



Acquisition/Environmental Management Case Study for an Army Weapon System

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Acquisition/Environmental Management Case Study for an Army Weapon System



- **Matrix Support Partners**
 - **US Army Aviation and Missile Life Cycle Management Command (AMCOM)
G-4 Environmental Division**
 - **US Army Lower Tier Air and Missile Defense Project Office (LTPO)**
- **Primary Requirements**
 - **DoDI 5000.2 (*Operation of the Defense Acquisition System*)**
 - **32 CFR Part 651 (*Environmental Analysis of Army Actions*)**
 - **AR 700-142 (*Materiel Release, Fielding and Transfer*)**
- **Matrix Support**
 - **National Environmental Policy Act (NEPA)**
 - **Hazardous Material Management Program (HMMP)/Pollution Prevention (P2)**
 - **Programmatic Environment, Safety and Occupational Health Evaluation (PESHE)**
 - **Integrated Product Teams (IPTs)/External Agencies**
 - **Acquisition Milestone Reviews**
 - **Materiel Release**
 - **Environmental Compliance**



AMCOM G-4 Environmental Division



- **AMCOM G-4 Environmental Division**
 - **Acquisition**
 - **Compliance for all AMCOM activities**
 - **Pollution Prevention**
 - **Technical Document Review**

Provide matrix environmental support to AMCOM and AMCOM-supported weapon systems and facilities

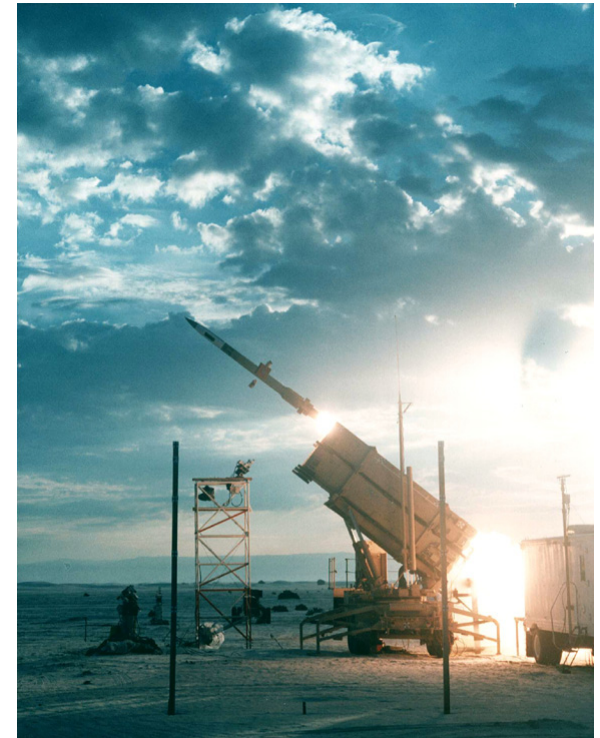


Lower Tier Air and Missile Defense Project Office Systems



- **PATRIOT**
- **PATRIOT Advanced Capability-3 (PAC-3)**
- **Medium Extended Air Defense System (MEADS)**
- **Combined Aggregate Program (CAP)**
- **Missile Segment Enhancement (MSE)**
- **Joint Tactical Ground Station (JTAGS)**

**LTPO Product Assurance serves as the
ESOH lead within the Project Office**





DoDI 5000.2

E7.1.6

Operation of the Defense Acquisition System



“The acquisition strategy shall incorporate a summary of the Programmatic ESOH Evaluation (PESHE)...and a compliance schedule for NEPA...”

“...the PM shall document hazardous materials used in the system and plan for the system’s demilitarization and disposal.”



32 CFR Part 651 (AR 200-2) *Environmental Analysis of Army Actions*



“This part implements the National Environmental Policy Act of 1969 (NEPA), setting forth the Army’s policies and responsibilities for the early integration of environmental considerations into planning and decision-making.”

“All Army acquisition programs must use this part...”

NEPA is a US statute (42 USC 4321-4347)

The intent of NEPA is to evaluate alternatives and environmental impacts of Federal actions prior to implementation.



AR 700-142

Matériel Release, Fielding and Transfer



Program Manager responsibilities include “testing and evaluating the system to ensure it is in compliance with Environmental Protection Agency guidelines and standards for environmental impacts.”



Documentation required for matériel release approval includes “a statement that environmental requirements have been met (AR 200-1 and AR 200-2, para 1-1).”



National Environmental Policy Act (NEPA)



Programmatic or Life Cycle Environmental Assessments have been completed to document LTPO acquisition, test, training and support activities. These NEPA documents:

- **Are available for test/support facilities to assist in the preparation of site-specific NEPA documentation (if required)**
- **Address present and projected systems, activities and locations**
- **Reference existing pertinent NEPA documentation**
- **Do not replace site-specific NEPA analyses**

Proposed action is to produce, test, field, operate, sustain and dispose of LTPO weapon systems



National Environmental Policy Act (NEPA) Documentation



Programmatic NEPA documentation:

- *PATRIOT Advanced Capability-3 (PAC-3) Life-cycle Environmental Assessment, May 1997*
- *Final Life Cycle Environmental Assessment for the PATRIOT Missile System, December 1997*
- *Final Life Cycle Environmental Assessment for the Medium Extended Air Defense System (MEADS), September 1998*
- *PATRIOT Advanced Capability-3 (PAC-3) Life-cycle Final Supplemental Environmental Assessment, January 2002*
- *Final Programmatic Environmental Assessment for Lower Tier Air and Missile Defense Project Office Activities, February 2005*
- **Records of Environmental Consideration are completed for all PAC-3 flight tests**

A NEPA Schedule is maintained for LTPO activities on an ongoing basis



National Environmental Policy Act (NEPA) Schedule



A representative sample of the LTPO NEPA Schedule shows that NEPA compliance has been considered for Project Office activities

Potential Location	Potential Activity	Current NEPA Completion Date	Anticipated Proponent/ Anticipated NEPA Document	Projected Event Initiation
White Sands Missile Range, NM	Flight Testing, Environmental Testing, OT&E/Interoperability Testing, Ground Testing, Search and Track Testing	Jan 1998 (EIS); TMD Flight Test (EIS), 1995 SAM EA, 2000	WSMR/Potential EIS update (TBD); PM/Flight Test RECs as needed	FY 06
Fort Bliss, TX and NM	OT&E/Interoperability Testing, Storage, Training	December 2000 (EIS)	N/A	FY 06
McGregor Range, NM	OT&E/Interoperability Testing, Storage, Training	May 1999 (EIS)	N/A	FY 06
Ft. Sill, OK	OT&E/Interoperability Testing, Storage, Training	EA for BRAC Activities completed in 2006 by Ft. Sill	N/A	FY 07



Hazardous Material Management Program (HMMP)



HMMP documentation:

- **Allows the PM to track hazardous materials as per DoDI 5000.2 and NEPA**
- **Assigns responsibility within the prime contractor for hazardous material management/tracking**
- **Provides the Project Office with hazardous materials utilized in the manufacture of or contained within the end items**
- **Denotes any on-going trade studies or pollution prevention efforts**
- **Augments safety and disposal efforts by identifying specific hazardous materials within the system components**
- **Standardizes hazardous material classification**
- **Provides HMMP data for Foreign Military Sales (FMS) efforts**



Hazardous Material Management Program (HMMP) Requirements



HMMP is a contractual requirement for LTPO systems

- **DI-MGMT-81398: HMMP Plan submitted once and updated as required. The HMMP Plan gives an overview of the contractor's overall HMMP.**
- **DI-MISC-81397: HMMP Report submitted annually. The HMMP Report specifies hazardous materials utilized in the manufacture of or contained in the system end items. The HMMP Report also addresses any ongoing trade studies.**
- **National Aerospace Standard-411 is specified for LTPO HMMP documentation. NAS-411 was adopted by DoD in 1994 as an industry standard for HMMP documentation.**
- **To date we have reviewed 6 PATRIOT/PAC-3 HMMP Plans and 16 PATRIOT/PAC-3 HMMP Reports.**



Programmatic Environment, Safety and Occupational Health Evaluation (PESHE)



- **DoDI 5000.2 stipulates that the PESHE summary be included in the Acquisition Strategy**
- **The PESHE evaluates Project Office risk assessment for Environmental Compliance, NEPA, Hazardous Materials and Waste Management, and Safety/Occupational Health**
- **Recommended PESHE format is available on the US Army Environmental Command website: <http://aec.army.mil/usaec/acquisition/peshe2004.pdf>**
- **Additional risk assessment guidance, *System Safety – ESOH Management Evaluation Criteria for DoD Acquisition*, has been developed by the Office of the Deputy Undersecretary of Defense (Installations and Environment) (ODUSD(I&E)) and OUSD Acquisition, Technology and Logistics (AT&L); updates can be obtained by contacting: ED@OSD.mil**



Programmatic Environment, Safety and Occupational Health Evaluation (PESHE) Documentation



PESHE documents completed for LTPO:

- **PATRIOT PESHE, 1997**
- **PAC-3 PESHE, 2002**
- **MEADS PESHE, 2004**
- **CAP PESHE pending further program development**

The PESHE is not a NEPA document, but a Project Office document for internal risk evaluation.



Integrated Product Teams/External Agencies



AMCOM G-4 supports LTPO via attendance at various IPT meetings as required:

- **The Environment, Safety and Occupational Health (ESOH) Management Team IPT meets bi-annually, hosted by AMCOM G-4 and chaired by LTPO Product Assurance**
- **LTPO System Safety Integrated Product Management Team meets quarterly, and often requires environmental input**
- **MEADS Supportability IPT, LTPO Test and Evaluation IPT, and any additional IPTs attended on an as-needed basis**

AMCOM G-4 corresponds directly with external agencies (Army Environmental Command, ODUSD(I&E), Environmental Support Office, Missile Defense Agency, test ranges, etc.) in support of LTPO ESOH issues.

Information from IPTs will often reveal ESOH issues



Acquisition Milestone Reviews



Army System Acquisition Review Council (ASARC) and Defense Acquisition Board (DAB) reviews include an analysis of environmental documentation. AMCOM G-4 and LTPO work together to ensure that no milestone review delays are attributable to ESOH issues.

- **ASARC and DAB reviews for PAC-3 were conducted in 2004**
- **ASARC and DAB reviews for MEADS were conducted in 2004**

AMCOM G-4 works with LTPO and the Army Environmental Command to complete Environmental Notebooks for milestone reviews; these notebooks summarize ESOH risk and address a series of ASARC questions.



Matériel Release



AMCOM G-4 has provided numerous environmental statements for LTPO acquisitions as part of the matériel release and type classification packages. As per AR 700-142, the statements confirm compliance with AR 200-1 and AR 200-2. These acquisition components are typically addressed within the Programmatic NEPA documentation completed for LTPO systems.

A matériel release environmental statement requires ongoing support in order to maintain the proper documentation



Environmental Compliance



- **Environmental compliance guidance for the Army is stipulated within AR 200-1, *Environmental Protection and Enhancement***
- **Although LTPO manages weapon systems (and not facilities per se) the PM is responsible for ensuring that LTPO utilizes test/support/training facilities with no major or on-going environmental compliance issues**



- **Prime contractors are subject to current Federal, state and local environmental regulations and permitting requirements for their facilities and operations; LTPO exercises general oversight for these facilities as well**



Environmental Compliance Support



AMCOM G-4 provides environmental compliance oversight support to LTPO:

- **Research on regulations and substitute materials for heavy metals (cadmium, chromium, etc.)**
- **Research on regulations and substitute materials for Chemical Agent Resistant Coating (CARC) solvents**
- **National Emission Standards for Hazardous Air Pollutants (NESHAP) guidance**
- **Site visits/inspections as needed (ex. PAC-3 All-Up-Round Production Readiness Review inspection in 2002)**

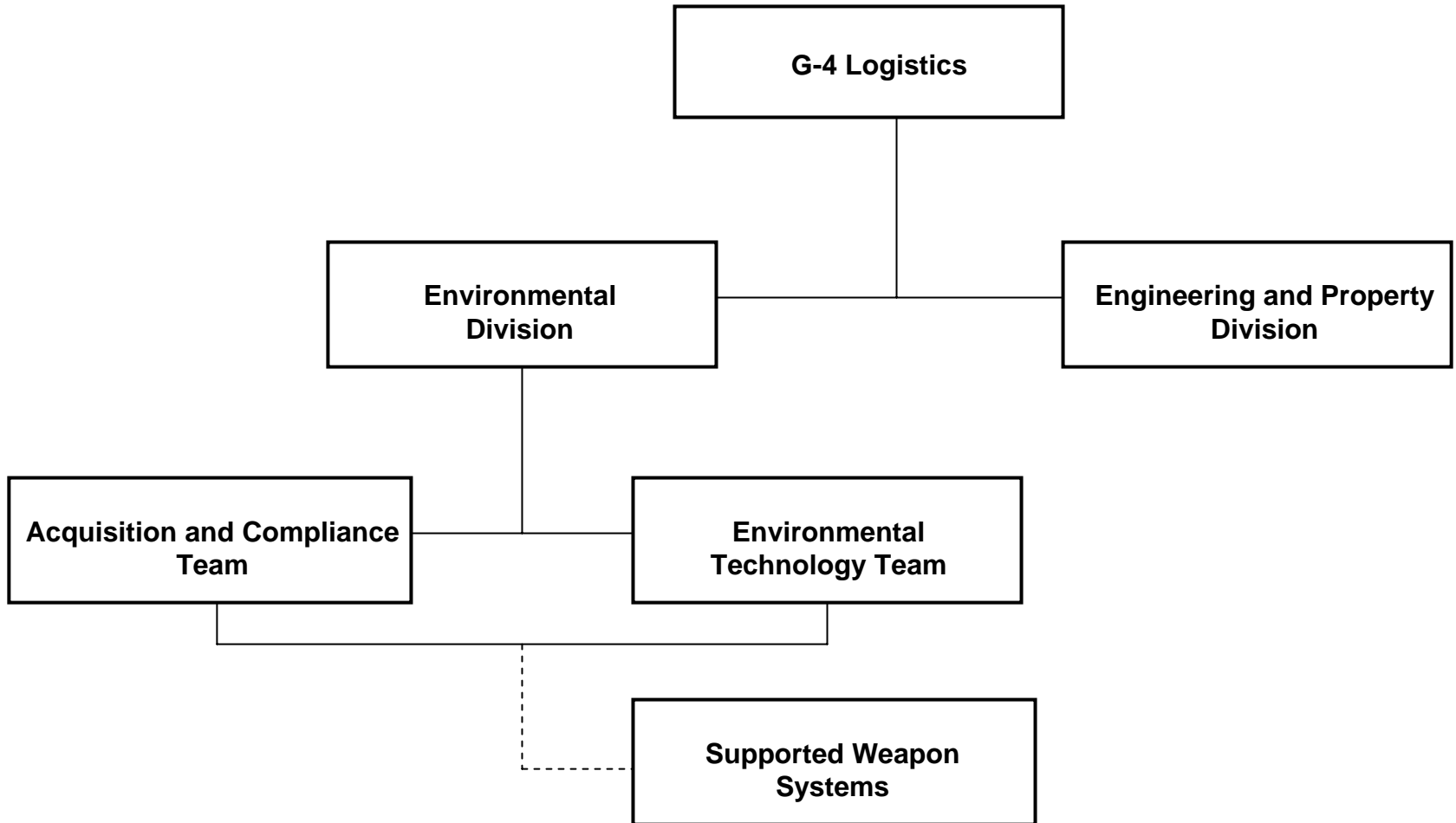
Environmental compliance risk reduction is a regulatory requirement for Army weapon systems



Backup Slides

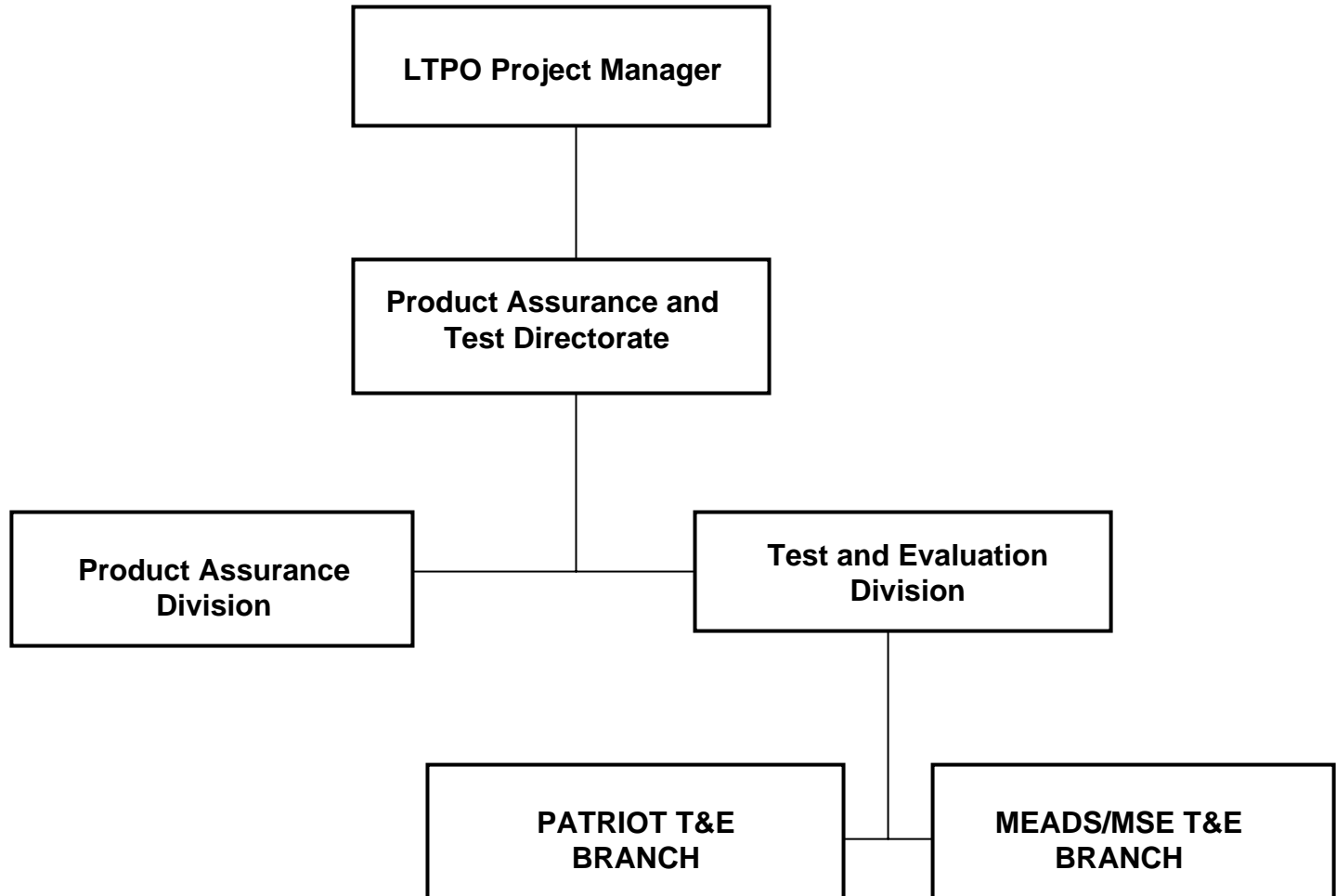


AMCOM G-4





Lower Tier Air and Missile Defense Project Office





Hazardous Material Management Program (HMMP) Language



AMCOM G-4 provides Statement of Work language which specifies HMMP deliverables and defines “hazardous material.”

HAZARDOUS MATERIAL MANAGEMENT: All Contractor and subcontractor activities shall be in compliance with applicable federal, state, and local environmental laws and regulations. The Contractor shall ensure that design, maintenance, operation, manufacturing, programmatic decisions, and trade-off studies strive to eliminate or reduce hazardous materials and waste. The contractor shall implement a Hazardous Materials Management Program (HMMP), IAW National Aerospace Standard (NAS) 411. The contractor shall prepare a HMMP Plan IAW DI-MGMT-81398. The contractor shall request Government approval to use any of the substances identified in the EPA 17 List (available at <http://www.epa.gov/opptintr/3350/33finb1.htm>). The contractor shall not use any Class I Ozone Depleting Chemical/Ozone Depleting Substance (ODC/ODS) (identified at <http://www.epa.gov/ozone/ods.html>) in the manufacture or support of items required by this SOW unless a waiver is obtained from the Government. The Contractor shall provide, electronically and through the IPT process, immediate notification of any proposed hazardous material mitigation/elimination efforts that may adversely impact schedules and/or cost, or performance. The Contractor shall prepare annual HMMP Reports IAW DI-MISC-81397 to report perchlorates, Class II ODC/ODS materials listed at <http://www.epa.gov/ozone/ods.html> and/or any substances listed in Emergency Planning and Community Right-to-Know Act (EPCRA) Section 313 "toxic chemicals" and EPCRA Section 302, "extremely hazardous substances" (available at <http://www.epa.gov/ceppo/pubs/title3.pdf>). The HMMP Reports shall also identify via technical drawing/publication the specific location of each hazardous material contained in the final end item(s). Any hazardous materials used in the manufacturing process shall be identified as such in the HMMP Reports.



Programmatic Environment, Safety and Occupational Health Evaluation (PESHE) Guidance



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EXECUTIVE SUMMARY

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ASARC Question Examples



How are you handling ESOH issues and risk management within the program office? Is the office adequately resourced to cover ESOH requirements?

Have any ESOH-related trade-off studies been performed? Describe them.

What ESOH alternatives are being considered and how are they being/were they evaluated? Do you have any cost/benefit analyses completed or underway on those alternatives?

Are you sponsoring any research or development on ESOH alternatives that will be considered for incorporation in/on your system?

What items, if any, will be recycled during the system's life cycle?

Have Safety and Occupational Health Data Sheets been prepared?

Has an Independent System Safety Assessment been completed?

Are there any high or serious ESOH risks identified in your System Safety Plan? What actions have been taken to mitigate and minimize those risks?

Have Health Hazard Assessments been completed as appropriate? Are all health hazards identified, tracked, and resolved?

Will your system have similar hazardous materials to the system to be replaced? If so, why? Will your system have new hazardous materials? Why and what are they?

How is your system minimizing the use of Class II ODCs, which will be banned effective calendar year 2015?

How do you plan to investigate non-hazardous materials to replace ODCs and hazardous materials?

Are all required NEPA analyses and documentation completed for the next phase? Have any analyses, past or current, caused public concerns?