



# ESOH

## The Hidden Integrated Logistics Support Element

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# Report Documentation Page

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# OBJECTIVE



- Provide an overview of efforts underway in the NAVAIR Design Interface & Maintenance Planning (DI/MP) Department, Environmental Logistics Branch to support acquisition and in-service maintenance planning
- Aviation HMC&M Program
- Logistics Support Analysis



# NAVAIR - 6.7.1

## Design Interface & Maintenance Planning Department



- Current DI/MP National Competency was established over five years ago as a result of a NAVAIR reorganization.
- Need to standardize policies, processes and procedures which had deteriorated over the years following the cancellation of MIL-STD-1388
  - MIL-PRF-49506 Logistics Management Information (LMI) - 1996
    - Designed to minimize oversight and government-unique requirements
    - Allow contractors maximum flexibility in designing systems and developing, maintaining, and providing support and support related engineering data.
  - GEIA-STD-0007 Logistics Product Data – adopted for use by DOD in 2008
    - Defines logistics product data generated during design of system, end item, or product



# NAVAIR - 6.7.1

## Design Interface & Maintenance Planning Department



- AIR 6.7.1 defined areas of Technical Authority, where the process owner has the authority, responsibility and accountability to establish, monitor and approve technical standards, tools and processes in conformance with higher authority policy, requirements, architectures and standards.
- The areas of technical authority are:
  - Design Interface (DI)
  - Maintenance Planning (MP)
  - Reliability-Centered Maintenance (RCM)
  - Level of Repair Analysis (LORA)
  - Integrated Maintenance Concept (IMC)
  - Diminishing Manufacturing Sources and Material Shortage (DMSMS)
  - Environmental Logistics



# NAVAIR - 6.7.1

## Design Interface & Maintenance Planning Department



- New DI/MP Department challenges
  - Lack of experienced logisticians, training, standard policies, processes and procedures
- Developed a DI/MP Certification Plan
  - Serves as a central component of a career development program focused on the continued evaluation, growth and sustainment of professional skills within the DI/MP community
  - Aligns logistician competencies with the logistics functional area task requirements through establishment of education, training and experience guidelines
  - Updated as necessary to ensure applicability to current policy, processes and best practices.



# Certification Levels



<b>Level I</b>	Performance - Capable to perform task with assistance. May have never performed in that functional area before.
	Knowledge - Possess limited understanding with regard to why or how the task is accomplished or how it relates to other tasks.
<b>Level II</b>	Performance - Capable to complete basic tasks, but may require some coaching and oversight for more complex tasks.
	Knowledge - Exposure to and learning the functional area. Can determine step by step procedures for doing the tasks using instructions or guidance. Can identify relationship of basic facts and state general principles.
<b>Level III</b>	Performance - Capable to perform task consistently without error and without supervision. Can teach and mentor others on how to perform basic tasks.
	Knowledge - Comprehends the functional area. Can identify why and when the task must be done and why each step is needed. Can analyze facts and processes and draw conclusions about the functional area.
<b>SME</b>	Performance – Capable to perform complex tasks or procedures. Can illustrate, teach, mentor and evaluate others on how to do the task. Ability to provide insight and recommendations regarding related policy and procedure issues.
	Knowledge – Demonstrated expertise in the defined functional area at a level to distinguish capability that is recognized as exceptional among peers. Thorough understanding of the tasks and their interdependencies in other areas. Can predict, isolate and resolve problems about the subject in the context of policy recommendations and decisions.



# HMAP 2006



- **Hazardous Materials Afloat Program (HMAP)**

- NAVSUP sponsored program to provide assistance to forces afloat in their efforts to implement HMC&M Program policies
- Biannual meetings co-chaired by COMFISC & NAVSEA

- **Background/History of Issue:**

- Most HM additions to aviation squadron AULs are not being reviewed by a NAVAIR technical representative to ensure material is qualified for use on aircraft systems.
- No coordination between aviation and ship SUPPO to minimize HMs brought on board.
- Air dets leave HM on board after departing which creates problems for ship

- **Lack of standardized aviation HM lists:**

- Impacts the ability of NAVSUP to support squadron HM requirements
- Excess HM ordered & HW generated





# NAVAIR - 6.7.1.4

## Environmental Logistics Branch



- From Organizational Breakdown Structure:
  - Identify, prevent, or correct consumable and hazardous materials deficiencies at all levels of maintenance and functional failures of the system, including elimination/minimization of deleterious environmental effects.
  - Plans, develops, sponsors, and coordinates the development and transition of maintenance, pollution prevention, and hazardous material minimization technology alternatives.



# DOD/DON POLICY



- **DODI 5000.02**
  - During the design process, PMs shall document hazardous materials (HAZMAT) contained in the system
  - Identification of HAZMAT, wastes, and pollutants (discharges/emissions/noise) associated with the system and plans for their minimization and/or safe disposal
- **OPNAVINST 5090.1C**
  - Business Support Offices will work with acquisition PMs to ensure a HM AUL is prepared for the system
- **DoD's Executive Order 13423: Toxic and Hazardous Chemicals Reduction Plan**
  - Ensure that the agency reduces the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of by the agency

***Once these HM lists are developed: Where do they go?  
Who reviews for HM substitutions? Who maintains?***



# COMNAVAIRFORINST 4790



- **Naval Aviation Maintenance Program (NAMP)**

- Squadron HM PM forwards AUL change recommendations via the appropriate ACC/TYCOM to COMNAVAIRSYSCOM (AIR-6.7.1.4) when ashore.
- When afloat, materials listed in the AUL must also be listed in the SHML...Forward SHML change recommendations to NAVICP via the ship HAZMAT and HAZWASTE Coordinator and appropriate ACC/TYCOM...Requests are forwarded to appropriate COMNAVAIRSYSCOM and COMNAVSEASYSYSCOM POCs for processing. (AIR-6.7.1.4 is NAVAIR POC)

**Authorized Use List (AUL):** HM list at the squadron level needed to support the requirements of the squadron. In addition to HMs needed for maintenance of the weapon system and associated support equipment; this AUL might also contain HMs needed for general housekeeping.



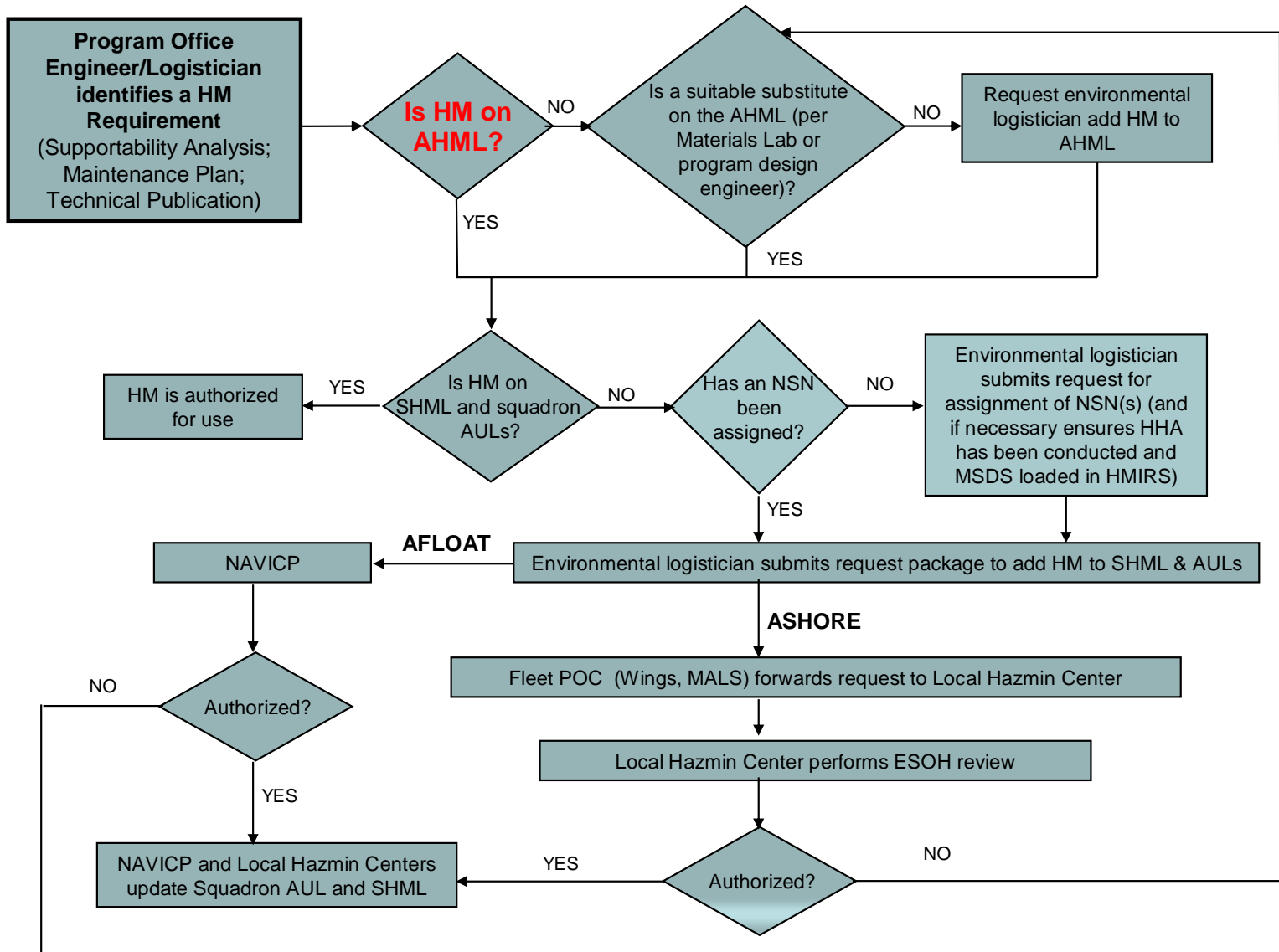
# HMAP 2007



- **Aviation HM Working Group established**
- **Working Group Objectives:**
  - Short Term:
    - Build approved aviation hazardous materials list (AHML)
    - Develop procedure for NAVAIR approval of HMs placed on aviation squadron AULs and SHML
  - Long Term: Standardize Pack-Up Kits???



# Proposed HMC&M Process





# Progress to Date



- **AHML Database Development**

- Identified Team Members to ensure all stakeholders provide input
- Received funding for development of the database
- Prepared a Software Requirements Specification to define database requirements
- Request HM Data from PMA (preferred source – LSA Database)
- Developed prototype
- Ensure AHML database can be integrated with existing/future Navy HM IT solutions
- Identify website to host AHML Database
  - Current Solution - AHML will be a module in the SSAR Tool hosted on the Naval Systems Engineering Resource Center website

- **Socialization**

- PEO(L)s; Air-1.6; AIR-4.3; DDG ESOH Working Group; Environmental Information Exchange; FSTs - North Island/Jacksonville/Cherry Point



# Aviation HM List Database



- Aviation Hazardous Materials List (AHML) Database would be the repository for program HM requirements
- AHML database will be a key tool for implementing the aviation Hazardous Material Control and Management
- The purpose of the database is to:
  - Consolidate HMs technically authorized for aviation maintenance
  - Provide ordering information for hazardous materials used in aviation maintenance.
  - Reduce hazardous waste by limiting the quantity of hazardous materials required for aviation maintenance.
  - Control the use of hazardous materials.
  - Reduce the requirement for proprietary materials.
  - Reduce the use of toxic and hazardous chemicals.
  - Minimize to the greatest extent practical the use of ozone depleting substances (ODSs) and chemicals of emerging concern (identified by the Deputy Under Secretary of Defense (Installations and Environment), Emerging Contaminant Directorate's Materials of Evolving Regulatory Interest Team).

***Most HMs are common across all platforms – makes sense to consolidate into 1 list***



# SSAR Home Page

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## SSAR Shipboard/Shorebased/Airborne Aviation Requirements



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This site is designed for Internet Explorer 6 or later and **requires popups to be allowed (help)**. 1280x1024 or more recommended.

[Click HERE to register for the 2010 Facilities Enterprise Conference](#)

Click on Hazmat to get to AHML Data



### What is it?

Delineate criteria and requirements that a weapon system imposes on shore and/or shipboard facilities for all training, maintenance and operations. SSAR is derived from Facilities Requirements Databases/Documents (FRDs) used to plan and develop the necessary modifications, alterations and/or construction of facilities both ashore and afloat.

### Database versus Document

SSAR is a web-based tool including relational databases providing for:

- Cross-platform requirements analysis
- Access to the most up-to-date requirements
- Consistent templates that can be tailored to specific platforms as well as ship versus shore needs

### Sponsored by the FELT

SSAR is provided to the facilities community by the Facilities Enterprise Leadership Team (FELT).





# AHML Database Home Page

(proposed)



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The AHML (Aviation Hazardous Materials List) database is a work in progress. The AHML database takes HM requirements identified by aviation program offices, consolidates the information and correlates the HM requirements with existing Supply information. HMs listed in the AHML are “technically authorized” for use in aviation maintenance HOWEVER local regulations may prevent authorization at the installation level. All HMs used at a shore facility must be reviewed by the local environment, safety and occupational health office and placed on the work center AUL (Authorized Use List).

If a required HM is not on the AHML or you have a problem getting a technically authorized HM, please submit a feedback report. <link to feedback report>

From this screen, 4 reports can be generated:

- HMAUL Reports**
- T/M/S and GS Publication Supply Information Reports**
- Specification/Part Number Substitution Information**
- Environmental Considerations**



# HMAUL Reports Query Request Page (proposed)



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### HMAUL Reports

TBD - Will provide a brief description on the HMAUL Reports generated.

#### Type/Model/Series (TMS)

FA18EF	>	
V22	>>>	
(No Data)	<	
(Not Applicable)	<<<	

[Continue](#)

SSAR  
Shipboard / Shore-based Aviation Requirements  
Version: 2.3.8

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Other requests for this document shall be referred to NAVAIR 6.7.2.3.

Naval Air Systems Command (NAVAIR)  
Holmes-Tucker International, Inc.  
Page Last Updated: 06 JAN 10

- Proposed page layout for accessing HMAUL Reports
  - Similar screen for generating supply information reports
- In addition to aircraft platforms, select General Series publications would also be included



# HMAUL Report (proposed)



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The information in the HMAUL reports is derived from HM requirements found in technical publications and/or program office logistics support databases. Information in these reports is as received from the data source and could contain inaccurate information, which could be addressed in the Remarks column.

T/M/S or PUB	NOMENCLATURE	SPEC/PN	CAGE CODE	CHARACTERISTICS	NIIN	REMARKS
F18	PRIMER,PRESSURE SEN	94	52152			
F18	OPTICAL CLEANING KIT	945	0XY53			
F18	CARTRIDGE, SEALANT	220323	92108	TY1C L1		
F18, 509, 75	EPOXY PRIMER COATING KIT	MIL-PRF-85285	81349	TY1CL2		

- This report will provide information, **as received** from the program office
  - Requires spec/pn clarification to ensure supply info can be found
- Report information will be exportable to Excel



# Supply Information Report (proposed)



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The information in the AHML supply reports is derived by querying program HM requirements with FLIS data. This report is intended to be used as a GUIDE for procuring HMs. HM Supply data in SSAR is updated quarterly, for the most up-to-data supply information refer to FLIS.

	Data sources				NOMENCLATURE	SPECIFICATION/ PART NUMBER	FSC	NIIN	UI	UM	SPEC DATA	COLOR	CHIP #	AOB CV/ CVN	AOB CG	AOB FFG	AOB DDG	AOB LCS	AOB LHA/ LHD	
X	F18	-509	-507	-75	POLYURETHANE COATING	MIL-PRF-85285														
							o 8010	001817049	KT	2,000 QUARTS	1 TYPE AND H CLASS	BROWN	20400	A	R	A	R	A	R	
							o 8010	012659127	KT	2,000 QUARTS	1 TYPE AND H CLASS	GRAY	26373	A	R	A	R	A	R	
							o 8010	0126591289	KT	2,000 GALLONS	1 TYPE AND H CLASS	GRAY	26373	P	P	P	P	P	P	
X	F18				COATING KIT, RAIN EROSION RESISTI	FP-050 (36320)														
							o 8010	014926895	KT	1,000 QUARTS	3 TYPE	GRAY	36320	A	R	A	R	A	R	
X		-509		-75	CORROSION PREVENTIVE COMPOUND	HAVGUARD TYPE II														
							o 8030	015735154	QT	1,000 QUARTS				R	R	R	R	R	R	
							o 8030	015735158	GAL	1,000 GALLONS				R	R	R	R	R	R	

- **Report Limitations:**
  - HM information must be properly entered in the supply system
  - To be included in the AHML database: HM must have an active advice acquisition code and Navy interest
- Report information will be exportable to Excel



# Specification/Part Number Substitution Information Report (proposed)



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The information in the Specification/Part Number Substitution Information Report is queried from information found in the ASSIST database.

ShortSpec	TITLE	Recommended Replacement
TT-L-20	LACQUER, CAMOUFLAGE (S/S BY A-A-3164)	A-A-3164
TT-L-26	LACQUER (BRUSHING, CLEAR AND PIGMENTED FOR EXTERIOR AND INTERIOR USE) (NO S/S DOCUMENT)	None
TT-L-48	LACQUER, NITROCELLULOSE AND ACRYLIC, HIGH SOLIDS, HYDROCARBON PROPELLANT (IN PRESSURIZED DISPENSERS) SUPERSEDED BY TT-L-50G	TT-L-50
TT-L-50	LACQUER, NITROCELLULOSE, ACRYLIC AND ACRYLIC BUTYRATE, AEROSOL (IN PRESSURIZED DISPENSERS) (NO S/S DOCUMENT)	None
O-A-51	ACETONE, TECHNICAL (S/S BY ASTM-D329)	ASTM-D329
TT-V-91	VARNISH, SHELLAC	No Indication
VV-W-95	WAX, PARAFFIN, TECHNICAL (S/S BY A-A-59255)	A-A-59255
BB-C-104	CARBON DIOXIDE, TECHNICAL: SOLID (S/S BY CGA-G6.2)	CGA-G6.2
P-C-111	CARBON REMOVING COMPOUND (NO S/S DOCUMENT)	None
O-C-114	CALCIUM HYPOCHLORITE, TECHNICAL (S/S BY ASTM-E1229)	ASTM-E1229



# Environmental Considerations Report

(proposed)



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The Environmental Considerations report is generated by relating HM information received from the program office with technical characteristics information found in FLIS and remarks from the NAVAIR technical authority.

SPECIFICATION /PART #	ITEM_NAME	PARTNO	CAGE CODE	NIIN	ZZT	CBGS	CZFJ	ENAC	FEAT	STORAGE CODE	REMARKS
MIL-PRF-85582	EPOXY PRIMER COATING KIT	0513X408BXMIS12K	AAAAA	014416032	1 TYPE AND C2 CLASS	STRONTIUM CHROMATE	340.0	LOW VOLATILE ORGANIC COMPOUND - COATINGS - AEROSPACE OPERATIONS COATINGS	WATERBORNE; STANDARD PIGMENTS; NOT FOR USE ON IRON OR BARE CARBON STEEL		
MIL-PRF-85582	EPOXY PRIMER COATING KIT	17176KEP/16709CEH	BBBBB	015553383	2 TYPE AND N CLASS		340.0	LOW VOLATILE ORGANIC COMPOUND - COATINGS - AEROSPACE OPERATIONS COATINGS	LOW INFRARED REFLECTIVE PIGMENTS; LEAD FREE; WATERBORNE; NON-CHROMATE BASED CORROSION INHIBITORS; NOT FOR USE ON IRON OR BARE CARBON STEEL		
MIL-PRF-85582	EPOXY PRIMER COATING KIT	44GN007	CCCCC	012180856	1 TYPE AND C1 CLASS	BARIUM CHROMATE	340.0	LOW VOLATILE ORGANIC COMPOUND - COATINGS - AEROSPACE OPERATIONS COATINGS	WATERBORNE; STANDARD PIGMENTS; NOT FOR USE ON IRON OR BARE CARBON STEEL		
MIL-PRF-680	CLEANING COMPOUND,SOL VENT	MIL-PRF-680	81348	002649038	I TYPE				PHYSICAL FORM: LIQUID, SPECIFIC USE: FOR DEGREASING METALS AND DRYCLEANING; 5 GALLON CAN		Use of MIL-PRF-680 Type I is restricted in various locations; Contact local env office for site-specific restrictions.
MIL-PRF-680	CLEANING COMPOUND,SOL VENT	MIL-PRF-680	81349	014742317	II TYPE						
MIL-PRF-680	CLEANING COMPOUND,SOL VENT	MIL-PRF-680	81349	014742320	III TYPE						
MIL-PRF-680	CLEANING COMPOUND,SOL VENT	MIL-PRF-680	81349	002649038	IV TYPE				PHYSICAL FORM: LIQUID, SPECIFIC USE: FOR DEGREASING METALS AND DRYCLEANING; 5 GALLON CAN		
TT-I-735	ISOPROPYL ALCOHOL,TECHNICAL	005-0837-000	13499	002865435	A GRADE						
TT-I-735	ISOPROPYL ALCOHOL,TECHNICAL	MIL-10428	81349	012209907	B GRADE						



# Current Projects

## Aviation HMC&M Program



- Update AHML Database Prototype
  - Developed Software Requirements Document
  - Collect and clean up PMA HM and supply data
  - Update SSAR
- Update Standard Work Packages for implementing environmental logistics procedures
- Develop Training
  - Environmental Logistics Certification Plan
  - Environmental Logistics Training Course
  - Update existing Navy training courses
- Identify HM policy documents to update
  - NAVAIR Environmental Program Instruction; OPNAVINST 5090.1; NAMP; etc.



# Environmental Logistics - SWPs



- Two Standard Work Packages (SWPs) were developed for Environmental Logistics
  1. Aviation HMC&M Program: Describes the process for implementing an aviation HMC&M program for weapon systems under NAVAIR Cognizance
  2. ESOH Support: Describes the process for providing ESOH support to aviation program offices
- SWP under consideration for Pollution Prevention
- SWPs have 10 sections addressing:
  1. Purpose
  2. SWP Owner
  3. Initiation Requirements
  4. Inputs/Suppliers
  5. Skills Required
  6. Resources
  7. Work Steps
  8. Completion Requirements
  9. Product Format & Configuration
  10. Metrics (Tasks)

**STANDARD WORK PACKAGE**

**Hazardous Material Control & Management (HMC&M)**

SWP6714-001

Owner:	AIR 6.7.1 Design Interface & Maintenance Planning Division	16 June 2009
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NAVAIR





# Environmental Logistics

## Certification Training Requirements



- In addition to DAWIA requirements:
  - Level 1:
    - DI/MP Course
    - Environmental Logistics Training
  - Level 2:
    - Basic Environmental Law
    - National Environmental Policy Act (NEPA)
    - DAU Environment, Safety, & Occupational Health (CLM 035)
    - DAU Systems Safety in Systems Engineering (CLE 009)
    - DAU Improved Statement of Work (CLM 031)
  - Level 3:
    - Risk Management Training
    - RCM (Reliability-Centered Maintenance) Familiarization Course

***Certification Plan also includes a required reading list, education/experience requirements and suggested courses and reading material.***



# Benefits



- PMA perspective:
  - Ensures qualified personnel available to support program
  - Reduce time and cost associated with HM management
  - Centralizes aviation HM data to assist engineers/logisticians in selecting HMs for maintenance procedures
  - Establishes process for engineering oversight and control of products added or removed from AULs
- Fleet perspective:
  - Workload taken off sailor/marine
  - HM available in supply in the right quantity
  - Fleet able to procure HMs needed in a timely manner
- Navy Pollution Prevention (P2) perspective:
  - Improved management of HMs could allow us to identify P2 opportunities
  - HM available in right size (less hazardous waste produced)



# Independent Logistics Assessment

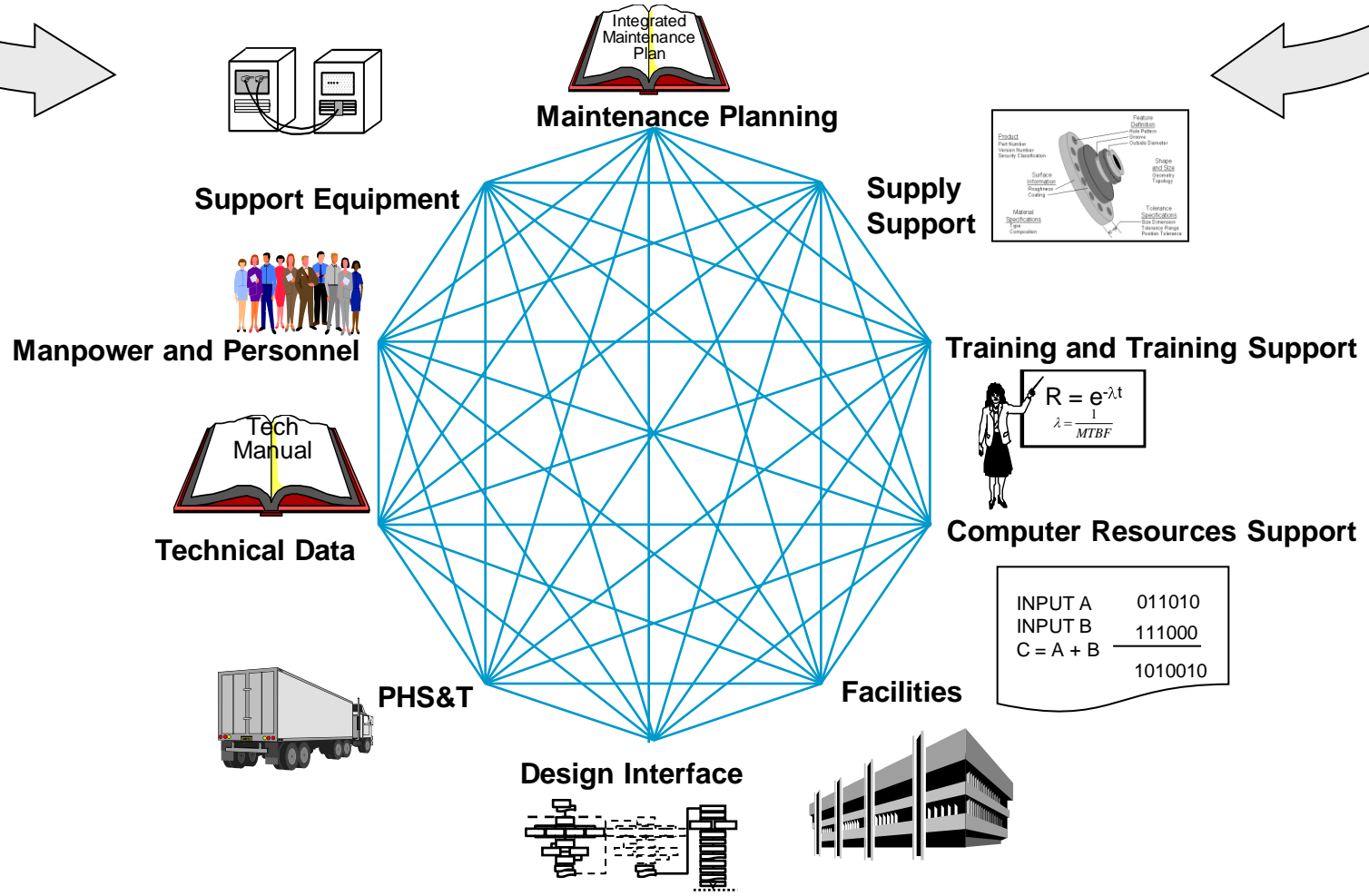


- **SECNAVINST 4105.1 *ILA AND CERTIFICATION REQUIREMENTS***
  - Executive Officers (PEOs) and Systems Command (SYSCOM) Commanders are responsible for ensuring that an ILA is accomplished on all ACAT programs prior to Milestones B, C and the Full Rate Production (FRP) decision.
  - The purpose of the ILA is to provide the program manager and Milestone Decision Authority (MDA) with a measure of Integrated Logistics Support (ILS) planning and implementation.
  - The assessment is independent of a system's developers to assure an objective evaluation of program status
  - Program logistics assessed by NAVAIR Subject Matter Experts (SMEs) prior to going to the MDA for approval.



# ESOH – The Hidden ILS Element

Where does ESOH fit in the picture?  
Component in all of them;  
Reviewed during the Integrated Logistics Assessment

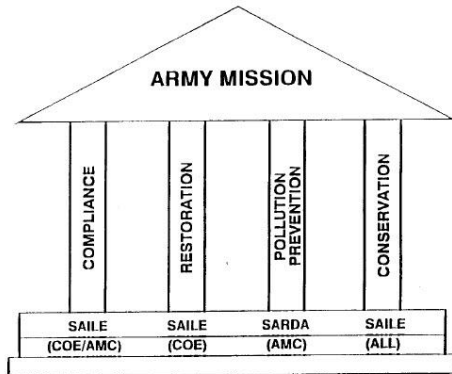




# Logistics Support Analysis



## ARMY ENVIRONMENTAL PROGRAM



**Brief Date: 2-24-1992**

## LOGISTICS SUPPORT ANALYSIS ENVIRONMENTAL TASKS

- WHAT I DON'T SEE: 1388-2B (APPENDIX B)
- 304.1 LSA-078. HAZARDOUS MATERIALS SUMMARY. "THE REPORT PROVIDES A SUMMARY OF ALL HAZARDOUS MATERIALS REQUIRED TO SUPPORT A SELECTED END ITEM. THIS SUMMARY IDENTIFIES ALL ITEMS HAVING ASSOCIATED HAZARDOUS MATERIALS STORAGE, HAZARDOUS WASTE STORAGE OR DISPOSAL COSTS. THIS SUMMARY ALSO IDENTIFIES THE MAINTENANCE TASKS REQUIRING QUANTITIES AND COSTS PER TASKS..."

## LOGISTICS SUPPORT ANALYSIS ENVIRONMENTAL TASKS

- WHAT I DON'T SEE: 1388-1A
  - TASK 201.2.2.e. (USE STUDY) "ENVIRONMENTAL REQUIREMENTS TO INCLUDE HAZARDOUS MATERIALS, HAZARDOUS WASTES, AND ENVIRONMENTAL POLLUTANTS."
  - TASK 203.2.4. (COMPARATIVE ANALYSIS) "IDENTIFY QUALITATIVE ENVIRONMENTAL, HEALTH-HAZARD, SAFETY AND SUPPORTABILITY PROBLEMS ON COMPARATIVE SYSTEMS WHICH SHOULD BE PREVENTED ON THE NEW SYSTEM/EQUIPMENT."
  - TASK 204.2.1.a (&b) TECH OPPORTUNITIES "IDENTIFY TECHNOLOGICAL ADVANCEMENTS AND OTHER DESIGN IMPROVEMENTS THAT WILL...REDUCE ENVIRONMENTAL IMPACT..."

## LOGISTICS SUPPORT ANALYSIS ENVIRONMENTAL TASKS

- WHAT I DON'T SEE: 1388-1A
  - TASK 301.2.1 (&2) FUNCTIONAL RQMTS ID "IDENTIFY HAZARDS, INCLUDING HAZARDOUS MATERIAL, HAZARDOUS WASTE, AND ENVIRONMENTAL POLLUTANTS ASSOCIATED WITH THOSE FUNCTIONS (OPERATIONS/ MAINT)"
  - TASK 303.2.1.a. (TRADEOFF ANALYSIS) "...CRITERIA SHALL BE RELATED TO THE SUPPORTABILITY, COST, ENVIRONMENTAL IMPACT..."
  - TASK 401.2.1.d (TASK ANALYSIS) "(CONDUCT DETAILED ANALYSIS OF)...ENVIRONMENTAL IMPACT OF THE TASKS INCLUDING USE OF HAZARDOUS MATERIALS, GENERATION OF HAZ WASTE, AND RELEASE OF AIR AND WATER POLLUTANTS."