

Department of the Navy

Naval Inventory Control Point

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IN REPLY REFER TO:

NAVICPINST 4431.2A
0711/058112 /

YL&BG

10 August 2000

NAVICPINST 4431.2A

From: Commander

Subj: **DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES
(DMSMS)**

1. **Purpose.** This instruction implements policies and procedures and assigns responsibilities within the Naval Inventory Control Point to assure that appropriate and timely action is taken whenever essential end item production or component support capabilities are endangered by the loss or impending loss of manufacturing sources or by material shortages.

This instruction applies to **Aviation Material Managers** 0A, 01, 02, 03, 04, 07, and 75, and **Ship Material Managers** 0SM, 01, 02, 05, 84 and 87.

2. **Cancellation.** NAVICPINST 4431.2.

3. **Background**

a. Reference (a), DoD Material Management Regulation, sets policies and responsibilities for handling Diminishing Manufacturing Sources and Material Shortages (DMSMS) within DoD. The DMSMS situation has long been a fact of life in the Navy spares support environment. Service life extensions have been applied to many weapon system programs in which the Naval Inventory Control Point (NAVICP) has spares support responsibilities. Such extensions have precipitated many "no source" situations for items managed by NAVICP.

Various resources available within the Navy system have been used to continue support of extended programs. Over recent years, however, the dominant emphasis in the DMSMS area has been focused on the production cessation of numerous solid state electronic devices. Rapid changes in technology, coupled with a rapid growth in the commercial application of microcircuits, has created a microcircuit parts supply problem within the Navy.

Manufacturers are discontinuing the production of older technologies in favor of new, higher performance and higher market potential technologies. The intense competitive nature of these business decisions can result in a short notice to the Navy of such discontinuances. The intensity of DMSMS in the microcircuit area led to the development of reference (g).

b. NAVICP receives notice of DMSMS situations from varied sources. The principal sources are:

(1) DMS Initial Alert Email - Defense Supply Center Columbus (DSCC) documents which notify user activities of DMSMS situations for DSCC managed (9N/3N) items.

(2) Impact Warnings - issued by the Hughes Technical Services (HTS), formerly Naval Avionics Center (NAC), to a broad distribution of Navy addressees and prime contractors. DSCC is also included in the distribution. These documents address only 5962 class items.

(3) Direct Notification from equipment contractors

(4) Notification from user services/agencies

(5) Government Industry Data Exchange Program (GIDEP) documents transmitted to NAVICP GIDEP representatives (Code 072 in Philadelphia and Code 05641 in Mechanicsburg).

Specific DMSMS notifications may be transmitted through one or more of the above documents.

4. Policy. It is NAVICP policy that the guidance as delineated in references (a) through (h) shall be carried out to the maximum extent possible. Maximum fleet support in a cost effective manner achieved within appropriate time-frames is the targeted result of any DMSMS resolution.

5. Responsibilities

a. The Naval Supply Systems Command (NAVSUP), Code SUP422, is the lead systems command for implementation of the DMSMS program within the Department of the Navy (DON). The Naval Surface Warfare Center (NSWC) Crane Division is the lead office for the DMS Technology Center (DTC) program.

b. For Aviation Material Management:

1. The Engineering and Product Support (07), Engineering Department (071) is the lead for the DMSMS program in NAVICP. Technical administration of the program is the responsibility of the Product Engineering & Data Management Division (0711). The assistance and cooperation of the NAVICP directorates/departments/divisions identified in paragraph 1, PURPOSE, is required in all DMSMS situations impacting NAVICP. Code 0711 shall be notified of all DMSMS situations.

2. Coordination, including dissemination, review and compilation of 9/3 cog requirements in response to DLA's notifications and coordination of R cog requirements is the responsibility of Code 0363.

3. Specific procedures are referenced in paragraph 6 of this instruction.

c. For Ship Material Management:

1. Code 058112 will be the central point of contact, control, and accountability for all DMSMS alerts including LOT Buys. Code 058112 will be notified of all DMSMS alerts and LOT Buys. A case number will be assigned and the DMSMS alert will be coordinated with the appropriate weapon system department.

2. Program Managers will be responsible for coordinating Hardware System Command (HSC) funding of LOT buys to be used as Government Furnished Material (GFM) for new production of end items and initial spares prior to Material Support Date (MSD). They are also responsible for funding via special initiative for procurements of LOT buys of initial spares and replenishment stockage after MSD has been achieved.

3. Specific procedures are referenced in paragraph 7 of this instruction.

6. Aviation Material Actions/Procedures. Detailed procedures for the accomplishment of DMSMS solutions to be followed by the appropriate NAVICP organizations are described in the following paragraphs:

a. Product Engineering & Data Management Division (0711) will:

(1) **Provide Program Management** for the Naval Inventory Control Point DMSMS Program.

(2) Maintain liaison with NAVSUP lead office for DMSMS (SUP422), NAVAIR DMSMS coordinating office (AIR-1.3.2), the NSWC Crane Division lead office for DMS Technology Center (Code 6025), the Hughes Technical Services (HTS-435) and the DLA DMSMS focal points.

(3) Maintain state of the art awareness in manufacturing technologies.

(4) Use the services of the **Government Industry Data Exchange Program** (GIDEP) as directed in reference (c), Participation on the Government-Industry Data Exchange Program (GIDEP). Reference (h) was developed to assist in the application of the services provided by GIDEP.

(5) Provide assistance in locating **alternate/substitute** microcircuits using the technical expertise in-house and other Government/industry sources.

(6) Provide/update material to be used in training NAVICP item managers in DMSMS policy procedures.

(7) At request of Integrated Weapon Support Team (03 IWST), and via Code 0363, perform cost analysis of DMSMS R Cog resolution alternatives. (See enclosure (1))

b. Packaging Program Management Division (0712) will:

(1) Provide appropriate **PHS&T REQUIREMENTS** for DMSMS situations especially in the area of long term storage as required for **Life of Type** (LOT) microcircuit procurements. (see enclosure (2))

(2) Establish and **maintain contact** with their counterparts at the DSCC and HTS for exchange of specialized information in the packaging discipline.

c. Source Development Department (073) will:

Assist 03 IWST and Code 0711 in locating continuing source(s) for DMSMS items as requested.

d. Replenishment Budget Division (0132) will:

(1) Provide related program projections to the 03 IWST for requirements determinations as requested.

(2) Provide funding guidance in coordination with Code 036 utilizing reference (a).

e. Contracting Department P22 (022)/Contracting Department P23 (023) will:

(1) For R cog items contact contractors who have given notice of production cessations to seek reversal of decision or extension of deadlines for placing orders.

(2) For R cog items assist the IWST in alternate source search. Provide applicable bidders mailing commodity list for the DMSMS items and advertise in the commerce business daily. Provide results to DMSMS item manager.

f. Logistics Systems Support Department (042) will:

Provide assistance/support in updating bottoms up computer program as required.

g. Base Level Computing Department (043) will:

Provide on a priority basis, bottoms up listing and associated data as requested by Code 0363.

h. IWST (Code 033) will:

(1) Check Master Item File (MIF) and Defense Logistics Services Center (DLSC) for immediate alternate sources.

(2) For R cog items coordinate with Code 02 in contractor dialogue to extend manufacturing deadline. For 9/3 cog items Code 0363 will coordinate contract extensions with the DLA's, as appropriate.

(3) Contact NAVAIR PMA/APML to determine if pending **Engineering Change Proposal** (ECP) will preclude DMSMS situation.

(4) Contact Special Programs Division (Code 0364) to determine if pending **Logistics Engineering Change Proposal** (LECP) or **Performance Based Logistics Support Projects** (PBL) will preclude DMSMS situation.

(5) If no ECP or NAVICP initiative (LECP or PBL) is imminent, discuss with PMA/APML the potential for redesign vs LOT buy.

(6) If ECP or NAVICP initiative (LECP or PBL) is pending, determine requirements based on milestones provided in program. (Code 03611 will assist)

(7) If decision is for LOT procurement determine requirements in accordance with enclosure (3). Also, in accordance with NAVSUP (SUP422C) LOT Policy and Guidance Statement (ltr dtd 5 Mar 90) a **logistics and cost analysis** must be prepared when a R cog DMSMS LOT buy meets one or both of the conditions in enclosure (1). Code 0711 will assist in the cost portion of the analysis. Enclosure (1) also identifies the formal documentation which Code 03 must maintain.

(8) Where notice of a DMS situation is received directly from an equipment/component manufacturer, transmit information to Code 0711.

(9) When requested by Code 75, coordinate support requirements for Security Assistance programs.

(10) Advise Code 75 (Foreign Military Sales) of GFE (Code 03433) Equipments affected by DMSMS item.

(11) Ensure proper signature level for all LOT requirements determinations due to DMSMS situations as shown in OP Policy and Procedures Memorandum #256 dtd 12 Mar 90.

(12) Provide supporting rationale for requirements determinations as required by reference (b), Acquisition Practices For Parts Management.

(13) For R cog items, upon notification of LOT Procurement or determination that inventory is adequate, initiate add ref action to mark MIF and DLSC files. Enter DMS case number in the P/N field. In SNAP remarks field, add either "LOT made, date and quantity" or "Sufficient stock on hand."

i. Item Introduction Planning Branch (Code 03611) will:

Provide information, as requested, on DMSMS situations which are related to configuration actions (DCN's, ECP's, LECP's BPL's etc.).

j. Material Management Support Division (0363) will:

(1) Maintain/coordinate DMSMS projects.

(2) Submit DMSMS items for bottoms up run. Distribute DMSMS projects to appropriate item managers.

(3) Maintain computerized data base files to exhibit all R cog and 9 cog items which are DMSMS. Log in all DMSMS notifications.

(4) Notify DSCC of LOT requirements for 9/3 cog items. (Copy to SUP422C)

(5) Respond to DLA challenges with support from IWST.

(6) Forward summary bottoms up listing to Code 75 for Security Assistance Programs Information.

(7) Notify Code 0711 of DMS situations impacting IPP NSNs, providing Code 0711 with a copy of the DMS notification.

k. Code 75 will:

Assist other NAVICP organizational entities in assessing support requirements for foreign programs impacted by DMSMS.

7. Ship Material Actions/Procedures. Procedures for the accomplishment of DMSMS solutions to be followed by the appropriate NAVICP organizations are described in the following paragraphs:

a. Program Management Section, Code 058112 will:

(1) Act as the central point of contact within NAVICP for all DMSMS issues.

(2) Act as the liaison between NAVICP and other DOD activities for DMSMS issues.

(3) Implement the DMSMS program in accordance with reference (d), Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program.

(4) Receive DMSMS alerts from outside activities and DMSMS alerts sent to other NAVICP codes which do not have an NAVICP case number assigned.

(5) Assign a case number to each DMSMS alert for tracking and accountability.

(6) Maintain a central tracking system and ten year history file for all DMSMS alerts and LOT buys.

(7) Update the Reference Data Field, in the MIF with the date the DMSMS alert was received and the Case Number.

(8) Notify the appropriate department that a DMSMS issue exists. Requirements will be forwarded to the appropriate DLA activity for items managed by DLA.

(9) Coordinate reverse engineering, bailment, and full-screen breakout efforts when requested. Support will be provided on a priority basis.

(10) Provide guidance in utilizing other DOD programs to avoid a LOT buy.

(11) Receive completed folder from Program Manager and review computed requirements for the life of the system and ensure all options have been considered and the most cost effective solution has been utilized, within the time constraints of the DMSMS alert.

(12) Verify update of DEN B070, Life of Type Quantity, as consistent with computations submitted.

(13) Submit enclosure (15), as provided by Program Manager, to NAVSUP (SUP 422) via Code 01 for formal approval of LOT buys which meet the following conditions:

(a) Quantity to be purchased is in excess of five years of anticipated procurement demand and/or

(b) Dollar amount of procurement exceeds \$500,000.

(14) Upon approval forward completed folders to Program Manager for forwarding to cognizant buying code.

(15) Compile NAVICP program requirements for Defense Logistics Agency (DLA) managed National Stock Numbers (NSNs) and forward to the appropriate DLA activity.

(16) Coordinate all DMSMS issues and LOT buys within NAVICP.

b. Code OSM, 05, 842, and 87 Program Managers will:

(1) Inform Code 058112 of any DMSMS alert and/or LOT buy not having a DMSMS Case number using enclosure (16).

(2) Receive DMSMS alerts from Code 058112 and coordinate with the HSC Program Manager and the In-Service Engineering Activity (ISEA) where applicable. The following information will be provided to Code 058112 (except for items classified as Navy Nuclear Propulsion; only information necessary to make a determination of the quantities required will be provided for these items):

- (a) Suitable substitutes or alternate sources
- (b) Part number and/or NIIN of next higher assembly
- (c) Expected remaining life of the system
- (d) Plans to replace or redesign component
- (e) New systems planned that will use the component
- (f) Current and/or expected population
- (g) Recommended actions for continued support
- (h) Quantities required for life cycle support

(3) Request that the HSC initiate a procurement, prior to the deadline set by the manufacturer, for initial spares needed prior to MSD for new systems that are in place or planned.

(4) Coordinate with the HSC to combine procurements for items required for both production and follow-on support.

(5) Complete enclosure (10) or enclosure (14) as required by Code 058112 if it is determined that a LOT buy is the most prudent action on a DMS alert (Enclosures (11) through (13) will aid in completing enclosure (10).

(a) For NAVICP-managed NSNs, notify HSC, ISEA, and other registered users of the NSN of the alert and solicit their recommended requirements for life cycle support. This includes Code 0585.

(b) For DLA-managed NSNs, provide Code 058112 with life cycle support requirements. Categories of specific LOT buys quantities are:

1. Normal replenishment/replacement requirements
2. Retrofit and overhaul requirements
3. GFM requirements for new production and spares (initial provisioning)
4. Prepositioned War Reserve Material Stock (PWRMS)

NOTE: *Requirements for 3. and 4. must be accompanied by a funded Military Inter-Department Purchase Request (MIPR) from the appropriate HSC command or other command.*

(6) Request the HSC Program Manager procure manufacturing drawings and test data from the Original Equipment Manufacturer (OEM) that are sufficient for an alternate source to produce a quality product for continued support. For those DMSMS items where sufficient data is available, advise Code 058112 to reduce and/or precluded the LOT buy requirement.

(7) Coordinate requirements determination with Code 0585.

(8) Flag each DMSMS and/or LOT buy folder and indicate the manufacturer's order deadline. Include enclosure (10) or enclosure (14) in the folder when appropriate.

(9) Upon appropriate approval authority, initiate a manual LOT buy for DMS alerts.

(10) Request Code 056 or Code 872 assign an emergency stock number for part numbered DMS alerts.

(11) Establish a record in the MDF when the permanent NSN is received. In order to meet the manufacturer's deadline, it may be necessary to release the buy before the files are loaded.

(12) Update DEN B070, Life of Type Quantity, to indicate the LOT buy quantity.

(13) Update DEN D012, Source Code, to "PG" indicating the item is procured and stocked to provide for sustained support for life of equipment.

(14) Prepare a point paper and complete enclosure (15) if the combined DMSMS and /or LOT buy exceeds \$500,000 and /or the quantity to be purchased is in excess of five years of procurement demand.

(15) Submit point paper and supporting justification to DMSMS coordinator and defend during budget review; authorization is required prior to obligation of funds.

(16) Forward the folder to Code 058112.

c. SWS Logistics Support Division, Code 841 will:

(1) Inform Code 058112 of any DMSMS Alert not having a DMSMS case number using enclosure (16).

(2) Coordinated DMSMS Alerts with applicable Strategic System Program (SSP) technical branch to determine a LOT buy out to support the Fleet Ballistic Missile/Strategic Weapons System (FBM/SWS) requirements.

(3) Provide Code 058112 requirements for DLA items for update of DMSMS case records. NSNs managed by DLA may be ordered through the DLA activity and upon completion of the buy, Code 841 will/may requisition their requirements for program support.

d. Technical Services, Code 05621 will assign an emergency stock number for all part numbered DMSMS items except those for Code 87.

e. Support Determination Department, Code 872 will assign an emergency stock number for part numbered DMSMS items for Code 87.

f. International Programs, Code 0585 will:

(1) Furnish all quantities required for DMSMS alerts to cognizant Program Manager.

(2) Provide funding for all quantities required by DMSMS alerts and LOT buys for Foreign Military Sales (FMS).

g. Material Budget Department, Code 013 will:

(1) Budget for LOT buy requirements submitted.

(2) Audit all LOT buys.

(3) Provide status of LOT buys to Code 058112 as needed.

h. Code 02, 84, and 87 Buyers will:

(1) Forward to Code 058112 any DMSMS alerts and/or LOT buys without a case number.

(2) Forward notification of discontinued items or No-Bid RFQs to Code 058112.

(3) Provide status of DMSMS alerts to Code 058112 as needed.

8. Maintenance Responsibility. This instruction will be **jointly maintained** by Product Engineering & Data Management Division (0711) and Program Management Section (058112) except paragraphs 6 and 7. Product Engineering & Data Management Division (0711) will maintain paragraph 6 of this instruction and Program Management Section (058112) will maintain paragraph 7 of this instruction.

PAUL MORE, JR.
By direction

Distribution:

NAVICP-P (Codes 0A, 01, 02, 03, 04, 07, and 75)

NAVICP-M (Codes 0SM, 01, 02, 05, 84 and 87)

NAVAIR (Code AIR4.1D)

NAVSUP (Code 4B2U)

NAVSEA (Code SEA04L1)

DMSMS Life-of-Type (LOT) Buy Tracking and Analysis Reporting Requirements

A. DMS/MS Formal Documentation

Documentation for R cog items will include as a minimum the following information:

- NSN, Part Number
- Weapon system applicability
- Dollar value and quantity of LOT buys
- Computation used for quantity of LOT buy
- Location where LOT buy assets are being stored and identification of offices that can draw upon these assets.
- Categorize LOT buys according to types of material (e.g., microcircuits, vacuum tubes, capacitors, etc.)
- Official command files which document the review authorization process associated with DMS/MS LOT buys.

B. Logistics and Cost Analysis Requirements

A logistics and cost analysis must be submitted for formal NAVSUP approval if a DMS/MS LOT buy quantity has been determined to meet one or both of the following conditions:

1. the quantity to be purchased is in excess of five years anticipated procurement demand, or

2. the dollar amount of the procurement exceeds \$500,000. The logistics and cost analysis should include, as a minimum, an assessment of the following resolution procedure:

(1) Alternative Solutions (in order): Substitute Part (Form, Fit and Function), Aftermarket Producers, Reclamation of existing out-of-production stock, Redesign, Emulation, Reverse Engineering or Life-of-Type Buy (LOT).

(2) Projected Cost: Based on Alternate Solution.

(3) Command Recommendation: Based on Projected Cost.

The rationale for choosing a LOT buy as the best alternative (e.g., cost savings, time constraints, etc.) should be included.

Enclosure (1)

**Packaging, Handling, Storage & Transportation (PHS&T) Requirements
for Life-of-Type Procurements due to DMSMS**

1. Items shall be preserved, packaged, packed and marked in accordance with ASTM-D3951. All unit, immediate and shipping containers shall be marked "Not Packaged For Long-Term Storage."
2. Electrostatic-free packaging materials shall be specified for all items sensitive to electrostatic discharge damage and special handling procedures shall be specified.
3. Items intended for storage longer than five years, requires special precautions to ensure viability of these items when ready for use.
4. To protect these items from corrosion damage/ degradation, all items to be stored longer then five years are required to be stored in a desiccated nitrogen atmosphere.

MEMORANDUM

From: 036

To:

Subj: **DIMINISHING MANUFACTURING SOURCES AND MATERIAL SHORTAGES
(DMSMS)**

1. NAVICP-Phil has been advised manufacturer _____ will no longer manufacture the DMS item(s) cited in enclosure (4). Technical research by Code 03622 (POC Joe Henry; Code 03622.31; x5841) has determined there are no alternate sources of supply. The DLA ICP is requesting a Life Of Type (LOT) procurement projection for the item(s) cited in enclosure (4).

2. Request Integrated Weapons Support Team (IWST) complete the following actions to assure continued support of the higher assembly item(s):

a. IWSTs should contact NAVAIR PMA/APML to review for pending Engineering Change Proposals (ECP's) on the next higher assemblies or potential redesign. If a redesign effort is in process, a LOT projection is not required since it would result in an excessive or needless procurement. If there is no pending ECP or redesign then a LOT buy projection is required as outlined in the following paragraph.

b. The Life Of Type computation by the IWST determines the quantity of the DMS NIIN listed on enclosure (4) that will be procured by DLA to support future procurement or commercial repair of the higher assembly. Utilize enclosure (5) to compute a LOT procurement calculation (reference (a) provides detailed guidance for completing this worksheet).

(1) For line 3 of enclosure (5) consider reclamation of assets; i.e., stricken aircraft in your on-hand quantity.

(2) For line 4 of enclosure (5), use the "DMS NIIN Units Per Application (UPA)" from enclosure (4) as the "DMS item UPA". If a higher assembly NIIN is listed more than once for the same DMS NIIN, add the "DMS NIIN UPA" together to determine the "DMS item UPA".

(3) In addition, if the higher assembly is commercially repaired with Contractor Furnished Equipment (CFE) piece parts support, use enclosure (6) to compute the LOT commercial overhaul requirements for the higher assemblies.

(4) All computational worksheets are to be signed at the appropriate review level within the IWST.

3. CSSRs for DMS Item(s) will be forwarded to assist in the computation process. P0132 provides a consolidated planning memo which includes the past 4 quarter and future 5 year maintenance cycles (or latest available data).

4. To assist in processing this project, the Bottoms-Up/Cross Reference (enclosure (4)) can also be provided electronically in a dataset format. This may be useful in matching the items to other existing on-line files and is available upon request.

5. POC for this project is Barbara Brereton, 0363.14, X4399.
Return completed projects to 0363.14 NLT COB

BAKER

J.

PAST 4 QTRS M/C

TOTAL

**APPLICATION CODE
PAST 4 QTRS M/C
UPA
TOTAL**

TOTAL PROGRAM

TOTAL

**APPLICATION CODE
TOTAL MAINT CYC
UPA
% PER APPLIC
TOTAL**

PEAK YEAR PROGRAM

TOTAL

**APPLICATION CODE
PEAK YEAR M/C
UPA
%PER APPLIC
TOTAL**

DMS REQUIREMENTS FOR COMMERCIALY REPAIRED NAVICP-PHIL ITEM

DMS NSN	NOMEN	LRC
NSN/SMIC: (HIGHER ASSY)	NOMEN	LRC

$$1) \quad \frac{\text{Total Prog}}{\text{MRF}} \times \frac{\text{Repair Qty}}{1 - \text{Wear Out Rate}} = \text{_____}$$

$$2) \quad \frac{\text{Repair Qty}}{\text{AVG Qty DMS Item Rqd to Repair NAVICP-Phil Item}} \times \frac{\text{DMS Buy Qty}}{\text{U/P}} = \frac{\text{Ext Value}}{\text{_____}}$$

Notes:

- * Above computation not required if contractor's sole source of DMS item for past 12 months has been DOD system stock.
- * Utilize above computation only for those items in family applicable to the DMS item. Maintenance demand (B022) will have to be adjusted.
- * Avg Qty DMS Item Rqd to Repair NAVICP-Phil Item: Data will be required from contractor. Convert contractor data to average number units of DMS item required to repair each NAVICP-Phil item. (Nr. of DMS piece parts & higher assemblies repaired).

Originator

Branch Assistant

Rec Board

Section Head

Branch Head

Div Director

Date: _____

MEMORANDUM

From: _____

To: 03433

Subj: DIMINISHING MANUFACTURING SOURCE (DMS) CASE NUMBER _____

1. The following information is provided for use in computing the GFE requirement. Request complete and forward your computation, within 5 working days, to 0363.14.

AN/Nomenclature of WRA: AN/APQ126

WRA (FSCM) P/N: (50027) E83252-006

WRA NSN: 7RE5845-01-069-3900

DMS NSN: 9N5962-00-179-3776

Number of Units of DMS item per WRA: 2

Aircraft application of WRA (Using DMS item): P3C

Signature

Copy to:

0363.14

Enclosure (7)

LIFE OF TYPE COMPUTATION WORKSHEET

DMS NSN:	NOMEN	LRC:
HIGHER ASSY NSN	NOMEN	LRC:
END SYSTEM OR EQPT APPLICATION	POPULATION OF END SYSTEM OR EQPT. <i>FOUND IN SERMIS</i>	PROJECTED LIFE OF END SYSTEM OR EQPT. <i>5 YRS. MAX.</i>
PAST 4 QTRS M/C <i>3(M/C) X END ITEM POPULATION</i>	LOT BUY TIME FRAME YR TO YR <i>CURRENT → 5 YRS. OUT, MAX. YR</i>	A/C PHASE OUT YEAR USE PHASE OUT YR. OF TIMEFRAME

$$1) \frac{3(M/C) \times \text{END ITEM POPULATION}}{\text{TOTAL PROGRAM}} \times \frac{0.022 \div 3}{MRF} \times \frac{F&O7}{WEAR OUT RATE} = \frac{\text{TOTAL ATTRITION}}{\text{TAT REGENS}}$$

$$2) \frac{\text{SAME AS PAST 4 QTRS M/C}}{\text{PEAK YEAR}} \times \frac{0.022 \div 4}{PTAT \div 4} \times \frac{0.022 \div 3}{MRF} \times \frac{1.0 - (F&O7)}{1 - WEAR OUT RATE} = \frac{\text{TAT REGENS}}{\text{TAT REGENS}}$$

3) ($\frac{\text{SUM OF STEPS}}{1 + 2} + \frac{\text{END USE BACKORDERS}}{\text{END USE A4's}} + \frac{\text{FUNDED PPR'S}}{\text{FUNDED PPR'S}} + \frac{\text{REMAINING OUTFITTINGS}}{\text{REMAINING OUTFITTINGS}} + \frac{\text{END USE A4's}}{\text{END USE A4's}}$) MINUS

$$\left(\frac{OH}{RFI} + \left(\frac{OH}{NRFI} \times \frac{SURV}{RATE} \right) + \frac{DUE-IN}{PROC/FIR's} \right) = \frac{NHA LOT REQUIREMENT}{NHA LOT REQUIREMENT}$$

4) $\frac{\text{DMS ITEM UPA}}{\text{DMS ITEM UPA}} \times \frac{\text{NHA LOT REQUIREMENT}}{\text{NHA LOT REQUIREMENT}} = \frac{\text{DMS ITEM BUY QTY}}{\text{DMS ITEM BUY QTY}} \times \frac{\text{DMS UNIT PRICE}}{\text{DMS UNIT PRICE}} = \frac{\text{EXTENDED VALUE}}{\text{EXTENDED VALUE}}$

NOTES → REFER TO "BOTTOMS-UP CROSS-REF" PAGE.

- A. Your "PAST 4 QTRS M/C" = 3 (M/C) X END ITEM POPULATION. THIS SAME FIGURE IS TO BE USED AS YOUR "PEAK YEAR" FIGURE (LINE 2).
- B. "TOTAL PROGRAM" IS 3 (M/C) X END ITEM POPULATION X # OF YEARS LEFT IN YOUR TIMEFRAME (CURRENTLY THE TIMEFRAME IS SET AT 5 YRS).

ORIGINATOR	BRANCH ASSISTANT	REC BOARD
SECTION HEAD	BRANCH HEAD	DIV DIRECTOR

LIFE OF TYPE PROCUREMENT JUSTIFICATION DEFINITIONS

STEP 1: Total Program Total M/C X UPA X Percent per applic. This can be computed on the back of the work sheet. Request maintenance cycles from 013 for past year and future years during the entire life of the end item applications. Add the maintenance cycles together for the future years to equal total maintenance cycles. If units per assembly or percent per application varies with application, this must be computed separately by grouping maintenance cycles by applications with the same units per application and percent per application. Note: Request future remaining outfitting from 013 for step 3.

GSE: GSE item managers develop maintenance cycles for the entire life of the end item by using the same procedures as for initial procurements.

DMS ITEM: Use sum of program data from higher assembly worksheets multiplied by UPA and percent per application of DMS item for each higher assembly.

Units Per Assembly (UPA): Computed by multiplication of units per assembly (D011) of the father, grandfather through the end item.

Percent Per Application: Computed by the multiplication of the percent per application of the father, grandfather through the end item.

Maintenance Replacement Factor: For **Program Related Item**, use Maintenance Demand Rate (B022) as validated by Demand History. For **Non Program Related Item**, divide the sum of the validated past four quarters overhaul and maintenance demands by past year maintenance cycles provided by 013.

Wearout Rate: Use DEN F007 for repairables and 1.00 for consumables.

Total Attrition: Equals cumulative average yearly attrition for the life of the program.

Step 2: Peak Maintenance Cycles: Maintenance cycles of the year with the largest number of maintenance cycles.

UPA: Same as Step 1.

Percent Per Application: Same as step 1.

PTAT: $\frac{PTAT \times 90}{360} = \frac{PTAT}{4} = \frac{B012F}{4} = \frac{PTAT \text{ IN YEARS}}{\text{(Instead of Qtrs)}}$

Maintenance Replacement Factor: Same as Step 1.

Wearout Rate: Use F007 for repairable and zero (0) percent for consumables.

Total PTAT: Estimated maximum number of PTAT regens which will be required through the end items life.

Step 3: Self Explanatory: All blocks except the following:

Funded PPR's: Count all funded reservations less remaining outfittings and cooperative logistics.

Remaining Outfittings: Count all remaining outfittings provided by 013.

LOT Buy Qty: Lot buy quantity for item computed. Stop here of computing LOT/DMS buy quantity for DMS item itself.

DMS Item UPA: Number of DMS item used on NAVICP cog item for which Life-of-Type buy quantity was computed.

Lot Buy Qty: Result of step 3.

Unit Price (U/P): Standard unit price of the DMS item.

DMS Item Buy Qty: Quantity of the DMS item required as GFM to support future procurements of the higher assembly NAVICP cog item.

- NOTES:
- (1) If DMS item is only applicable to members of a family and not the head, this computation is not required unless the member is supporting peculiar applications.
 - (2) Managers are to retain copies of **supporting data** for a minimum of one year.

COMPUTING REQUIREMENTS FOR LIFE OF TYPE BUYS
ESTABLISHED DEMAND HISTORY

Population (Present or Future whichever is highest times)	_____
Best Replacement Factor (BRF) (DEN F027) times	X _____
Life of Systems (For declining populations, see Computing Life of Systems for Declining populations.)	X _____
Total Quantity for Spares Only	_____
Other considerations	_____
Additional Parts for Overhaul	_____
On Board Repair Parts (OBRP)	_____
Backorders	_____
Follow On System Stock (FOSS)	_____
Additional Parts for Ordalts or upgrades	_____
New Production requirements (HSC Funding)	_____
Installation and Check Out (INCO)	_____
Total Projected Quantity less Stock on Hand and Due In	_____
Final Buy Quantity	_____
Total Projected Costs	_____

a. This worksheet will help you determine whether there is sufficient stock on hand and assets due in to satisfy requirements for the projected life of the systems.

b. If there are sufficient assets, you need only to monitor the usage of the stock. If there are, insufficient assets, more intensive research and computations are required in order to ensure continued support. One or more of the following worksheets will be required if it is determined that a LOT buy should be initiated.

NAVICP CONSUMABLE NEXT HIGHER ASSFMBLY (NHA)
COMPUTING REQUIREMENTS FOR LOT BUYS
CRITICAL APPLICATIONS

NHA NSN _____

Quarterly Demand _____ X 4 = Annual Demand _____
(DEN B074)

Expected Life (See enclosure (12) for computation.) X _____

Sub Total Requirements _____
If this is a new system, divide expected population by present population to determine growth factor.

Expected Pop _____ / Present Pop _____ = Growth X _____

On Board Repair Parts (OBRP) _____

Follow on Systems Stock (FOSS) _____

Installation and Checkout (INCO) _____

Backorders _____

FMS Requirements _____

Total Requirements less Stock On Hand and due Ins (_____)

Final Requirements for NHA _____
times

Number of Piece Parts Per Assembly X _____

Number of repair parts required for support _____

Requirements for New Systems (HSC Funding) _____

Total Requirements with New System Requirements _____

Unit Price X _____

Estimated Cost of LOT Buy _____

The final entry provides the total requirements for support of the NHA listed. If there are multiple NHAS. Each should be calculated separately. Enclosure (10) Page 3 of 4

NAVICP REPAIRABLE NHA
COMPUTING LIFE OF TYPE BUYS
CRITICAL APPLICATIONS

NHA NSN _____
 Quarterly Demand - (Carcass Returns X Survival Rate) =
 (DENB074) - (DEN B022) X (DEN F009) =
 _____ - _____ X _____ = _____

Production Demand X 4 qtrs = Annual Demand _____

Expected Life (See enclosure (12) for computation.) _____

Sub Total Requirements _____

If this is a new system, divide expected population by present population to determine growth factor.

Expected Pop _____ / Present Pop _____ = Growth X _____

Total Requirements for NHA Spares Only _____

On Board Repair Parts (OBRP) _____

Follow on System Stock (FOSS) _____

Installation and Checkout (INCO) _____

Backorders _____

FMS Requirements _____

Total Requirements _____

less

Stock on Hand and Due in _____

less

F Condition Carcasses X Survival Rate _____

X _____

Final Requirements for NHA _____

Requirements for new Systems (HSC Funding) _____

Unit Price _____

Estimated Cost of LOT Buy__

COMPUTING REQUIREMENTS FOR LIFE OF TYPE BUYS
DECLINING POPULATION

An average population is computed as illustrated in the example below. Add the population remaining for each year for the number of years the systems will be used; then divide this number by the total number of years to calculate the average population.

EXAMPLE
5 YEAR DECLINING POPULATION

St. year	5 units
2nd year	4 units
3rd year	3 units
4th year	2 units
5th year	1 unit
TOTAL	15 units
Divided by 5 years	
Equals an average of	3 units for 5 years or
	5 units for 3 years

WHAT IS THE LIFE OF THE SYTEM?

The following examples indicate the effect of a declining population on the computation of a LOT buy. Due to the plan for decommissioning ships, be sure to Consider declining demand in your calculations.

20 YEAR LOT			
	20 years constant population	(100%)	= 20 years
	15 years constant population		= 15 years
	5 years declining population		= 3 years
TOTAL		(-10%)	= 18 years
	10 years constant population		= 10 years
	10 years declining population		= 5.5 years
TOTAL		(-24%)	= 15.5 years
	5 years constant population		= 5 years
	15 years declining		= 8 years
TOTAL		(-35%)	= 13 years
	20 YEARS declining population	(-48%)	= 10.5 years

10 YEAR LOT			
10 years constant population	(100%)	=	10 years
7 years constant population		=	7 years
3 years declining population		=	2 years
TOTAL	(10%)	=	9 years
5 years constant population		=	5 years
5 years declining population		=	3 years
TOTAL	(-20%)	=	8 years
10 years declining population	(-45%)	=	5.5 years

The calculation shown here will be helpful in completing requirements for enclosure (10).

COMPUTING LIFE OF TYPE BUYS COMPAPATIVE ANALYSIS

Requirements From Preliminary Projections _____

Requirements From Repairable NHA Projections _____

Requirements From Consumable NHA Projections _____

Requirements From Inventory Management Focus Report _____

After completing all required worksheets, enter the requirements for each and perform a comparative analysis.

Requirements determination for use in repairable NHA5 will result in the highest total, especially when more than one of the same piece parts is used in the NHA.

The higher the price of the parts, the greater emphasis to be made in researching the depot repair requirements, probability of redesign, substitute parts available or alternate sources.

Other items to be considered include:

- . Maintenance philosophy
 - . Shipboard repair
 - . Depot repair
 - (1) Commercial Repair Depot
 - (2) Organic Repair Depot
- . GFE for other systems or programs

DLA MANAGED ITEMS
DMS CASE PROCEDURES

DMS cases are divided into four categories; the procedures for each are listed below.

1. Low parts population, low volume, low cost (less than \$10.00 each). The following is required:

- Life of system/sub-assembly
- Production of new systems
- Verification of parts population
- Commercial vs in-house depot repair
- Inform HSC and ISEA

2. Low parts population, medium cost (\$10.00 to \$100.00), initial projected cost less than \$5,000. The following is required:

- Life of systems/sub-assembly
- New systems
- ORDALTS
- Verification of parts population
- Commercial or in-house depot repair
- Inform HSC and ISEA

In calculating some of the above requirements, enclosure (17) may be helpful. Please submit your replies by memorandum to Code 058112. Based on the replies received, Code 058112 will make projections for LOT buys.

The following two categories represent only 15% of the NSNs identified but account for over 90% of the cost of LOT buys for DLA items.

3. High cost items (more than \$100 each) projected cost more than \$5000, The following is required:

- Inform HSC and ISEA
- Life of system/sub-assembly
- New systems
- ORDALTS
- Present efforts for redesign
- Verification of parts population
- Commercial or in-house depot repair
- Contact depot
- Advise whether GFM is needed for repair
- Advise quantity required
- Advise whether HSC or ISEA have made LOT buys

4. High cost and/or-high volume quantities (over \$20,000.00), The following is required:

- All items listed under #3 .
- If you have the primary system or one of the primary systems, submit enclosure (15).

Again, submit a memorandum to Code 058112 containing the required information.

Recommendations

Reviewed by _____

Date _____

Code _____

MEMORANDUM

FROM: Cognizant Program Manager
To: 058112

Subj: **DIMINISHNG MANUFACTURING SOURCES (DMS) ALERT WITHOUT CASE NUMBERS**

Ref: (a) NAVICPINST 4431.2

Encl: (1) DMS Information

1. We have received information on enclosure (1) concerning a DMS alert which may present a LOT buy situation.
2. In accordance with reference (a), we have forwarded enclosure (1) to have a case number assigned and logged into the DMS tracking file.

Enclosure (16)

COMMON ADDRESSES FOR REGISTERED USERS

DLSC	ADDRESS
<u>NAVY</u> KE	NAVICP PHILADELPHIA PA//NAVICP 0352.10//
<u>AIR FORCE</u> TA	SMALC McCLELLAN AFB CA//FMAC(1)//
SA	AFLC ILC WPAFB OH//XMXA// AFSC WPAFB OH//PLMM//
<u>MARINE CORPS</u> PA & PB	CGMCLB ALBANY GA//CODE 341-3//
FAA 48	FAA AERO CTR OKLA CITY OK//AAC-486 AA//
<u>COAST GUARD</u> XG	COGARD SUPCEN BROOKLYN NY//CODE 320//
<u>FMS</u> Z & Y SERIES	SECURITY ASSISTANCE GROUP, 032, NAVICP, MECH, PA
ZC	DIRECTORATE ELECTRONICS ENGINEERING AND MAINTENANCE (DEEM) NATIONAL DEFENSE HEADQUARTERS OTTAWA, ONTARIO, CANADA
<u>ARMY</u> BF	CDRAMCCOM ROCK ISLAND IL//AMSMC-PDJ-O//
CD	CDPAVSCOM ST LOUIS MO//AMSAV-SAAD//
CL	CDRCECOM FT MONMOUTH NJ//AMSEL-ED-TO//
BD	CDRMICOM REDSTONE ARS AL//AMSMI-RD-SE-MT//
AZ	CDRTACOM WARREN MI//AMSTA-GP//
CT	CDRTROSCOM ST LOUIS MO//AMSTR-NEPP//