



Environmental Requirements and Responsibilities



SEAPOWER THROUGH ENGINEERING

3.3.7

TOPIC LEARNING OBJECTIVES	STUDENT PREPARATION
<p>Upon successful completion of this topic, the student will be able to:</p> <ol style="list-style-type: none">1. Identify key Federal and DoD policies governing environmental, safety and occupational health issues.2. Recognize the requirement for effective safety and health programs for every defense acquisition program.3. Identify the information required for a milestone review regarding environmental, safety and health issues.4. Identify the scope of the major Federal environmental regulations.<ol style="list-style-type: none">a. Identify the National Environmental Policy Act (NEPA) process and identify all possible outcomes of the process for a major federal action.	<p>Student Support Material</p> <ol style="list-style-type: none">1. None <p>Primary References</p> <ol style="list-style-type: none">1. OPNAVINST 5090.1, Environmental and Natural Resources Program (SEP 2019)2. OPNAV M-5090.1, Environmental Readiness Program Manual (JUN 2021) <p>Additional References</p> <ol style="list-style-type: none">1. DAU CLE 039 Environmental Issues in Testing and Evaluation (T&E)



Overview

- DoD Policy and Program Requirements
- ESOH Laws and Executive Orders
- National Environmental Policy Act (NEPA)



DoD Policy

- DoD 5000 series – applies to all ACATs:
 - Prevent, mitigate or remediate environmental damage caused by acquisition programs
 - Address environmental issues early in development process (throughout life-cycle sustainment)
 - Evaluate alternatives to reduce or eliminate all forms of environmental impact during design, manufacture, test, operation and disposal, at the source whenever feasible
- All DoD personnel (civilian and military), tenants, and Contractors shall comply with all applicable Federal, State, Local and Internal environmental policies, regulations, and requirements

We are all required to comply with Federal, State, and Local environmental laws



Defense Acquisition Program Requirements

- Program Managers must ensure the system can be:
 - produced
 - tested
 - fielded
 - operated
 - trained
 - maintained
 - disposed of

in compliance with Environment, Safety, and Occupational Health (ESOH) laws, regulations and policy (collectively termed ESOH requirements)



The goal is to safeguard the environment, reduce accidents, and protect human health



Environment, Safety, and Occupational Health (ESOH)

- An acronym that refers to the combination of disciplines that encompass the processes and approaches for addressing laws, regulations, DoD policies, environmental compliance and hazards associated with environmental impacts, system safety (e.g., platforms, systems, system-of-systems, weapons, explosives, software, ordnance, combat systems), occupational safety and health, hazardous materials management, and pollution prevention



ESOH Requirements

- Establish the methods and mechanisms of a process for compliance
 - Local, State or Federal Agencies may impose civil fines, penalties or compliance orders resulting in program delays if the compliance process is not properly planned and executed
- Mandate legal compliance requirements and processes
 - **Laws may impose criminal and/or civil penalties** for lack of compliance, which may or may not be applicable to Federal Agencies and individuals
 - Compliance responsibility assigned primarily to the facility and installation managers and maintainers
- For acquisition programs, the PM is responsible for considering ESOH requirements and their effects throughout the system life-cycle when making design decisions

ESOH impacts must be considered as an integral part of any acquisition systems engineering effort



Programmatic ESOH Evaluation (PESHE)

- PM must document the program process, the schedule for completing National Environmental Policy Act (NEPA) documentation and the status of ESOH risk management in a Programmatic ESOH Evaluation (PESHE)
 - PESHE is a management and reporting tool for the PM
 - **Required for all ACAT programs during milestone review**
 - Requires analyses in the following areas:
 - Environmental compliance
 - System safety and health
 - Hazardous materials management
 - Pollution prevention management
 - National Environmental Policy Act (NEPA)



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ESOH Law Summary

- Air pollution control
 - Clean Air Act (CAA), 42 U.S.C. §§7401-7671q
- Hazardous waste
 - Resource Conservation & Recovery Act (RCRA), 42 U.S.C. §§6901-6992k
 - Comprehensive Environmental Response, Compensation & Liability Act (CERCLA), 42 U.S.C. §§ 9601-9675
- Water pollution control
 - Federal Water Pollution Control Act (Clean Water Act), 33 U.S.C. §§ 1251-1387
- Chemical production/tracking
 - Toxic Substance Control Act (TSCA), 15 U.S.C. §§ 2601-2692
- Chemical emergency planning & community right-to-know
 - Emergency Planning and Community Right-to-Know Act (EPCRA), 42 U.S.C. §§ 11001 - 11050
- Endangered species protection
 - Endangered Species Act (ESA) 16 U.S.C. §§1531-1544
 - Marine Mammal Protection Act (MMPA) 16 U.S.C. § 1371-1423h
- Workplace/employee safety
 - Occupational Safety & Health Act (OSH Act), 29 U.S.C. §§ 651-678
- Environmental policy/planning
 - National Environmental Policy Act (NEPA), 42 U.S.C. §§ 4321-4370h
- Cultural resources
 - National Historic Preservation Act, 54 U.S.C. §300101 et seq.



Workplace and Employee Safety

- Occupational Safety & Health Act (OSH Act), 29 U.S.C. §§ 651-678
 - OSHA is common reference
- Addresses worker health and safety
- Federal Government complies with this law by
 - Requirement to provide healthful and safe places and conditions of employment consistent with standards in 29 U.S.C. §655
 - EO 12196 All Federal Agencies must comply with OSHA standards unless Secretary of Labor approves an alternate standard
- “Uniquely military equipment, systems, and operations” - **not** covered under OSHA
 - But DoD workplaces and operations comparable to those of industry in the private sector are covered
- Statute and implementing regulation at 29 CFR Part 1960 cover many different workplaces and operations and contain many record keeping requirements



Clean Air Act (CAA)

- Establishes national air quality standards for public's health
- Amended in 1990
- States are responsible for attaining standards
 - State Implementation Plans - govern stationary sources and mobile sources
 - Permits (i.e., boiler operations, paint booths, smoke stack emissions, etc.)
 - Reporting
 - Operational impacts
- EPA issues standards to control emissions from aerospace manufacturing & rework and shipbuilding & repair
 - Establishes best technologies for cleaning, painting, etc.
 - Generally, emission reduction through compliant materials and control devices



CAA protects air by reducing or eliminating air pollutants through regulation



Clean Water Act (CWA)

- Major Federal legislation to control water pollution
- Requires National Pollutant Discharge Elimination System (NPDES) permits program focusing on two specific areas which discharge into “waters of the U.S.”
 - Point sources
 - Non-point sources
- Point source examples:
 - Ships
 - Industrial facilities
- Non-point source (biggest challenge) examples:
 - Highways
 - Parking lots





SCOTUS Curtails Wetlands Protection Under CWA

- *Sackett v EPA* – This dispute involved land a federal appeals court described as a “soggy residential lot” that the landowners wanted to backfill with dirt and rocks so that they could build a house on it
- The lot is near a tributary that feeds into a creek, which itself feeds into Priest Lake, a sufficiently large body of water in Idaho that no one really questions if it is subject to the Clean Water Act
- SCOTUS narrowed CWA jurisdiction to extend only to wetlands that are “as a practical matter indistinguishable from waters of the United States” because they have a “continuous surface connection” with a larger body of water, “making it difficult to determine where the ‘water’ ends and the ‘wetland’ begins”



Resource Conservation and Recovery Act (RCRA)

- Major federal legislation on hazardous waste management, passed in 1976
 - Address growing problem of industrial and municipal waste
 - Set national goals for protecting human health and the environment, conserving energy and natural resources, reducing amount of waste generated, and managing waste in an environmentally-sound manner
- Cradle to grave control of hazardous waste
 - Regulates the generation, management, storage, transport, and disposal
 - Manifests created by generator
 - Permits for treatment, storage, and disposal
 - **Applies to all shore activities**
- “Aberdeen Three”
 - First time federal employees were tried and convicted in violation of RCRA
 - Improperly storing, treating, and disposing of hazardous waste





Comprehensive Environmental Response Compensation and Liability Act (CERCLA)

- Authorizes federal agency action to respond to the release or threat of release
- Emphasis on cleanup of old/inactive hazardous substance sites
 - Assigned cleanup costs to responsible parties
- Reporting of releases of CERCLA hazardous substances into environment required
 - Report to National Response Center
- Does not cover spills of petroleum, oils and lubricants (covered by other programs)
- How many bases are superfund sites?



CERCLA is commonly known as SUPERFUND



Toxic Substance Control Act (TSCA)

- Gives the EPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. Amended June 2016 to provide EPA with easier way to list and ban chemicals based on risk
 - Can require reporting or testing of those that may pose an environmental or human-health hazard
 - Can ban the manufacture and import of those chemicals that pose an unreasonable risk
- Of concern to DoN and regulated by TSCA:
 - PCBs (Title I)
 - Lead based paint (Title IV)
 - Asbestos (Title II)
 - Radon (Title III)



PCBs: Polychlorinated biphenyls



Emergency Planning and Community Right-to-Know Act (EPCRA)

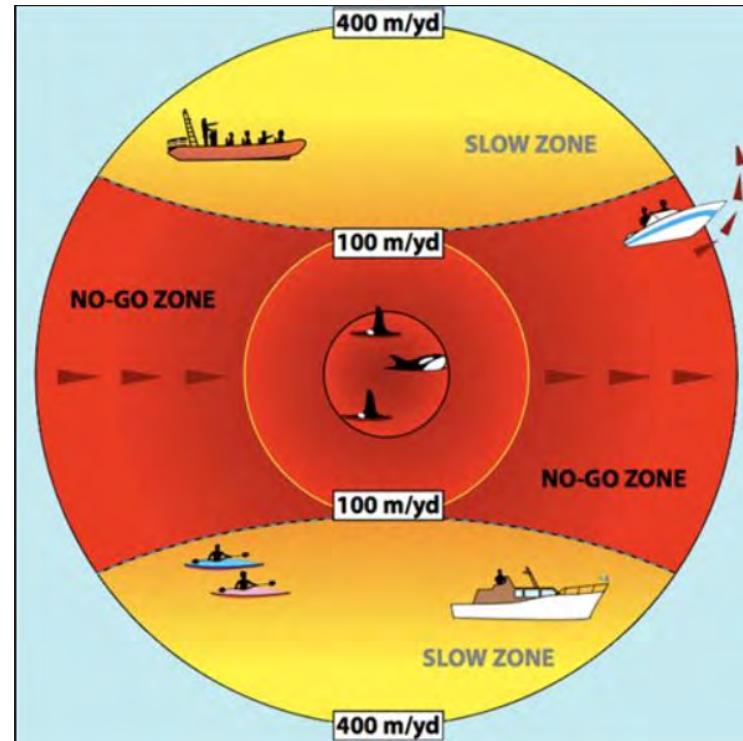
- Requires immediate notification of state and local emergency response planners and the facility's major claimant of releases of hazardous substances over threshold levels
- Provides information to public about potential hazards associated with toxic chemical releases
- Encourages emergency planning at local levels
- Define facility fence line and primary mission
 - Fence line owner (Base Commander) files required EPCRA reports for entire facility
- Releases that result in exposure to personnel solely within facility boundaries do not require notifying state/local agencies





Marine Mammal Protection Act (MMPA)

- Enacted in 1972 – concern over the decline of marine mammal numbers due to human activity
- Primary purpose – to maintain the health and stability of the marine ecosystem
- Some activities often require permission in form of LOA or IHA to “take” or “harass” marine mammals from NOAA as well as NEPA analysis
 - Sonar
 - Sea trials
 - Weapon firings



LOA: Letter of Authorization

IHA: Incidental Harassment Authorization

NOAA: National Oceanic and Atmosphere Administration



Endangered Species Act (ESA)

- Law provides broad protections for species of fish, wildlife and plants that are listed as threatened or endangered - prohibits “taking” of species
- Enacted in 1973 – concern over the decline of various species of fish, wildlife, and plants due to lack of concern and conservation – national symbol going extinct
- Primary purpose – to conserve ecosystems that support endangered and threatened species
- Federal agency duty to consult and affirmatively conserve
- Consultation with FWS/NMFS to ensure compliance

Endangered Species Act

Protecting imperiled animals & plants since 1973

The Endangered Species Act (ESA) recognizes that all plants & animals have value & deserve protection.

Karner blue butterfly undangered

December 28 2013 is the 40th anniversary of the ESA.

Leatherback turtle endangered

Bald Eagle: An ESA success story
From 417 nesting pairs in 1963 to more than 10,000 nesting pairs today.

Why save endangered species?

- Biodiversity
- Contributions to medicine
- Benefits to agriculture
- Environmental monitors
- Ecosystem support
- Economic value
- Intangible values

What we do

The U.S. Fish & Wildlife Service, with our partners:

- Implements and improves the ESA
- Protects threatened & endangered species
- Works with landowners to restore habitat
- Plans a road to recovery for listed species
- Monitors and assesses wildlife populations

Carolina parakeet extinct (pre-ESA)

Brown pelican RECOVERED



Cultural Resources

- Few, if any, DoD facilities occupy land devoid of historical interest or cultural resources
- All facilities must comply with a wide range of laws and regulations in this area
- National Historic Preservation Act (NHPA) requires Federal Agency to assess impacts on historic property prior to undertaking action which may affect historic characteristics
- NHPA requires consultation with state and/or Native American tribes for undertakings which may affect historic properties



Building at Pearl Harbor Naval Shipyard is historic. Challenge is modern shipyards, preservation of historic resources



Executive Orders

- Executive Order 13101
“Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition”
 - Elimination of virgin material requirements
 - Use of bio-based products
 - Use of recovered materials
 - Reuse of product
 - Life-cycle cost
 - Recyclability
 - Use of environmentally preferable products
 - Waste prevention (including toxicity reduction or elimination)
 - Ultimate disposal
- Executive Order 12114
“Environmental Effects Abroad of Major Federal Actions”
 - Applies to actions outside the U. S.
 - Requires analysis outside 12 nautical miles
 - Sets NEPA-like requirements on federal activities overseas





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National Environmental Policy Act (NEPA)

- For “any major federal action significantly affecting the quality of the human environment,” NEPA requires the DoD to:
 - Consider the environment in its decisions
 - Inform and involve the public in that process
 - Seek less environmentally damaging ways to accomplish the mission or operation
 - Support informed decisions with quality documents
 - PMs should design the system in such a way as to minimize any negative impact on human health and the environment
- DoD policy requires the PM of each systems acquisition program to prepare a NEPA Compliance Schedule

The NEPA Compliance Schedule is required as part of the PESHE, and should be integrated into the overall program schedule



National Environmental Policy Act (NEPA)

- Documenting any potential environmental impacts can take 3 different forms:
 - Categorical Exclusion (CATEX)
 - Indicates that action does not have significant effect on human environment AND is listed as one of the Navy's 49 CATEXes
 - Record of Categorical Exclusion must be completed
 - Environmental Assessment (EA)
 - Considers any elements of the environment that might be potentially impacted by the acquisition program
 - Generally prepared if the PM cannot determine the extent of the program's impact on the environment or if impact is mitigated to not significant
 - Environmental Impact Statement (EIS)
 - If significant environmental impacts are identified, an EIS is prepared to analyze environmental impacts of proposed action and alternatives including all reasonably foreseeable and have reasonably close causal relationship to proposed action impacts
 - Extensive document with detailed analysis, including a Notice of Intent that alerts the public to the action and public involvement including publication of draft EIS

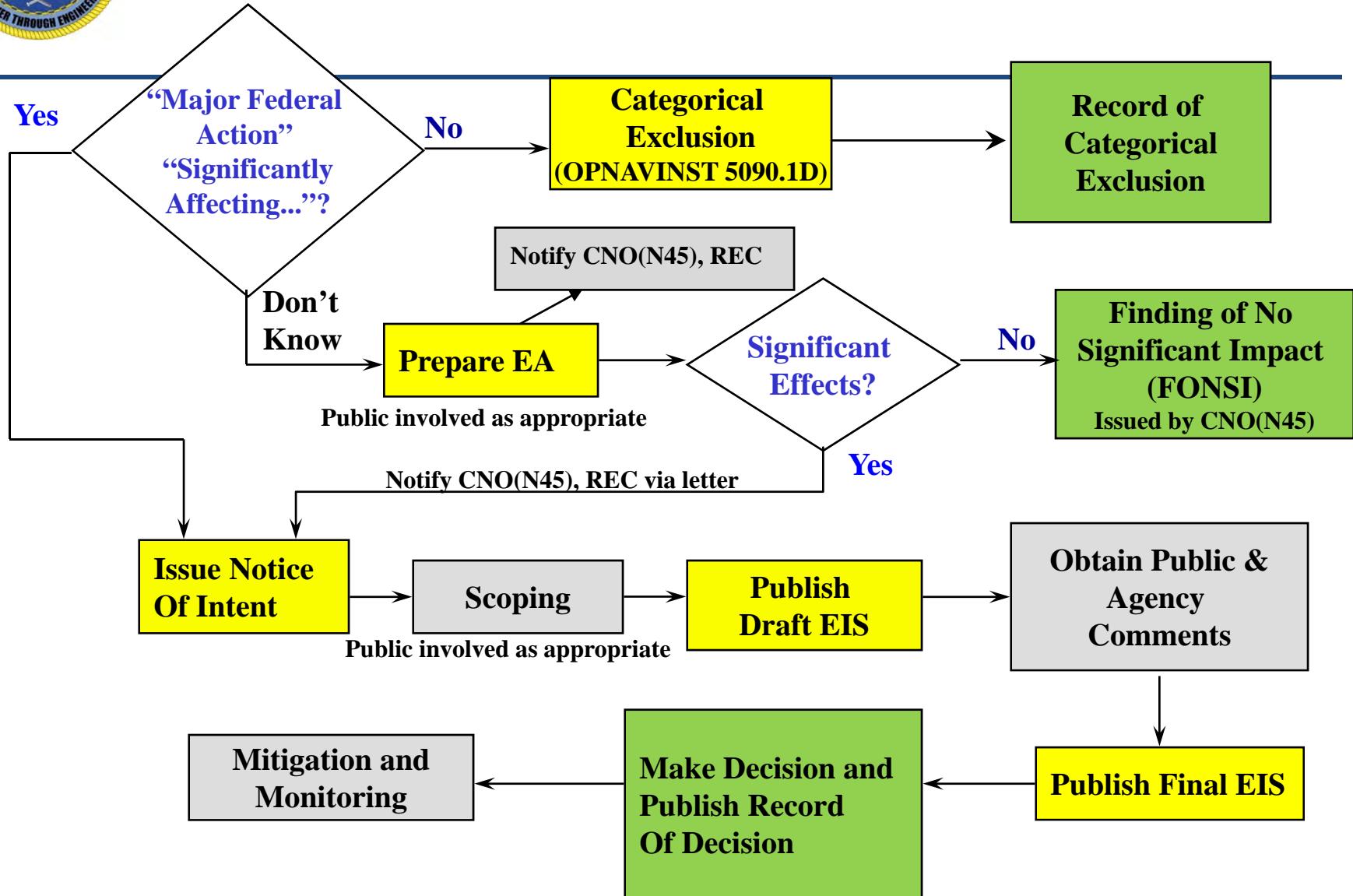


Key NEPA changes under FRA 2023

- Change in Threshold Determinations
 - No need to prepare environmental documents if the proposed agency action, is not a final agency action, is categorically excluded under NEPA, would conflict with another provision of law, or is a nondiscretionary action for which such agency does not have authority to consider
- Major Federal Action
 - The law, for the first time, defines the concept of “major federal actions” subject to NEPA as actions the agency “determines [are] subject to substantial Federal control and responsibility”
- Amends the Scope of Agency NEPA Review
 - The law provides that NEPA analysis should focus on “reasonably foreseeable environmental effects.” It also states that agencies shall evaluate “a reasonable range of alternatives to the proposed agency action... that are technically and economically feasible, and meet the purpose and need of the proposal”



NEPA Process





Overlapping Requirements with NEPA

Law	Agency	Product	Agency Timeline	Drivers
ESA	NMFS (Marine) USFWS (Terrestrial)	Biological Opinion (BO)	135 days (min)	<i>"may affect" protected species or critical habitat</i>
MMPA	NMFS	Letter of Authorization (LOA)	14 mos. (min)	<i>likely to result in marine mammal takes</i>
CZMA	State Coastal Authority	Consistency Determination	90 days	<i>likely to be coastal effects</i>





Summary



- What environmental-related document must be updated by program officers before every milestone review?
- Which environmental law allows for discharge into the waters of the US?
- What procedural law established the process for environment review for “major Federal action”?