation cost are actual costs.
		Estimated costs	This item is selected if the development and implementation cost are estimated costs.
		Costs from DoD cost tables	This item is selected if the development and implementation cost are derived from the SD-22 average resolution cost table.
Redesign Level (if redesign involved in the resolution)	Cost	Component (piece parts, device, commercial item)	A smaller, self-contained part of a larger entity. These are the lowest level items used in an assembly.
		Assembly (card, shop repairable assembly, shop replaceable unit; may be a commercial item or non-developmental item (NDI))	Assemblies are items built from components.
		Subsystem of boxes, weapons replaceable assembly, line replaceable unit	Subsystems are complete functional items built from assemblies and items.
DMSMS Management Operations Cost	Cost	The amount paid to the prime contractor or OEM	DMSMS management costs only. Does not include the cost to resolve DMSMS issues.

Table 1. Required Level 1 DMSMS Management Record Keeping Data Elements, Continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Paid to Prime or Original Equipment Manufacturer (OEM)		for DMSMS management operations	
DMSMS Management Operations Cost Paid to Independent SME Organizations	Cost	The amount paid to independent SME organizations for DMSMS management operations	DMSMS management costs only. Does not include the cost to resolve DMSMS issues.
Management Operations Cost for Internal DMSMS Activities	Cost	Amount to fund internal DMSMS operations	DMSMS management costs only. Does not include the cost to resolve DMSMS issues.
Original Component Manufacturer (OCM) or OEM Part Number	Efficiency	OCM or OEM part number	The part number associated with the DMSMS case.
OCM or OEM Commercial and Government Entity (CAGE) Code	Efficiency	OCM or OEM CAGE code	The CAGE code is a unique identifier assigned to suppliers to various government or defense agencies and organizations. CAGE codes provide a standardized method of identifying a given facility at a specific location.
Nomenclature	Efficiency	Nomenclature	Name of item.
Item Class	Efficiency	Commercial item	Commercial items include any items customarily used by the general public, or by nongovernmental entities, for other than governmental purposes that have been sold, leased, or licensed (or offered for sale, lease, or license) to the general public, as described in Section 2.101 of the Federal Acquisition Regulation.
		NDI	See descriptions in Section 2.101 of the Federal Acquisition Regulation.
		Developmental item	A developmental item is any item that is not commercial and not NDI.

Table 1. Required Level 1 DMSMS Management Record Keeping Data Elements, Continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Case Proactivity Indicator	Efficiency	Reactive	Items found to be obsolete after a failed attempt to purchase them, or no sources bid on repair work as a result of obsolescence.
		Proactive	Items determined to be obsolete before an attempt to purchase them. Proactively implies the item was found to be obsolete as a result of a discontinuation notice from any source, such as a predictive tool, a vendor survey, research on the item, or an attempt of a LON buy.
Date Alert Received	Efficiency	Date alert received	The date the DMSMS alert was received.
Date Case Opened	Efficiency	Date case opened	The date the case was opened to determine resolution.
Date Resolution Submitted for Approval	Efficiency	Date resolution submitted for approval	The date the resolution for the case was submitted for approval.
Date Case Resolved	Efficiency	Date case resolved	The date a resolution for the case was approved.
Date Case Closed	Efficiency	Date case closed	Date the case was fully implemented. In situations where the implementation requires installation or retrofit over long periods, this can be the date when the development work was-completed and the first installation or retrofit is successfully completed.
Date Implementation Needed	Efficiency	Date implementation needed	The date by which a case must be implemented to prevent an impact on the system.
Resolution Avoided	Efficiency	Approved item	See SD-22 for description. For a proactive resolution, the resolution avoided is the resolution that would have been implemented had the DMSMS issue been opened reactively at the point in the future where there would have been a failed attempt to purchase the item. For a reactive resolution, the resolution avoided is the resolution that could have
		LON buy	
		Simple substitute	
		Complex substitute	
		Extension of production or support	
		Repair, refurbishment, or reclamation	

Table 1. Required Level 1 DMSMS Management Record Keeping Data Elements, Continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
		Development of a or source	been implemented had the DMSMS issue been identified and opened proactively at the point in the past where information such as product discontinuance notices could have been discovered.
		Design refreshment	
		Redesign of the NHA	
		Redevelop the item	
		Redesign complex or system replacement	
Cost of Resolution Avoided	Efficiency	Cost to develop and implement (exclude LON costs)	Costs related to engineering and design of the resolution, including: • Engineering and engineering data revision. • Qualification of new items. • Software development or modification. • Startup costs. • Tooling or equipment. • Software and one-time costs related to the implementation of the resolution. • Computer programs or documentation. • Interim support. • Supply or provisioning data. • Support or test equipment. • Technical manuals. • Training and training equipment. • Installation costs. The cost of items for LON purchases and of the actual item beyond testing items must not be included.
Subsystems	Efficiency	Total number of subsystems in the system	Total number of subsystems, whether monitored or not. Subsystems are items that are built from assemblies and, in

Table 1. Required Level 1 DMSMS Management Record Keeping Data Elements, Continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
			some cases, components. Components are the lowest-level items used in assemblies.
Subsystems Monitored	Efficiency	Total number of subsystems in the system being monitored	Total number of subsystems that are monitored.
Components	Efficiency	Total number of components	Components within the system or subsystem.
Components Monitored	Efficiency	Total number of monitored components	Components that are being monitored within the system or subsystem.
Reason Issue Was Discovered Reactively (only when case proactivity indicator was reactive)	Efficiency	Items not monitored by choice	Items that are not monitored due to choice of the program.
		Vendor survey failed to identify	Items monitored by a vendor survey for obsolescence, which are determined to be obsolete after a failed attempt to purchase them.
		Predictive tool failed to identify	Items monitored by a predictive tool for obsolescence, which are determined to be obsolete after a failed attempt to purchase them.
		Discontinuation notice not received	Items dependent on a notification from the manufacturer or other source, but which are determined to be obsolete after a failed attempt to purchase them.
		Data error	Items proactively monitored, but the monitoring failed because of data errors.
		Other (provide details)	All other circumstances where products are monitored.

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Commodity Type	Cost	Software	Software is a sequence of instructions written in a programming language. Software can be interpreted and executed by: • Computers; • Microprocessors; • Microcontrollers; or • Other processing devices. Types of software include: • Operating systems. • Applications. • Drivers. • Firmware. • Utilities. Market categories of software include: • Commercial. • Government. • Open-source. • Freeware. Programming languages range from machine code (device language) to 4th and 5th generation languages. Each generation tends to further abstract the language from the device.
Commodity Type	Cost	Electronics	Electronic devices control electrical energy by manipulating the flow of electrons. Electronics encompasses circuits that involve active electrical components such as: • Vacuum tubes. • Transistors. • Diodes. • Integrated circuits. • Associated passive electrical components. • Interconnection technologies.

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements, continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Commodity Type	Cost	Electronics, continued	Commonly, electronic devices contain circuitry consisting primarily or exclusively of active semiconductors supplemented with passive elements; such a circuit is described as an electronic circuit.
Commodity Type	Cost	Electrical or electro-mechanical	Electro-mechanical devices carry out electrical operations by using moving parts. Electro-mechanical devices deal with the generation, distribution, switching, storage, and conversion of electrical energy to and from other energy forms using: • Wires. • Motors. • Generators. • Batteries. • Switches. • Relays. • Transformers. • Resistors. • Other passive components.
Commodity Type	Cost	Mechanical	Mechanical devices are machines or parts of machines which are primarily related to or controlled by physical forces. Examples include: • Bearings. • Machined devices. • Castings. • Valves. • Screws. • Bolts. • Panels.

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements, continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Commodity Type	Cost	Materials	Materials are the substance or substances of which a thing is made or composed. Materials can include raw, refined, or manufactured items that are used in the manufacturing of other items. Examples include: • Glues. • Metal. • Fabric. • Minerals. • Gases. • Liquids. • Chemicals. • Paints
Operating Environment of the Equipment	Cost	Air	Items that are used in or on airborne equipment.
		Arctic	Items that are used in an arctic environment.
		Desert	Items that are used in a desert environment.
		Ground, tactical	Items that are used in or on ground equipment in a tactical environment.
		Ground, benign	Items that are used in or on ground equipment in a non-tactical environment.
		Marine	Maritime surface items (e.g., ships, boats, drones, and barges).
		Space	Items that are used outside of the earth's atmosphere.
		Undersea	Items that are used in an undersea maritime environment (e.g., submarines, torpedoes, mines, and drones).
Product Acquisition Cost	Cost	Cost of items purchased as part of a resolution	The total cost of actual items purchased for a LON buy resolution or for other resolutions where some quantity of the new items was purchased in conjunction with any non-recurring engineering and testing to develop that new item (e.g., the funded resolution may have been reverse

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements, continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
			engineering, but a quantity of the new reversed engineered item was purchased at the same time).
DMSMS Item Type	Cost	Component (piece parts, device, commercial item)	A component that is a smaller, self-contained part of a larger entity.
		Assembly (card, shop repairable assembly, shop replaceable unit, may be a commercial item) or NDI	Assemblies are items built from items.
		Subsystem (boxes, weapons replaceable assembly, line replaceable unit)	Subsystems are: • Complete functional items built from assemblies. • Items.
Value of Management Operations Activities Received at No Cost from a Centralized Service Source	Cost	Value of resources provided from a centralized command source	DMSMS management costs only. Does not include the cost to resolve DMSMS issues.
LON Buy Preferred Indicator	Efficiency	Yes	This must be limited to situations where a LON buy would have been the best approach but was unavailable (e.g., notification was too late, there was no budget, or procurement time took too long).
		No	
Monitoring Techniques (only when case proactivity	Efficiency	Vendor survey	The need for a DMSMS case was established by a monitoring process where the manufacturer of the item is contacted directly to determine the production status of a part.

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements, continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
indicator was proactive)		Predictive tool	The need for a DMSMS case was established by a monitoring process where the production status of a part is determined by the use of a predictive tool.
		DLA notice	The need for a DMSMS case was established by obtaining a notification from DLA.
		GIDEP notice	The need for a DMSMS case was established by obtaining a notification from the GIDEP.
		OEM notice	The need for a DMSMS case was established by obtaining a notification from the prime contractor or component manufacturer.
		Prior LON buy inadequate quantity	The need for a DMSMS case was established when the items purchased for a previous LON buy resolution did not last as long as planned.
Effect on Production Schedule	Efficiency	Number of months of schedule slip	Months of production delay for fielding an augmenting capability as a result of the issue that initiated the DMSMS case.
Effect on Logistics Response Time	Efficiency	Number of days of extended logistics response time	Days of logistic response time increase as a result of the issue that initiated the DMSMS case.
Effect on Mission Capable Rate	Efficiency	Percentage change in mission capable rate	Percentages of mission capable rate decrease as a result of the issue that initiated the DMSMS case.
Resolution Avoided Implementation Time	Efficiency	Estimated time to implement the resolution avoided	Days required to implement the resolution avoided (either a proactive one or a reactive one), i.e., the total time required to close a DMSMS case. Most DMTs consider a DMSMS case closed when all activities are complete, including changes to drawings and technical manuals.

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements, continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
Resolution Avoided Implementation Time, continued	Efficiency	Estimated time to implement the resolution avoided	When a resolution will take a long time to complete (for instance, when it is being back fitted by attrition), the DMSMS case can be considered closed when the initial installations are complete and planning for future installations are in place. This data element should be determined on the basis of engineering judgement. In the absence of other data, use Table 3 to develop an estimate of the implementation time based on the resolution avoided. The information in Table 3 was derived from an analysis of 39,535 different DMSMS cases. While this table reflects actual case resolution times, the impact and the impact time-line also influence the results. E.g., if an issue were predicted to occur in 5 years, the personnel working this DMSMS case may elect to defer resolution actions, especially if a preliminary assessment indicates a simpler resolution or no sense of urgency. Furthermore, the DMSMS case closure criteria was not defined in this example. Some DMTs may consider closure at the approval point, others at contract implementation, and others at complete documentation update (e.g., technical manuals or engineering drawings).
Consumption Rate	Efficiency	Demand per quarter	The expected quarterly demand for the DMSMS item based on all systems using

Table 2. Optional Level 2 DMSMS Management Record Keeping Data Elements, continued

Name of Field	Type	Data to be Collected	Description of Data to be Collected
			the item in question, not just the program office maintaining records.
Stock on Hand	Efficiency	Stock on hand in the supply system	Estimated stock that would be on hand in the supply system at the time that the DMSMS issue was reactively identified. Typically this is the reorder level, including all safety stock.

Table 3. Mean Days to Close a DMSMS Case

Resolution Type	Mean
Approved item	179
LON buy	187
Simple substitute	136
Complex substitute	225
Extension of production or support	440
Repair, refurbishment, or reclamation	265
Development of a new source	190
Redesign the item	190
Redesign; NHA	301
Redevelop the item	190
Redesign; complex or system replacement	644

SECTION 4: DOD DMSMS WORKING GROUP CHARTER

4.1. PURPOSE AND SCOPE.

The DoD DMSMS Working Group facilitates the implementation of DMSMS management to minimize the impact of DMSMS issues throughout the DoD.

4.2. MEMBERSHIP.

a. In accordance with DoDI 4245.15, the USD(R&E) and the ASD(S) designate co-chairs for the DoD DMSMS Working Group.

(1) The DoD DMSMS Program Lead from the Defense Standardization Program Office or USD(R&E)-designated representative will serve as a co-chair for the DoD DMSMS Working Group as directed by the USD(R&E).

(2) The Deputy Assistant Secretary of Defense for Logistics or ASD(S)-designated representative will serve as a co-chair for the DoD DMSMS Working Group as directed by the ASD(S).

b. Organizations participating in the DoD DMSMS Working Group are responsible for ensuring that they are represented in the DoD DMSMS Working Group by knowledgeable and consistent personnel. The DoD DMSMS Working Group membership consists of:

(1) USD(A&S) representatives from:

(a) Assistant Secretary of Defense for Acquisition.

(b) ASD(S).

(c) Assistant Secretary of Defense for Industrial Policy.

(2) USD(R&E) representatives from:

(a) Deputy Chief Technology Officer for Science and Technology.

(b) Deputy Chief Technology Officer for Critical Technologies.

(c) Executive Director, Systems Engineering/Architecture.

(3) One representative from each of the following organizations:

(a) U.S. Army.

(b) U.S. Navy.

(c) U.S. Air Force.

(d) U.S. Space Force.

(e) U.S. Marine Corps.

(f) U.S. Coast Guard.

(g) National Guard Bureau.

(h) DLA.

(i) Missile Defense Agency.

(j) Defense Health Agency.

(k) Defense Contract Management Agency.

(l) National Geospatial Agency.

(m) Defense Information Systems Agency.

(n) National Security Agency.

c. Other organizations may be called upon by the DoD DMSMS Working Group co-chairs to provide representatives to support the DoD DMSMS Working Group when needed.

d. Additional participants may be called upon by the DoD DMSMS Working Group co-chairs to advise the DoD DMSMS Working Group when needed.

4.3. FUNCTIONS.

a. The DoD DMSMS Working Group:

(1) Serves as the focal point for developing and revising DoD DMSMS policy, guidance, and management strategies.

(2) Champions proactive DMSMS management best practices, synergies, and standardization through education, training, and outreach throughout the DoD and industry.

(3) Defines and assesses DMSMS management effectiveness across the DoD.

(4) Establishes and pursues DoD-wide strategic DMSMS management objectives.

(5) Contributes to periodic updates to SD-22 and SD-26.

b. The DoD DMSMS Working Group co-chairs:

(1) Oversee the pursuit of DoD-wide strategic DMSMS management objectives.

(2) Represent the DMSMS management function in other DoD-sponsored initiatives and activities (e.g., parts management, supply chain risk management, logistics research and development, manufacturing technology).

(3) Hold at least two DoD DMSMS Working Group meetings per year.

(4) Develop DoD DMSMS Working Group meeting agendas, schedule speakers, and facilitate meetings.

(5) Develop and distribute DoD DMSMS Working Group meeting minutes and action items.

(6) Solicit additional DoD DMSMS Working Group participants, as required.

(7) Champion the efforts of DoD Component DMSMS working groups.

c. Each DoD DMSMS Working Group member:

(1) Serves as the focal point for their organization's DMSMS management, and shall have the authority to negotiate and seek agreement with other DoD DMSMS Working Group members to achieve the goals and objectives of the DoD DMSMS Working Group.

(2) Participates in all DoD DMSMS Working Group meetings or ensure that alternate representation is provided.

(3) Recommends agenda topics before scheduled DoD DMSMS Working Group meetings.

(4) Collaborates and provides information on the DoD DMSMS Working Group's strategic objectives and other DMSMS management issues.

(5) Identifies ways to use supply system data to improve DMSMS management.

(6) Shares best practices and lessons learned based on the analysis of their organization's DMSMS management metrics and other sources.

(7) Disseminates DMSMS information obtained at DoD DMSMS Working Group meetings with their organization's DMSMS stakeholders.

(8) Informs the DoD DMSMS Working Group co-chairs and the DoD DMSMS Working Group of their organization's DMSMS activities, plans, and feedback from:

(a) Their information dissemination efforts within their organizations.

(b) The DMSMS management metrics.

(c) Efforts to reduce cost and improve efficiency.

(9) Recommends additional individuals from their organizations to advise the DoD DMSMS Working Group.

GLOSSARY

G.1. ACRONYMS.

ACRONYM	MEANING
ASD(S)	Assistant Secretary of Defense for Sustainment
BOM	bill of materials
CAGE	commercial and government entity
CDRL	contract data requirements list
DLA	Defense Logistics Agency
DMP	diminishing manufacturing sources and material shortages management plan
DMPO	diminishing manufacturing sources and material shortages management performing organization
DMSMS	diminishing manufacturing sources and material shortages
DMT	diminishing manufacturing sources and material shortages management team
DoDI	DoD instruction
GIDEP	Government Industry Data Exchange Program
LON	life-of-need
NDI	non-developmental item
NHA	next higher assembly
OCM	original component manufacturer
OEM	original equipment manufacturer
SD	standardization-related document
SME	subject matter expert
USD(A&S)	Under Secretary of Defense for Acquisition and Sustainment
USD(R&E)	Under Secretary of Defense for Research and Engineering

G.2. DEFINITIONS.

Unless otherwise noted, these terms and their definitions are for the purpose of this issuance.

Term	DEFINITION
assembly	A combination of individual items or other assemblies of items used to produce a finished product.
DMPO	An acquisition program office that performs DMSMS management for the DoD systems under its purview or another organization responsible for DMSMS management for those systems in support of an acquisition program office.
DMSMS case	Documentation of a DMSMS issue and the status of that issue from its initial identification to the implementation of the selected resolution.
DMSMS issue	The loss, or impending loss, of manufacturers or suppliers of one or more items, raw materials, or software.
DMSMS management	A multidisciplinary process to identify risks resulting from obsolescence, loss of manufacturing sources, or material shortages; to assess the potential for negative impacts on schedule or readiness; to analyze potential mitigations; and then to implement the most cost-effective resolution.
DMSMS notification	An announcement from a company or other source that informs the reader of a change in the production status of an item. DMSMS notifications are commonly referred to as alerts. The term "DMSMS notification" is used to indicate any verified or unverified notice of a change in production status. Data sources for the announcements include product change notices, product discontinuation notices, results of monitoring items for DMSMS issues, the GIDEP, DLA, and commercial services that specialize in compiling DMSMS information.
DMSMS resilience	The use of design techniques that reduce the likelihood of near-term DMSMS issues and increase the probability of a quick recovery when issues do occur. DMSMS resilience is incorporated into a design by applying a modular, open system approach along with other supportability-related design considerations. This must be done in conjunction with part selection procedures that

Term	DEFINITION
	choose items with significant time left in their life cycle and with viable replacement options whenever possible.
DMSMS risk	The likelihood of a DMSMS issue occurring within a particular timeframe coupled with the severity of the consequences of that issue. Items are considered a high DMSMS risk if it is likely that the DMSMS issue will occur during the life cycle of the system and that the DMSMS issue will negatively impact production, sustainment, or readiness.
DoD items	A term used to refer to any lower level of assembly of DoD systems including parts, equipment, assemblies, components, and material.
health assessment	A projection over time for items in a subsystem of the number available in inventory to meet demand. A health assessment therefore shows the expected time when items will no longer be available due to obsolescence.
independent DMSMS management SME organization	A U.S. Government or commercial entity, external to the DMPO and absent other contractual relationship to the item being managed, that a DMPO uses to perform specified DMSMS management functions.
level of assembly	A location in the hierarchy of assemblies that form a finished product.
life cycle	The phases through which an item passes from the time it is initially developed until the time it is either consumed, used, or otherwise disposed (e.g., after a determination that the item is excess given all known requirements for the item).
life cycle sustainment plan	Defined in the Glossary of Defense Acquisition Acronyms and Terms at https://www.dau.edu/tools/t/DAU-Glossary
proactive DMSMS management	An approach to DMSMS management that attempts to identify DMSMS issues before there is an unfulfillable demand for the item with the intent of resolving the DMSMS issue before it can have a negative effect on a system's production or sustainment.

Term	DEFINITION
reactive DMSMS management	An approach to DMSMS management taken after a potential DMSMS issue is identified based on an unfulfillable demand for a DoD item. This generally occurs when no attempt was made to apply proactive DMSMS management, or there was a missed opportunity to identify DMSMS issues, before there is an unfillable demand for a DoD item.
stakeholders	Individuals or organizations who have a vested interest in DMSMS management. These individuals may include: A DMPO. Prime contractor. DMSMS SME. Supply system representatives. Maintenance organizations. Contracting staff. End users. Others as applicable.
supply organizations	DoD and Military Service centralized supply chain management agencies (e.g., DLA, Naval Supply Systems Command).
system	A collection of items or components that are organized for a common purpose. Typical DoD systems are comprised of subsystems and in many cases other systems or systems of systems.
systems engineering plan	Defined in the Glossary of Defense Acquisition Acronyms and Terms at https://www.dau.edu/tools/t/DAU-Glossary

REFERENCES

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DoD Directive 5135.02, "Under Secretary of Defense for Acquisition and Sustainment (USD(A&S))," July 15, 2020

DoD Instruction 4140.01, "DoD Supply Chain Materiel Management Policy," March 6, 2019

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DoD Instruction 5000.02, "Operation of the Adaptive Acquisition Framework," January 23, 2020, as amended

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DoD Instruction 5000.81, "Urgent Capability Acquisition," December 31, 2019

DoD Instruction 5000.85, "Major Capability Acquisition," August 6, 2020, as amended

DoD Instruction 5000.87, "Operation of the Software Acquisition Pathway," October 2, 2020

DoD Instruction 5200.44, "Protection of Mission Critical Functions to Achieve Trusted Systems and Networks, (TSN)," November 5, 2012, as amended

Federal Acquisition Regulation, current edition

[1] Available at https://www.dsp.dla.mil/Policy-Guidance/Key-Policy-Documents/