



INSTITUTE FOR DEFENSE ANALYSES

**U.S. Department of Defense
Obsolescence Policy and Guidance**

Jay Mandelbaum
Christina M. Patterson

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INSTITUTE FOR DEFENSE ANALYSES
730 East Glebe Road
Alexandria, Virginia 22301



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About This Publication

This work was conducted by the Institute for Defense Analyses (IDA) under contract HQ0045-19-D-0001, project DE-6-3405, "Fostering Proactive Diminishing Manufacturing Sources and Material Shortages (DMSMS) and Parts Management," for the Defense Standardization Program Office (DSPO) through the Defense Logistics Agency (DLA). The views, opinions, and findings should not be construed as representing the official position of either the Department of Defense or the sponsoring organization.

For More Information:

Dr. Jay Mandelbaum, Project Leader
jmandelb@ida.org, 703-845-2123

Ms. Jessica L. Stewart, Director, SFRD
jstewart@ida.org, 703-575-4530

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730 East Glebe Road
Alexandria, Virginia 22301 • (703) 845-2000

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Jay Mandelbaum
Christina M. Patterson
Institute for Defense Analyses

Types of Department of Defense (DOD) Issuances

DOD Directives

- Establish policy, assign responsibilities, and delegate authority to DOD components (Focused on either oversight or chartering)

DOD Instructions

- Establish policy and assign responsibilities to a *functional area* within a DOD component (May contain high-level procedures)

DOD Manuals

- Establish implementing or supplemental procedures for a directive or instruction

Directive-type Memoranda

- Initiate time-sensitive action related to a directive, instruction, or manual (May include policy or responsibilities, may implement those established in other Directives & Instructions)

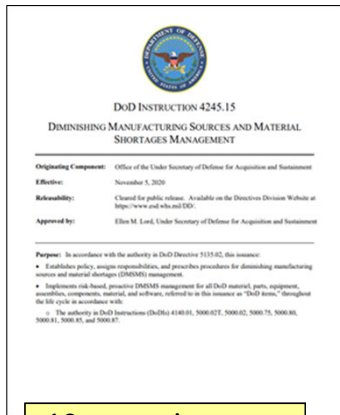
Guidance

- Provide non-mandatory implementing information in various forms

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Existing Obsolescence Issuances (1 of 3)

DOD issued Department of Defense Instruction (DODI) 4245.15, *Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management*, in November 2020



13-page document

- Establishes policy applicable throughout the life cycle:
 - Establish and implement risk-based, proactive DMSMS management
 - Evaluate all DOD system designs and redesigns for potential DMSMS issues
 - Implement resolutions, if necessary, to minimize or eliminate risks and negative impacts (e.g., cost, schedule delays, readiness) resulting from DMSMS issues
 - Implement improvements to DMSMS management processes
- Assigns responsibilities
- Prescribes overarching procedures

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Why We Needed a Manual



- DODI 4245.15 establishes policy and overarching procedures – what is required of DMSMS management performing organizations (DMPOs)

Needed additional policy to bridge the gap; in particular to:

- Provide clearer, more detailed procedures on what is required of DMPOs
- Charter the DOD DMSMS Working Group, formalizing this working group to facilitate the implementation of DMSMS management to minimize the impact of DMSMS issues throughout the DOD

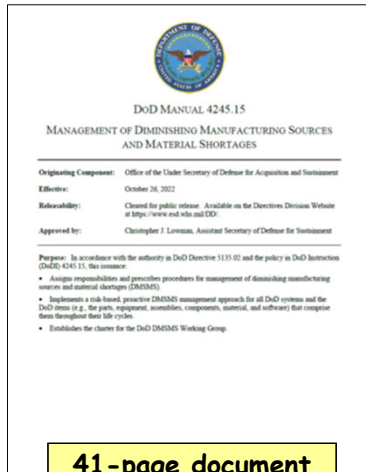


- DMSMS Management Guidance (SD-22)
 - Describes best practices for implementing a risk-based, DMSMS management approach
 - BUT, guidance is NOT mandatory

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Existing Obsolescence Issuances (2 of 3)

DOD issued Department of Defense Manual (DODM) 4245.15, *Management of DMSMS*, in October 2022

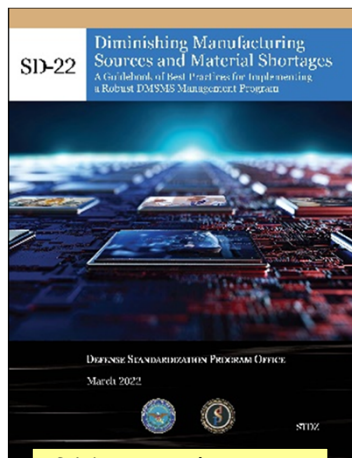


- **Main body contains:**
 - **General Issuance Information**
 - **Responsibilities**
 - **Procedures**
 1. **DMSMS Management Process**
 2. **Prepare for DMSMS Management Operations**
 3. **Identify DMSMS Issues**
 4. **Assess Resolution Need, Timing, Level**
 5. **Analyze Resolution Options**
 6. **Implement Resolution Options**
- **DOD DMSMS Working Group Charter**
- **Glossary and References**

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Existing Obsolescence Issuances (3 of 3)

DOD continues to evolve its DMSMS Management Guidance (SD-22); the latest edition is March 2022



- **Introduction and policy**
- **Sections similar to DODM**
- **Includes detailed Appendices, e.g.:**
 - **Questions for Systems Engineering Technical Reviews & Integrated Logistics Assessments**
 - **Program capability levels**
 - **Workforce competencies**
 - **Contracting, programming, and budgeting**
 - **Recordkeeping**
 - **Acquiring or building a bill of materials**
 - **Building roadmaps**
 - **Health assessments**

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DMSMS Management Process Steps



- *Best practices for implementing a robust DMSMS management program*, organized around the five process steps:
 - **Prepare:** DMSMS Management Program Infrastructure
 - **Identify:** DMSMS Monitoring and Surveillance
 - **Assess:** Resolution Need, Timing and Level
 - **Analyze:** DMSMS Resolution Determination
 - **Implement:** Implementation of DMSMS Resolutions

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Prepare Step

DMSMS Management Foundations

- Relationships & ground rules
- Monitoring priorities
- When DMSMS management begins
- Risk tolerance



DMSMS Management Plan

- Approach
- Team
- Operations
- Funding
- Contracts
- Metrics, reporting, & quality

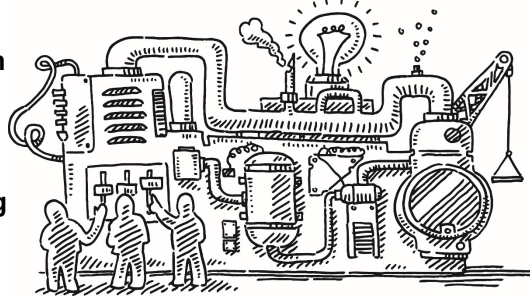
DMSMS Management Team

- Roles & responsibilities
- Training

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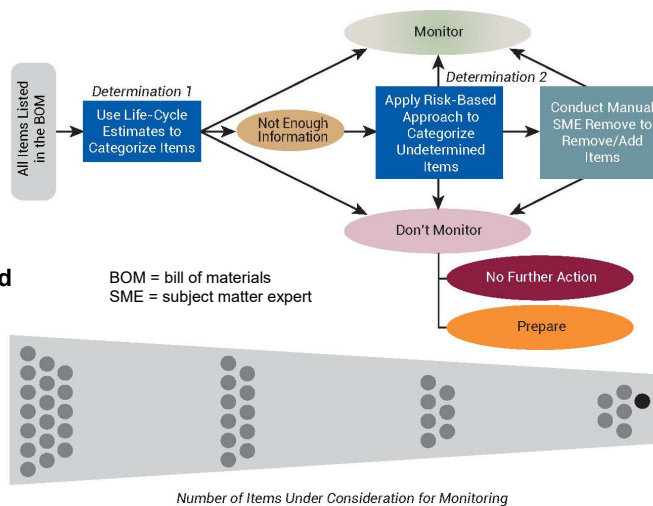
Prepare Step

- **Operational processes**
 - Secure resources for DMSMS management operations
 - **Establish interfaces to advocate for DMSMS resilient designs**
 - **Establish a DMSMS management evaluation process**
 - Recordkeeping
 - Programming and budgeting, process effectiveness, ROI
 - Establish a quality management system
 - Establish a case monitoring and tracking process
 - Establish supporting contracts



Identify Step

- **One-time operational processes**
 - Prioritize systems
 - Identify and secure monitoring and surveillance tools
 - Collect and prepare item data



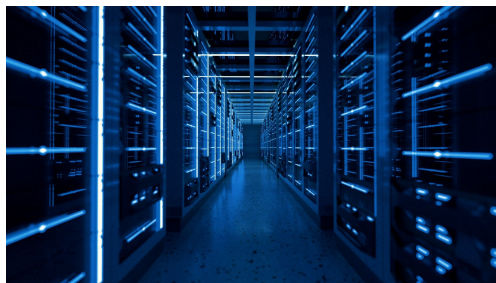
Identify Step

- **Recurring operational processes**
 - Analyze item availability
 - **Assess preliminary design for DMSMS obsolescence risk**
 - **Forecast future DMSMS issues**



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Assess Step



- **Obtain data**
 - **Programmatic**
 - **Availability**
 - **Criticality**
 - **Logistics**

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Assess cont'd (1 of 2)

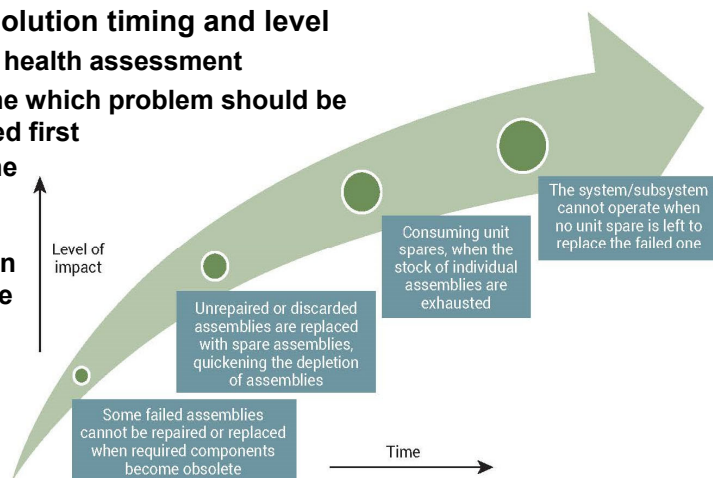
- **Determine whether a resolution should be pursued**
 - No demand
 - High inventory
 - Reclamation



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Assess cont'd (2 of 2)

- **Assess resolution timing and level**
 - Conduct health assessment
 - Determine which problem should be addressed first
 - Determine the level that resolution should be applied



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Analyze Step

- Identify resolution cost elements

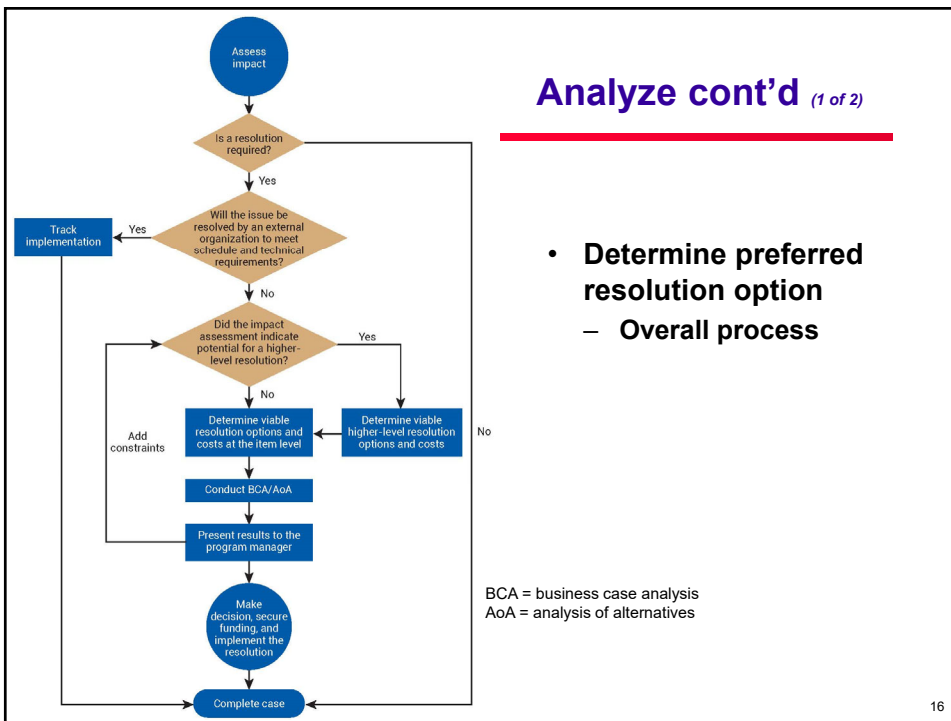
Cost Element	Existing Material (Logistics)				Substitute (Engineering)			Redesign (Engineering)			
	Approved Item	LON Buy	Repair, Refurbishment, Reclamation	Extension of Production or Support	Simple Substitute	Complex Substitute	Development of a New Source	Design Refreshment	Redevelop the Item	Redesign—NHA	Redesign—Complex/System Replacements
Non-recurring engineering			X		X	X	X	X	X	X	X
Engineering, engineering data revision					X	X	X	X	X	X	X
Purchase of engineering, design, or technical data		X			X	X	X	X	X	X	X
Qualification of new items					X	X	X	X	X	X	X
Revision of test procedures		X			X	X	X	X	X	X	X
Software changes					X	X	X	X	X	X	X
Start-up costs (after-market, and so forth)		X	X		X	X	X	X	X	X	X
Testing					X	X	X	X	X	X	X
Tooling, equipment, test equipment, or software		X			X	X	X	X	X	X	X
Computer programs/documentation		X			X	X	X	X	X	X	X
Interim support								X	X	X	X
Supply/provisioning data					X	X		X	X	X	X
Support/test equipment		X			X	X	X	X	X	X	X
Technical manuals		X			X	X		X	X	X	X
Training/trainers		X			X			X	X	X	X
Spares (optional)			X				X	X	X	X	X
Other (as required)	X	X ¹	X ²	X	X	X	X	X	X	X	X

LON = life of need
NHA = next higher assembly

- Identify and define resolution options

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Analyze cont'd (1 of 2)



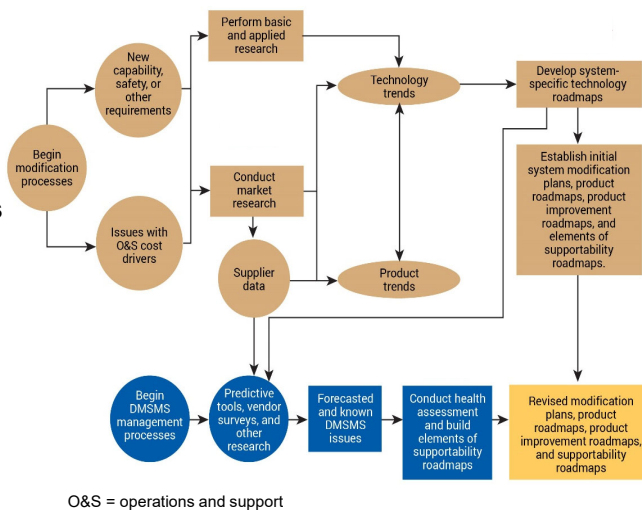
- Determine preferred resolution option
- Overall process

BCA = business case analysis
AoA = analysis of alternatives

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Analyze cont'd (2 of 2)

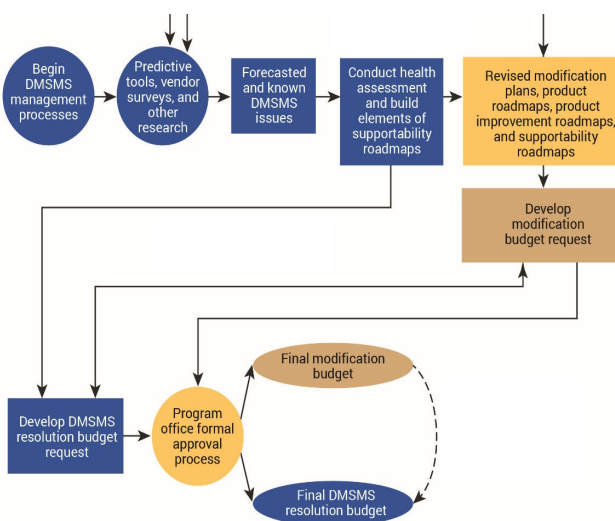
- **Determine preferred resolution option**
 - Design considerations
 - Roadmaps
- **Finalize the preferred resolution**



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Implement Step

- **Program and budget for DMSMS resolutions**
 - Much better than seeking resources when an issue arises
- **Integrate DMSMS resolution and modification funding**



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Implement cont'd



- **Implement DMSMS resolutions**
 - Follow standard processes for making engineering changes
 - Do not assume processes will be problem free
 - DMSMS management team may need help from senior management

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Links

- **DODI 4245.15**
 - [DODI 4245.15, “Diminishing Manufacturing Sources and Material Shortages Management,” effective November 4, 2020 \(whs.mil\)](#)
- **DODM 4245.15**
 - [DODM 4245.15, “Management of Diminishing Manufacturing Sources and Material Shortages,” October 26, 2022 \(whs.mil\)](#)
- **SD-22**
 - [Diminishing Manufacturing Sources and Material Shortages, “A Guidebook of Best Practices for Implementing a Robust DMSMS Management Program” \(dla.mil\)](#)

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