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NAVAL AIR SYSTEMS COMMAND  
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IN REPLY REFER TO

NAVAIRINST 4790.35  
AIR 6.7.1

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NAVAIR INSTRUCTION 4790.35

From: Commander, Naval Air Systems Command

Subj: DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES

- Ref:
- (a) DoD 4140.1-R, Section C 3.6, Supply Chain Materiel Management, 23 May 2003
  - (b) SECNAVINST 5000.2D
  - (c) SD-22, Diminishing Manufacturing Sources and Material Shortages (DMSMS) Guidebook, 1 Sep 2009
  - (d) Systems Planning and Requirements System (SYSPARS) DMSMS Management Plan Generator <http://www.dmsg.org/planbuilder/>
  - (e) OSD/ATL Memorandum, Diminishing Manufacturing Sources and Material Shortages (DMSMS) Guidebook, 25 May 2005
  - (f) DASN(L) Memorandum, DMSMS Program Management Plan and Metrics, 12 Apr 2005
  - (g) NAVICPINST 4431.2A
  - (h) DI-SESS-81656, Source Data for Forecasting DMSMS, 9 May 2005
  - (i) DoD Instruction 5000.02
  - (j) TechAmerica GEIA-HB-0005-1, Program Management/ Systems Engineering Guidelines for Managing the Transition to Lead-Free Electronics, 1 Jun 2006
  - (k) SECNAVINST 4105.1B

1. Purpose. Reference (a) requires each Department of Defense (DoD) Component to develop a process to proactively manage Diminishing Manufacturing Sources and Material Shortages (DMSMS) throughout the system life-cycle in accordance with references (a) through (k). Reference (b), enclosure (3), paragraph 3.9.1 provides Department of Navy (DON) guidance for management of DMSMS and establishes Naval Air Systems Command (NAVAIR) DMSMS policy, procedures, and responsibilities in accordance with reference (b), enclosure (7), paragraph 7.1.1, and reference (c), which provides guidance for processes and procedures, manufacturing and production planning, and program effectiveness.

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2. Scope. This instruction is applicable to:

a. All systems and equipment procured by NAVAIR and associated Program Executive Offices (PEO). These systems and equipment include, but are not limited to: Aeronautical Equipment; Airborne Weapons; Targets; and Armament (including Air-launched Missiles and Aviation Ordnance); Unmanned Aircraft Systems (UAS) and associated systems; trainers; and training equipment; support equipment; structure components; avionics equipment; power plants; Aviation Life Support Systems (ALSS); and Aircraft Launch and Recovery Equipment (ALRE).

b. Support for out-of-service systems utilized by NAVAIR Foreign Military Sales (FMS) customers.

c. Any commercial, Non-Developmental Item (NDI), or Contractor Logistics Support (CLS) item procured by NAVAIR under a Performance Based Logistics (PBL) support contract with intended use by organic naval personnel - civilian and active duty or reserve Navy and Marine Corps.

3. Background. The DMSMS is defined as the loss or impending loss of manufacturers of items, suppliers of items, or suppliers of raw material that occurs when manufacturers of items or raw material suppliers discontinue production. The DMSMS may occur at any phase of the life-cycle of a system and must be monitored down to the lowest replaceable component of the system. The DMSMS has the potential to severely impact weapons systems cost, schedule, and performance. This may be attributed to rapid changes in item or material technology, production support requirements, foreign source competition, federal environmental or safety requirements, and limited availability or increasing cost of items and raw material supplies. The DMSMS problems are an increasing concern as weapon system service life increases and supporting product life-cycle time decreases. The problem is further complicated by the reduction in the industrial base dedicated to military equipment. In the past, programs have predominantly addressed DMSMS issues through an independent reactionary process, addressing DMSMS problems after they surface. This has led to decreased response time and escalating DMSMS costs for each program. While the primary focus of DMSMS has been placed on microelectronics, it does not eliminate the need to address DMSMS concerns for mechanical and electro-mechanical items. Teams must take into account the potential

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effects of losing suppliers of items that have a long lead time or items that contain exotic/rare material.

#### 4. Policy

a. DMSMS Program: DoD policy prescribes the proactive approach of identifying and taking steps to mitigate impending DMSMS problems per reference (c). NAVAIR Programs shall develop and implement a Proactive DMSMS Program throughout the system life cycle per references (a) through (k). The purpose of this Program is to mitigate the impact on total ownership cost and schedule; enhance the interchangeability, reliability, and availability of parts; and promote synergy across NAVAIR Programs through collaborative sharing and teaming on DMSMS solutions, information, processes, tools and practices. The DMSMS Program shall incorporate or consist of a:

(1) DMSMS Plan: The DMSMS Plan is a mandatory acquisition phase program plan, not a milestone program plan. Therefore, Programs shall develop and implement a DMSMS Management Plan as required by reference (b), enclosure (7), paragraph 7.1.1 following the guidance of reference (f). A DMSMS Management Plan shall:

(a) Describe the DMSMS Management approach and strategy. Address the program's plan to budget and fund the DMSMS efforts. Ensure the funding is identified in the Logistics Requirements and Funding Summary (LRFS) to ensure incorporation in the Program Objective Memorandum (POM).

(b) Describe the DMSMS Management Team (DMT) structure, roles, responsibilities, and function in accordance with reference (b), enclosure (7), paragraph 7.1.1, and references (c) and (e);

(c) Establish a process for DMSMS case management and metrics collection, in accordance with reference (b), enclosure (8), paragraph 8.8, references (c) and (f);

(d) Describe the total DMSMS management and mitigation process in accordance with references (c), (e) and (g);

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(e) Incorporate the Program's Technology Roadmaps into the DMSMS strategies and plans;

NOTE: Developing a Technology Roadmap is not the sole responsibility of any one group. It must be accomplished through a systems engineering approach and through the combined efforts of all stakeholders. The Technology Roadmap shall take into account any preplanned technology refresh/updates and potential impacts on DMSMS. Changes to the technology roadmap may severely impact DMSMS resolved issues, forcing an unplanned redesign, and should be considered during any updates.

(f) Identify what DMSMS management, monitoring, reliability, and/or logistics tools are being used and how, in accordance with references (c) and (e);

(g) Identify the process for obtaining accurate and complete configuration data in accordance with reference (b), enclosure (7), paragraph 7.1.1 and reference (h);

(h) Utilize Business Case Analysis (BCA) processes to ensure that the most cost effective obsolescence resolutions are chosen;

(i) Identify how the Program will manage the transition to lead-free components in accordance with reference (j);

(j) Describe how the Program shares data and DMSMS efforts with other Programs/Services in accordance with reference (c); and,

(k) Be reviewed on an annual basis and updated as required.

NOTE: An automated DoD-approved DMSMS Management Plan Generator, reference (d), has been developed to assist programs in creating plans. It utilizes the Systems Planning and Requirements System (SYSPARS) expert system software to ensure that the latest policy and guidance is included to create high quality plans. The tool provides PEOs the ability to customize their plans to meet the specific program needs. This is an effective way for programs to create plans. It is available through the DMSMS Knowledge Sharing Portal at [www.dmsms.org](http://www.dmsms.org).

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(2) DMSMS Management Team (DMT): The established DMT is the heart of a successful program. Using the Systems Engineering Process, the Assistant Program Manager Logistics (APML)/Assistant Program Manager Systems Engineering (APMSE) will ensure adequate representation of stakeholders to include Item Managers, Integrated Product Team Leads, Cognizant Engineers, Original Equipment Manufacturers (OEM), subcontractors, Naval Inventory Control Point (NAVICP), Legal, and Contracts that can provide guidance in mitigation issues.

(3) DMSMS Data: Programs shall acquire a Bill of Materials (BOM) down to the piece part level for each of their systems adequate to identify the generic piece part number. Systems incorporating Commercial Off-the-Shelf (COTS) products should be managed through market surveys. During the acquisition phase, programs can use normal POM process to acquire BOMs associated with fielded systems. Specification Control Numbers and Source Control Numbers should include vendor generic part numbers used to develop those parts. Programs shall load them into a DMSMS/Obsolescence monitoring and/or predictive tool and continuously monitor these systems for component obsolescence impacts as per reference (b), enclosure (7), paragraph 7.1.1, references(c) and (h).

(4) NAVAIR DMSMS Working Group (WG): Programs should participate in the monthly NAVAIR DMSMS WG meetings, as well as the Knowledge Management System (KMS) DMSMS-WG Community of Practice (CoP), <https://kms.navair.navy.mil/kms/>. This Working Group, and web-based CoP, was established to:

(a) Encourage collaboration and communication across the NAVAIR community and coordinate the DMSMS efforts of NAVAIR Program Managers, Air (PMAs);

(b) Standardize a proactive NAVAIR approach for resolving DMSMS issues;

(c) Further develop and implement policies, procedures, tools, and resolutions to mitigate DMSMS impacts NAVAIR-wide;

(d) Facilitate the tracking of DMSMS metrics and trends; and,

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(e) Minimize the duplication of efforts on the part of the PMA by working on common DMSMS cases.

## 5. Responsibilities

a. Assistant Program Executive Officers Logistics (APEO-L): The APEO-L shall support the advancement of proactive DMSMS management processes and procedures. At a minimum, the responsibilities include, but are not limited to, the following:

(1) Ensure Program APML submits DMSMS Fiscal Year metrics to AIR-6.7.1.6 DMSMS Branch in a spreadsheet format, as defined by reference (f), no later than 30 October each year;

(2) Promote implementation of DMSMS policies and procedures to ensure effectiveness throughout each Program.

b. PMA: The PMA shall promote the advancement of DMSMS proactive management processes and procedures. At a minimum, the responsibilities include, but are not limited to, the following:

(1) Establish a DMSMS Management Program as outlined in section 4a and perform obsolescence forecasting;

(2) Designate a main DMSMS focal point for each of the PMA's respective Acquisition Categories (ACAT) programs and require that this individual complete the Defense Acquisition University (DAU) DMSMS Executive Overview Course (CLL 202) and obtain training on DMSMS tools as needed;

(3) Ensure Technical personnel supporting DMSMS are trained in DMSMS. It is recommended that all the following DAU courses are completed:

- DMSMS Fundamentals (CLL 201);
- DMSMS Essentials (CLL 203);
- DMSMS Case Studies (CLL 204); and,
- DMSMS for the Technical Professional (CLL 205).

The website for accessing the DAU DMSMS courses is [www.dau.mil](http://www.dau.mil).

(4) Provide a representative to the NAVAIR DMSMS WG and KMS DMSMS-WG CoP. The representative will participate in

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sharing and teaming on common DMSMS solutions, information, processes, tools, and practices within the NAVAIR community. The Working Group may review proposed options with the impacted PMAs. The PMA representative gains the insight of all of the options as well as represents the PMA's interests;

(5) Monitor and review the implementation of DMSMS policies to ensure effectiveness within the Program;

(6) Ultimate responsibility falls on the PMA to approve the DMSMS plan;

(7) Forward any new or revised program plans to AIR-6.7.1.6; and,

(8) Submit POM issue sheets for DMSMS funding based on the outcome of system level obsolescence forecasts, projected obsolescence issues, technology roadmaps, and planned technology refreshes.

c. Design Interface and Maintenance Planning Division (AIR-6.7.1): The AIR-6.7.1 is the technical authority for the NAVAIR DMSMS Program and is responsible for providing guidance, training, knowledge, processes, management tools, as well as ensuring compliance, required to establish and maintain a DMSMS program. At a minimum, the responsibilities include, but are not limited to, the following:

(1) Coordinate the identification of tool requirements;

(2) Serve as the DMSMS Subject Matter Expert for NAVAIR, acting as a source of technical oversight for NAVAIR Programs. Perform obsolescence forecasting assistance for NAVAIR Programs as needed;

(3) Collect and review PMA DMSMS metrics and provide comments and recommendations to the appropriate APEO-L in an effort to clearly identify common solutions across platforms to DMSMS issues;

(4) Provide DMSMS training as required;

(5) Participate as an independent logistics assessor for DMSMS on the Independent Logistics Assessment (ILA) team by

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reviewing program documentation and funding requirements to ensure the program being assessed addresses DMSMS planning, management, implementation and funding in accordance with DMSMS ILA requirements of reference (k);

(6) Assist program teams by providing lessons learned from other NAVAIR, as well as other DoD and Federal acquisition agencies;

(7) Chair the NAVAIR DMSMS-WG and perform KMS DMSMS-WG CoP administrator functions;

(8) Provide NAVAIR representation to all DMSMS activities such as, but not limited to, the DoD DMSMS WG, DON DMSMS WG, and the DASN (Acquisition & Logistics Management) Integrated Process Team (IPT);

(9) Serve as liaison with other services, industry, and external commands for all DMSMS issues;

(10) Provide representation to various government, industry, and academic working groups that address DMSMS related issues such as Lead-free Electronics (Government Electronics and Information Association(GEIA)), Lead-free in Aerospace Project - Working Group (LEAP-WG)), Counterfeit Components (Aerospace Industry Association (AIA)), Center for Advanced Life Cycle Engineering (CALCE);

(11) Interface with other Government Agencies to address DMSMS issues (Department of Commerce, Department of Energy, Department of Homeland Security, etc.).

d. Systems Engineering Department (AIR-4.1): AIR-4.1 shall support the advancement of proactive DMSMS management processes and procedures by NAVAIR Programs. At a minimum, the responsibilities include, but are not limited to, the following:

(1) Provide PMA engineering support and assistance to mitigate or reduce the risk of obsolescence;

(2) Perform Reliability & Maintainability assessments on an "as-required" basis to address systems that have high demand rates and to establish acceptable design options to be presented to the individual PMAs;

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(3) Ensure active participation by the designated program DMSMS representative as a member on the NAVAIR DMSMS-WG and KMS DMSMS-WG CoP as required in paragraph 5.b.2; and,

(4) Provide engineering support for DMSMS decisions as required.

e. Cost Department (AIR-4.2): AIR-4.2 shall support advancement of DMSMS proactive management processes and procedures by assisting with the development of Business Case Analysis.

f. Maintenance Scheduling Department (AIR-6.7.3): AIR 6.7.3 is the NAVAIR Headquarters, Command Fleet Readiness Center (COMFRC) technical authority responsible for the repair processing of all naval aviation engines on schedule, within cost, and within performance parameters. Therefore it is also working closely with the organic depots to address and mitigate material obsolescence with minimum impact to the customer and fleet operations. At a minimum, its DMSMS responsibilities include, but are not limited to the following:

(1) Ensure designated AIR-6.7.3 personnel supporting DMSMS are trained in DMSMS (refer to DAU courses identified in paragraph 5.b.3);

(2) Participate as a member on the NAVAIR DMSMS-WG and KMS DMSMS-WG CoP;

(3) Work closely with AIR-6.7.1.6 in the review and analysis of all aircraft, engines, and support equipment related metrics. Provide AIR-6.7.3 technical support and assistance needed to identify, assess, and mitigate the risks of material obsolescence;

(4) Ensure all material obsolescence issues have been mitigated. Provide any risk mitigation plan for impacts to engine repair scheduling, performance, and cost can be addressed in a timely manner.

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6. Review. Air 6.7 shall review annually the contents herein and provide recommendations for change and deletions to the commander.

  
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