
NEPA MANUAL FOR MATERIEL ACQUISITION



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PREFACE

The National Environmental Policy Act (NEPA), and subsequent regulations and guidance from the President's Council on Environmental Quality (CEQ), form the body of NEPA requirements and Executive Orders. Collectively they encompass a simple concept: the inclusion of environmental considerations into any Army decision that may impact our environment. It is 32 CFR Part 651 (Environmental Analysis of Army Actions), the Army's implementing law and regulation that interprets and applies these NEPA requirements. (32 CFR Part 651 superseded AR200-2. A new AR 200-2 has not been prepared and adopted.)

As Army planners evaluate proposed actions to achieve a given goal, many factors (cost, time and other resource constraints; impact on other Army requirements; etc.) must be evaluated, and NEPA simply adds environment into this evaluation process. All factors must be evaluated for each alternative, and it is the evaluation of these factors that leads to a final decision. The final decision, based on a mix of budgetary, resource, mission, environmental and other factors, may not be the environmentally preferable action. However, the NEPA process will ensure that the decision maker was fully informed of the environmental aspects before making the final decision. The decision can thus be the optimal course of action for the Army.

The NEPA concept is simple -- to select alternatives that avoid adverse impacts upon the environment, or, if this is not possible, to develop mitigating actions to correct or offset these impacts. The analysis that leads to the final decision must be documented, to ensure adequate environmental consideration and encourage the selection of alternatives that minimize environmental impacts.

This environmental analysis and documentation process is a simple, common sense requirement, and often can be documented in a few pages, through the preparation of an Environmental Assessment (EA). In many cases, a proposed action has little potential for environmental harm, and this determination can be documented in a short EA. In some cases, an action may already be addressed in an existing NEPA document that pertains to an earlier decision; or it may be "categorically excluded" as an action that does not have, either directly or cumulatively, significant environmental effects, requiring no further NEPA analysis by the proponent. Both cases can be documented in a "Record of Environmental Consideration" (REC).

If an EA identifies potential "significant" environmental impacts, a formal Environmental Impact Statement (EIS) is required, formally incorporating the views of outside agencies, stakeholders, and interested parties into the Army decision. If the identified impacts are potentially significant, the decision maker may select appropriate mitigating actions to offset the negative impacts, and ends the NEPA process by publishing the final EIS, documenting selected alternative and mitigating actions in a Record of Decision (ROD).

The Army can prepare "programmatic" NEPA analyses and documents for large multiphase, multiyear projects or for "like" (similar) projects; and these can become "umbrella" NEPA documents, covering numerous Army actions. The increased use of such documents will minimize the time and expense of numerous documents for individual actions. The integration of NEPA into other overarching Army plans can also streamline the NEPA process, eliminating separate documents that address components of the larger plan. Such efficiencies can be gained within large acquisition programs, addressing issues at the appropriate time prior to decisions, and eliminating the need to re-evaluate the same issues later in the system life cycle.

NEPA requirements are simple and straightforward, and they improve the decision maker's business process. Many problems arise due to the misinterpretation of the NEPA requirements. Some decision makers, unfamiliar with these requirements, hedge on the conservative side and create volumes of unnecessary paperwork, which in turn delay the affected projects considerably. Others fear the NEPA process and attempt to frame the analysis and documentation to support a previously selected alternative, only to have their action halted in court. Still others shy away from the process, hiring others to perform the analysis for them. While a qualified third party can be a valuable source of environmental analysis, attempts to shift total NEPA responsibility to the third party can remove NEPA from the Army decision making process, leading to an uninformed decision, and a potential court challenge. The correct application of NEPA can improve decision making in the Army, reducing costs and speeding timelines; but only if meaningfully integrated into Army decision making. The purpose of this manual is to present information that will allow a better understanding of sound NEPA implementation.

This manual is a living document that is modified, as necessary, to incorporate changes in Federal Legislation, Executive Orders, and DoD and Army policy and guidance. Users are advised to periodically visit the USAEC website at <https://www.aec.army.mil/index.php?CID=338> as well as submit updates and corrections to the POC on the Report Document Page.

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ACRONYMS AND ABBREVIATIONS

AAE	Army Acquisition Executive	Db	decibel
ACAT	Acquisition Category	DEIS	Draft Environmental Impact Statement
AChP	Advisory Council on Historic Preservation	DERP	Defense Environmental Restoration Program
ACT	ASARC Coordination Team	DoD	Department of Defense
AHPA	Archaeological and Historic Preservation Act	DOPAA	Description of Proposed Action and Alternatives
AIRFA	American Indian Religious Freedom Act	EA	Environmental Assessment
AIS	Automated Information System	EBS	Environmental Baseline Survey
ALMC	Army Logistics Management College	EIS	Environmental Impact Statement
ALRPS	Army Long-Range Planning System	EPA	Environmental Protection Agency
AMC	Army Materiel Command	ESA	Endangered Species Act
APB	Acquisition Program Baseline	ESOH	Environment, Safety, and Occupational Health
APE	Area of Potential Effect	ETIS	Environmental Technical Information System
AR	Army Regulation	FIP	Federal Implementation Plan
ARPA	Archaeological Resources Protection Act of 1979	FNSI	Finding of No Significant Impact
ARSTAF	Army Staff	FOC	Full Operating Capability
AS	Acquisition Strategy	FRP	Full Rate Production
ASARC	Army System Acquisition Review Council	FS	Feasibility Study
AST	Above Ground Storage Tank	FSI	Forecast Significance of Impacts
BEA	US Bureau of Economic Analysis	FWS	Fish and Wildlife Service
BLS	US Bureau of Labor Statistics	GIS	Geographic Information System
CAA	Clean Air Act	HABS	Historic American Buildings Survey
CAAA	Clean Air Act Amendments of 1990	HAER	Historic American Engineering Record
CDD	Capabilities Development Document	HAZMAT	Hazardous Materials
CEQ	Council on Environmental Quality	HAZMIN	Hazardous Waste Minimization
CFR	Code of Federal Regulations	HMMP	Hazardous Material Management Plan
COE	Corps of Engineers	ICD	Initial Capabilities Document
CPD	Capability Production Document	IMC	Information for Members of Congress
CX	Categorical Exclusion DA Department of the Army	IOC	Initial Operating Capability
DAB	Defense Acquisition Board	IPPD	Integrated Product and Process Development
DAE	Defense Acquisition Executive	IPR	In-process Review
DASA (ESOH)	Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health.	IPT	Integrated Product Team

Ldn	Average day-night sound level	ORD	Operational Requirements Document
LRIP	Low Rate Initial Production		
MACOM	Major Army Command	P2	Pollution Prevention
MAIS	Major Automated Information System	PA	Programmatic Agreement
MATDEV	Materiel Developer	PEA	Programmatic Environmental Assessment
MCA	Military Construction Army	PEIS	Programmatic Environmental Impact Statement
MDP	Milestone Decision Authority		
MDAP	Major Defense Acquisition Program	PESHE	Programmatic Environment, Safety, and Occupational Health Evaluation
MFC	Memorandum for Correspondents	PEO	Program Executive Officer
MILCON	Military Construction	POM	Program Objective Memorandum
MOU	Memorandum of Understanding		
MTOE	Modified Table of Organization and Equipment	PM	Program/Project/Product Manager
NAAQS	National Ambient Air Quality Standards	Qs & As	Questions and Answers
NAGPRA	Native American Graves Protection and Repatriation Act	RCRA	Resource Conservation and Recovery Act
NEPA	National Environmental Policy Act	REC	Record of Environmental Consideration
NHPA	National Historic Preservation Act	ROD	Record of Decision
NMFS	National Marine Fisheries Service	ROI	Region of Influence
NOA	Notice of Availability	RTV	Regional Threshold Values
NOI	Notice of Intent	SARA	Superfund Amendments and Reauthorization Act
NPL	National Priorities List	SHPO	State Historic Preservation Officer
OB/OD	Open Burning/ Open Detonation	SJA	Staff Judge Advocate
OCLL	Office of the Congressional Legislative Liaison	SUA	Special Use Airspace
		TC	Training Circular
OIPT	Overarching Integrated Product Team	TDA	Table of Distribution and Allowances
OPA	Office of the Chief of Public Affairs	TOE	Table of Organization and Equipment
		USACE	US Army Corps of Engineers
		WIPT	Working-level Integrated Product Team

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CHAPTER 1.0

INTRODUCTION AND OVERVIEW

1.1 APPLICATION OF NEPA TO MATERIEL ACQUISITION ACTIVITIES

The Army recognizes environmental stewardship as an integral part of its mission. Army materiel acquisition activities, by their very nature, have the potential to directly and/or indirectly adversely affect the environment. Because of this potential for unavoidable environmental damage, the need to comply with environmental laws and policies, and the responsibilities inherent in good stewardship, Army acquisition managers and their staffs share a key responsibility for the protection of our environment. This responsibility includes incorporating environmental analyses into materiel development activities. This is most efficiently accomplished at the same time that the technical and economic analyses are being done.

The National Environmental Policy Act (NEPA) of 1969, as amended, requires Federal agencies to consider and document the potential environmental effects associated with Federal actions conducted within the United States² that have the potential to significantly affect the human environment. The NEPA process, described later in this chapter, ensures that environmental factors are considered in conjunction with the technological, economic, and mission-related components of a decision and that the public is informed and has the opportunity to influence the decision-making process. As a Federal agency, the Army must comply with the requirements of NEPA, its implementing regulations, and other related Federal statutes and executive orders.

The primary objective of the materiel acquisition system is to acquire products and systems that satisfy the needs of the operational Army user in a timely manner at a cost-effective price. All materiel programs, regardless of acquisition category, are required to be conducted in accordance with existing laws and environmental requirements. Acquisition activities include efforts in all of the normal program phases: Materiel Solution Analysis, Technology Maturation and Risk Reduction, Engineering and Manufacturing Development, Production and Deployment, and Operations and Support. The NEPA process enables a program to systematically examine potential adverse environmental effects occurring from all acquisition activities.

1.2 PURPOSE OF THE MANUAL

This manual provides advisory information for integrating the requirements of NEPA, DoDD 5000.01, DoDI 5000.02, and 32 CFR Part 651 into the materiel acquisition process. The purpose of this information is to assist persons performing materiel acquisition functions, including Program Executive Officers (PEOs) and Program/Project/Product Managers (PMs), with the implementation of NEPA policies and procedures. Application of the information in this manual will help ensure the integration of environmental considerations into the decision-making process. It will also encourage and facilitate public and stakeholder involvement in decisions that directly affect the quality of the human environment. This manual is suitable for use by all materiel acquisition managers and staffs regardless of the source and complexity of the item or system being acquired. Throughout this manual, the terms PEO and PM (hereafter referred to as the PM/PEO) are used to indicate either the PEO or PM, or other individuals performing PEO and PM type functions.

²Territories and possessions of the United States to include the Virgin Islands, American Samoa, Wake Island, Midway Island, Guam, Palmyra Island, Johnston Atoll, Navassa Island, and Kingman Reef. NEPA also applies to action in the Commonwealth of Puerto Rico, the Commonwealth of the Northern Marianas, the Republic of the Marshall Islands, and the Federated States of Micronesia and the Republic of Palau.

When applying information contained in the manual, flexibility is necessary for the manager to be able to effectively manage specific programs and situations. Information in this manual may be tailored to specific acquisition organizations and activities to integrate NEPA considerations into decision-making for all programs.

1.3 WHAT THE MANUAL COVERS

This manual provides comprehensive guidance and is divided into nine chapters:

Chapter 1 - Introduction and Overview: Provides information about the manual as a whole, identifying the proponent and proponent responsibilities and interpretive background information on NEPA.

Chapter 2 - Integration of NEPA Considerations into Acquisition Planning: Describes how the NEPA process must be integrated early into the materiel acquisition process and documented in the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE). Also describes NEPA requirements for the various materiel Acquisition Categories (ACATs).

Chapter 3 - Planning and Initiating a NEPA Analysis: Describes the initial stages of the NEPA process and provides directions to properly characterize, frame, and focus NEPA analysis and documentation.

Chapter 4 - Categorical Exclusion and Record of Environmental Consideration: Describes the purpose of a Categorical Exclusion (CX) and a Record of Environmental Consideration (REC) as part of the NEPA process, including when and how to use them.

Chapter 5 - Environmental Assessment Preparation and Content: Provides program-focused information and guidance on the Environmental Assessment (EA) process and format required by the Army under the President's Council on Environmental Quality (CEQ) regulations and 32 CFR Part 651.

Chapter 6 - Environmental Impact Statement Preparation and Content: Provides program-focused information and guidance on the Environmental Impact Statement (EIS) process and format required by the Army under the CEQ regulations and 32 CFR Part 651.

Chapter 7 - Other Special NEPA Considerations. Provides specific guidance in subjects associated with preparing more effective and compliant NEPA analysis and documentation.

Chapter 8 - Application of the NEPA Process in the Acquisition Life Cycle: Provides guidance for NEPA integration in each of the distinct acquisition phases and milestones.

Chapter 9 - References

1.4 INTRODUCTION TO NEPA

NEPA is a public law that requires the identification and analysis of potential environmental impacts of certain Federal actions and alternatives before those actions are initiated. The law also contains specific requirements for informing and involving other Federal and state agencies and the public. NEPA requires a systematic, interdisciplinary approach to analysis and the consideration of environmental factors in decision-making when planning or conducting Federal agency programs and projects.

NEPA's stated purposes are "to declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of ecological systems and resources important to the Nation; and to establish a Council on Environmental Quality."³

The process for implementing the law is codified in the CEQ Regulations, 40 CFR Parts 1500-1508. The NEPA process does not replace the requirements of other environmental statutes or regulations. Rather, it provides an analytical process wherein the provision of other environmental statutes and regulations can be addressed with other factors, providing the decision-maker with a more concise, comprehensive view of the issues affecting an upcoming decision.

1.5 NEPA AND THE ACQUISITION COMMUNITY

A significant effort is underway within the Department of Defense (DoD) to relieve the burden placed on the PM/PEO by reducing the number of mandatory policies, procedures, and practices that must be followed during the acquisition of weapons systems and other Army materiel. It is the intent of this manual to offer the PM/PEO (or the person performing those functions) the greatest possible flexibility in satisfying the overall goals of NEPA.

1.6 PROPONENCY

Developing and executing a NEPA analysis to support a decision may require the participation of a number of staff and command elements within the Army and within the PM/PEO organizations. Participants must understand their responsibilities, and all must function as a team by maintaining a high degree of communication, interaction, and coordination, particularly when those responsibilities involve providing timely information, concurrence, or approval within an individual's or organization's area of expertise or responsibility. The responsible person, organization, or agency for an action is the "proponent." The responsibilities for "proponents" are outlined in this section. Refer to Chapters 5 and 6 for a step-by-step discussion of participant involvement during the review, processing, and approval of EAs and EISs.

1.6.1 Proponent Identification

As defined in 32 CFR Part 651, any Army structure may be a proponent. In general, the proponent is the unit, element, or organization that is responsible for initiating and/or carrying out the proposed action. In general, the proponent is the lowest-level decision-maker. Typically, the proponent is responsible for funding and carrying out environmental analysis and preparing NEPA documentation. The proponent has the responsibility to prepare and/or secure funding for preparation of the environmental documentation. This includes responsibility for the content, accuracy, quality, and conclusions of the NEPA analysis, even if another organization or a contractor prepares the resulting documentation. Although the proponent also serves as a decision maker⁴, he or she is not necessarily the only, or even primary, decision maker for the proposed action.

It is important to identify the proponent early in the acquisition process and to make sure that the roles and responsibilities within the NEPA process are clearly understood. While the proponent organization may not directly conduct the required NEPA analysis, it must make sure that adequate resources and direction are provided to accomplish the NEPA process.

³ The NEPA community homepage as well as the text of the statute itself can be found at: <http://ceq.doe.gov>

⁴ The decision maker is the person or persons who make the final decision on if, or how, to implement the proposed action.

The PM/PEO normally is the proponent for proposed materiel acquisition and development programs. However, there are frequently other proponents for activities that support acquisition programs at various stages. For example, the installation/activity Facility Engineer/Director of Public Works may be the proponent for construction to provide facilities, infrastructure, or test resources that will be used by PMs/PEOs to develop or test their systems.

For proposals involving a broad program with a number of lower-level program elements, the proponent organization with responsibility for the broader program likely has overall NEPA responsibility. However, this responsibility may be delegated or shared, depending on the relationship between the broader program and the program elements. The critical issue is not who executes the NEPA process. Rather, what is important is that the various organizations and decision-makers understand their respective roles and responsibilities so that appropriate environmental analyses will be an integral part of the system acquisition decision process. Early coordination by the PM/PEO with installations/activities where program development/testing/fielding could occur will help ensure that all proponent organizations understand and perform their respective NEPA responsibilities.

1.6.2 Responsibilities of the Proponent

The proponent is responsible for the overall NEPA compliance associated with the proposed action, which includes preparing and distributing documentation, collecting data through surveys and other special studies (e.g., noise and air emissions measurement, environmental baseline surveys, cultural resource inventories, etc.), determining any public involvement requirements, and identifying funding sources for all associated mitigation costs. The proponent is also responsible for the content, accuracy, quality, and conclusions of the NEPA analysis.

To ensure complete compliance with NEPA and the associated regulations, the proponent must:

- Initiate the NEPA analysis process and designate a NEPA point of contact.
- Integrate NEPA in the system acquisition strategy and milestone review planning.
- Clearly define the proposed action and identify a range of reasonable alternatives (including the discussion of taking "no action").
- Clearly explain the underlying purpose of and need for the action.
- Staff the documents through the review and approval process and ensure that all review comments are properly addressed. Staffing the document should include all affected communities such as developmental centers, test facilities, manufacturing facilities, training sites, etc.
- In some cases, make the final decision.
- Implement and sustain the proposed action.
- Fund, undertake, and track any mitigation measures committed to in the NEPA document to reduce or compensate for environmental damage when it cannot be avoided.
- List mitigation commitments as line items (or the equivalent) in the proponent's budget for proposal implementation.

- Include the public in the decision-making process, where appropriate.
- Maintain the administrative record of the environmental analysis.

The responsibilities described above remain with the proponent even if another organization or a contractor prepares the NEPA analysis and resulting documentation. When working with other DoD components or agencies, it is important for the proponent, early in the effort, to identify the responsible office, the decision-maker, and the signatory authority on any Finding of No Significant Impact (FNSI) or Record of Decision (ROD). See Chapters 5 and 6 for more information on FNSIs and RODs.

CHAPTER 2.0

INTEGRATION OF NEPA CONSIDERATIONS INTO ACQUISITION PLANNING

2.1 INTRODUCTION

Compliance with NEPA is required for all Army actions. Basic logic associated with NEPA in relation to a materiel acquisition program is the same as with all other Army actions. NEPA requires Federal agencies to consider the environmental consequences at every important stage of the decision-making process for all Federal actions. To be compliant with NEPA, those responsible for materiel acquisition activities must ensure that adequate environmental information and alternatives are made available to the decision-maker and to the general public as early as possible and that the information is considered in making decisions. This must occur before decisions are finalized and resulting actions are taken. Because of other overriding considerations, a course of action that is chosen may not always be the environmentally preferred alternative, but it must be selected with the knowledge that a more environmentally preferred alternative does, in fact, exist.

2.2 THE CONCEPT OF EARLY INTEGRATION

Section 14(f), of 32 CFR 651 requires the Army acquisition community to integrate NEPA into decision making, and to ensure that “environmental considerations become an integral part of total planning and budgeting.” Preliminary NEPA planning should begin during the development of the initial program Acquisition Strategy (AS). The AS evolves through an iterative process, serving as the principal long-range, event-driven plan that charts the course of an acquisition program over its entire life span. The AS should address environmental considerations along with technical, cost, management, contractual, logistical and other major considerations that will influence the acquisition. (see Subsection 2.4, Programmatic Environment, Safety, and Occupational Health Evaluation).

Management techniques for environmental awareness are similar to those used for other aspects of program management. Successful environmental management identifies potential environmental issues throughout the materiel life-cycle, performs detailed planning, implements actions necessary to resolve identified environmental issues, and quantifies environmental consequences prior to decision-making.

Typically, the PM/PEO uses an integrated, multidisciplinary approach to support the materiel development and acquisition effort. That process is sometimes referred to as a systems engineering approach and normally utilizes concurrent engineering, the concept of Integrated Product and Process Development (IPPD), and Integrated Product Teams (IPTs) to develop the end item and its associated processes. This systematic, interdisciplinary approach should always include consideration of the program's potential environmental effects. Just as with other disciplines, the early integration of environmental considerations into the systems engineering process is essential. Integrating NEPA into the process early facilitates the investigation of alternatives and the development of mitigating actions to counter any potentially harmful environmental effects. It also promotes early consideration of a broad range of potential environmental issues, thereby preventing or reducing unexpected costs and delays.

2.3 DOD AND ARMY REQUIREMENTS

The intent of this manual is to complement the NEPA guidance provided by applicable directives and regulations. DoDD 5000.01 (*The Defense Acquisition System*), DoDI 5000.02 (*Operation of the Defense Acquisition System*), and AR 70-1 (*Army Acquisition Policy*) state policy, assign responsibility, and establish the management approach for DoD and Army materiel system acquisitions. 32 CFR Part 651 delineates responsibilities and provides guidance for NEPA compliance within the Army. Additional guidance is provided by DoDI 4715.9, *Environmental Planning and Analysis* (1996), and DoDD 6050.7, *Environmental Effects Abroad of Major Department of Defense Actions*. DoDD 6050.7 reinforces and enhances the guidance and procedures set forth in NEPA.

A common misconception is that once an EA or EIS is completed in accordance with 32 CFR Part 651, the NEPA process for a materiel system acquisition is complete. On the contrary, the NEPA process is dynamic and continues throughout the entire program life-cycle. An EA or EIS cannot be completed and placed on a shelf. It must be regularly reviewed as the program progresses through its milestones and as details about materials, manufacturing, testing, fielding, and disposal become better identified and established. As an acquisition program evolves and the program changes, new data may make it necessary to update the program's PESHE (see Subsection 2.4). In some cases, it may be necessary to conduct additional analyses and/or to prepare a supplement to an existing EA or EIS. Chapters 5 and 6 provide more specific information on EAs, EISs, and the NEPA process.

A second misconception is that an EA or EIS fulfills all of a materiel system acquisition program's environmental requirements. This is simply not the case. An EA or EIS fulfills only the NEPA requirement. However, the analysis performed and data developed during the NEPA process is valuable for other purposes. The NEPA analysis and data are often used to support and assist the PM/PEO to successfully identify and carry out many of their other environmental and non-environmental responsibilities. For example, actions that are developed to mitigate adverse environmental effects may support cost, schedule, and other program adjustments.

2.4 PROGRAMMATIC ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH EVALUATION (PESHE)

DoDI 5000.02 requires the program's Acquisition Strategy include a summary of the PESHE. The PM/PEO is required to prepare a PESHE document early in the program life-cycle (required for milestone B) and continually update it throughout the life of the system (updates are required for milestone C and the Full-Rate Production Decision Review). The PESHE describes the PM/PEO's strategy for identifying and satisfying PESHE requirements and identifies how progress will be tracked. It serves as an input to support program decisions throughout the entire lifecycle. The PESHE evaluation must contain program information related to NEPA compliance, but it is not a substitute for NEPA compliance.

The PESHE evaluation should include six areas: NEPA, environmental compliance, system safety and health, hazardous materials, pollution prevention, and explosives safety. This manual focuses on the NEPA portion of the PESHE evaluation. However, since NEPA requires analysis of all potential effects on the human environment resulting from Federal actions, the NEPA analysis necessarily includes some discussion of the other five areas of the PESHE evaluation. Coordination of efforts in each of the six PESHE areas enables PMs to effectively manage the PESHE evaluation in support of system development and avoid unnecessary duplication of effort.

Health and safety are two of the domains in the Manpower and Personnel Integration (MANPRINT) process, the purpose of which is to influence system design to avoid adverse impacts on the user and reduce life cycle costs. However, the MANPRINT process does not consider health and safety impacts to the general public from manufacture, testing, training, and operation of the system. The NEPA analysis should identify and discuss these potential impacts.

The PM is required to establish, as a separate discussion from safety and health, an explosives safety program that ensures that munitions, explosives, and energetics are properly hazard classified and safely developed, manufactured, tested, transported, handled, stored, maintained, demilitarized, and disposed. NEPA analyses should identify and discuss potential explosive safety impacts.

Federal laws, regulations, and Executive Orders require Federal agencies to manage hazardous materials and to practice pollution prevention. The PESHE should define the PM's strategy to comply with these requirements. NEPA analysis helps to identify these requirements and to assess the impacts that could result from the use of hazardous materials and the practices that could result in pollution, thus assisting the PM in evaluating and managing these areas.

Federal agencies must comply with numerous other environmental laws and regulations in carrying out their activities. Many of these activities require permits and/or consultation with regulatory and resource agencies before an activity with potential environmental impacts may proceed. Again, the NEPA analysis can assist the PM in identifying these requirements and in ensuring that program activities are not at risk as a result of non-compliance. The PESHE provides a vehicle to define the PM's strategy for considering and incorporating environmental, health and safety concerns into the system engineering process and acquisition planning. As indicated, NEPA plays a critical role in development of the PESHE and strategy. (Further information concerning preparation and use of the PESHE can be found in the document, *Guide to Development of the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)*, available on the US Army Environmental Command website: <https://www.aec.army.mil/index.php?cID=338>)

Early in the acquisition life-cycle, the programmatic PESHE probably does not include completed NEPA analyses. In those instances, appropriate detailed life-cycle planning satisfies the environmental requirements. When appropriate, the PESHE must include a summary of planned, initiated, or completed NEPA analyses. Executive Summaries of completed analyses, along with a FNSI or ROD, may fulfill this requirement. All formal NEPA documents supporting the program and referenced in the PESHE must be available to the overarching IPT and Milestone Decision Authority (MDA) in a timely manner to support the program's major milestones.

2.5 ACQUISITION PROGRAM NEPA LEGAL RAMIFICATIONS

NEPA expresses the national policy to consider and, to the extent possible, protect the environment when conducting Federal actions. The Army mandates adherence to the requirements of NEPA and expects timely compliance as a priority. It is important that the PM/PEO understand that NEPA is a procedural Act and as such does not require a particular outcome. That is to say, NEPA does not prohibit actions that may result in adverse effects to the environment, even though the elimination of adverse effects is a stated goal. NEPA requires only that the proponent evaluate the environmental consequences of a proposed action. It requires the decision-maker to consider a range of reasonable alternatives, identify and disclose any environmental impacts, and involve the public in the process. Meeting these three criteria is essential. While the Act is a procedural law and contains no substantive requirements or criminal penalties, it may provide the

basis of injunctive relief if the process is not followed. Additionally, a poorly prepared document may generate controversy, which increases the potential for litigation and injunction. This can also have very negative impacts on proposed projects. The normal impacts of NEPA-related disputes, litigation, and injunctions are program delays and increased costs.

NEPA is the primary environmental statute applicable to PMs/PEOs in designing, testing, and implementing the development and acquisition of materiel systems. However, many other environmental statutes and implementing regulations, in addition to NEPA (e.g., Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, Endangered Species Act, National Historic Preservation Act, Noise Control Act, etc) can affect both the development of a materiel system and how it is fielded and used. Most of these laws and regulations have substantive as well as procedural requirements, and may provide for fines or penalties if violated. Managers, as they design, develop, and test materiel systems, must be aware of these requirements and ensure that the materiel developed can be appropriately used by military forces and user commands. Therefore, managers should, as required, seek available legal and environmental expertise to identify, clarify, and understand the requirements of applicable statutes to the materiel they are developing and testing, and be aware of any potential penalties or sanctions associated with noncompliance.

2.6 ACQUISITION PROGRAM ACTIVITIES OUTSIDE THE UNITED STATES

As has been previously stated, NEPA applies to Federal actions conducted within the United States, including its territories and possessions. However, protection of the environment, regardless of the location or the Army activity, is a priority. Executive Order 12114 (*Environmental Effects Abroad of Major Federal Actions*) requires each Federal agency to consider its actions for environmental effects abroad and to create guidelines to ensure that consideration. A detailed discussion of Executive Order 12114 can be found in Section 7.11.1. DoDD 6050.7 and 32 CFR Part 651 define policies and procedures to comply with Executive Order 12114.

2.7 ACQUISITION CATEGORY CONSIDERATIONS

Army materiel acquisition programs are affordable programs designed to provide new or improved materiel capabilities in response to valid needs. Since they are Federal programs, any and all program decisions that have the potential to significantly affect the environment are subject to the requirements of NEPA. The following acquisition program paragraphs exclude references to Automated Information System (AIS) program definitions and procedures.

2.7.1 Major Defense Acquisition Programs (MDAP)

All Army materiel acquisition programs, except highly sensitive classified programs, are placed in one of three acquisition categories (ACATs) by the Undersecretary of Defense for Acquisition, Technology and Logistics (USD [AT&L]) and/or the Army Acquisition Executive (AAE). Table 2-1 portrays the ACAT categories, program management, criteria, milestone review forum, and Milestone Decision Authority (MDA). ACAT ID and IC programs are usually Major Defense Acquisition Programs (MDAP). MDAPs are programs that are so designated by USD (AT&L). MDAPs automatically become ACAT I programs regardless of their dollar value. It is unusual, but some ACAT I programs are not designated as MDAPs. Consequently, all MDAPs are ACAT I, but not all ACAT I programs are MDAPs.

Table 2-1. Army Materiel Acquisition Categories and Decision Authorities

Program Category	Program Management	Primary Criteria (\$=FY14 constant)	Milestone Review Forum	Milestone Decision Authority
ACAT I				
ACAT ID	PEO/PM	More than \$480M RDT&E More than \$2.790B Procurement	DAB	DAE USD(AT&L)
ACAT IC	PEO/PM	More than \$365M RDT&E More than \$2.190B Procurement	ASARC	AAE
ACAT II	PEO/PM	More than \$185M RDT&E More than \$835M Procurement <i>or designated by AAE</i>	ASARC	AAE*
ACAT III	PM	Non-major system; not meeting ACAT II criteria	IPR	Designated by the office of the AAE

* The AAE may delegate the MDA at his discretion to a level not lower than the PEO (GO/SES) level.

MDAPs are the most costly and important materiel acquisition programs. They generally have a great deal of visibility in Congress and with the public. For ACAT ID programs, Milestone Decision Authority is retained by the USD (AT&L). For ACAT IC programs, the USD (AT&L) delegates the Milestone Decision Authority to the Military Component (Army, Navy, or Air Force). In the case of the Army, that individual is the AAE.

2.7.2 Non-MDAP Programs

With the exception of highly sensitive classified programs, all programs not designated as MDAPs are referred to as non-MDAP programs. They differ in that they are less costly and often address less critical mission needs than MDAPs. Non-MDAP programs make up the bulk of Army materiel acquisitions. These programs generally receive less high-level management attention than MDAPs. They are also more likely to be marginally funded. The requirement to consider materiel system environmental effects during the decision-making process is the same as that for an MDAP. Consequently, the NEPA responsibilities of non-MDAP PMs/PEOs do not differ substantially from their MDAP counterparts. However, the analysis and documentation may be less complex.

- ACAT II Programs. ACAT II programs are essentially the same as MDAPs, with the major difference being their dollar value.
- ACAT III Programs. ACAT III programs are non-major systems. These programs are defined as those acquisition programs that do not meet the criteria for an ACAT I or ACAT II.

2.7.3 Program Milestone Decisions

The most significant decisions affecting a materiel acquisition program are its milestone decisions. Milestone decisions determine whether a program proceeds to the next phase, or continues in its present phase until identified shortcomings are corrected or the program is cancelled. In the context of NEPA, the individuals designated in the Program Management column of Table 2-1 are the program proponents. They are not milestone decision-makers from a NEPA

perspective, since they cannot decide to continue, suspend, or cancel a program. The person identified in the MDA column decides whether a program enters the next formal phase of the system acquisition process. Consequently, the MDA must, by law, include the program's environmental effects among the factors on which the decision is based.

2.7.4 Other ACAT I Through ACAT III Decisions

Program milestone decisions are only one type of decision made during the life cycle of a materiel acquisition program. Decisions on when and where to perform development, production, and testing are examples of other decisions that may be subject to the requirements of NEPA. All program decisions that have the potential to significantly affect the environment are subject to the requirements of NEPA. For non-milestone decisions, the decision-maker is usually the PEO, PM, or equivalent. Regardless of who the decision-maker is, he/she must, by law, include the program's environmental effects among the factors on which program decisions are based. Frequently such activities are covered by existing analyses. For example, if NEPA analysis to cover a category of testing at a range already exists, that analysis may cover the testing to be performed. Care must be taken to ensure that all program aspects are covered.

2.7.5 Commercial and Non-Developmental Items

Testing, procurement, and use of commercial or non-developmental items do not exempt the PEO or PM from compliance with NEPA. Commercial or non-developmental items can often satisfy the requirements for specialized materiel at component or lower acquisition program category levels. In addition to usually being a less costly solution to a materiel need, such items often take substantially less time. Unless waived by statute, the requirements of NEPA must be accomplished and become a part of the decision-making process. In many cases, the NEPA requirement for the adoption of commercial and non-developmental items can be satisfied with a Categorical Exclusion (CX). (CXs are discussed in Chapter 4 of this Manual.)

A careful review of industrial and commercial data and selected component or product testing may yield information on potential adverse environmental consequences to assist in the NEPA analysis process. As with any analysis, appropriate mitigation actions may be revealed. If so, they should become a part of the NEPA documentation and, as appropriate, should be included in the PESHE as defined in the Acquisition Strategy. Managers must also be cautious of planned military modifications that could negate conclusions reached from earlier data reviews and analyses.

2.7.6 Materiel Systems Upgrades and Modifications

Once fielded, it is not unusual for upgrades and modifications to extend the life expectancy of these systems well beyond that period of time. Managers of materiel systems that have been in the inventory for a number of years often face a dilemma in that the initial NEPA analysis and documentation for the system may be inadequate. When faced with this problem, it is important to remember that NEPA requires the decision-maker be informed about the environmental effects of the decision being made. It does not require going back and validating a decision that has been made previously.

While the NEPA analysis of upgrades and modifications of materiel systems is not intended to validate earlier decisions, it should evaluate the effects of making the upgrade or modification. This normally requires comparing the effects of the existing system, or the status

quo, versus an upgraded system. In such cases, maintaining the status quo constitutes the "No-Action Alternative" in the NEPA document (the No-Action Alternative is further discussed in Subsection 3.8). For many systems, particularly those that predate NEPA, sufficient environmental data on the existing system may not be available to make this comparison. In such cases, information on the environmental effects of the current system needs to be developed as part of the NEPA analysis of the No-Action Alternative. Where NEPA documentation already exists for the current system, it can be summarized and referenced, avoiding the necessity of conducting a completely new analysis.

The effects on the environment, as a result of the changes proposed to the materiel system, must be evaluated for the balance of the system's remaining life. The upgrade or modification may have a detrimental, beneficial, or no effect on the environment. For example, if an ozone-depleting halon fire suppressant system is replaced by a non-ozone-depleting one, the net life-cycle effect of that change can be beneficial. Another example is an effort to eliminate the use of dinitrotoluene (DNT) in the production of propellants. DNT is a suspected carcinogen and may result in other harmful health effects. Its use is highly regulated with regard to occupational health and safety, as well as environmental discharges from the facility. Prior study of the costs associated with the use of DNT has indicated that modifying propellant formulations to eliminate the use of DNT can result in cost savings. By identifying the costs of DNT-related activities specific to the modifications involved, Army decision-makers can compare the environmental costs of different propellant formulations and, as a result, make appropriate cost/benefit decisions.

The following are examples of essential factors to examine:

- All of the physical changes to the materiel system or component and the resulting environmental effects must be known and considered. The disposition of anything removed is as important a consideration as the actual modification of the materiel system or the production and installation of the upgrade. In the fire suppression system example above, the halon would be turned-in and placed in the (ODC) reserve. It may one day require disposal. In the DNT example, it is avoidance of the direct and indirect environmental effects and manufacturing costs associated with the use of DNT during the production of propellants.
- Operational differences must also be considered. How does the planned operation of the upgraded or modified materiel system compare with the normal operation of the non-modified or non-upgraded version? For example, will it operate in different locations or environments? Will the operating intensity increase, decrease, or stay the same? Will the modified materiel system create more, less, or the same quantity of pollutants? In other words, what is the net environmental effect, as a result of the modification or upgrade, for the balance of the equipment's operational life?
- Another important consideration is the ultimate disposal of the materiel system when it has reached the end of its useful life. What is the effect of the modification or upgrade on the system's ultimate disposal? Does the ultimate disposal of the system have a greater, lesser, or an unchanged effect on the environment as a result of being modified or upgraded?
- A possible additional benefit of the extended life of a materiel system through modification or upgrade is that the Army may not need to develop and produce a new system, thereby avoiding potential adverse environmental effects of a new development and production cycle.

CHAPTER 3.0

PLANNING AND INITIATING A NEPA ANALYSIS

The first step in planning and initiating an Army NEPA analysis is developing a clear “purpose and need.” The proposed action and all alternatives must be responsive to this stated “purpose and need.” The next step is mapping out, in general terms, what activities are to occur over time and organizing resources to accomplish the work. To ensure that adequate time and resources are allocated to the NEPA analysis, the proponent should:

- Ensure that there is a clear purpose and need for the action. As appropriate, the Army Initial Capabilities Document (ICD), Capabilities Development Document (CDD), or the Capabilities Production Document (CPD) may serve as the basis for this definition.
- Make an initial decision on the appropriate level of analysis and resulting documentation. At the installation level, the final determination of the level of NEPA documentation (REC, EA, EIS) and scope of needed evaluation are with the installation Environmental Office.
- Develop a well-defined description of the proposed action and alternatives.
- After determining the extent of the analysis, the proponent can plan for the appropriate NEPA analysis to support program schedules and other requirements along with requisite funding.

3.1 SELECTING THE APPROPRIATE LEVEL OF ENVIRONMENTAL REVIEW AND DOCUMENTATION

NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The NEPA process begins with clear identification of the proposed action by the proponent. Consideration of the proposed action, its locations(s), and its duration is essential when deciding the appropriate level of environmental analysis. Under procedures established in CEQ Regulations and 32 CFR Part 651, there are three basic levels of environmental analysis and resulting documentation: Categorical Exclusion (CX), Environmental Assessment (EA), and Environmental Impact Statement (EIS). The determining factors in selecting the appropriate level hinge on the type of action proposed and the anticipated significance of the environmental effects associated with the action. Early coordination by the proponent with the supporting Environmental Office is vital to ensure initial selection of an appropriate level of analysis.

If the proposed action is categorically excluded, it does not require an EA or an EIS because it is included in a class of activities that the Army has determined does not have an individual or cumulative adverse effect on the environment. 32 CFR Part 651 contains the Army's list of categorically excluded actions. If the action is covered by a CX, the proponent should determine whether a Record of Environmental Consideration (REC) is required. Chapter 4 provides detailed guidance on determining when and how to use a CX and on preparing an appropriate REC. At the installation level, the final determination is with the installation Environmental Office.

If it is found that the proposed action is not categorically excluded, a determination should be made as to the potential significance of effects that may be expected from implementation of the action (see the discussion on the meaning of "significance" and examples of significance criteria in

Subsection 3.12.2.). For contemplated actions that will cause some effects or impacts but no significant effects are expected, an EA should first be prepared. If it is determined through analysis that potentially significant effects might occur but these can be adequately mitigated to less-than-significant levels, preparation of a mitigated EA/FNSI may be appropriate (refer to Subsection 5.7 for a discussion on this topic). At the installation level, the final determination is with the installation Environmental Office.

The EA process also can help determine if an EIS is required. If during development of the EA significant effects of contemplated actions are uncovered, an EIS may be necessary to focus on these significant effects. The EIS can summarize the EA results (referencing the EA) and concentrate on those issues that were determined significant in the EA. Of course, for those actions where potentially significant effects are known from the beginning or where the proposed action is highly controversial, an EIS should be prepared.

Before beginning preparation of an EA or EIS, it is also important to determine if the action has already been adequately addressed in a pre-existing NEPA document. If it has, a REC that cites the existing document could possibly be prepared. However, when evaluating and deciding whether an action is addressed adequately in an existing NEPA document, the scope of the proposed action, associated activities, changes in regulatory requirements, or new technical information should be considered. At the installation level, the final determination is with the installation Environmental Office.

3.2 DEVELOPING A MANAGEMENT PLAN FOR NEPA ANALYSIS

Once the need for preparation of an EA or EIS has been determined, planning for analysis and document preparation usually begins with the development of some form of a management plan. A management plan can serve as a guide for the entire EA or EIS process by establishing the responsibilities, methodologies, schedules, and procedures to guide the effort. As a coordination tool, it also helps to build team support with other offices and agencies involved in the effort. The suggested content of a management plan is outlined below. Whether or not a formal, written plan is developed, defining and/or acquiring the information outlined is essential for the successful completion of an EA or EIS and for the avoidance of later challenges that may result in program delays.

- **Organizations, Roles, and Responsibilities.** In addition to identifying the name, address, and phone number for each organization's point(s) of contact, the roles of all organizations involved in the effort should be clearly defined. This would include describing their responsibilities in supporting the environmental analysis and document reviews, and identifying the staffing process and signatory authorities for document approval. In specific cases, creating a formal charter is useful in establishing a meaningful and well-defined partnership between the lead agency and other supporting and cooperating agencies.
- **Task Description and Schedule.** A work breakdown structure (or comparable management tool) may be developed and defined. A milestone schedule keyed to task descriptions should display, as a minimum, time periods for data collection, agency consultation, preparation of draft and final documents, document reviews, target dates for publishing public notices, the timing of other public involvement activities such as public meetings, and completion dates.

- **Analysis Methodologies.** This section should present a preliminary listing of the environmental issues and other topics to be examined and a brief description of the methodologies to be employed in the analysis. If the use of specialized analytical tools (e.g., air quality, noise, or socioeconomic models) is anticipated, those tools or methodologies should be addressed. For an EIS and sometimes for an EA, definition of the region of influence for each environmental resource being analyzed is recommended.

- **Public Involvement.** All public involvement, either planned or anticipated (for EAs and EISs), should be discussed. This would include details on formal scoping requirements and public meetings (primarily for EISs), the management and coordination of public comments, and the handling of any news media inquiries received. Interaction with Government officials and environmental agencies should be included in this section of the management plan.

- **Description of the Proposed Action and Alternatives.** One of the most critical components of the management plan and subsequent NEPA execution is a Description of the Proposed Action and Alternatives (DOPAA), which represents much of the front-end portion of any EA or EIS. The DOPAA must be initially drafted by the project proponent, and contain a statement of the purpose of and need for the proposed action (see Subsection 3.5). It also describes the proposed action and associated activities, including alternatives to the proposed action, to the extent that they are understood at this early stage of the process (see Subsections 3.7 and 3.8, respectively). Not only does the DOPAA ultimately facilitate development and preparation of the EA or EIS, it also helps in early coordination with other Army offices and outside agencies (Federal, state, and local) and, in the case of an EIS, provides a basis for formal scoping. A clear statement in the DOPAA of the “decision(s) to be made” on the proposed action can provide a further check on what the proposed action is and what it is expected to accomplish. Because the “initial cut” of the DOPAA is almost certain to change before preparation of the first draft of the EA or EIS, consideration should be given to preparing it in draft or outline form and circulating it to selected reviewers to obtain comments and concurrence and to avoid unnecessary revisions to the document later on. In developing the DOPAA, note that it should not assume a life of its own, but should be designed for easy integration into the NEPA document. It is essential that project planners provide clear and detailed data to those responsible for writing the DOPAA.

The DOPAA is the principle means through which the proponent communicates the attributes of the proposed action to the NEPA analyst. The efficiency and the effectiveness of the NEPA analysis and documentation are dramatically affected by the quality and the accuracy of the DOPAA. For this reason, the DOPAA and, subsequent NEPA considerations, may become iterative, a process of interaction between the NEPA analyst and the proponent staff. Many NEPA actions have proceeded far down the execution path only to find that the analyst had an unclear understanding of the proposed action, and thus the associated impacts. The severity of this issue is particularly acute in the acquisition programs, given the full life-cycle analysis requirements and the long-term implications of miscommunication and misunderstandings.

The no-action alternative must be discussed and evaluated in the EA or EIS. The proposed action can be the action alternative. Having more than one action alternative is prudent and facilitates the “hard look” NEPA requirement. Alternatives considered but eliminated from further evaluation should also be listed and fully discussed.

- **Appendices.** Other information that should be contained in the management plan includes an outline of the EA or EIS to be prepared, a brief description of existing technical and environmental documentation on the project and the project locations (with known or suspected relevance to the effort), and a listing of any major unresolved issues pertinent either to the DOPAA or to the analysis and document preparation effort.

A management plan such as that just described is normally the responsibility of the proponent; however, plans are often prepared by the organization or contractor tasked to prepare the NEPA document, with considerable participation and oversight by the proponent. In addition to those issues to be addressed in the management plan, other issues that must be considered in the early planning for an EA or EIS include the following:

- Which personnel are available to accomplish the analysis and document preparation (i.e. in-house staff or contract support),
- Availability of the analysis and documentation team members and reviewers (i.e., consideration for participants being away on temporary duty, vacation, and holidays),
- Time frames dictated by the proposed action, the NEPA process, or data/model analysis requirements, budgetary constraints, and requirements.

3.3 OBTAINING ANALYSIS AND DOCUMENTATION SUPPORT

Environmental analyses and documentation can be prepared by any organization or team with the expertise to address all requirements adequately. Such documentation should never be prepared by a single person without input from and consultation with appropriately knowledgeable persons from relevant scientific and technical disciplines. NEPA specifically requires that environmental analyses be prepared using an interdisciplinary approach that ensures integration of both the natural and the social sciences (40 CFR 1502.6). Proponents often do not have the “in-house” expertise to adequately perform the required analysis and prepare the NEPA document. However, some Major Command (MACOM) environmental offices do have the relevant expertise or have access to it.

The proponent's staff may also need assistance from the appropriate supporting Environmental Office when proposing to take an action that is categorically excluded or when adopting an existing EA or EIS. In all cases, a representative of the proponent should assist in preparing a REC if one is being used. EISs and more complex EAs, often prepared with contractor support, should involve both the proponent and the supporting Environmental Office staff in preparing Scopes of Work, preparing the DOPAA, reviewing documents, participating in comments, and participating in the public involvement process.

3.4 ALLOWING TIME FOR PREPARATION

The proponent must begin on time to finish on time. It is the proponent's responsibility to allocate sufficient time to complete the NEPA process. Failure to anticipate NEPA's procedural requirements and time lines can result in delays that adversely affect Army materiel programs or fiscal resources. influence

Differences in the nature of proposed actions, their complexity, and the availability of data often influence the amount of time required to complete analysis and documentation. The NEPA statute,

CEQ regulations, and 32 CFR Part 651 impose certain mandatory steps and minimum review periods for specified aspects of the NEPA process that will affect all proposed actions. See 32 CFR Part 651 for more time-line specific information. As a practical matter, proponents should normally anticipate 3 months or more for preparation of an EA, and 12 months or more for preparation of an EIS. When NEPA documentation is prepared by contractors, additional time might be required for completion of contract solicitation, award, and administration. Timelines for EA and EIS may not be realistic, given that there are needs to also incorporate the FNSI in the EA process, with its 30-day public review period, and DEIS and FEIS required review/waiting periods and ROD completion. Also needed studies take time to accomplish, as do time for document staffing and Federal Register publications.

Preparation and review of documents directly affect processing time lines. Depending on the level of analysis and documentation chosen for a proposed action, there might be preliminary draft, draft, preliminary final, and final versions of the document. Multiple document iterations and intermediate reviews can lengthen the time line. Additional time must be allocated when there are numerous reviews by internal or external offices and agencies (e.g., other DoD offices, Bureau of Land Management, US Fish and Wildlife Service, State Historic Preservation Office, etc.). Some proposed actions require substantial site preparation, construction projects, and range upgrades that can take a couple of years to complete. These site preparation portions of the proposed action cannot be initiated prior to having an approved ROD or FNSI. Therefore, adequate schedule planning for these types of NEPA activities need to be factored in by the proponent to ensure meeting their Initial Operational Capability (IOC) date.

Chapters 5 and 6 include a detailed look at the steps required for preparation of an EA and EIS, respectively. Proponents should give consideration to the amount of time required to meet each of the identified steps and plan accordingly.

3.5 IDENTIFYING THE PURPOSE OF AND NEED FOR AN ACTION

Associated with the earliest steps in preparing NEPA documentation is the requirement to specifically describe the purpose of and need for the proposed action. This step is a basic requirement of CEQ and Army regulations. It is the first opportunity in the NEPA process for informing interested parties why the Army is proposing to undertake an action and what objectives the action is intended to satisfy. It also can serve as a “reality check” for cases in which a proponent might not have clearly described the action proposed. In general, for a given proposed action, the purpose and need statement should provide answers to the questions: Why, where, and for what objective?

In some cases, a proposed action might be defined by higher authority or an outside entity. An example of this is new equipment fielding or materiel systems changes within the Army that are directed by HQDA. In such cases, the statement of purpose and need should make reference to the directed nature of the proposed action, as well as to the underlying mission-related requirements for the action.

This section should clearly state the nature of the problem and discuss how the proposed action or range of alternatives can solve the problem. In doing so, the need or requirement to which the proposed action is responding must be identified, along with the purpose or key objective(s) for the action.

The statement of the purpose should relate directly to the need or requirement identified. It should refer to the action, not to the document and not just to the preferred alternative. For example, the following statement is correct:

The purpose of the proposed action is to develop an unmanned aerial vehicle that can gather reconnaissance data, fire small missiles at enemy targets, and fly at an altitude where it is out of the range of the adversarial howitzers.

Statements such as the following, however, are inaccurate and misleading:

The purpose of the action is to construct an unmanned aerial vehicle production and testing facility at Site A.

The purpose of the action is to comply with NEPA.

When describing the *purpose* in an EIS, 32 CFR Part 651 also requires that key operational, social, economic, and environmental objectives for the proposed action be summarized. If, however, the objectives for the action do not address each of these categories, include only those objectives that have been identified. Additionally, if a cost-benefit analysis has been prepared for the proposed action, it can be either discussed here and cited, or attached as an appendix and referenced here (see also 40 CFR 1502.23).

In terms of describing the need statement for a proposed action, it generally reflects the proponent's underlying mission goals and the main objectives to be achieved. It also serves to call attention to the benefits of the proposed action. Expression of the need for a proposed action, such as the following statement, is adequate:

Development of unmanned aerial vehicles would allow for forward tactical reconnaissance, and give US Forces the ability to destroy enemy threats on the ground, without jeopardizing pilots and crews.

A need statement, such as that shown below, is inappropriate:

The Army requires development of newer and less costly aircraft.

In reflecting the proponent's goals and objectives, the *need* statement also serves to identify the range of reasonable alternatives. Any alternative that does not meet the underlying *need* does not have to be analyzed and can be eliminated from further consideration. Alternatives that do meet the underlying need, and that are considered reasonable, should be analyzed, including those beyond Army jurisdiction.

While describing the *purpose* and *need* too broadly leads to a wide range of possible alternatives, care should also be taken to ensure that the description does not inappropriately narrow the range of reasonable alternatives.

Because the *purpose* and *need* statements represent two separate conditions prompting the proposed action, they should be written as separate paragraphs or subsections.

3.6 THE SCOPING PROCESS

Scoping is an early and open process for actively and constructively bringing outside agencies (Federal, state, and local), organizations, and the public into the NEPA process; determining the scope of issues to be addressed; and identifying the major issues related to a proposed action. CEQ regulations and 32 CFR Part 651 require use of the scoping process when preparing an EIS. Use of a formal or informal scoping process is optional under current Army NEPA regulations when preparing an EA, but in many cases has proven beneficial, particularly in conducting coordination and consultation meetings with regulatory, natural, and cultural resources agencies. As a minimum, some form of Army internal scoping should be used for EAs to ensure that the elements of the DOPAA are accurate and complete, and that any environmental issues or controversies associated with the action are identified.

Scoping during the early stages of the NEPA process provides focus to the analysis of potential environmental effects. Scoping sessions with individual agencies, Federally recognized Indian tribes, and/or the general public help proponents to identify a wide variety of important matters affecting the NEPA process. These include community concerns; regulatory, natural, and cultural resources agency concerns; information related to impact significance; environmental justice issues; the geographic extent of the affected area; the range of actions (connected, cumulative, or similar) and alternatives; the range of resulting effects (direct, indirect, and cumulative); permit and consultation requirements; possible mitigation strategies; and appropriate levels and sequencing of environmental reviews. 32 CFR Part 651.48-53 specifies Army guidance and requirements on the scoping process. Additional guidance and information on scoping and public involvement can also be obtained from CEQ guidance memorandums.

3.7 DEFINING THE PROPOSED ACTION

Following identification of the purpose of and need for the action, the proponent must describe the details of the proposed action. The description of the proposed action is the foundation for the entire environmental analysis process. The proposed action must be carefully and clearly defined because a poorly defined proposed action might lead to inadequate or inappropriate impact identification and analysis, and possible legal challenge. It is important that all activities associated with the proposed action be identified and described in sufficient detail to permit a meaningful analysis of the potential environmental consequences. Defining the action too narrowly (e.g., underestimating the number of individual events, hazardous material/waste sources, etc.) may result in constant modifications to the document. If the action is defined too broadly (e.g., not providing sufficiently detailed information to describe where a new test facility is to be located), the specifics of the action might be misunderstood or the analysis might not indicate the real effects that could occur. Either case is a disservice to document reviewers, the decision maker, and the public. The description of the proposed action should answer the following questions:

- **Who** is proposing to undertake the action and which agencies have authority over it and responsibility for it?
- **What** decision is to be made and what activities are associated with the proposed action?
- **When** is the proposed action going to occur and what is its duration?
- **Where** is the proposed action going to occur?
- **How** is the action going to take place and can it be broken down into components or a series of formal phases?

Depending on the approach used to characterize the proposed action, some of these questions may be fully answered only by the description of the alternatives to implementing the proposed action (see Subsection 3.8).

Additionally, and as appropriate, the proposed action should also contain the following elements:

- **Project Timing and Progression.** Information that identifies project milestones, the frequency and duration of activities and any aspects of the proposed action that can result in effects that vary over time (e.g., time of day or season of the year) should be included.
- **New Construction or Modification Activities.** If the acquisition requires new production or testing facilities, estimates on the number of construction workers involved and the type of equipment used; site clearing and grading requirements; use of temporary access roads, staging areas, and borrow sites; and any other activities that are necessary to support construction should be described.
- **Operational Activities.** Information on the project and related support operations, such as facilities, equipment, and materials to be used; numbers of personnel involved; any testing, training, and maintenance activities; utility demands; and related transportation requirements, should be included.
- **Programmatic Concerns.** If the analysis is of a programmatic nature that covers the entire life cycle of a new weapons system, program activities involved in development, testing, deployment, operations, and disposal should be analyzed.

The description of the proposed action in an EA or EIS should be straightforward and concise, but sufficiently detailed to form the basis for the analysis that follows. It is important that the description of the proposed action include all “connected actions” (if the action is dependent on or part of one or more other actions) and that it acknowledge any “similar actions” (if the proposed action is similar to existing activities or recent or pending actions). Understanding similar actions is particularly useful when determining the potential for the proposed action to produce cumulative effects.

In general, for construction, operational, or production activities, the resulting waste streams and emissions (including rate and duration) should be identified, along with how they are to be treated and/or disposed of. Maps, sketches, facility layouts, and testing scenarios should be used as necessary to fully explain the details of the proposed action. In addition, Army- required procedures and mitigation measures, if already planned as part of the proposed action, should be described, along with other mitigation measures that may likely be required if the action is to proceed (e.g., scheduling activities so as not to affect the nesting season for a migratory endangered bird species, or avoiding areas with archaeological sites).

3.8 DETERMINING ALTERNATIVES

In accordance with CEQ regulations (40 CFR 1502.14) and 32 CFR Part 651, the proponent of an action must identify and describe all reasonable alternatives to the proposed action, including the No-Action Alternative. Alternatives that meet the underlying *need* are reasonable alternatives and should be analyzed in an environmental document, particularly for an EIS. Alternatives that do not

meet the underlying *need* do not have to be analyzed and can be eliminated from further consideration. The statement of *need* thus defines the range of alternatives, and is the reason why the clear, unambiguous definition of the Purpose and Need is so important. The more carefully and narrowly the underlying *need* is defined, the more limited is the range of alternatives that have to be analyzed, and the easier the document is to write, complete, and defend. Caution should be taken, however, to not make the Purpose and Need statement so restrictive that the proposed action becomes the only reasonable alternative for consideration.

A major potential cause for delay in the NEPA process is failing to adequately describe the proposed action and to appropriately address reasonable alternatives. Circulation of the DOPAA (see Subsection 3.2) early in the process to all offices and organizations involved in the effort is critical to ensuring that all reasonable alternatives are identified and accurately defined. Identification of the full range of reasonable alternatives is a particularly important part of the scoping process. The range of alternatives should not be fully developed prior to scoping. A decision-maker cannot select an alternative that is not evaluated in an EA or EIS, and failure to consider alternatives that are reasonable can affect the credibility of an otherwise adequate NEPA analysis.

Typically, a statement of a proposed action should be a totally objective proposal that reflects only one of several possible means to an end. After the proponent has prepared a detailed description of the proposed action, all reasonable alternatives (in terms of actions and/or locations) should be explored and considered. The proposed action may be, but does not necessarily have to be, the proponent's preferred alternative when the decision is made. Alternatives that are identified and selected as appropriate for analysis must be addressed throughout the document. Generally, the range of reasonable alternatives is broader and the number of alternatives to be analyzed is greater in an EIS than in an EA. The following types of alternatives are normally used in Army EAs and EISs:

- **Preferred Alternative - not required for an EA.** The preferred alternative or alternatives, if known at the Draft EIS stage, should be identified as such in the DOPAA sections of the Draft EIS. If the preferred alternative is not known at this stage, it need not be mentioned in the document. However, by the time the Final EIS is filed, the preferred alternative generally must be identified unless another law prohibits the expression of such a preference (40 CFR 1502.14(e)). Identifying the preferred alternative in an Army EA is recommended only if the EA is to be circulated for public review in draft form. Although not required for an EA, it would be prudent to identify the preferred alternative, if there is one.

It is also important to note that the action eventually selected as the preferred alternative can be the proponent's original proposed action, one of the alternative actions, or, in some cases, a mix of the alternatives analyzed.

The ROD needs to identify not only the selected action but also the environmentally preferred alternative. The environmentally preferred alternative does not need to be selected for implementation.

- **No-Action Alternative.** 32 CFR Part 651.34 and .43 requires the alternative of *no action* be included in the analysis for all Army EAs and EISs. Inclusion of the No-Action Alternative "provides a benchmark, enabling decision makers to compare the magnitude of environmental effects of the action alternatives. It is also an example of a reasonable alternative outside the jurisdiction of the agency which must be analyzed." (CEQ, *Forty Most Asked Questions*, Number 3). Here, an analysis of the environmental impacts of

not meeting the need, identified in the Purpose and Need section, should be performed rather than simply stating the action would not be implemented.

Two distinct interpretations of *no action* must be considered, depending on the nature of the proposal being evaluated. One is no change from current practices, or continuing with the present course of action until that action is changed. The second interpretation of *no action* is literally that the proposed activity does not take place, and the resulting environmental effects from taking *no action* are compared with the effects of permitting the proposed activity or an alternative activity to go forward.

When a choice of *no action* by the Army results in predictable actions by other agencies or commands, this consequence of the No-Action Alternative should be included in the analysis. For example, if an Army division decides not to train in a particular area using new Strykers, under the No-Action Alternative, the site remains available for a National Guard division to come in and train using Bradley vehicles. Moreover, an analysis of the No-Action Alternative is required even if the agency is under a court order or legislative mandate to act.

- **Alternatives Eliminated from Further Consideration.** Alternatives that do not meet the underlying *need* can be eliminated altogether. If there is no relationship between the action and the underlying *need* to which the Army is responding, there clearly is no need to include it in a NEPA document. However, alternatives that meet the underlying *need*, but do not meet other stated purposes, still should be identified; though they can be eliminated from detailed analysis. 32 CFR Part 651 and CEQ regulations (40 CFR 1502.14(a)) recommend that the final disposition of any alternatives that were initially identified should be discussed in the DOPAA. Such alternatives may include those with a high degree of technical uncertainty, those that are not affordable, or those that would result in levels of adverse impacts that are unacceptable. 32 CFR Part 651 also recommends that any criteria (or objectives) used for screening alternatives from full consideration should be presented. Alternatives should not be eliminated from further consideration for environmental reasons. That is why one does the NEPA document.

3.9 TRADEOFF ANALYSES

DoD Directive 5000.01. (Paragraph E1.1.4) requires that: "All participants shall view cost as an independent variable, and the DoD Components shall plan programs based on realistic projections of dollars and manpower likely to be available in future years. To the greatest extent possible, the MDAs shall identify the total cost of ownership, and at a minimum, the major drivers of total ownership costs. The user shall address affordability in establishing capability needs." The NEPA analysis may further assist the decision-maker in determining issues to be considered in cost/performance tradeoff analyses. NEPA analyses often identify materials or practices that can cause environmental harm, require range rehabilitation and maintenance, require costly cleanup, or cause system changes later in the system life-cycle. Environmental issues, such as management and disposal of hazardous materials or wastes during the manufacturing process or at the end of a system's life cycle, should be considered in developing the cost estimates in tradeoff studies.

Tradeoff studies are performed throughout the development process to integrate and balance decisions regarding cost-schedule-performance. As a formal decision analysis method, tradeoff

studies are often used to solve complex problems where there is more than one selection criterion. They also provide documented rationale supporting the decision that is made. The cost associated with the protection of the environment for each alternative should be considered with all other program costs. It should be a component of the tradeoff study selection and the weighting criteria that are utilized during the comparison and decision process.

3.10 IDENTIFYING ISSUES FOR ANALYSIS

Issues to be considered in NEPA analyses are derived from an understanding of those environmental resources and resource components that would affect and would be affected by the proposed action or an alternative, if it were implemented. Such issues are based on the interrelationship between the proposed activities, the affected area, the resulting effects, receptors of the effects, criteria and regulatory standards against which effects are measured, and time. Issues can be characterized by their extent of geographic distribution, the duration of time over which the issues are likely to be of interest, and the level of interest or controversy they generate. Once identified, the issues can be grouped and categorized (e.g., common resources, common geography, linked to the same action, or linked to cause-effect relationships) for purposes of providing focus and direction to the scope of analysis and NEPA documentation. This approach is particularly useful in determining which resources and resource parameters should be addressed in the Affected Environment and Environmental Consequences sections of an EA or an EIS.

Issues can be identified by a variety of methods, including surveys and questionnaires, coordinated discussions with outside participants (e.g., natural resources agencies, local officials, and special interest groups), research of existing technical documents and journals, and review of published and electronic news media. The scoping process, previously described, provides an effective forum for issue identification. The eventual resolution of issues is often achieved through the development of mitigation measures where significant effects or serious controversy is anticipated. Agreements on approaches for handling issues should be reached early (e.g., during scoping) through coordination and consultation with key Army participants, technical support staff and contractors, environmental experts in other agencies, and the affected public.

3.11 DESCRIBING THE AFFECTED ENVIRONMENT

Once the environmental issues have been identified (see Subsection 3.10), an Affected Environment description (also referred to as the environmental baseline) can be prepared for the area(s) that could potentially be affected by the Army's proposed action and alternative actions. CEQ regulations (40 CFR 1502.15) require that Affected Environment descriptions presented for each resource area be succinct and no longer than what is necessary to understand the resulting effects. The data and information presented should be commensurate with the importance of the effects, with less important material summarized, consolidated, or simply referenced. *A good rule of thumb is that any information presented in the Affected Environment section of an EA or EIS should be directly related to the Environmental Consequences section.*

Based on the extent and duration of anticipated effects caused by an action, the description of each relevant resource area should be defined according to the Region of Influence (ROI), and the general time frame for which effects are likely to occur. Each resource area presented in the Affected Environment description should have its own distinct ROI, which can be explained in text or delineated on a map. However, an option for describing several of the more common resource areas (e.g., land use, soils, and vegetation) is to use one study area boundary (e.g., test area or

installation boundary or a designated circle around the project site) that encompasses the potential effects for all of them. This can help to simplify the process of delineating individual ROIs, particularly in the early stages of the analysis when the definition of the proposed action might still be changing, and can also provide a standard frame of reference for discussion and for the presentation of data on maps or other visual aids used in the NEPA document. Some resources, such as socioeconomics and air quality, typically have ROIs much larger in area (e.g., a metropolitan area or regional airshed) than the ROIs for other resources because of the factors used in measuring effects on them. The geographic scope of potential cumulative effects on various resources can also require much larger areas of study (see Subsection 3.12.1 of this Manual).

When describing the Affected Environment, it is recommended that the most current data available, or other data that closely represents current conditions, be used. If existing data does not accurately represent current conditions, new data might need to be obtained through field surveys or by other means. (In cases of incomplete or unavailable data, refer to 40 CFR 1502.22.) Depending on the time frame of a given action, the Affected Environment description for some resources might require projections of future conditions to more accurately determine long-term effects or effects not expected to occur for several years. This is particularly true for programmatic life-cycle NEPA studies and typically applies to future land use, socioeconomic, infrastructure, and transportation conditions.

Much of the existing baseline data can usually be obtained through coordination with the supporting Environmental Office, other Army offices, and outside agencies. All too often, NEPA documents are completed using insufficient information for evaluating effects on environmental baseline conditions. In some cases, expensive and time-consuming field data collection is necessary, but the specific project for which the data are needed has insufficient funds and/or time for data collection and analysis efforts. In other cases, data might be available, but are not in a form that can be easily integrated with other information or analysis techniques. To help prevent such problems, early planning is necessary to determine resource issues and associated baseline data requirements. Some installations have developed or are in the process of developing extensive environmental databases, usually in the form of automated geographic information systems to define existing baseline conditions at specific locations. These systems can be very useful when analyzing test activities on a host installation. In addition to providing information used in NEPA analyses, such tools can also be used to generate “environmental constraints maps” to help master planners, trainers, and other proponents in siting and scheduling their proposed actions.

3.12 DETERMINATION OF EFFECTS

3.12.1 Types of Effects

The CEQ regulations (40 CFR 1508.18) direct that environmental effects resulting from major Federal actions be analyzed for three types of impacts: direct, indirect, and cumulative. Both EAs and EISs must include analysis for all three types, which are described below. (Note: The CEQ regulations use the terms “effects” and “impacts” synonymously and interchangeably.)

- **Direct Effects.** A direct effect is caused by the action and occurs at the same time and place (40 CFR 1508.8). Direct effects are typically the most obvious to ascertain, their analysis is usually more objective, and they are the simplest to assess. An example of a direct effect is the loss of vegetative habitat from construction of a test facility and access roads.

- **Indirect Effects.** An indirect effect is caused by the action but occurs later in time or farther removed in distance, although it is still reasonably foreseeable (40 CFR 1508.8). Indirect effects may include growth induced effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems including ecosystems. For example, in the case of sediment runoff from a construction site, the resulting deterioration of water quality downstream represents an indirect adverse effect. Indirect effects are not as apparent as direct effects, and their evaluation may depend on more subjective rather than objective factors.

- **Cumulative Effects.** A cumulative effect produces an “impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions” (40 CFR 1508.7). Because of extensive outside influences, cumulative effects are the most difficult to analyze, and the analysis is frequently more subjective than objective. The scoping process should be used to identify possible cumulative impacts (32 CFR Part 651.16 [b]).

When identifying direct, indirect, and cumulative effects, consideration must be given to whether they represent short-term or long-term effects. Short-term effects are often those associated with the initial implementation of an action such as those that might result from initiation of a radar construction project or the demilitarization and disposal of a weapons system. Long-term effects are generally those that occur over the operational life of the project, such as those that might result from toxic emissions during equipment operation.

3.12.2 Significance of Effects

The CEQ regulations specify that in determining the significance of effects, consideration must be given to both “context” and “intensity” (40 CFR 1508.27). Context refers to the significance of an effect to society as a whole (human and national), to an affected region, to affected interests, or to just the locality. Intensity refers to the magnitude or severity of the effect, whether it is beneficial or adverse. The significance of potential direct, indirect, and cumulative effects must be determined through a systematic evaluation of the action, alternatives, and mitigation measures in terms of their effects on each individual environmental resource component (e.g., ecosystems, water resources, and air quality). (See Subsections 5.4 and 6.6 of this Manual for a discussion of EA and EIS content, respectively.) Evaluation of significance is typically based on an assumption that the full effect of the predicted condition would occur all at once. In reality, the projected conditions likely would be less intense than the maximum and also would be likely to happen incrementally rather than all at once. Thus, actual effects might well be less severe than those predicted and described in the NEPA analysis. Subsections 5.4 and 6.6 of this Manual provide detailed descriptions of resource areas typically included in Army NEPA analyses for both EAs and EISs, respectively. It is important to note that only those resources and resource parameters that present issues for analysis (see Subsection 3.9 of this Manual) need be discussed. The following list outlines some alternatives with conditions or consequences that may be considered significant effects:

- **Land Use.** An alternative that would conflict with adopted plans and goals of the community or that would result in a substantial alteration of the present or planned land use of an area. An alternative that would result in substantial new development or prevent such development elsewhere.

- **Aesthetics and Visual Resources.** An alternative that would obscure or result in abrupt changes to the complexity of the landscape and skyline (in terms of vegetation, topography, or structures) when viewed from points readily accessible by the public.
- **Air Quality.** An alternative that would result in substantially higher air pollutant emissions or cause air quality standards to be exceeded.
- **Noise.** An alternative that would generate new sources of substantial noise, increase the intensity or duration of noise levels to sensitive receptors, or result in exposure of more people to high levels of noise.
- **Geology and Soils.** An alternative that would result in an increased geologic hazard or a change in the availability of a geologic resource. Such geologic and soil hazards would include, but would not be limited to, seismic vibration, land subsidence, and slope instability.
- **Water Resources.** An alternative that would result in a reduction in the quantity or quality of water resources for existing or potential future uses. An alternative that would result in expected demand for potable water to exceed the capacity of the potable water system. An alternative that would cause substantial flooding or erosion, subject people or property to flooding or erosion, or adversely affect a significant body of water, such as a stream or lake.
- **Biological Resources.** An alternative that would disrupt or remove any endangered or threatened species or its habitat, its migration corridors, or its breeding areas. The loss of a substantial number of individuals of any plant or animal species (sensitive or non-sensitive species) that could affect the abundance or diversity of that species beyond normal variability. The measurable degradation of sensitive habitats, particularly wetlands.
- **Cultural Resources.** An alternative that would degrade the site for future study, if it would result in unauthorized artifact collecting or vandalism of identified important archaeological sites; would modify or demolish a historic building or environmental setting; or that would promote neglect, resulting in resource deterioration or destruction, noise or visual intrusion, or decreased access to traditional Native American resources. Impact assessment for cultural resources focuses on those properties that are listed in or are considered eligible for the National Register of Historic Places or are National Historic Landmarks, as well as resources that are considered sensitive by Native American groups.
- **Human Health and Safety.** An alternative that would expose personnel to unexploded ordnance without proper protection or Explosive Ordnance Disposal (EOD) support. An alternative that would result in environmental health or safety risks, specifically to soldiers.
- **Socioeconomics.** An alternative that would alter substantially the location and distribution of the population within the geographic “region of influence,” cause the population to exceed historical growth rates, or substantially affect the local housing market and vacancy rates. An alternative that would disproportionately affect minority or low-income populations. An alternative that would create a need for new or increased fire or police protection, or medical services, beyond the current capability of the local community. It is important to note that, per CEQ regulations (40 CFR 1508.14), social or economic effects are not intended by themselves to require preparation of an EIS. Only when social or economic effects occur with natural or physical environmental effects from the same proposed action will all of these effects be analyzed as part of the NEPA process.

Additionally, two Executive Orders that are designed to protect specific segments of the population must be taken into consideration. These are: Executive Order 12898, - *Federal Actions To Address Environmental Justice in Minority Populations and Low- Income Populations*; and Executive Order 13045 - *Protection of Children from Environmental Health Risks and Safety Risks*. Compliance with these two Executive Orders is discussed in detail in Chapter 7 of this Manual.

- **Infrastructure.** An alternative that would increase demand over capacity, requiring a substantial system expansion, or would result in substantial system deterioration over the current condition. For instance, an alternative that would increase the volume of traffic beyond the existing road capacity, because parking availability to fall below minimum local standards, or require new or substantially improved roadways or traffic control systems, or place burdens on existing utilities.
- **Hazardous and Toxic Materials Wastes.** An alternative that would result in a substantial increase in the generation of hazardous substances, increase the exposure of persons to hazardous or toxic substances, increase the presence of hazardous or toxic materials in the environment, or place substantial restrictions on property use because of hazardous waste, materials, or site remediation.

Some additional factors that should be considered when evaluating significance are listed below:

- **Relevant Legal Requirements.** Legal requirements should be considered in determining significance. Such criteria might appear in local, state, or Federal statutes, regulations, or court decisions. Actions that are likely to result in violation of regulatory standards should be reviewed closely to determine whether there would be significant impacts.
- **Knowledge of Applicable Court Cases.** Findings in court cases involving NEPA analyses can often provide guidance in understanding the types of effects likely to be considered significant. However, a single court case might not be an up-to date, definitive statement of the law. Legal advice should be obtained from the appropriate office providing legal support for the proponent.
- **Uncertainty and Controversy.** The degree to which the effects of the action on the human environment are likely to be highly uncertain or controversial should be considered. Also, the proponent should be sensitive if the action may create public perceptions, founded or unfounded, that adverse effects will result from the project.
- **Other Considerations.** Specific unique characteristics of the action might influence the determination of significance. The advice and judgment of installation/command environmental personnel, natural or cultural resource agency staff, and knowledgeable contractors, as well as established guidelines, prove to be helpful information sources when determining significance.

3.12.3 Describing Effects

In describing potential effects that may result from the implementation of a proposed action, the following guidelines should be considered:

- Quantify effects as much as possible using appropriate units of measure (e.g., acres of habitat lost and tons of sediment entering a stream). If an effect is obviously negligible (e.g., the effects of radar tower construction on the ozone layer), it should be ignored unless a specific public comment demands an answer. Additionally, the absence of analysis may create a false public perception or uncertainty.
- When only impact trends can be indicated (e.g., low, moderate, high, etc.), provide careful explanation and interpretation of qualifiers (e.g., numerical range or list of possible site conditions that would represent each qualifier used).
- Although determining the significance of effects can, in many cases, be subjective, it can also be at least partially quantified in such terms as the number of people affected, the proportion of resources degraded, the rate at which conditions will become worse, and the level or extent of irreversibility of or recoverability from an impact.
- One purpose of an EA is to determine whether significant impacts will result from an action. However, this determination will usually be made in the Finding of No Significant Impact (FNSI) after analysis has been completed, or by a decision to prepare an EIS. Little is usually accomplished by making conclusions regarding significance of environmental impacts in the analytical portion of an EA or EIS. There is often disagreement among experts and laymen alike as to what is significant. Consequently, it is generally better to analytically discuss the environmental effects of an action (i.e. destruction of so much habitat or wetlands, or discussion of numerical increases in noise, or air and water pollution), without trying to characterize each impact as significant or not. Only in very clear cases is it usually very helpful to draw conclusions about significance in the analytical portion of the EA or EIS.
- Address environmental effects or controversy in proportion to their potential significance. That is, focus the analysis and discussion on those issues and associated effects identified through scoping as being most relevant to the proposed action and of greatest concern to the public.
- Identify and explain when there are instances of incomplete or unavailable data, or when confidence levels are extremely low. Give an honest and realistic appraisal of the effects on all resources. The CEQ regulations (40 CFR 1502.22) provide further guidance on this issue.
- Do not use regional, national, or global comparisons of effects to trivialize the significance of a local effect. On the other hand, do not give undue weight to trivial matters, based solely on local interest or opposition. Public controversy over environmental effects will normally warrant additional scrutiny.
- Conduct impact analyses to discriminate among individual alternatives. Do not present a single maximum potential effects estimate that obscures differences between alternatives. Tabular or graphical comparisons of alternatives can be a very effective approach for this discrimination.
- Balance the description of potentially severe impacts with a discussion of the likelihood (probability or level of risk) of their occurrence.

3.13 ADMINISTRATIVE RECORD

The Administrative Record is the entirety of the information and data relied on to prepare the EA or EIS. The record includes all data, information, and analysis either generated by other sources or obtained from other sources and used to support the analysis and documentation. It is essentially the Army's file as it relates to the action, and can become the backup data used in court proceedings to validate the NEPA process and support the Army's decision.

Three points should be followed in assembling the Administrative Record. First, the administrative record, by definition, is everything that the decision-maker considered and relied upon in reaching a final decision. Second, the administrative record should exclude any documents that reflect the deliberative process of the agency (e.g. draft documents and analyses) and any attorney/client communications. Third, the administrative record should be maintained for a minimum of 6 years after completion of the action to correspond to the general statute of limitations under the Administrative Procedures Act (APA).

The preparer should organize the data and information composing the record as a current, accessible file that is indexed by topic to the extent practicable. The Administrative Record should be limited to information that is releasable under the Freedom of Information Act. A complete Administrative Record should include project-related information within the possession of the proponent and/or lead agency (and any contractor), and also identify any other reference materials used in preparing the document but which were available only from outside sources (e.g., copyrighted documents at public libraries). Communications of all types (e.g., memoranda, internal notes, telephone conversation records, letters, and minutes of meetings) are typically included, along with public outreach materials, such as newsletters, newspaper advertisements (include affidavits of publication), and other public notices. Additional data sources that should be part of the Administrative Record include maps (e.g., wetlands, endangered species ranges, habitat, surface water, geology, topography, and land use), drawings (e.g., "as-builts" for roadways and for drainage, water, sewage, and electrical systems), studies, reports, documents, appraisals, special data compilations, modeling results, correspondence from subject matter experts, or other types of written information that were relied on during the environmental analysis and decision-making process. All references cited in the NEPA document should be traceable to the Administrative Record. Should the legal sufficiency of a NEPA document be challenged, the time allowed for assembling and providing the Administrative Record for review is usually quite short. It is recommended that guidance be continually provided by legal counsel on developing, formatting, stamping and dating (if needed) of the administrative record, to include studies, memos, emails, etc.

CHAPTER 4.0

CATEGORICAL EXCLUSION AND RECORD OF ENVIRONMENTAL CONSIDERATION

4.1 CATEGORICAL EXCLUSION

A Categorical Exclusion (CX) is a category of actions adopted by a Federal agency that do not individually or cumulatively have a significant effect on the human environment and do not require an EA or an EIS. A CX is intended to reduce delays in initiating and completing certain actions and to minimize the amount of paperwork associated with those actions. Determining when a CX may apply to a proposal is part of the decision-making process associated with actions that might affect the environment.

In accordance with CEQ regulations (40 CFR 1507.3 and 1508.4), every Federal agency should adopt a list of CXs. Each agency is responsible for determining what types of its actions should be categorically excluded and for developing specific regulations regarding the use of CXs. 32 CFR Part 651 (Appendix B) contains the Army's list of categorically excluded actions. Any proposed changes or modifications to exclusions listed must be submitted to the Department of the Army, Assistant Chief of Staff for Installation Management, Office of the Director of Environmental Programs. If additional CXs are approved, they are published in the *Federal Register*.

4.1.1 Determining When To Use A CX

Proponents should consider the sensitivity of the project and identify, to the extent possible, current and existing surrounding conditions as well as potential areas of controversy. These may include test facility footprint, size, use of certain materials and propellants, and duration of project. Based on this review, a CX may be used to exclude a proposed action from further environmental analysis and documentation. 32 CFR Part 651 also specifies when use of a CX must be supported by a Record of Environmental Consideration (REC). For a proponent to be able to use a CX, three conditions must be met: (1) The action is not being segmented, or broken into smaller parts to avoid the appearance of significance of the total proposed action; (2) The action does not involve extraordinary circumstances as defined in Subsection 4.1.2, and (3) The proposed action conforms to one or more of the CXs that are described in 32 CFR Part 651. If no CX is clearly applicable to the action, an EA or EIS must be prepared to assess potential effects.

4.1.2 Extraordinary Circumstances

In deciding whether a proposed action can be categorically excluded, proponents must determine if “extraordinary circumstances” apply. When an action which normally would be categorically excluded could, nonetheless, potentially have a significant effect on the human environment, extraordinary circumstances are said to exist and application of a CX to the proposed action is not allowed. An EA or an EIS must be prepared. Extraordinary circumstances are described in 32 CFR Part 651 and are summarized below:

- Potential to significantly affect public health, safety, or the environment
- Possible significant environmental effects (direct, indirect, or cumulative)

- Imposition of uncertain or unique environmental risks
- Greater scope or size than is normal for this category of action
- Reportable releases of hazardous or toxic substances
- Discharge of petroleum, oils, and lubricants; application of pesticides and herbicides; or where the proposed action results in the requirement to develop or amend a Spill Prevention, Control, or Countermeasures Plan
- Air emissions exceeding de-minimus levels
- Potential violation of any Federal, state, or local environmental laws
- Unresolved effects on environmentally sensitive resources
- Effects on the environment that are likely to be highly controversial
- Effects on the environment that are highly uncertain, involve unique or unknown risks, or are scientifically controversial
- Actions that establish precedents for future actions that have significant effects
- Actions that have the potential to degrade, even slightly, already existing poor environmental conditions
- Introduction/employment of unproven technologies.

4.1.3 Avoiding Misuse of CXs

In considering the use of CXs, it is important to note that actions may not be segmented to use a CX for one or more parts (segments) of a larger, connected action (see Subsection 7.5, Sequencing and Segmentation). A CX also does not relieve the proponent from compliance with other environmental statutes related to the proposed action, such as the requirement for permits under the Clean Air Act or Clean Water Act, or coordination/consultation with the State Historic Preservation Officer (under Section 106 of the National Historic Preservation Act) and US Fish and Wildlife Service (under the Endangered Species Act).

4.2 RECORD OF ENVIRONMENTAL CONSIDERATION

A REC is a signed statement that is often submitted with project documentation to show that the environment has been considered in planning for a particular action for which no separate EA or EIS is prepared. The use of certain CXs requires preparation of a REC (see 32 CFR Part 651, Appendix B). Although a REC is required for these CXs, RECs can also be used to document the use of other CXs, if so desired. In this way the proponent can maintain a record of the decision to use a CX. RECs are also used to document that a particular action is covered in an existing EA or EIS (32 CFR Part 651.19). A REC is intended to reduce costs and paperwork while providing a mechanism to ensure the consideration of potential environmental effects. The REC must conclude that the action (1) is exempt from NEPA, (2) is already covered in an existing EA or EIS and determined not to be environmentally significant, or (3) qualifies for a CX.

The REC must describe the proposed action, state the time frame for the action, identify the proponent, and explain why further environmental analysis and documentation are not required. RECs should have attachments, such as graphics or maps, to describe the action adequately and assist reviewers in understanding the action and its lack of potential for environmental effects. If the potential for extraordinary circumstances exists (e.g., existence of threatened and endangered species in the project area, presence of cultural artifacts or historical properties, presence of wetlands, potential to exceed air quality standards/permit levels, etc.), RECs should include results of consultations with other agencies such as USFWS, SHPO, local air boards, etc., and documentation of no potential for environmental effects if such consultations have taken place. The REC should be signed by the proponent for the action. A suggested format for a REC is presented in Figure 4-1. Variation from this format is acceptable, provided that basic information and approvals are included in any modified document. Once a REC is complete, the Project Office keeps the documentation on file for a reasonable time following completion of the proposal, which can take up to several years.

Responsibility for the appropriate application and use of a REC lies with the proponent. Program Executive Officers; Program, Project, and Product Managers; and Commodity Commands are advised to have a review policy in place that requires that all RECs be reviewed by the proponent's supporting environmental and legal offices. The purpose of the review is to ensure the appropriateness, completeness, and legal sufficiency of all RECs. Figure 4-1, Suggested Format for a Record of Environmental Consideration, provides blanks for documenting legal and environmental office reviews. At the installation level, the final determination on use of a specific CX and appropriateness of a REC is with the installation Environmental Office and not the proponent.

RECORD OF ENVIRONMENTAL CONSIDERATION (REC)

To: *(Environmental Officer)*

From: *(Proponent)* Date:

Project Title:

Brief Description of the Proposed Action:

Anticipated date and/or duration of proposed action: *(Month/Year)*

Reason for using record of environmental consideration (choose one):

a. Adequately covered in an (EA/EIS) entitled *(name)*, *(dated)*. The EA/EIS may be reviewed at *(location)*.

OR,

b. Is categorically excluded under the provisions of CX _____ 32 CFR Part 651, (and no extraordinary circumstances exist), because:

_____	_____
(Date)	(Project Proponent)
_____	_____
(Date)	(Environmental Coordinator)
_____	_____
(Date)	(Legal Office)

Figure 4-1. Suggested Format for a Record of Environmental Consideration

CHAPTER 5.0

ENVIRONMENTAL ASSESSMENT PREPARATION AND CONTENT

5.1 INTRODUCTION

This chapter is intended to guide Army materiel acquisition proponents and document preparers through the EA process by establishing a greater level of consistency in the preparation of Army EAs. It focuses on the preparation of an EA and provides information needed to develop the analysis and subsequent documentation.

The EA format used by the Army is based on the CEQ's regulations and on guidance contained in 32 CFR Part 651. The CEQ's regulations provide for a considerable degree of agency flexibility in the EA analysis and documentation process. Although flexibility has allowed the Army to prepare or customize NEPA documents based on particular circumstances over the years, it has also resulted in the use of a variety of formats. Army-wide participants in the NEPA process have indicated that a more structured, standardized format would greatly facilitate document preparation, training of new personnel, and document review and approval.

The length of the EA should be sufficient to reach a determination regarding significance, and the EA presentation should minimize repetition and needless discussion. Many minor actions, if very limited in scope and in environmentally non-sensitive locations, can be addressed in simple and short EAs (10 pages or less); and such EAs should be encouraged when applicable. All too often, proponents spend more time trying to fit a proposed action into an approved CX, and, in many cases, a simple EA and FNSI could easily be produced.

Many of the same environmental resource areas and methodologies that apply to EIS analyses also apply to an EA. Presentations differ in the level of detail, as an EA will typically be more summary in nature over a broader number of issues, while an EIS will be more detailed and rigorous. If preceded by an EA, the EIS can briefly summarize the EA results (referencing the EA) and focus only on those issues that were determined significant in the EA. An EA should provide only information and analysis deemed sufficient to determine the significance of potential environmental effects, in which case a more detailed analysis is required (40 CFR 1508.9). If it is determined during the preparation of an EA that the action will likely have significant impact, the proponent should prepare a Notice of Intent to prepare an EIS, publish it in the Federal Register, and incorporate existing analyses into the expanded EIS process. Although much of the data used in conducting the analysis for an EA might not be incorporated directly into the document, the information should still be included as part of the EA's administrative record (see Section 3.13 of this manual) to provide legally acceptable proof that appropriate resource issues were considered and the potential for significant environmental effects was evaluated.

5.2 EA TIME LINE

Depending on the complexity of the proposed action, the EA process can take 3 to 9 months, although many have been completed in less time. Army policy is to establish a schedule that ensures completion of the document in a timely and cost-effective manner. A schedule based on an approximate 5-month time frame is provided in Table 5-1 as an example of how the EA process is organized. This schedule assumes that the action is not controversial and does not have national interest. The milestone events indicated must occur regardless of the schedule. Actions proposed by a PM, MACOM, HQDA, or by organizations outside the Army may require review cycles and

Milestone	Calendar Days From Project Initiation
Initiate Project	0
Hold Kickoff Meeting	10
Complete Draft Description of Proposed Action and Alternatives (DOPAA)	25
Complete Initial Coordination/Consultation with Appropriate Outside Agencies (i.e. Federal, state, and local)	40
Complete Draft EA/Begin Staffing within Installation	60
Complete Staffing of Draft EA	80
Complete Final EA and Draft FNSI (if applicable)/Begin Staffing	100
Complete Staffing and Approval of Final EA and Draft FNSI	115
Publish and Distribute Final EA and Draft FNSI	130
End 30-day Public Review Period	160
Initiate Action	161

**Table 5-1. Sample Time Line for an Environmental Assessment
(Actual time line would be EA dependent)**

coordination times other than those shown. In addition, other factors can cause a NEPA document schedule to change dramatically, including slippage in review times, lack of an available baseline, and changes in elements of the DOPAA. It is needed to take into account needed field studies, consultations, staffing, etc. The USAEC goal is to complete an EA, with FNSI review and signature, in six months of initiation. Again, this is a goal and there is a need to be flexible in required time.

When the FNSI has been completed, the proponent must make it available for a minimum 30- day public review period. Although the FNSI is a “stand-alone” legal document, it should be included with the Final EA when provided to the public or decision-maker. No action, other than planning on the proposal, may be taken during the public review period. Unless comments that would cause the analysis to be reopened are received within the 30-day public review period, the proposal may be initiated. Proponents have the discretion to increase the 30-day review period, if circumstances deem this appropriate. Adequate public review and involvement, rather than satisfying the pre-determined time limit, is the key.

5.3 DOCUMENT DEVELOPMENT

To complete an EA successfully, the proponent must have a basic understanding of the major components of the document. 32 CFR Part 651.34 identifies nine major components of an EA: (1)

review and approval page, (2) purpose and need for the proposed action, (3) description of the proposed action, (4) alternatives considered, (5) affected environment, (6) environmental consequences, (7) conclusions or findings, (8) listing of preparers and agencies, and persons consulted, and (9) references.

The EA should be well focused in each of its major components or sections. Writing style should be such that the document attains clarity and brevity, but is still legally sufficient. The document should be sufficiently descriptive to indicate that the relevant and probable effects were identified, quantified, and analyzed, and determined to be significant or not. Preparers should use the following guidelines:

- Develop and follow an outline.
- Write clearly, concisely, and accurately.
- Provide only relevant information.
- Be consistent across all sections of the document.

Preparers need the flexibility to determine the most effective way to organize the EA. In most cases, it may be best to organize the material sequentially. In some cases, however, it may be more effective to discuss the proposed action and alternatives as a single section, as is exemplified in Subsection 5.4. It may be advantageous to combine sections in some other way, if doing so contributes to clarity or reduces unnecessary repetition. EAs do not need to be detailed and lengthy if the effects are not likely to be significant. The EA should be sufficiently descriptive to indicate that the relevant and probable effects were identified, quantified, and analyzed, and determined not to be significant. The information they contain should be presented as clearly and concisely as possible. Since the audience is often not technically versed in all subject areas, the documents should be written in plain language. In addition, appropriate figures and graphics that support the text and that can be easily interpreted by the public should be provided. Appendices should be used to support the main components of the EA, as appropriate. Whenever possible, technical editors should review the document to ensure accuracy, consistency, and readability. 32 CFR Part 651.34 indicates that EAs should be no longer than 25 pages. Army policy requires that EAs be prepared on recycled paper. The recycled paper symbol should be presented on the inside of the document cover (see 32 CFR Part 651.18). Draft and Final EAs should be printed double-sided to conserve paper.

5.4 CONTENT OF AN EA

An outline for an Army EA is provided in the boxed text that follows. It is suggested that this format be used as a model in the development of Army EAs. It is an interpretation, not a reinvention, of how Army and CEQ regulations are to be implemented. There might be situations where this format is not fully suited to addressing a particular Army action (e.g., where unique technical, public involvement, or decision-making requirements exist), in which case some variation in format is appropriate. Preparers should consult other sections of this manual for guidance on the application of NEPA to specific types of actions and on the treatment of certain high-visibility topics and resource areas. The information presented in this section is not intended to be all-inclusive. Ultimately, it is the proponent's responsibility to identify, analyze, and document all relevant issues and effects associated with the proposed action and alternatives.

Format and Content of an Army EA

Cover

The document cover should contain the name of the project, the month and year of the document (updated as each version is prepared), and the Army, MACOM, or program office logo, as appropriate. It is helpful to use different colors for the covers of different versions of the EA (e.g. gray for preliminary draft, beige for draft, and green for formal). The cover should be of a heavier paper stock than the text pages.

Inside the Cover

The inside of the document cover should provide an outline of the document's major sections. This item is not required but is recommended for longer, more complex EAs as a quick reference to its sections.

Lead Agency Page and Related Pages

These are usually the first one or two pages of the document. They introduce the EA and present important information about the document, including lead agency; cooperating agencies (if any); name and locations(s) of the action; an abstract describing the proposed action and alternatives along with identifying the issues and resources analyzed in the document; points of contact for further information; and information on the availability of the document and any formal comment or review periods. Organized the same way for an EA or EIS, these pages also include the name, title, and office name for each key person responsible for preparing, reviewing, and approving the document. For formal documents, signature lines are added for these individuals on the same page or on a separate page. Figures 5-1, 5-2, and 5-3 show examples of lead agency, signature and documentation pages.

Table of Contents

The Table of Contents for an EA should provide the section number and exact title of each document section (beginning with the Table of Contents itself through to the very end of the document), along with its corresponding page number. The List of Appendices, List of Tables, and List of Figures should be identified as separate sections in the Table of Contents. Anything in the document that precedes the Table of Contents should not be included.

Acronyms and Abbreviations

A list of the acronyms and abbreviations used throughout the EA should be provided.

ENVIRONMENTAL ASSESSMENT

LEAD AGENCY: US Army Space and Missile Defense Command

TITLE OF PROPOSED ACTION: Tactical High Energy Laser (THEL) Advanced Concept Technology Demonstration (ACTD) Environmental Assessment (Unclassified).

AFFECTED JURISDICTION: Cities of Redondo Beach, El Segundo and San Juan Capistrano, California; City of Boulder, Colorado; City of Pittsburgh, Pennsylvania; White Sands Missile Range, New Mexico.

PREPARED BY: XYZ Inc., Huntsville, AL for Space and Missile Defense Command

RECOMMENDED FOR APPROVAL BY: Mr. J. Larry Chamberlain, Program Manager
TSCSV Program Office

APPROVED BY: P.R. Cleburne, Lieutenant General, US Army, Commanding Officer

ABSTRACT: The EA documents the results of an analysis of the potential for and magnitude of impacts from the development of the THEL Advanced Concept Technology Demonstration (ACTD) system. This would include the production, assembly, field integration and testing, operational test and evaluation, and modification for additional assessments. Subsystem assembly and testing would occur at facilities in Redondo Beach and San Juan Capistrano, California. Field testing and integration of the THEL ACTD system would occur at White Sands Missile Range (WSMR), New Mexico. Four or fewer THEL units would be produced during the life of the project. Testing, including up to approximately 1,300 target launches and laser testing, would occur at WSMR over the next 5 years. Approximately 380 target launches would occur in the first 9 months of testing at WSMR.

The locations and activities of the THEL ACTD system development and testing have been evaluated in this EA. The proposed locations were selected because of their ongoing or past work for similar programs.

The EA analyzes the environmental consequences of the proposed action and alternatives. The areas of environmental consideration are air quality, airspace, biological resources, cultural resources, geology and soils, hazardous materials and waste, health and safety, infrastructure, land use, noise, and water resources. No significant impacts have been identified. No cumulative impacts are expected.

REVIEW COMMENT DEADLINE: Public comments must be received within 30 days from the publishing date of this document. Public comments may be provided to:

US Army Space and Missile Defense ATTN:
SMDC-EN-V, W. Scott Hancock
P.O. Box 1500
Huntsville, AL 35802-3801

Figure 5-1. Example of a Lead Agency Page for an EA

**ENVIRONMENTAL ASSESSMENT
TACTICAL HIGH ENERGY LASER
ADVANCED CONCEPT TECHNICAL DEMONSTRATION**

Reviewed by:

J. Larry Chamberlain
Program Manager TSCSV
Program Office

Recommended for Approval by:

John P. Jones
LTC, EN
Deputy Chief of Staff,
Installations and
Environment

Approved by:

Pat R. Cleburne
Lieutenant General, US Army
Commanding
US Army Space and Missile
Defense Command

Figure 5-2. Example of a Signature Page for an EA

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
<p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Service Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.</p>				
1. REPORT DATE (DD-MM-YYYY) 04-03-1998		2. REPORT TYPE Preliminary Final		3. DATES COVERED (From - To)
4. TITLE AND SUBTITLE Tactical High Energy Laser Environmental Assessment			5a. CONTRACT NUMBER	
			5b. GRANT NUMBER	
			5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)			5d. PROJECT NUMBER	
			5e. TASK NUMBER	
			5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Space and Missile Defense Command			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSOR/MONITOR'S ACRONYM(S)	
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Further dissemination only as directed by the U.S. Army Space and Strategic Defense Command, 22 July 1996				
13. SUPPLEMENTARY NOTES				
<p>14. ABSTRACT</p> <p>This EA documents the results of an analysis of the potential for an the magnitude of impacts from the development of the THEL Advanced Concept Technology Demonstrator (ACTD) system. This would include production, assembly, field integration and testing, operational test and evaluation, and modification for additional assessments. Field integration and testing of the THEL ACTD system would occur at White Sands Missile Range (WSMR), New Mexico. Four or fewer THEL units would be produced during the life of the project. Testing, including up to approximately 1,300 target launches and test lasing, would occur at WSMR over the next 5 years. Approximately 380 target launches would occur in the first 9 months of testing at WSMR.</p> <p>The location and activities for the THEL ACTD system development and testing have been evaluated in this EA. The proposed locations were selected because of their ongoing or past work for similar programs.</p> <p>The EA analyzes the environmental consequences of the proposed action and alternatives.</p>				
15. SUBJECT TERMS Environmental Assessment (EA)				
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Unclass/Unlim	18. NUMBER OF PAGES 213
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified		
			19a. NAME OF RESPONSIBLE PERSON Mr. David Hasley	
			19b. TELEPHONE NUMBER (include area code)	

Reset Standard Form 298 (Rev. 8/98)
Prescribed by ANSI Std. Z39.18
Adobe Professional 7.0

(may be found at <http://www.gsa.gov/portal/forms/download/116146>)

Figure 5-3. Example of a Documentation Page

Section 1.0: Purpose of and Need for the Proposed Action

1.1 Introduction

This section briefly identifies the proposed action, the responsible agency(ies) involved, and a history of events leading up to the proposed action. It also identifies the regulations implementing NEPA under which the document has been prepared.

1.2 Purpose and Need

This section provides a clear statement that enables the reader to understand why the specific proposal is needed. Specific requirements in developing the purpose and need statement are discussed in Section 3.5 of this manual. It is also useful to include here, or as a separate section, a statement that identifies what decision(s) is to be made regarding the proposal.

1.3 Scope and Content of the Document

This section provides a brief overview of the actions, alternatives, and sites analyzed in the EA, along with identifying the resources that were evaluated.

1.4 Decision(s) to be Made

The decision(s) to be made regarding the proposal should be succinctly identified, along with the decision-making authority and responsible official. If not included as a separate section in an EA, then this discussion should be discussed elsewhere, such as in the Purpose and Need section.

Section 2.0: Description of the Proposed Action and Alternatives

2.1 Proposed Action

This section provides a description of the proposed action. It should include such details as location considerations, numbers of personnel involved, and program requirements. No program cost information should be included. Note that alternatives to the proposed action must be described in Section 2.2 of the EA (Alternatives Considered), not in this section. The information presented in this section of the EA drives the identification of relevant issues and conditions arising from the activities that make up the proposed action, thus generating the effects that must be identified and evaluated. Information must be accurate, concise (to the point), comprehensive, and sufficiently detailed to permit a complete and objective analysis. For specific guidance on defining the proposed action, see Section 3.7 in this manual.

2.2 Alternatives Considered

This section describes how the alternative actions and/or alternative sites were identified, including the application of selection or screening criteria¹; identifies the reasonable alternatives that were considered for further evaluation, including the "no action"¹ alternative; and explains reasons for rejecting alternatives (if any) found to be unreasonable. Possible situations where an alternative may not be considered reasonable include but are not limited to the following: outside the scope; irrelevant to the decision; not supported by scientific evidence; limited in extent, duration, and intensity; not feasible; or not affordable. Further information on identifying and describing alternatives is provided in Section 3.8 of this manual.

In this section, each alternative to the proposed action should be identified and described under separate subsection numbers (i.e., Sections 2.3.1, 2.3.2, etc., depending on the number of alternatives to be analyzed). It is unnecessary, however, to identify which alternative is the Army's preferred alternative in the EA. Identifying the preferred alternative is usually best reserved for the FNSI since it represents the decision document.

In cases where the proposed action described in Section 2.1 itself represents a fully developed alternative (typically the preferred alternative), the type of information presented in Section 2.2 for each alternative action should be similar in detail. If the information describing the proposed action in Section 2.1 is to serve as a general foundation from which there is more than one alternative means for its implementation (e.g., alternative locations to construct and operate a new facility), the alternative descriptions presented here should build on that earlier information in providing more specific, unique details on how and where each alternative action is to be implemented. For further information on this approach and in describing alternatives, see Sections 3.7 and 3.8 of this manual. The Alternatives Considered should be presented in the following way:

2.2.1 Alternative A

2.2.2 Alternative B

2.2.3 Alternative C

2.2.4 No-Action Alternative (as described in Section 3.8 of this manual)

2.2.5 Alternatives Eliminated From Further Consideration (as described in Section 3.8 of this manual).

¹The screening criteria for developing alternatives may include time constraints, specific facility criteria, budget constraints, and others. Alternatives that are selected as a result of the use of screening criteria must be carried throughout the document.

Section 3.0: Affected Environment

The Affected Environment section of an EA contains a description of the current environmental conditions of the area(s) that would be affected if the proposed action (or alternative) were implemented. It represents the "as is" or "before the action" conditions (sometimes referred to as baseline conditions) at the activity area(s). *Only* those environmental resources and resource parameters that could potentially be affected by the action, or that are of public concern, should be included in the Affected Environment description and analyzed under Environmental Consequences (Section 4.0 of this EA outline). In addition, the level of detail to be applied to each particular resource area should be commensurate with the level of importance and concern for that resource and the issues it presents. If a particular resource is to be excluded from discussion altogether, an explanation of why it was excluded (e.g., it was not affected by the proposed action or alternatives, or it is covered by prior NEPA reviews) should be provided in the introduction to this section (see 40 CFR 1501.7(a)(3) for further discussion on this topic). Further guidance on describing the Affected Environment is provided in Chapter 3 of this manual.

3.1 Location Description

The purpose of this section is to provide a general overview of the affected site's environmental setting. The types of information that should be briefly described are as follows:

- Geographic setting of the affected area(s)
- Ongoing mission(s) and/or primary activities in the area(s)
- General landscape of the area
- General climatic conditions

3.2 Land Use

The following landscape and land use conditions should be described, as appropriate:

- Land use/land cover within the area(s) and surrounding area
- Building function and general architecture, as appropriate
- Relevant location of local communities
- Land use management plans (e.g., local government comprehensive plans and state coastal zone management plans)
- Local zoning
- Property ownership, leasing, and other property agreements
- Local/regional development plans/programs that may contribute to cumulative effects
- Installation Master Plans

3.3 Aesthetics and Visual Resources

Information in this section should describe, as appropriate:

- Landscape character
- Unique natural and man-made features of the landscape
- Location of public lands, Federally protected areas, and other visually sensitive areas
- Local plans and policies regulating visual resources

3.4 Air Quality

The following air quality factors in the project area should be described, as appropriate:

- Ambient air quality conditions
- Existing air emission sources
- Air pollution source permits
- Federal and state air pollution control regulations and standards
- Criteria for attainment/nonattainment areas and current status of installation
- Sensitive receptors on and off the project area
- Compliance with Federal and State Implementation Plans
- Basis of air conformity determination or Record of Non-Applicability (RONA)
- Local or regional meteorological conditions, as they relate to pollutant dispersion (e.g., wind speed, wind direction, and mixing height).

3.5 Noise

Information in this section should describe the following, as appropriate:

- Stationary noise sources (e.g., airfield operations, ordnance demolition, firing ranges, maintenance facilities, and construction)
- Mobile noise sources (e.g., vehicular traffic and aircraft)
- Sensitive receptors on and off the area
- Noise monitoring results
- Federal, state, and local noise standards
- Land use compatibility

3.6 Geology and Soils

Information in this section should describe the following, as appropriate:

- Topographic conditions
- Geologic bedrock types and any unique concerns (e.g., subsidence)
- Seismic conditions and fault features
- Soil types and any unique concerns (e.g., potential for erosion)
- Prime and unique farmlands
- Mineral resources and mineral rights

3.7 Water Resources

This section should describe the following for surface water and groundwater conditions, as appropriate:

- Hydrology
- Water quality
- Point and non-point sources of pollution
- Floodplain areas for 100- and 500-year floods
- Water resource districts and other water rights

3.8 Biological Resources

This section should include appropriate information on local fauna, flora, and habitats, including:

- Species commonly found in the project area
- Occurrence of sensitive species (Federally or state listed threatened, endangered, or candidate species; and rare or unique species) on or in the vicinity of the project area
- Aquatic and terrestrial ecosystem types (e.g., forests, wetlands, and fields) found in the project area and their regional importance (if any)
- Special habitat areas (e.g., used by nesting or overwintering species)
- Vegetation and wildlife management plans and practices (e.g., wildlife suppression)
- Coordination with the appropriate state office for environmental resources and US Fish and Wildlife Service.

3.9 Cultural Resources

This section should provide a brief discussion of the area's prehistory and a summary of the status of the cultural resources inventory for the project area, including the following:

- Sites, buildings, and other structures of historical significance, including significant prehistoric sites and those from the Cold War era
- Resources eligible for listing on the National Register of Historic Places
- Archeological resources
- Paleontological resources
- Coordination with the appropriate State Historic Preservation Officer
- Government-to-Government coordination with Native American tribes as appropriate
- Programmatic agreements with the state.

3.10 Human Health and Safety

(Refer to the system specific Health Hazard Assessment or the Safety Assessment Report, where appropriate to minimize duplication of effort.) Information in this section should describe, as appropriate:

- Public and occupational health and safety
- Exposures to toxic, hazardous, and radioactive materials and wastes
- Hazardous areas containing unexploded ordnance
- Explosive safety quantity distances and other ordnance-related safety zones
- Aviation safety
- Safety Standard Operating Procedures
- Abnormally high incidence of diseases and birth defects in the local population
- Protection of children

3.11 Socioeconomics

To describe baseline sociologic and economic conditions, the following elements should be discussed, as appropriate:

- Demographics
- Regional employment and economic activity
- Area salaries and local expenditures
- Housing
- Schools
- Medical facilities
- Shops and services
- Recreation facilities
- Environmental justice
- Executive Order 13045 (Protection of Children)

3.12 Infrastructure

This section describes both utilities and transportation elements associated with the affected location. Specific utilities that normally should be described, including both supply capacities and available capacities, are as follows:

- Potable water supply
- Wastewater treatment
- Solid waste disposal, including use of landfills and/or incinerators
- Energy sources, including electrical power, natural gas, fuel oil, coal, and/or stream generation

Applicable transportation information that normally should be described includes the following:

- Roadways and traffic on and off the project area(s)
- Rail access and service to the area(s)
- Air operations at the area(s) and associated airspace use

3.13 Hazardous and Toxic Materials/Wastes

Information in this section should describe the following, as appropriate:

- Storage and handling areas
- Waste disposal methods and sites
- Installation Restoration Program
- Materials and wastes present, including asbestos, radon, lead paint, polychlorinated biphenyls (PCBs), and radioisotopes
- Ordnance use and disposal
- Above ground and underground storage tanks
- Pollution prevention programs and plans

Section 4.0: Environmental Consequences

This section forms the scientific and analytic basis for the comparison of alternatives. It identifies the direct, indirect, and cumulative effects of the proposed action and alternatives (presented in Section 2.0 of this EA outline) on each of the resource areas previously described in the Affected Environment section. Both beneficial and adverse effects are to be described. If no effects are identified for a particular resource area, that fact should be mentioned. When describing direct and indirect effects, it is not necessary to separate one from the other. Cumulative effects, however, are best broken out in a separate discussion covering all of the applicable resources, near the end of the Environmental Consequences section. Further guidance on identifying and describing potential effects is provided in Section 3.11 of this Manual.

Along with describing the effects, measures planned to mitigate adverse effects (e.g., minimizing vehicular traffic to prevent accelerated erosion during missile debris recovery, fencing around radar and launch areas to protect wildlife) and the likely results of their implementation should be discussed in the same section that describes the adverse effects. Agency consultation results that were instrumental in resolving impact and mitigation issues (e.g., in preserving endangered species habitat or historic sites) should be discussed and referenced. (Further discussions on identifying mitigation measures and monitoring their effectiveness are presented in CFR Part 651.15.) In addition, any Federal permits, licenses, and other entitlements that would be necessary to implement the proposal should be identified, where applicable.

The basic organization for most of Section 4.0 is presented in the following sample outline for land use and for aesthetics and visual resources. Each resource section from the Affected Environment (cultural resources, noise, water resources, etc.) should be numbered separately, and the resource sequence should correspond to the sequence used in the Affected Environment section of the EA. Under each resource, separate subsections are used to present effects discussions for the proposed action and each individual alternative, including the no action alternative, described in Section 2.0 of this EA outline. When evaluating the No-Action Alternative, it is important to remember that adverse effects sometimes do occur under this alternative.

4.1 Land Use

4.1.1 Effects of the Proposed Action

4.1.2 Effects of Alternative(s) to the Proposed Action

4.1.3 Effects of the No Action Alternative

4.2 Aesthetics and Visual Resources

4.2.1 Effects of the Proposed Action

4.2.2 Effects of Alternative(s) to the Proposed Action

4.2.3 Effects of the No Action Alternative

4.3 - 4.12 (for each of the remaining resources to be included, use the same format as above.

4.13 Cumulative Effects

This section discusses the relevant cumulative effects on those resources affected by the proposed action and alternatives. Refer to Section 7.8 of this Manual for further discussions on cumulative effects.

4.14 Comparison of the Environmental Consequences of the Alternatives

The purpose of this section is to compare and contrast the environmental effects of the alternatives. To help in this comparison, this section should contain a summary matrix that lists the overall effects for each of the alternatives. Two different example formats for matrices are presented in Figures 5-4 and 5-5. When the first format is used, the information should be as quantifiable as possible. If the second format is used, in which levels of effects are represented using qualifiers in the form of symbols, it is very important that such qualifiers be carefully explained and interpreted on the matrix or within the text of this section.

When multiple alternatives are considered, each one should be analyzed and discussed in a separate subsection under each resource area.

Section 5.0: Conclusions

The Conclusions section should provide a clear, substantive statement regarding the insignificance (or significance) of the effects identified for each of the alternatives analyzed in Section 4.0.

Section 6.0: Agencies and Individuals Consulted

This section should list the names and agencies or organizations (if any) of individuals who were contacted for data and information used in support of the analysis and preparation of the EA, whether or not a response was received. Normally, only those individuals outside the proponent's office are listed here.

Section 7.0: References

The References section should provide bibliographical information for sources cited in the text of the EA. Draft documents should be cited only if the documents have attained relatively high review or approval within the issuing organization. Normally, only those references that are reasonably obtainable by the public are to be cited.

Section 8.0: List of Preparers

The format for listing the preparers is explained in CFR Part 651, Appendix E. The preparers selected should be diverse enough to ensure a multidisciplinary approach to the environmental and socioeconomic analysis.

Appendices

Use appendices to support the content and conclusions contained in the main body of the EA, when necessary. Types of appendices usually included in an EA are:

- Supporting technical data and methodologies (e.g., air emissions monitoring data, archeological survey results, and unique socioeconomic modeling applications)
- Official communications to and from outside agencies (e.g., US Fish and Wildlife Service and State Historic Preservation Officer) that pertain to environmentally sensitive resources, cultural resources, and related issues.

Resource Area	Alternatives		
	No Action	Proposed Action	Alternative Action
Noise	Average sound levels are within the guidelines established for land use compatibility: Ldnmr of 46 dB and 0.7 daily noise events above 65 dB.	Average sound levels are within the guidelines established for land use compatibility: Ldnmr of 49 dB and 0.6 daily noise events above 65 dB.	Average sound levels are within the guidelines established for land use compatibility: Ldnmr of 48 dB and 0.6 daily noise events above 65 dB.
Biological Resources	No ground breaking activities; therefore potential impacts on vegetation and wildlife would be negligible. No threatened or endangered species known to inhabit the area.	Same as No Action.	Same as No Action.
Cultural Resources	No known National Register sites; 13 eligible sites currently exposed to low-altitude overflights.	No known National Register sites; 13 eligible sites in ROI; negligible increase in probability of adverse impacts.	Same as Proposed Action.
Air Quality	Area in attainment for all NAAQS except for localized exceedance of PM ₁₀ .	No effect on compliance with national standards.	No effect on compliance with national standards.
Water Resources	No change to water quality.	Same as No Action.	Same as No Action.
Hazardous & Toxic Materials/Wastes	Mishap potential would remain very low. Therefore, the risk of hazardous materials contamination would be very low.	Mishap potential would increase over No Action; however, the risk of hazardous materials contamination would still be low.	Same as Proposed Action.

Figure 5-4. Sample of an Alternatives Comparison Matrix

	No Action	Alternative 1	Alternative 2	Alternative 3
Land Use				
Aesthetic and Visual Resources				
Air Quality				
Noise				
Water Resources				
Geology and Soils				
Infrastructure				
Hazardous and Toxic Materials/Wastes				
Biological Resources				
Cultural Resources				

	No Effect
	Beneficial Effect
	Minor Adverse Effect
	Major Adverse Effect
	Long-Term Effect

Figure 5-5. Sample of an Alternatives Comparison Matrix Using Symbols

5.5 ALTERNATIVE FORMATS FOR AN EA

In addition to the standard EA format presented in Section 5.4 (referred to as Format 1), an alternative format is available for use in Army EAs. This second format (referred to as Format 2) combines the description of the affected environment and the analysis of environmental consequences into one section. Traditionally, these discussions have been separated into Sections 3.0 (Affected Environment) and 4.0 (Environmental Consequences), as under Format 1. Although these two particular sections are combined in Format 2, the overall content of the EA is the same.

Table 5-2 provides a sample outline for Section 4.0 using Format 2. This outline shows how the affected environment and environmental consequences for a given resource area are presented together, with the description of the existing conditions followed immediately by an analysis of potential effects. Format 2 is particularly useful when applied to EAs that are exceptionally long or that address multiple locations. Army proponents should consider the applicability of Format 2 when determining the best approach for organizing their EAs.

Table 5-2. Sample Outline Using Format 2

4.0	Environmental Conditions and Consequences
4.1	Location Description
4.2	Land Use
4.2.1	Affected Environment
4.2.2	Environmental Consequences
4.2.2.1	Effects of the Proposed Action
4.2.2.2	Effects of Alternative(s) to the Proposed Action
4.2.2.3	Effects of the No Action Alternative
4.3	Aesthetics and Visual Resources
4.3.1	Affected Environment
4.3.2	Environmental Consequences
4.3.2.1	Effects of the Proposed Action
4.3.2.2	Effects of Alternative(s) to the Proposed Action
4.3.2.3	Effects of the No Action Alternative
4.4	Etc.

5.6 FINDING OF NO SIGNIFICANT IMPACT

The FNSI is a separate, brief, formal document (usually no more than two or three pages) that presents the reasons why the proposed action would not significantly affect the human environment. It documents the decision that an EIS is not required. A sample format for a FNSI is presented as Appendix A to this manual.

As a minimum, the FNSI provides the following information:

- Summary of the EA, or have the EA attached if it is brief
- Listing of other relevant environmental documents that are being or have been prepared which assisted in the decision-making process

- Complete name of the action
- Description of the decision and the reason(s) why the proposed action will not significantly affect the environment
- Short discussion of anticipated environmental effects
- Summary of mitigation commitments, if any
- Clearly state that an EIS will not be prepared
- References to any other documents that assisted in making the decision
- Deadline and Point of Contact (POC) for further information or receipt of public comments

The approval and signature authority for FNSIs is the appropriate decision-maker.

Unless exempted for security reasons, the draft FNSI and Final EA *must* be made available for a minimum 30-day public review period prior to making a final decision, and public notification must include a press release to publicize the availability of the document. If the action is of national significance, HQDA must make a simultaneous announcement that includes publication in the *Federal Register*.

The Final EA and Final FNSI must reflect the decision made and the response to public comments, if any. Unless comments received convince the decision-maker that further analysis and documentation are required, the proposal may be initiated. Substantive public controversy on the environmental effects of the proposed action could suggest the need to prepare an EIS to resolve issues (see 40 CFR 1508.27(b)(4)).

If a FNSI cannot be supported by the analysis, the proponent may choose to modify or terminate the proposal or proceed to an EIS. If the proponent proposes to proceed to an EIS, the Project Office should contact the PEO or MACOM Commander to coordinate initiation of the EIS process.

Completed EAs and FNSIs and supporting administrative records must be retained by the proponent's office for a minimum of 6 years. Electronic copies of final EAs will be forwarded through the chain of command to AEC and to the Defense Technical Information Center (DTIC) as part of their public distribution procedures. An electronic copy will also be provided to ACSIM Army Environmental Programs Division (DAIM-ISE).

5.7 MITIGATED EA/FNSI

A mitigated EA/FNSI may be produced when, during preparation of an EA, preparers begin to suspect that the action might cause significant environmental effects. If preparers can show that the potential effects can be reduced to less than-significant levels through the addition of appropriate mitigation measures, the mitigated EA/FNSI may be completed and an EIS need not be prepared. Preparation of a mitigated EA/FNSI typically requires less time and money than preparation of an EIS. For a mitigated EA/FNSI to be considered legally adequate, however, the EA must show that a thorough analysis of environmental consequences was conducted, that the

mitigation measures on which the EA/FNSI is based are specific and project related, and that the measures will reduce the projected effects to less-than-significant levels. For a proponent to demonstrate convincingly that it is fully committed to implementing such mitigation measures with its proposal, the measures should be incorporated as part of the proposed action and alternative descriptions in the early sections of the EA, and should also be referred to or described in the accompanying FNSI. Those mitigation measures and best management practices to be implemented must be referenced or listed in the FNSI. Other "good to do but not required" measures may be discussed but it should be clear to the reader that they are not required for accomplishment. In addition, the mitigation measures to which a proponent committed within an EA must be included in project funding commitments and must be tracked to ensure implementation. Otherwise, there would not be adequate assurance that the mitigations would be performed and the FNSI may not be supportable. (Further discussion on mitigation measures and commitments to mitigation are provided in Section 7.9 of this Manual.) Per 32 CFR Part 651, failure to implement such mitigations could require the development of an EIS.

Appropriate public participation in the review of the Draft EA can help to ensure that all relevant issues have been addressed and that potential effects have been thoroughly evaluated for significance. This public review would usually be accomplished through the public review of the draft FNSI and EA. If a proponent cannot convincingly show in an EA that mitigation measures would reduce the effects to less-than-significant levels, the proponent should prepare an EIS.

CHAPTER 6.0

ENVIRONMENTAL IMPACT STATEMENT PREPARATION AND CONTENT

6.1 INTRODUCTION

The preparation and content of an EIS, to a certain extent, are similar to those of an EA. As stated in Chapter 5, many of the same environmental resource areas and methodologies that apply to the analysis and documentation for an EIS also apply to EAs. The EIS should focus on those aspects of actions deemed significant. The major difference between an EA and an EIS is that an EIS is more comprehensive, concentrating on significant issues, contains a greater level of detail than an EA, and involves greater public involvement and required review and waiting periods.

Much of the guidance that is applicable to an EA is repeated here as a “one-stop convenience” for users preparing EISs. This chapter is intended to guide Army proponents and document preparers through the EIS process by establishing consistency in the preparation of Army EISs. It provides the information needed to develop this type of analysis and document.

The EIS format that the Army uses is based on the CEQ regulations and guidance contained in 32 CFR Part 651. The CEQ regulations provide for a considerable degree of agency flexibility in the EIS analysis and documentation process. Although flexibility has allowed the Army to prepare or customize NEPA documents based on particular circumstances, over the years it has also resulted in the use of a variety of formats. Army participants in the NEPA process have indicated that a more structured format would greatly facilitate document preparation, training of new personnel, and, particularly, document review and approval.

6.2 EIS VERSUS EA

Although most Army proposed actions requiring detailed NEPA analysis result in the preparation of EAs, certain proposals require the Army to prepare an EIS. The EIS process is generally more formal and rigorous than that for an EA. The EIS process also entails more formal coordination and more extensive public involvement. Table 6-1 lists major differences between EAs and EISs prepared by the Army.

6.3 EIS TIME LINE

Depending on the complexity of the proposed action, the time required to complete and process an EIS can range from 12 to 24 months or more.⁵ Army policy is for proponents to establish a schedule that ensures that the document is completed in a timely and cost-effective manner. A schedule for an approximate 17-month time frame is provided in Table 6-2 as an example of how the EIS process is organized. This time line assumes that there is no need for prolonged or extraordinary research or special studies. The milestone events indicated must occur regardless of the schedule. Several factors can cause a NEPA document schedule to change dramatically, including slippage in review times, additional review cycles, lack of available baseline data, and changes in elements of the DOPAA. The USAEC goal is to complete an EIS, with ROD signature, in 12 months of initiation. Again, this is a goal and there is a need to be flexible in required time.

⁵A focused assessment of an uncomplicated action involving few issues or resources can sometimes be completed more quickly. However, the review and approval process can significantly influence the actual time line. In addition, the time period for certain stages of the EIS process cannot be reduced because of mandatory time requirements (e.g., minimum 45 day public comment period for the DEIS).

Table 6-1. Major Differences Between an EA and an EIS

EA	EIS
<ul style="list-style-type: none"> • Process usually begins independently without formal public notification. • Public Affairs Plan is not required. • Public scoping is not required, but encouraged. • Public notices are typically published only in local papers, unless of national interest. • Public review and comment on Draft EA is not required, but encouraged. • Usually does not require HQDA review and approval, unless of national interest. • EAs are not required to be submitted to EPA or CEQ. • Generally less detailed, less complex, and, therefore, less time-consuming. • 30-day (minimum) public review period for the Final EA/draft FNSI or with the publication of an NOI. • Process complete with finalized/signed FNSI 	<ul style="list-style-type: none"> • Process officially begins with an NOI published in the <i>Federal Register</i>. • Public Affairs Plan strongly recommended. • Public scoping is required and typically includes holding a public scoping meeting(s), as well as continuing public participation and dialog. • NOAs are published in the <i>Federal Register</i>, in addition to public notices in local newspapers. • A 45-day (minimum) public comment or review period for DEISs is required and typically includes a public meeting(s) or hearing(s). • Requires HQDA and AAE review and approval. • Both DEISs and FEISs must be submitted to EPA and CEQ for review and filing. • Generally more detailed, more complex, and more comprehensive; involves a more time-consuming process. • Process concludes with a ROD following a 30-day (minimum) waiting period for FEIS.

Publication of the NOI (see Subsection 6.4) in the *Federal Register* initiates the public scoping period, which is typically 30 to 90 days. During the scoping period, a scoping meeting(s), to which agencies and the general public are invited to learn more about the Army's proposal and to express their views on the process and on issues to be addressed, should be held. After such meetings are initiated, public participation and input should be encouraged throughout the analysis and document preparation.

The Coordinating DEIS and Coordinating FEIS both require an approximate 30-day review at PEO and/or MACOM level. The Preliminary DEIS and Preliminary FEIS are then sent to HQDA for review and comment. Approximately 30 to 40 days is needed for each of these HQDA reviews. The DEIS and FEIS are later forwarded to HQDA for final review prior to their release to the public. The amount of time required by HQDA to concur with each of these documents can vary from several days to several weeks.

The DEIS must be made available for no less than a 45-day public comment period, during which time at least one public hearing should be held. A NOA published in the *Federal Register* and similar notices published in local newspapers initiates the comment period. With the release of the FEIS, a 30-day (minimum) public review period is required before the ROD can be signed and made available to the public. Following the signed approval and publication of the ROD in the *Federal Register*, the action may begin. The NOA package requires review of HQDA and approval at the Secretariat level.

Table 6-2. Sample Time Line for an EIS

Milestone	Calendar Days From Initiation
Initiate Project	0
Hold Kickoff Meeting	10
Complete Public Affairs Plan	25
Complete Draft Description of Proposed Action and Alternatives	35
Publish NOI in Federal Register. Begin Public Scoping Period	60
Hold Public Scoping Meeting(s)	75
Complete Initial Coordination/Consultation with Appropriate Outside Agencies (Federal/State/Local)	80
End Public Scoping Period	90
Complete Coordinating DEIS/Begin Staffing within Project Office and MACOM	150
Complete Staffing of Coordinating DEIS	180
Complete Preliminary DEIS/Begin Staffing within HQDA	200
Complete Staffing and Approval of Preliminary DEIS with HQDA	240
Publish and Distribute DEIA to EPA and Public	260
Publish NOA for DEIS in Federal Register/Begin Public Comment Period	267
Hold Public Meeting(s)	290
End 45-day Public Comment Period	312
Complete Coordinating FEIS/Begin Staffing within Project Office and MACOM	365
Complete Staffing of Coordinating FEIS	395
Complete Preliminary FEIS/Begin Staffing within HQDA	410
Complete Staffing and Approval of Preliminary FEIS with HQDA	440
Publish and Distribute FEIS to EPA and Public	460
Publish NOA for the FEIS in Federal Register/Begin Public Review Period	497
Sign ROD/Issue Public Notices/Initiate Action	498

6.4 NOTICE OF INTENT

An NOI is prepared after the decision to prepare an EIS has been made, and the proposed action and the alternatives to be considered have been reasonably well defined. The NOI is published in the *Federal Register* (and in local newspapers in areas potentially affected by the proposed action) to formally announce the preparation of an EIS on a proposed action, and to solicit comments from the public as part of scoping. Alternatives to the proposed action will be developed/refined in response to public comment obtained through the scoping process. The required contents of an NOI specified in the CEQ regulations (40 CFR 1508.22) are as follows:

- A brief description of the proposed action and alternatives. The purpose and need statement should also be included.
- A brief description of the Army's scoping process, including the time, date, and location of any scoping meeting(s) planned, as well as an address to which comments may be mailed and/or sent electronically.
- The name and address of the point of contact within the Army who can address questions on the proposal and the EIS process. (It is recommended that a phone number and email address for the point of contact also be included.)

32 CFR Part 651.45 (2) requires the preparation of an NOI transmittal package composed of: the NOI, a press release, information to members of Congress, memorandum for correspondents, and questions and answers (Q&A) package. The proponent forwards the NOI and transmittal package to the appropriate HQDA (ARSTAF) proponent for coordination and staffing before publication. Secretariat level approval is required prior to publication of the NOI in the *Federal Register*.

The NOI should also include information on the availability of project-related documents or supporting information on the proposal that the public can view. Such documents can be placed in a community library or other easily accessible Government office, preferably one that is open beyond normal work hours. Some readers of an NOI might not be familiar with the proposed action or the project location. It is therefore prudent to include sufficient background information in the NOI to help readers to understand what the proposal is about and why it is needed. Giving readers sufficient information minimizes confusion and helps to generate more meaningful comments. If for some reason work on an EIS stops or is postponed indefinitely, a cancellation notice must be published in the *Federal Register*. The cancellation notice refers to the original NOI and gives the rationale for ceasing work.

6.5 DOCUMENT DEVELOPMENT

To develop an EIS successfully, the proponent must have a basic understanding of the major components of the document. 32 CFR Part 651 identifies 11 required components of an EIS: (1) cover sheet, (2) summary, (3) table of contents, (4) purpose of and need for the action, (5) alternatives considered, including the proposed action and no action alternative, (6) affected environment (baseline conditions) that may be impacted, (7) environmental and socioeconomic consequences, (8) list of preparers, (9) distribution list, (10) index, and (11) appendices.

The EIS should be well focused in each of its major components or sections. Writing style should

be such that the document attains clarity, brevity, and legal sufficiency. Army preparers should follow the guidelines listed below:

- Develop and follow an outline.
- Write clearly, concisely, and accurately.
- Provide only relevant information.
- Be consistent across all sections of the document.
- Review by technical editor.

Preparers need to determine the most effective way to organize the EIS. In most cases, it may be best to organize the material sequentially. In other cases, however, it may be more effective to discuss the proposed action and alternatives as a single section, as is illustrated in Subsection 6.6. It may be advantageous to combine sections in some other way, if doing so contributes to clarity or reduces unnecessary repetition.

EISs should be presented as clearly and concisely as possible. Since the audience is often not technically versed in all subject areas, the document should be written in plain language. In addition, appropriate figures and graphics that support the text and that can be easily interpreted by the public should be provided. Appendices should be included to support the main components of the EIS, as appropriate. Whenever possible, technical editors should review the document to ensure accuracy, consistency, and readability. Army policy requires that EISs be prepared on recycled paper. The recycled paper symbol should be presented on the inside of the document cover. In terms of document length, the text of the FEIS should not exceed 150 pages, although proposals of unusual scope or complexity can require up to 300 pages (32 CFR Part 651.43). To conserve paper, DEISs and FEISs should be printed double-sided.

6.6 CONTENT OF AN EIS

An outline for an Army EIS is provided in the following boxed text. It is suggested that this format be used in the development of Army EISs for acquisition activities. It is an interpretation, not a reinvention, of how Army and CEQ NEPA regulations are to be implemented. For most sections of an EIS, the content is generally the same (though more detailed) as that in an EA (see Section 5.4). If an EA preceded the EIS, much of the EA discussion can be summarized in the EIS, or “incorporated by reference”. The EIS should focus on aspects of actions considered significant. The major difference between the two documents is that an EIS is more comprehensive, focused on significant issues, and contains a greater level of detail than is provided by an EA. In addition, the Army does not use Format 2 (see Section 5.5) for EISs (32 CFR Part 651.43 and 32 CFR Part 651 Appendix E). Preparers should consult other sections of this manual for detailed guidance on the application of NEPA to specific types of actions and on the treatment of certain “*high-visibility*” topics and resource areas. The information presented in this section is not intended to be all-inclusive. Ultimately, it is the proponent's responsibility to identify, analyze, and document all relevant issues and effects associated with the proposed action and alternatives.

Preparers should review 32 CFR Part 651 Appendix E for EIS content as well as the following pages of this section. Ultimately, the extent of detail provided depends on the specific proposed action.

Format and Content of an Army EIS

Cover

The document cover should contain the name of the project, the month and year of the document (updated as each version is prepared), and the Army, MACOM, or program office logo, as appropriate. It is helpful to use different colors for the covers of different versions of the EIS (e.g., gray for preliminary draft, beige for draft, and green for final). The cover should be of a heavier paper stock than the text pages.

Inside of Cover

The inside of the document cover should provide an outline of the document's major sections. This item is not required but is recommended as a quick reference to sections for the reader.

Lead Agency Page and Related Pages

These are usually the first one or two pages of the document. They introduce the EIS and present important information about the document, including lead agency; cooperating agencies (if any); name and location(s) of the action; an abstract describing the proposed action and alternatives, and identifying the issues and resources analyzed in the document; points of contact for further information; and information on the availability of the document and any formal comment or review periods (40 CFR 1502.1). Organized the same way for an EA and an EIS, these pages also include the name, title, and office name, for each key person responsible for preparing, reviewing, and approving the document. For final documents, signature lines are added for these individuals on the same page or as a separate page. Figures 6-1, 6-2, and 6-3 show examples of lead agency, signature, and documentation pages.

LEAD AGENCY: US Army Space and Strategic Defense Command

COOPERATING AGENCY: Missile Defense Agency

TITLE OF THE PROPOSED ACTIONS: Provide additional test range facilities and support services at US Army Kwajalein Atoll (USAKA) in support of the Missile Defense Act of 1991 and adopt environmental standards and procedures that are appropriate to the unique environment and special circumstances at USAKA.

AFFECTED JURISDICTION: US Army Kwajalein Atoll, Republic of the Marshall Islands

ADDITIONAL INFORMATION: US Army Space and Strategic Defense Commander
SMDC-EN-V (Dr. Silas Casey)
P.O. Box 1500
Huntsville, Alabama 35807

PROPONENT: Albert S. Johnston
Colonel
Commander
US Army Kwajalein Atoll

APPROVED BY:
Benjamin J. Prentiss
Lieutenant General
Commander
US Army Space and
Strategic Defense Organization

Daniel D. Ruggles
Lieutenant General
Director
Missile Defense Agency

DOCUMENT DESIGNATION: Final Supplemental Environmental Impact Statement (SEIS)

ABSTRACT: Two Proposed Actions are examined. The purpose of the first is to provide additional testing facilities and support services at USAKA in support of the Missile Defense Act of 1991. The purpose of the second Proposed Action is to adopt environmental standards and procedures that are appropriate to the unique environment at USAKA and the special relationship between the US and the Republic of the Marshall Islands, in accordance with the Compact of Free Association.

Figure 6-1. Example of a Lead Agency Page for an EIS

Summary

The Summary should highlight the major **conclusions** of the environmental analysis and identify unresolved or controversial issues. The Summary should outline any mitigation measures that are required to mitigate the action. New data should not be mentioned in the Summary; only data and key findings covered in the EIS should be summarized.

The Summary should be succinct (usually no more than 15 pages in length) and typically contain the following sections:

- **Introduction.** A brief overview of the proposed action, the locations proposed for the action, a history of events leading up to the proposed action, and the general scope of the EIS is provided.
- **Purpose and Need.** The purpose of and need for the proposed action are described.
- **Proposed Action.** Key components of the proposed action are highlighted, including both construction and operational phases, if applicable.
- **Alternatives.** Each of the alternatives analyzed is briefly described. In addition, the preferred alternative (if known) should be presented with a brief description of why that course of action is preferred.
- **Environmental Consequences.** A summary of the key findings of the environmental analysis presented in the EIS, including any controversial issues, is provided. The main effects of each alternative analyzed should be described (e.g., effects on socioeconomics, air quality, infrastructure, etc.). This section should also compare and contrast the effects of the various alternatives. To help in this comparison, a summary matrix that shows the overall effects for each of the alternatives should be included. Two different example formats for matrices are presented in Figure 5-4 and 5-5. When the first format is used, the information should be as quantifiable as possible. If the second matrix is used, in which impact levels are represented using qualifiers in the form of symbols, it is very important that such qualifiers be carefully explained and interpreted on the matrix or within the text of this section.

The pages of the Summary should be numbered S-1, S-2, and so forth. Depending on the overall length of the EIS, the Summary can be published as separate document for distribution to reviewers who do not require the entire EIS. When bound separately, it should have a formal cover, similar to that of the EIS, and should also include a copy of the lead agency page.

Table of Contents

The Table of Contents for an EIS should provide the section number and exact title of each document section (beginning with the Table of Contents itself through to the very end of the document), along with its corresponding page number. The List of Appendices, List of Tables, and List of Figures should be identified as separate sections in the Table of Contents. Anything in the document that precedes the Table of Contents (e.g., Summary) should not be included.

**ENVIRONMENTAL IMPACT
STATEMENT
FOR PROPOSED TEST RANGE ACTIVITIES AT THE UNITED STATES
ARMY KWAJALEIN ATOLL**

Reviewed by:

Albert S. Johnston
Colonel
Commander

Approved by:

Benjamin I Prentiss Lieutenant General Commander US Army Space and Strategic Defense Command	Daniel D. Ruggles Lieutenant General Director Missile Defense Agency
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Figure 6-2. Example of a Signature Page for an EIS

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
<p>The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Service Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.</p> <p>PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION.</p>					
1. REPORT DATE (DD-MM-YYYY) 05-01-1994		2. REPORT TYPE		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Theater Missile Defense Extended Test Range Draft Environmental Impact Statement			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) TMDETRDEIS Team Mr. Dennis R. Gallien, Chairman			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Space and Strategic Defense Command P.O. Box 1500 Huntsville, Alabama 35807-3801			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) Ballistic Missile Defense Organization The Pentagon, Room 1E180 Washington, DC 20301-7100			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION/AVAILABILITY STATEMENT On Request; Distribution F					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT The proposed action is to conduct extended range tests of target missile, defensive missiles, and sensor systems at one or more of four alternative test range areas. The tests would involve target and defensive missile launches from existing test ranges and from off-range locations. Potential off-range launch locations may include land areas and sea-based platforms. Missile-to-missile intercepts would occur existing test range areas or over open sea areas. Approximately 100 flight tests could occur during the period 1994 to 2000, from more than one off-range location, and potentially from more than one test range area. Alternative locations for conducting these missile flight tests and intercepts, which are evaluated in the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement, are White Sands Missile Range, New Mexico; Eglin Air Force Base, Florida; Western Range, California; and Kwajalein Missile Range, U.S. Army Kwajalein Atoll, Republic of the Marshall Islands.					
15. SUBJECT TERMS Draft Environmental Impact Statement, Theater Missile Defense Extended Test Range					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Unclassified	18. NUMBER OF PAGES 992	19a. NAME OF RESPONSIBLE PERSON Mr. Dennis R. Gallien
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER (Include area code) (205) 955-3887

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Figure 6-3. Example of a Documentation Page

Section 1.0: Purpose of and Need for the Proposed Action

1.1 Introduction

This section briefly identifies the proposed action, the responsible agency(ies) involved, and a history of events leading up to the proposed action. It also identifies the regulations implementing NEPA under which the document has been prepared.

1.2 Purpose and Need

This section provides a clear statement that enables the reader to understand why the specific proposal is needed. Specific requirements in developing the purpose and need statement are discussed in Subsection 3.5 of this Manual. It is also useful to include here, or as a separate section, a statement that identifies what decision(s) is to be made regarding the proposal.

1.3 Scope and Content of the Document

This section provides a brief overview of the actions, alternatives, and sites analyzed in the EIS, along with identifying the resources that were evaluated.

1.4 Decision(s) to be Made

The decision(s) to be made regarding the proposal should be succinctly identified, along with the decision-making authority and responsible official. If not included as a separate section in an EIS, then this discussion should be provided elsewhere, such as in the Purpose and Need section.

1.5 Public Participation

For the DEIS, this section should identify the public involvement activities that have occurred (scoping period, meetings, newsletters, etc.) and are planned (e.g., review and comment on the DEIS, followed by release of the FEIS). It should also summarize the key issues identified during scoping. For the FEIS, a summary of all of the public involvement that has occurred should be included. In addition, this section should briefly summarize the issues identified and provide answers to comments received on the DEIS.

1.6 Related National Environmental Policy Act Reviews

This section should identify any existing or in-process NEPA documents related to the proposal or location(s) analyzed in the EIS, and briefly summarize how they are related to the proposed action.

Section 2.0: Description of the Proposed Action and Alternatives

2.1 Proposed Action

This section provides a description of the proposed action. It should include such details as location considerations, numbers of personnel involved, and program requirements. No program cost information should be included. The information presented in this section of the EIS drives the identification of relevant issues and conditions arising from the activities that make up the proposed action, thus generating the effects that must be identified and evaluated. Information must be accurate, concise, comprehensive, and sufficiently detailed to permit a complete and objective analysis.

2.2 Alternatives Considered

This section describes how the alternative actions and/or alternative sites were identified, including the application of selection or screening criteria, and lists the reasonable alternatives that were considered for further evaluation, including the No-Action Alternative. Further information on identifying and describing alternatives is provided in Subsection 3.8 of this Manual.

In this section, each alternative to the proposed action, including the preferred alternative (if known), should be identified and described under separate subsection numbers (i.e., Sections 2.2.1, 2.2.2, etc., depending on the number of alternatives to be analyzed). It is a requirement that the preferred alternative be identified in the FEIS unless another law prohibits the expression of such a preference (40 CFR1502.14(e)).

In cases where the proposed action described in Section 2.0 itself represents a fully developed alternative (typically the preferred alternative), the type of information presented in Section 2.2 for each alternative action should be similar in detail. If the information describing the proposed action in Section 2.1 is to serve as a general foundation from which there is more than one alternative means for its implementation (e.g., alternative locations to construct and operate a new facility), the alternative descriptions presented here should build on that earlier information by providing more specific, unique details on how and where each alternative action is to be implemented. For further information on this approach and in describing alternatives, see Subsections 3.6 and 3.7 of this Manual.

2.2.1 Alternative A

2.2.2 Alternative B

2.2.3 Alternative C

2.2.4 No-Action Alternative (as described in Subsection 3.8 of this Manual)

2.2.5 Alternatives Eliminated from Further Consideration (as described in Subsection 3.8 of this Manual).

2.3 Comparison of the Environmental Consequences of the Proposed Action and Alternatives

2.4 Mitigation Measures and Monitoring Procedures

2.5 Preferred Alternative

Section 3.0: Affected Environment

The Affected Environment section of an EIS contains a description of the current environmental conditions of the area(s) that would be affected if the proposed action (or alternative) were implemented. It represents the “as is” or “before the action” conditions (sometimes referred to as “baseline conditions”) at the activity area(s) or other locations.

Only those environmental resources and resource parameters that could potentially be affected by the action, or that are of public concern, should be included in the Affected Environment description and analyzed under Environmental Consequences (Section 4.0 of this EIS outline). In addition, the level of detail to be applied to each particular resource area should be commensurate with the level of importance and concern for that resource and the issues it presents. If a particular resource is to be excluded from discussion altogether, an explanation for why it was excluded (e.g., it was not affected by the proposed action or alternatives, or it is covered by prior NEPA reviews) should be provided in the introduction to this section. [See 40 CFR1501.7(a)(3) for further discussion on this topic.]

Further guidance on describing the Affected Environment is provided in Chapter 3 of this Manual.

3.1 Location Description

The purpose of this section is to provide a general overview of the affected site's environmental setting. The types of information that should be briefly described are as follows:

- Geographic setting of the affected area(s)
- Ongoing mission(s) and or primary activities in the area(s)
- General landscape of the area
- General climatic conditions

3.2 Land Use

The following landscape and land use conditions should describe, as appropriate:

- Land use/land cover within the area(s) and surrounding area
- Building function and general architecture, as appropriate
- Relevant location of local communities
- Land use management plans (e.g., local Government comprehensive plans and state coastal zone management plans)
 - Local zoning
 - Property ownership, leasing, and other property agreements
 - Local/regional development plans/programs that may contribute to cumulative effects
- Installation Master Plans

3.3 Aesthetics and Visual Resources

Information in this section should describe, as appropriate:

- Landscape character
- Unique natural and man-made features of the landscape
- Location of public lands, Federally protected areas, and other visually sensitive areas
- Local plans and policies regulating visual resources

3.4 Air Quality

The following air quality factors in the project area should be described, as appropriate:

- Ambient air quality conditions
- Existing air emission sources
- Air pollution source permits
- Federal and state air pollution control regulations and standards
- Criteria for attainment/non-attainment areas
- Sensitive receptors on and off the project area
- Compliance with Federal and State Implementation Plans
- Basis of air conformity determination or Record of Non-Applicability (RONA)
- Local or regional meteorological conditions, as they relate to pollutant dispersion (e.g., wind speed, wind direction, and mixing height)

3.5 Noise

Information in this section should describe the following, as appropriate:

- Stationary noise sources (e.g., airfield operations, ordnance demolition, firing ranges, maintenance facilities, and construction)
- Mobile noise sources (e.g., vehicular traffic and aircraft)
- Sensitive receptors on and off the area
- Noise monitoring results
- Federal, state and local standards
- Land use compatibility for specific discussions on identifying noise zones

3.6 Geology and Soils

Information in this section should describe the following, as appropriate:

- Topographic conditions
- Geologic bedrock types and any unique concerns (e.g., subsidence)
- Seismic conditions and fault features
- Soil types and any unique concerns (e.g., potential for erosion)
- Prime and unique farmlands
- Mineral resources and mineral rights

3.7 Water Resources

This section should describe the following for surface water and groundwater conditions, as appropriate:

- Hydrology
- Quality
- Point and nonpoint sources of pollution
- Floodplain areas for 100 and 500-year floods
- Water resource districts and other water rights

3.8 Biological Resources

This section should include appropriate information on local fauna, flora, and habitats, including:

- Species commonly found in the area
- Occurrence of sensitive species (Federally or state listed threatened, endangered, or candidate species; and rare or unique species) on or in the vicinity of the project area
- Aquatic and terrestrial ecosystem types (e.g., forests, wetlands, and fields) found in the project area and their regional importance (if any)
- Special habitat areas (e.g., used by nesting or over-wintering species)
- Vegetation and wildlife management plans and practices (e.g., wildfire suppression)
- Coordination with the appropriate state office for environmental resources and US Fish and Wildlife Service.

3.9 Cultural Resources

This section should provide a brief discussion of the area's prehistory and a summary of the status of the cultural resources inventory for the project area, including the following:

- Sites, buildings, and other structures of historical significance, including significant prehistoric sites and those from the Cold War era
- Resources eligible for listing on the National Register of Historic Places
- Archeological resources
- Paleontological resources
- Coordination with the appropriate State Historic Preservation Officer
- Programmatic agreements with the state

3.10 Human Health and Safety

Refer to the system specific Health Hazard Assessment or the Safety Assessment Report, where appropriate, to minimize duplication of effort. Information in this section should describe, as appropriate:

- Public and occupational health and safety
- Exposures to toxic, hazardous, and radioactive materials and wastes
- Hazardous areas containing unexploded ordnance
- Explosive safety quantity-distances and other ordnance-related safety zones
- Aviation safety
- Safety Standard Operating Procedures
- Abnormally high incidence of diseases and birth defects in the local population
- Protection of children

3.11 Socioeconomics

To describe baseline sociological and economic conditions, the following elements should be discussed, as appropriate:

- Demographics
- Regional employment and economic activity
- Area salaries and local expenditures
- Housing
- Schools
- Medical facilities
- Shops and services
- Recreation facilities
- Environmental justice
- Protection of children

3.12 Infrastructure

This section describes both utilities and transportation elements associated with the affected location. Specific utilities that normally should be described, including both supply capacities and available capacities, are as follows:

- Potable water supply
- Wastewater treatment solid waste disposal, including use of landfills and/or incinerators
- Energy sources, including electrical power, natural gas, fuel oil, coal, and/or steam generation

Applicable transportation information that normally should be described includes the following:

- Roadways and traffic on and off the area(s)
- Rail access and service to the area(s)
- Air operations at the area(s) and associated airspace use

3.13 Hazardous and Toxic Materials/Wastes

Information in this section should describe the following, as appropriate:

- Storage and handling areas
- Waste disposal methods and sites
- Installation Restoration Program
- Materials and wastes present, including asbestos, radon, lead paint, Polychlorinated Biphenyls (PCBs), and radioisotopes
- Ordnance use and disposal
- Aboveground and underground storage tanks
- Pollution prevention programs and plans

Section 4.0: Environmental and Socioeconomic Consequences

This section forms the scientific and analytic basis for the comparison of alternatives. It identifies the direct, indirect, and cumulative effects of the proposed action and alternatives presented in Section 2.0 of this EIS outline on each of the resource areas previously described in the Affected Environment section. Both beneficial and adverse effects are to be described. If no effects are identified for a particular resource area, that fact should be mentioned. When describing direct and indirect effects, it is not necessary to separate one from the other. Cumulative effects, however, are best broken out in a separate discussion covering all of the applicable resources, near the end of the Environmental Consequences section. Further guidance on identifying and describing potential effects is provided in Subsection 3.12 of this Manual.

Along with describing the effects, measures proposed to mitigate adverse effects (e.g., management of military vehicular traffic to prevent accelerated erosion, maintenance of abandoned facilities, and fencing around unexploded ordnance areas) and the likely results of their implementation should be discussed (40 CFR 1502.16(h)) in the same section that describes the adverse effects. Agency consultation results that were instrumental in resolving impact and mitigation issues (e.g., in preserving endangered species habitat or historic sites) should be discussed and referenced (further discussions on identifying mitigation measures and monitoring their effectiveness are presented in Appendix C of 32 CFR Part 651). Regarding energy resources, and other natural and depletable resources, discussions on any conservation measures to be applied to the proposal should be included (40 CFR 1502.16(e) and (f)). In addition, any Federal permits, licenses, and other entitlements that would be necessary to implement the proposal must be identified where applicable (40 CFR 1502.25(1)). If there is uncertainty on whether a Federal permit, license, or other entitlement is necessary, the EIS should so indicate.

The basic organization for most of Section 4.0 is presented in the following sample outline for land use and for aesthetics and visual resources. Each resource section from the Affected Environment section (cultural resources, noise, water resources, etc.) should be numbered separately, and the resource sequence should correspond to the sequence in the Affected Environment section. Under each resource, separate subsections should be used to present impact discussions for the proposed action and each individual alternative, including the no action alternative, described in Sections 2.0 of this EIS outline. When evaluating the no action alternative, it is important to remember that impacts sometimes do occur under this alternative.

4.1 Land Use

4.1.1 Effects of the Proposed Action

4.1.2 Effects of Alternative(s) to the Proposed Action

4.1.3 Effects of the No-Action Alternative

4.2 Aesthetics and Visual Resources

4.2.1 Effects of the Proposed Action

4.2.2 Effects of Alternative(s) to the Proposed Action

4.2.3 Effects of the No Action Alternative

4.3 - 4.12 (for each of the remaining resources to be included, use the same format as above)

4.13 Cumulative Effects

This section discusses the relevant cumulative effects on those resources affected by the proposed action and alternatives. Refer to Subsection 7.8 of this Manual for further discussions on cumulative effects.

4.14 Comparison of the Environmental Consequences of the Alternatives

This section compares and contrasts the effects of the various alternatives analyzed. To help in this comparison, this section should contain a summary matrix that compares the overall effects for all of the alternatives. Two different example formats of matrices are presented in Figures 5-4 and 5-5. When the first format is used, the information should be as quantifiable as possible. If the second format is used, in which impact levels are represented using qualifiers in the form of symbols, it is important that such qualifiers be carefully explained and interpreted on the matrix or within the text of this section.

4.15 Unavoidable Adverse Effects

For the resources analyzed, this section briefly summarizes the adverse or significant effects (if any) expected to occur with implementation of the proposal (40 CFR 1502.16).

4.16 Relationship between Short-Term Uses of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity

The purpose of this section is to identify what might be gained or lost over the long term, because of short-term uses of land and other resources (40 CFR 1502.16). For example, the demolition and immediate replacement of an older building with poor insulation and contaminated with asbestos containing materials and lead paint would, in the short-term, cause added air emissions and noise, potential soil erosion, and the temporary displacement of personnel. In the long term, however, operation of the new building would result in improved facility utilization, lower heating and cooling requirements (thus, reduced air emissions from the installation's power plant), and a reduction in potential adverse human health effects. Conversely, vegetation removal and surface grading for a new firing range may, in the long term, result in the permanent loss of sensitive species native to that area.

4.17 Irreversible and Irretrievable Commitment of Resources

This section of the EIS identifies those effects where there would be a permanent loss of resources (e.g., burning of fossil fuels) and where resources would be indefinitely foregone (that is, the resources would remain but would be inaccessible or could not be used, such as when timber productivity within a proposed right-of-way is lost to road construction) (40 CFR 1502.16).

Section 5.0: References

The References section should provide bibliographical information for sources cited in the text of the EIS. Draft documents should be cited only if those documents have attained relatively high review or approval within the issuing organization. Normally, only those references that are reasonably obtainable by the public should be included.

Section 6.0: List of Preparers

The preparers selected should be diverse enough to ensure a multidisciplinary approach to the environmental and socioeconomic analysis.

Section 7.0: Distribution List

This section should include the name, organization (if any), and address of each person who is to receive a copy of the DEIS or FEIS. For the DEIS, a distribution list can be developed based on agencies, officials, and special interest groups that typically receive NEPA documents able to assist the proponent in developing this list. The FEIS list typically consists of the same relative to their geographic area or particular interests, as well as requests obtained during the scoping process. The program environmental coordinator and Public Affairs Office should identify agencies, officials, and special interest groups that received the DEIS, along with those individuals who commented on the DEIS and/or requested a copy of the FEIS.

Section 8.0: Index

The index should provide the location, by section and page number, of terms frequently used in the EIS. The index must reflect the final pagination of the printed EIS.

Section 9.0: Glossary

This section provides a list of definitions for technical terms used in the EIS.

Section 10.0: Agencies and Individuals Consulted

This section should list the names and agencies or organizations (if any) of individuals who were contacted for data and information used in support of the analysis and preparation of the EIS, whether or not a response was received. Normally, only those individuals outside the Proponent's organization are listed here.

Appendices

Use appendices to support the content and conclusions contained in the main body of the EIS, when necessary. Types of appendices usually included in an EIS are as follows:

- Supporting technical data and methodologies (e.g., air emissions monitoring data, archaeological survey results, and unique socioeconomic modeling applications).
- Official communications to and from outside agencies (e.g., US Fish and Wildlife Service and State Historic Preservation Office) that pertain to environmentally sensitive resources and related issues.
- Public comments and responses. (Refer to Subsection 7.4 of this Manual for guidance on this topic. If this appendix becomes too large, it may be made into a separate volume of the FEIS.)

Acronyms and Abbreviations

A list of the acronyms and abbreviations used throughout the EIS should be provided. For the reader's convenience, it should be included as an 11- by 17-inch foldout page at the back of the document in cases where the EIS is reasonably short; an alternative is to place this section immediately after the Table of Contents on standard letter-size paper.

6.7 RESPONDING TO COMMENTS

DEISs must be made available for a 45-day (minimum) public comment period. Substantive public comments received, in the form of letters, faxes, e-mail and so forth, or a summary thereof, can be presented in an appendix to the FEIS, along with responses to those comments. Replies should make reference to those portions of the EIS that address the issue, particularly if the document has been changed as a result of the comment. A person who submitted a comment should be able to track the receipt and disposition of the comment. Other pertinent information provided by the public should also be incorporated into the final document, as appropriate.

As part of the NEPA process management plan discussed in Chapter 3 of this Manual, or as part of a separate public affairs plan if one is prepared early in the EIS process, the development of procedures for handling comments received and for developing responses to the comments is recommended. When a large number of comments are received, they should be logged into a database and a separate file created for master copies. Comments can then be easily screened for substantive points raised.

Some comment letters might identify a single issue; others might contain a long list of reviewers concerns. As appropriate, individual points should be catalogued and cross-referenced so none are overlooked. If many comment letters and documents making the same points are received, it might be useful to consolidate duplicates and closely related comments to simplify the number of responses that must be developed. This helps to facilitate responding to a recurring comment once instead of repeating the response multiple times. A benefit of following this process is that it helps to ensure that responses given are consistent. It is also especially useful when responding to similar comments contained in form letters.

Responses should be written openly, clearly, candidly, and with respect for the commentor. All comments must be addressed. Substantive comments received are generally staffed with the proponent and/or lead agency, the Public Affairs Office, and others, as necessary, for the development of responses. (Refer to 40 CFR 1503.4 for further information on responding to public comments.)

6.8 REVIEW OF EISs BY THE US ENVIRONMENTAL PROTECTION AGENCY

As described earlier in this Manual, all DEISs and FEISs must be filed with the EPA. Under Section 309 of the Clean Air Act (42 U.S.C. 7609), the EPA has the authority to review and comment on EISs and to notify proponents and lead agencies of any deficiencies.

The intent of Section 309 is to give EPA an independent agency review role otherwise absent under NEPA, and to ensure that Federal agencies preparing documentation under NEPA have the benefit of a review by a Federal agency whose primary mission is the protection of the environment. It also directs EPA to comment in writing and to make its comments available for public review.

Section 309 further directs the EPA Administrator to refer “any such legislation, action, or regulation” to CEQ if it is found to be “unsatisfactory from the standpoint of public health or welfare or environmental quality....” It also provides authority for EPA to determine independently that an action proposed by a Federal agency is a major Federal action that would significantly affect the environment even if the proponent or lead agency has determined otherwise.

EPA's review is primarily concerned with identifying and recommending mitigation measures for the significant environmental effects associated with the proposal. The “adequacy” of the information and analyses contained in the documentation is reviewed as needed to support this objective. The adequacy of a document is based on a wide variety of issues, including impact predictions, mitigation measures to be applied, the selection of alternatives analyzed, and consistency with environmental protection processes.

It is EPA's policy to review and comment in writing on all DEISs officially filed with the agency, to provide a rating of the DEIS, and to meet with the proponent and/or lead agency to resolve significant issues.

The purpose of the rating system for DEISs is to summarize the level of EPA's overall concern with the proposal and to define the associated follow-up that will be conducted with the proponent and/or lead agency. It is an alphanumeric system that rates both the environmental acceptability of the proposed action and the adequacy of the NEPA document. In general, the rating is based on the preferred alternative, if identified; otherwise, individual alternatives are rated. EPA's categories for rating the environmental impact of the action are as follows:

- **LO (Lack of Objections).** The review has not identified any potential environmental impacts requiring substantive changes to the preferred alternative. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposed action.
- **EC (Environmental Concerns).** The review has identified environmental impacts that should be avoided to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact.
- **EO (Environmental Objections).** The review has identified significant environmental impacts that should be avoided to adequately protect the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative).
- **EU (Environmentally Unsatisfactory).** The review has identified adverse environmental impacts that are of sufficient magnitude that EPA believes the action must not proceed as proposed.

EPA's categories for rating the adequacy of DEISs are as follows:

- **“1” (Adequate).** The draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.
- **“2” (Insufficient Information).** The draft EIS does not contain sufficient information to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the proposal. The identified additional information, data, analyses, or discussion should be included in the final EIS.

- **“3” (Inadequate).** The draft EIS does not adequately assess the potentially significant environmental impacts of the proposal, or the reviewer has identified new, reasonably available, alternatives, that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. The identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. This rating indicates EPA's belief that the draft EIS does not meet the purposes of NEPA and/or the Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS.

EPA's rating of a DEIS will consist of one of the category combinations shown in Table 6-3, which also indicates the level of follow-up that EPA should take based on the level of concern identified in its comment letter. When a follow-up phone call or meeting with EPA is required, its purpose is (1) to describe the specific EPA concerns and discuss ways to resolve them, (2) to ensure that the EPA review has correctly interpreted the proposal and supporting information, and (3) to discuss any ongoing proponent/lead agency actions that might resolve the EPA concerns.

EPA's comment letter itself and the assigned rating are not subject to negotiation and will not be changed on the basis of the phone call or meeting unless errors in EPA's understanding of the issues are discovered.

Table 6-3. EPA Rating Categories and Follow-Up Requirements

Rating Categories	Follow-Up on DEIS Comment Letter
LO	None
EC-1, EC-2	Phone Call with Proponent/Lead Agency
EO-1, EO-2	Meeting with Proponent/Lead Agency
EO-3, EU-1, EU-2, EU-3	Meeting with Proponent/Lead Agency

6.9 RECORD OF DECISION

The ROD is the final step in the EIS process. It is a concise public document that identifies the alternatives considered by the Army in reaching its decision. It identifies the major issues and considerations, documents the decision, and identifies necessary steps (mitigation measures) to lessen the effects on the environment. Final approval and signature of the ROD may occur no sooner than 30 days following publication of the Notice of Availability (NOA) for the FEIS in the *Federal Register*. The ROD, or NOA of the ROD, is then published in the *Federal Register*, and similar notices are published in local newspapers. In accordance with 32 CFR Part 651, the ROD will contain the following:

- A statement of the decision.
- Identification of all alternatives considered, specifying the preferred alternative(s) as well as the environmentally preferred alternative(s).

- Discussion of all factors, including any environmental, economic, and technical factors that were considered by the Army in making a decision.
- Discussion of how considerations of those factors entered into the final decision.
- Description of mitigation measures to be implemented, a summary of any monitoring and enforcement programs to be adopted, and an explanation of why certain mitigation measures were not adopted (if any) when such mitigation measures would have avoided or minimized environmental harm.⁶

It is important to note that the alternative selected in the ROD can be the proponent's original proposed action, one of the alternative actions, or a mix of the alternatives that were analyzed in the EIS. Public comment on the ROD is not required; however, it is Army policy to receive and be responsive to public concerns regarding Army actions. The ROD is signed by the decision-maker.

Completed FEISs and RODs and supporting administrative records must be retained by the proponent's office for a minimum of six years. Copies of final FEIS's will be forwarded to Headquarters Department of the Army, ACSIM to the attention of (DAIM-ISE) for retention in the Army NEPA library. The ACSIM shall forward a copy to the Defense Technical Information Center (DTIC).

⁶ If the proponent commits to mitigation measures in the ROD, they must be implemented. If the proponent fails to commit resources to ensure mitigation is accomplished, the description of expected impacts is inaccurate and the decision to proceed with the project was made without adequate information. Therefore, only those mitigation measures which will be implemented should be listed in the ROD.

CHAPTER 7.0

OTHER SPECIAL NEPA CONSIDERATIONS

7.1 INTRODUCTION

A select number of special, but important and useful, environmental planning considerations and concepts are integral to better understanding of effective NEPA and key acquisition management practices. Comprehension and implementation of these concepts facilitates effective and efficient compliance with statutory requirements and, it is hoped, precludes unnecessary schedule and budgetary impacts to the acquisition of Army materiel. These considerations are discussed in this chapter even though some information may have been presented, in less detail, in earlier chapters.

7.2 PROGRAMMATIC ENVIRONMENTAL ASSESSMENTS AND ENVIRONMENTAL IMPACT STATEMENTS

Because of the long term evolutionary and developmental nature of materiel acquisition management, many of the design, testing, manufacturing, fielding and operation, and demilitarization and disposal aspects of a particular system may not be well established until the program fully matures. Accordingly, effective acquisition management often requires that NEPA analysis be performed in a stepwise approach to reflect this programmatic uncertainty early in the program's life-cycle. This allows the support of informed decisions, at the appropriate time, along the materiel life-cycle.

First, an analysis known as a "Programmatic" Environmental Assessment or Environmental Impact Statement can be utilized. Programmatic NEPA analysis provides a programmatic overview or "global" analysis. Programmatic NEPA documents are prepared on an area, subject, and/or topic basis; or for broad Federal actions that include a number of phases or individual actions; or for "like" actions that are similar in nature. In the case of broad Federal actions, the lead agency may evaluate the proposal based on common geographic locations, similarities of activities, or stages of development. For example, an Army requirement for a new prime mover can consider both tracked and wheeled vehicles, with a number of different power assemblies, and a range of test locations. As the program matures, the design of the prime mover and test requirements is narrowed. However, at the initiation of the program, a Programmatic NEPA analysis may be initiated that evaluates the general environmental impacts of the development of a conceptual prime mover at a number of test locations. As an alternative, a Programmatic NEPA document that analyzed the full range of Army transportation needs and activities may be performed. This approach provides a comprehensive "umbrella" of NEPA coverage. This Programmatic NEPA documentation should provide the PM with sufficient information so that he or she can initially assess the environmental consequences of various courses of action when making decisions and allocating program resources.

Second, as will be presented in Chapter 8 (see Figure 8-1), increasingly more detailed and updated NEPA documentation can be prepared as a materiel program progresses. As decisions are made, alternatives eliminated, and specific geographic sites chosen, more focused, narrower NEPA documentation can be prepared. The Programmatic NEPA analysis can continue to provide NEPA coverage for the entire program, while subsequent NEPA analysis can be more narrowly focused. In the example provided above, when specific prime mover design configuration and associated test locations are identified, comprehensive, focused NEPA documentation is prepared to analyze downstream requirements such as specific tests and initial fielding considerations.

7.3 TIERING

“Tiering” refers to the use of broad, general NEPA analyses to support the preparation of a more detailed environmental analysis. An example of tiering was previously discussed in Subsection 7.2. In this case, the coverage of general materiel acquisition matters can be performed in broad Programmatic EAs and/or EISs prepared at the commencement of the program. Subsequently, as the program becomes better defined, more focused environmental analysis can be performed, incorporating by reference the general discussions of the earlier Programmatic NEPA document, and concentrating solely on the issues specific to the new analysis.

Tiering is appropriate when the environmental analysis flows from a general program, plan, or policy NEPA document to environmental analysis performed in a NEPA document of lesser scope, which is site- or component-specific. Additionally, tiering can flow from an earlier NEPA document to a later NEPA document, so that environmental issues that require consideration can be comprehensively evaluated, while environmental issues that have already been determined to be insignificant can be deferred from redundant and unnecessary analysis.

PMs are encouraged to tier from their Programmatic NEPA documents to eliminate repetitive discussion of the same issues, and to focus on the actual environmental issues requiring a decision. When an adequate Programmatic NEPA document has been prepared, the subsequent NEPA analysis need only summarize the issues discussed in the Programmatic EA/EIS by incorporating by reference of the earlier analysis. This permits the subsequent NEPA analysis to focus upon the environmental issues specific to the subsequent proposed action and alternatives. When tiering is utilized, the tiered NEPA document must be clearly referenced, and should be made available for public review and comment in conjunction with the subsequent NEPA analysis.

7.4 PUBLIC INVOLVEMENT

Public involvement is a central regulatory-mandated tenet of NEPA. “Federal agencies shall to the fullest extent possible encourage and facilitate public involvement in decisions which affect the quality of the human environment” (40 CFR 1500.2[d]). In the case of an EIS, a specific process is delineated as described in Chapter 6. However, public involvement is essential in both EAs and EISs. In RECs, public involvement is desirable in some situations.

The requirement for public involvement recognizes that all potentially affected parties should be involved whenever performing environmental planning, consultation, and analysis. This requirement should be met at the very beginning of the NEPA analysis and documentation process by developing a plan to include all affected parties. This plan should include the following:

- Information disseminated to local communities through such means as news releases to local media, announcements to citizens’ groups, and agency letters at each acquisition phase or milestone (more frequently, if needed) of a major, high-visibility undertaking.
- Coordination of each phase or milestone (more frequently, if needed) of any major undertaking with representatives of local Government agencies.
- Encouragement of public comments, as appropriate, and open communication channels throughout the process.
- Control of public involvement process by agency or command Public Affairs Officers.

- As discussed in Subsection 3.6, “Scoping Process,” involvement of public agencies with specialized expertise or regulatory authority relating to proposed actions is essential throughout the NEPA process.

7.5 SEQUENCING AND SEGMENTATION

Splitting an action into several smaller actions and analyzing them individually is called “segmenting.” CEQ regulations require that related or connected actions (i.e., actions with a common purpose, timing, effects, or location) be analyzed in a single document (40 CFR 1502.4(a) and 1508.25(a)(1)-(2)). Segmenting is prohibited because the significance of the environmental effects of an action as a whole might not be evident if the action is broken into its component parts and the effects of those parts are analyzed separately. An example of segmenting would be to analyze separately the environmental effects of a single missile launch when the intent of the overall action is to conduct a series of developmental flight tests. Similarly, it is not acceptable to analyze separately the fielding of a new battle tank at one training post, when the overall plan is to field the system at multiple installations.

Certain “interim” actions, on the other hand, are a form of “sequencing,” which is permissible. Actions that meet all of the following conditions are considered sequencing rather than segmentation:

- The interim action does not prejudice the ultimate decision for the program.
- The interim action does not produce an irreversible or irretrievable commitment of resources.
- The interim action is consistent with the reasonable alternatives being considered as part of the broader NEPA analysis.
- The interim action itself is covered by another NEPA analysis.
- The broader NEPA analysis evaluates the cumulative effects of the action.

Proposed interim actions must also be reviewed and the appropriate level of NEPA analysis and documentation applied (e.g., REC/CX, EA/FNSI). Interim actions that are prohibited as segmentation include any that involve an irreversible or irretrievable commitment of resources or the foreclosure of future options.

7.6 SELECTING AND ANALYZING REASONABLE ALTERNATIVES

The identification and analysis of reasonable alternatives is a requirement of NEPA: “Federal agencies shall to the fullest extent possible...use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment” (40 CFR 150.2[e]). An alternative is another means of fulfilling the purpose and need of the action. The PM should study, develop, describe, and document appropriate alternatives to the proposed course of action. Normally, this can be accomplished by simply integrating environmental considerations into the program’s normal examination of alternative courses of action by using environmental analysis results as input to the decision. NEPA analysis should review the proposed action, the No-Action Alternative, and all reasonable alternatives to the proposed action, and should provide input to the decision.

The PM, during the formulation of alternatives, should rigorously explore and objectively evaluate a range of reasonable alternatives, realizing that the NEPA documentation should provide evidence that reasonable alternatives were considered. Alternatives should never, under any circumstance, be slanted or influenced to limit the course of action to a single preferred option. Alternatives should not be automatically rejected or discarded without at least a cursory evaluation. For alternatives that are deemed unreasonable and eliminated from further analysis, the reasons for this determination should be briefly discussed. These reasons should be based upon objective requirements to fulfill the need and purpose of the acquisition. For example, a subjective statement such as “The Smith Test Range is not adequate to perform prototype howitzer live fire testing” is not acceptable. A more objective and comprehensive statement is, “The prototype howitzer live fire testing requires a minimum range of 36 kilometers. Because the maximum range of the Smith Test Range is 30 kilometers, the Smith Test Range is not adequate to perform live fire testing.” During the formulation and analysis of alternatives, the PM should establish objective parameters required to fulfill design, testing, manufacturing, and disposal. As an example of such parameters, a prototype howitzer might have the following requirements for a range for live fire testing:

- Firing Fan and Distance Requirement
- Trajectory - Air Space
- Instrumentation Coverage
- Logistical Supportability
- Public Health and Safety
- Security
- Environmental
- Political Considerations
- Cost and Schedule

Similar analytical requirements should be established as a means of evaluation for all acquisition projects. During the formulation of alternatives, the PM may also review reasonable alternatives that are not within the jurisdiction of the lead agency.

The No-Action Alternative for acquisition programs is normally the continuation of the status quo. In other words, the No-Action Alternative assumes that the proposed action or other alternative actions would not be implemented, and that the current situation continues. The No-Action Alternative may not necessarily be more beneficial from an environmental standpoint. For example, a currently fielded military vehicle may have a history of fuel leaks, high fuel consumption, and excessive air emissions. The development of a new military vehicle may eliminate these sources of pollution. Once viable alternatives have been chosen, the NEPA documentation should:

- Clearly identify the proposed action and alternatives, and devote substantial equivalent treatment to each alternative so that the NEPA analysis can adequately evaluate their comparative merits from an environmental standpoint.
- Include a No-Action Alternative, and devote substantial treatment to the No-Action Alternative so that the NEPA analysis can adequately evaluate the No-Action Alternative against the other alternatives from an environmental standpoint.

7.7 REGION OF INFLUENCE

For each environmental medium (e.g., noise, public health and safety, infrastructure,

socioeconomic, air emissions) to be analyzed in the Affected Environment section of a NEPA document (as previously described in Subsection 3.10), a Region of Influence (ROI) should be established. The ROI is defined as “The geographic area within which a Federal action, program, or activity may cause changes in the natural or manmade environment.” The term ROI suggests not only direct or immediate effects, but also indirect and cumulative effects over a region, or extended geographic area. The ROI may be different for each environmental medium. For example, the size of the “Visual and Aesthetics” ROI for the construction of a prototype rocket test launch facility might well be smaller than the size of the “Noise” ROI for rocket launches conducted from this new facility, since the noise may affect a far greater area than the area within which the launch facility can be viewed. Such ROI definitions seldom conform to political boundaries. ROI definitions should “follow the impacts”, which may cross political boundaries.

The ROI must be established to evaluate the full range of effects for each environmental medium. For example, if a new manufacturing facility were to open at a remote site, and all traffic had to travel on a single highway, the ROI would extend along the entire length of the highway over which there was increased traffic flow.

7.8 ENVIRONMENTAL EFFECTS ANALYSIS

There are three types of environmental effects: direct, indirect, and cumulative. NEPA documentation must include an analysis of all three types of environmental effects.

- **Direct Effects** are caused directly by the action, and occur at the same time and place as the action. From a materiel acquisition standpoint, an example of a direct effect is the release of air emissions from the flight test of a new rocket motor. Direct effects are typically the most obvious to ascertain, their analysis is usually more objective, and they are the simplest to assess.
- **Indirect Effects** are caused by the action, but may occur later in time, or be farther removed in distance from the action. However, they are still reasonably foreseeable. Indirect effects may include effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems. An example of an indirect effect from a materiel acquisition standpoint involves the opening of a new, large production facility in a small community. Although the production facility itself might not have any direct effects on the environment, the influx of relocating workers and their families could overwhelm the local school system. This effect on the capacity of the community school system is an example of an indirect effect. Indirect effects are not as apparent as direct effects, and their evaluation may depend more upon subjective rather than objective factors.
- **Cumulative Effects** result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal, state, or local) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time. As previously mentioned, if a new radar system were to be operated in conjunction with other tactical systems, the collective air emissions from vehicle and generator exhaust could result in a significant environmental impact, even though the individual units operating on their own would cause only a minor environmental impact. This is an example of a cumulative effect, and the comprehensive air emissions should receive NEPA analysis under the framework of a single environmental document. Similarly, if the new radar system

were to be operated near a privately owned factory or heavily-traveled public highway, the increase in air emissions caused by the testing of the radar should be evaluated in conjunction with the air emissions of the private factory or public highway, even though the radar acquisition manager has no influence or control over the factory or highway. Because of the extensive outside factors that can influence cumulative effects, these are the most difficult to analyze, and the analysis may frequently be more subjective than objective. An adequate analysis of cumulative effects requires a comprehensive knowledge of the affected environment and ongoing activities in the affected region. Beyond the immediately impacted environment, all possible influences on the various environmental media must be known and understood. To fulfill this requirement, the ROI must be adequately established and sufficiently researched. Both public and private plans and future activities within the ROI must be identified and quantified. Because of the inherent complexity in accurately analyzing cumulative effects, these effects are most often inadequately assessed, leaving the program susceptible to legal challenge, and possible schedule delays and/or budget impacts. Additional information on this subject is available in CEQ publication "Considering Cumulative Effects Under the National Environmental Policy Act," (January 1997).

7.9 MITIGATION AND MONITORING

Following the environmental effects analysis as described in Subsection 7.8, environmental impacts are identified and appropriate mitigation measures are established. Mitigation measures are established to avoid or minimize environmental harm from the alternative(s) selected. 32 CFR Part 651 now requires "a description of the mitigation measures and/or monitoring procedures nominated for incorporation into the proposed action and alternatives, as well as mitigation measures that are available but not incorporated and/or (their associated) monitoring procedures" to be incorporated into the DOPAA for an EIS.

This section of the DOPAA, which is normally prepared following completion of the impact analysis, should briefly summarize the mitigation measures that are provided in the Environmental and Socioeconomic Consequences section of the EIS. It includes identification of those mitigation measures likely to be implemented, as well as those that appear practical, but are unobtainable within expected resources or that some other agency (including non-Army agencies) should perform. It should also describe any applicable mitigation monitoring and enforcement procedures or program that may be adopted. By providing this information up front in the document, it shows good environmental stewardship and ethical management, and can serve to head off criticism from opponents.

Although not required in the DOPAA for an Army EA, discussion on practical mitigation measures available must be provided in the Environmental Consequences section of the EA. Those mitigation measures eventually selected for implementation must be identified in the ROD for the EIS or the FNSI for the EA.

Mitigation measures could include, but are not necessarily limited to, the following:

- Avoiding the impact altogether by not taking a certain action or part(s) of an action. As an example of this mitigation, the decision might be made to test a prototype tactical missile at a certain test location without a live warhead to avoid a noise environmental impact to surrounding communities.

- Minimizing impacts by limiting the degree or magnitude of the action and its implementation. For example, testing of a new helicopter at a certain test location might only be done during normal working hours to preclude a noise impact to surrounding communities.
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment. For example, if environmental analysis determined that testing of prototype heavy vehicles on public roads could damage the road surface, a mitigation measure would be to resurface the road following the conclusion of such testing, thereby removing the impact.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action. An example of this is continually utilizing impermeable barriers and spill control measures for testing activities that have a high potential for fuel spills.
- Compensating for the impact by replacing or providing substitute resources or environments. For example, if construction of a new facility might result in the destruction of wetlands, new wetlands of equal or greater ecological value can be constructed at a different location.
- Avoiding or minimizing an impact through pre-activity inspections and/or surveys, and siting or scheduling of test activities. For example, performing archaeological and biological surveys prior to test facility construction, so that any cultural or biological resources could be located, identified, and avoided.

In those cases where actions are necessary for compliance with other Federal laws, any additional environmental requirements should be clearly stated in conjunction with the mitigation measures (e.g., obtaining an air permit from a state, or a wetlands permit from the US Army Corps of Engineers).

When mitigation measures are identified, they should be clearly and comprehensively discussed. The Federal agent(s) responsible for funding, implementation, and verification must be identified. Additionally, a monitoring and enforcement program must be established. This monitoring and enforcement plan should clearly identify the mitigation measure(s); the agency responsible for funding; the agency responsible for implementation; the schedule for implementation of the mitigation measure (s); whether or not monitoring or verification is required; the agency responsible for monitoring/verification; and how often inspections are to be conducted (in the case of routine, recurring, and/or procedural mitigation measure(s)). Any coordination with other agencies (e.g., reports to state or local Government agencies), public notification requirements, or other mitigation requirements should be described and discussed in the NEPA document.

7.10 INTEGRATION WITH OTHER FEDERAL LAWS

To the fullest extent possible, PMs shall prepare NEPA documentation concurrently with and integrated with other environmental surveys, studies, and analyses required by other Federal environmental laws and executive orders. NEPA is the integrating law that brings all the other laws together to foster environmentally informed decisions. Such laws include, but are not limited to:

- The Fish and Wildlife Coordination Act
- The National Historic Preservation Act
- The Clean Air Act
- The Clean Water Act,
- Resource Conservation and Recovery Act
- The Endangered Species Act
- The Pollution Prevention Act
- The Coastal Zone Management Act
- The Solid Waste Disposal Act
- Waste Reduction Act
- Noise Control Act

For example, the prime power unit for a prototype radar can produce sufficient air emissions to require an air permit to be prepared for its operation during field testing, in accordance with the Federal Clean Air Act or similar state statutes. This action must be completed in addition to the appropriate NEPA documentation and should be accomplished concurrently, if possible.

7.11 COMPLYING WITH EXECUTIVE ORDERS

During NEPA documentation, material acquisition managers need to pay particular attention to four Executive Orders (EOs). Although other EOs may be applicable during certain actions, these four will almost always be addressed in EAs and EISs. These orders carry the full weight of Federal regulations. These four EOs are: EO 12114 - *Environmental Effects Abroad of Major Federal Actions*; EO 12898 - *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*; EO 13007 - *Indian Sacred Sites*; and EO 13045 - *Protection of Children from Environmental Health Risks and Safety Risks*. These four EOs are described in the following subsections.

7.11.1 Executive Order 12114 - Environmental Effects Abroad of Major Federal Actions

The vast majority of materiel acquisition activities typically occur in the United States or its territories. However, in some instances, projects may be jointly conducted with other nations, or testing may be conducted outside the United States. These requirements do not apply to the sale or transfer of arms to foreign nations. The requirements of the regulations and directives previously cited apply to Army acquisition activities that:

- Occur in the “Global Commons” These are areas outside the jurisdiction of any nation, such as the broad ocean areas and Antarctica.
- Significantly harm the environment of a foreign nation that is not involved in the action. The focus of this is on the geographic location of the environmental harm and not the location of the action.
- Significantly harm the environment of a foreign nation because they provide to that nation a physical project or product that produces an emission or effluent that is prohibited or regulated in the United States.

Acquisition managers may use four types of environmental documents when accounting for the actions listed above.

- Environmental Assessment - The purpose of an environmental assessment is to assist decision-makers in determining whether an action significantly harms the environment of the Global Commons. It is made available to the public in the United States upon request.
- Environmental Impact Statement - This is prepared when it is determined that an action significantly harms the environment of the Global Commons. Public hearings are not required, but should be considered if there is the appearance of infringement on the sovereignty of another nation. Although not required, consideration should be given to make environmental documentation available to foreign governments through the State Department.
- Environmental Study - This is a bilateral or multilateral study relevant to the proposed action. It can be prepared by the United States and one or more foreign nations, or by an international body of which the United States is a member. This may be best suited for actions that provide strictly regulated or prohibited products or projects to a foreign nation and actions that affect a protected global resource.
- Environmental Review - This is a unilateral review of pertinent environmental issues prepared by one or more agencies of the United States. The Environmental Review may be uniquely suitable to actions that affect the environment of a nation not involved in the undertaking.

Environmental studies and reviews should have the same basic content as an EA or EIS, but the format is very flexible to meet the needs of the preparers. The overall purpose of these analyses and documentation is to support informed decisions. All communications with foreign governments concerning these documents and other formal arrangements are required to be coordinated with the Department of State.

Studies and Reviews, if unclassified, are to be made available to the Department of State and other interested Federal agencies, and to the public in the United States on request. Foreign governments also may be informed of the Studies and Reviews and furnished copies. No distribution is required prior to the final version, or prior to taking the action associated with the document.

7.11.2 Executive Order 12898 - Environmental Justice

On February 11, 1994, the President signed Executive Order No. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. The objective of this Executive Order is that: “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing ...disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations....”(Section 1-101 of Executive Order 12898).

DoD has stated its intention to implement this Executive Order principally through compliance with NEPA. Involvement of affected minority and low-income populations in the public process is essential to comply with this Executive Order. PMs should identify minority and low-income populations that may be affected by their programs and, whenever practicable and appropriate, include in their environmental analyses and research an emphasis on diverse segments of the population at high risk from environmental hazards (such as minority populations, low-income populations, and workers who may be exposed to substantial environmental hazards). NEPA analysis should include:

- Identification of populations that may be exposed to disproportionately high and adverse human health and environmental effects caused by DoD activities within the US.
- Identification and assessment, as appropriate, of DoD programs, policies, and activities that may have disproportionately high and adverse human health and environmental effects on minority and low income populations at or near DoD US sites and facilities.
- All Acquisition NEPA documentation should include a brief section focused upon compliance with the Environmental Justice Executive Order, and should clearly state that this Executive Order has been taken into consideration during formulation of the Affected Environment section, and conduct of the environmental analysis.

7.11.3 Executive Order 13007 - Indian Sacred Sites

This Executive Order was designed to ensure that Federal actions do not have an adverse effect on the access or physical integrity of Native American sacred sites. NEPA analysis takes into account whether the proposed action or alternatives: (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners (2) avoid adversely affecting the physical integrity of such sacred sites, and (3) where appropriate, ensure that agencies maintain the confidentiality of specific locations of sacred sites.

Under EO 13007, the PM, where practicable, ensures reasonable notice is provided of proposed actions that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of sacred sites. In all actions pursuant to this section, agencies shall comply with the Executive Memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments." The Department of Defense American Indian and Alaska Native Policy (October 20, 1998) sets guidelines for compliance with EO 13007 and establishing Government-to-Government relations with Native American and Native Alaskan tribes. Active coordination and consultation will go far in addressing these concerns.

7.11.4 Executive Order 13045 - Protection of Children

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 21, 1997) recognizes a growing body of scientific knowledge which demonstrates that children may suffer disproportionately from environmental health risks and safety risks. These risks arise because: (1) children's bodily systems are not fully developed, (2) they eat, drink, and breathe more in proportion to their body weight, (3) their size and weight may diminish protection from standard safety features, and (4) their behavior patterns may make them more susceptible to accidents. Based on these factors, the President directed each Federal agency to make it a high priority to identify and assess environmental health and safety risks that may disproportionately affect children. The President also directed each Federal agency to ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks.

Historically, children have been present as residents and visitors at Army installations and test ranges where development activities take place. Children may also live near or have access to facilities where manufacturing takes place. On such occasions, Army managers have a responsibility to take precautions for their safety using a number of means, including fencing, limitations on access to certain areas, and provision of adult supervision. As part of

the NEPA process, disproportionate risks to children that result from environmental health risks or safety risks must be considered and addressed during the identification and analysis of the potential environmental and socioeconomic impacts of the proposed action and alternatives.

7.12 INTERAGENCY DISPUTES

In the event that during an Army materiel acquisition environmental analysis process, an unresolvable dispute arises with another Federal agency, the agencies submit their respective positions to the CEQ for ultimate resolution. In some cases, a referring agency may feel an action might cause unsatisfactory environmental effects. Part 1504 of the CEQ regulations for implementing NEPA clearly identifies the procedures to the Council for disagreements between a referring agency and a lead agency. All efforts should be taken to resolve differences before a formal referral to the CEQ is pursued. This includes early informal coordination with the CEQ by both agencies, as necessary and appropriate.

7.13 BUDGETING FOR NEPA ANALYSIS, DOCUMENTATION, AND MITIGATIONS

Performing NEPA analysis and the preparation of NEPA documentation can be costly. It is incumbent on the PEO and PM to plan and budget for the required analyses and documentation. The early integration of environmental planning helps the PEO and PM anticipate the extent and type of analysis and resulting documentation required.

- DoD Instruction 5000.02 requires the PM/PEO to prepare a PESHE document early in the program life-cycle (Milestone B). The PESHE looks at the entire life-cycle of a materiel acquisition program and, as a result, it is an excellent source of information for estimating the extent of the analysis anticipated and the type of documentation required over the entire life-cycle. See Subsection 2.4 of this document for more information on the PESHE.
- Once an estimate of the requirement is developed, the PM can utilize historical experience from other acquisitions to develop a budget. Comparison with several recent cases is an excellent technique and it can improve the accuracy of the estimate. In the interest of accuracy, it is important to select cases of similar magnitude that adequately fulfilled their NEPA responsibilities.

CHAPTER 8.0

APPLICATION OF THE NEPA PROCESS IN THE ACQUISITION LIFE CYCLE

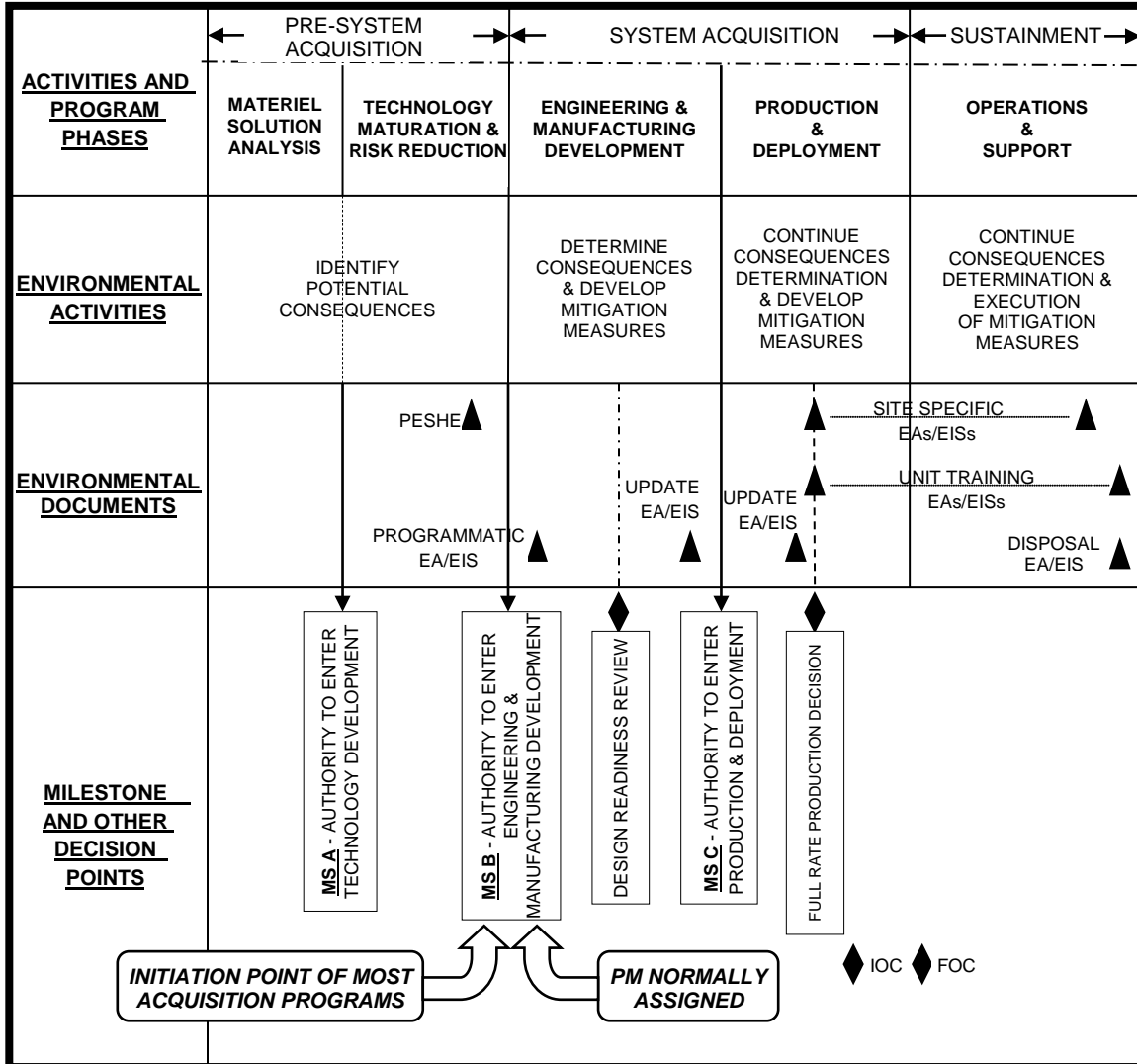
8.1 INTRODUCTION

This chapter describes the relationships between the NEPA process and the different phases of the acquisition life cycle. It also highlights a number of acquisition-related issues, and identifies related roles and responsibilities for acquisition managers. The acquisition life cycle consists of all acquisition activities from program initiation to eventual disposal. Figure 8-1 illustrates the program phases, milestones, and other decision points of the acquisition process, as prescribed by DoDI 5000.02. Each of the phases and milestone points is discussed later in this chapter, along with a discussion of the relevant activities that normally occur during each one.

In order to exit a particular phase and proceed to the next phase, an acquisition program must pass through a decision point known as a Milestone Review. The Engineering and Manufacturing Development, and the Production and Deployment Phases, also have sub-phase reviews (i.e., Critical Design Review and Full Rate Production Review and Decision). The decision to pass from one phase or sub-phase to the next is made by the MDA. As depicted in Figure 8-1, NEPA analyses and documentation (including EAs and EISs) at appropriate points in the acquisition process effectively and efficiently assimilate environmental considerations into acquisition decisions. It is important to understand that NEPA analyses are conducted in support of the next phase or sub-phase of the acquisition program, not the current phase. At each milestone decision point, the PM must present a NEPA completion schedule in the program's PESHE; this schedule identifies the NEPA documents anticipated throughout the life cycle of the program. While the NEPA documents themselves are not required to be completed prior to the milestone decision, the analyses and resultant documents must be completed early enough for the NEPA decision maker to consider reasonable alternatives prior to beginning the proposed action.

The PM should include his strategy for accomplishing NEPA requirements in the program's Acquisition Strategy. The PM should also indicate those activities (such as system fielding) where users/support installations are primarily responsible for satisfying the NEPA analysis requirements.

Figure 8-1 shows the NEPA process relationship for a traditional single step to full-system capability program. However, this figure also can represent the first increment of an evolutionary approach to full-system capability. The evolutionary approach to development is the preferred strategy for rapid acquisition of maturing technology. Using this approach, in which the Engineering and Manufacturing Development and Production & Deployment phases are repeated (Figure 8-2), materiel users receive two or more increments of increasing capability until full system capability is achieved. It is designed to put an initial increment of operating capability in the hands of the user in a relatively short period of time. Each follow-on increment may take additional months or years to complete, and may require new or updated (supplemental) NEPA analyses at key decision points.



Note: The level of NEPA documentation required (i.e. REC, EA, or EIS) for each acquisition program and program phase will vary, depending on the environmental issues and concerns that need to be addressed. Best business practices would have work going into NEPA documentation begin as early as possible in the acquisition process. This is done to involve the capability developers in aspects of environmental program management which would reduce the risk of environmental actions delaying program activities.

Figure 8-1. Typical Acquisition Program Activities

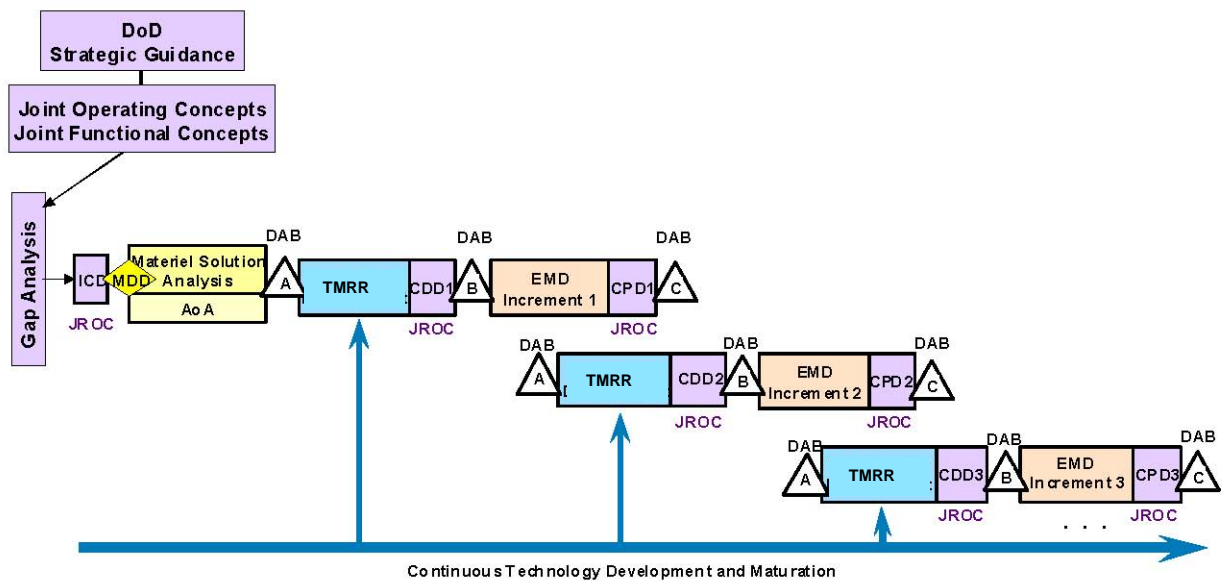


Figure 8-2. Incremental Approach To Full System Capability

The application of NEPA to acquisition programs is often more complex than its application to other types of Army actions. This complexity stems from the nature of the acquisition management system/model, which provides a logical means to progressively translate broad mission needs, often over many years, into well-defined system-specific requirements, and ultimately, into effective, suitable, and survivable weapon systems.

Responsibility for conducting and documenting acquisition program NEPA analyses varies from program to program and from phase to phase. It is unlikely that any meaningful program NEPA analysis is possible prior to program initiation because very few specifics are known. Milestone B is the point at which most acquisition programs are initiated. NEPA-related activities prior to program initiation are usually the responsibility of the Combat Developer (CBTDEV) and the Federally funded laboratories or other DoD activities (e.g., AMC Commodity Commands, US Army Space and Missile Defense Command, PEOs, PMs, etc.) responsible for funding development of the desired technologies. Federally funded research performed by educational institutions and private companies and laboratories is not excluded from the requirements of NEPA. Though not required to by CJCSI 3170.01I, *Joint Capabilities Integration and Development System* (JCIDS), and the Manual for the Operation of the JCIDS, the CBTDEV should include language in the Initial Capabilities Document (ICD) that emphasizes the need to minimize the materiel solution's adverse environmental effects. As the Capabilities Development Document (CDD) is prepared during the Technology Development Phase, it is the responsibility of the CBTDEV to further refine the environmental language and considerations first developed for the ICD. It is the responsibility of the CBTDEV to pass on to the Materiel Developer (MATDEV) any notes or documentation of potential environmental effects forecast and/or associated with the various alternatives considered during the Analysis of Alternatives (AoA) and environmental notes/documentation collected in/required for the Technology Development Phase.

Normally, the MATDEV assumes responsibility for most NEPA activities after program initiation, usually Milestone B. It should be noted that Milestone B is often the point at which a PM is assigned. On occasion, activities (e.g., developmental tests) that follow program initiation are covered by existing NEPA documents, such as an already-completed, test-range-wide EIS. Responsibility for ensuring that these activities (i.e., the developmental tests) are fully covered by a NEPA analysis, and are considered while making the decision, remains with the PM.

The MATDEV PM is responsible for analyzing the entire acquisition program life cycle. The NEPA document prepared early in the System Development and Demonstration Phase must include a programmatic analysis of everything that is known about system development and demonstration activities, fielding and deployment, operation, training, and ultimate disposal. As described in Chapter 7, the preparation of a programmatic (life-cycle) NEPA analysis allows follow-on, site-specific analyses to be simplified through tiering, and helps to avoid the potential problem of segmenting program actions.

32 CFR Part 651.5(m) (2) states that: “MATDEVs are responsible for the documentation regarding general environmental effects of all aspects of the system (including operation, fielding, and disposal), and the specific effects of all activities for which he/she is the proponent.” §651.5(m)(3) goes on to say, “MATDEVs will include, in their Acquisition Strategy, provisions for developing and supplementing their NEPA analyses and documentation, and provide data (*i.e. HAZMATS in the system or system support, size, weight, emissions/wastes, OPTEMPO, off-road use, etc.*) to support supplemental analyses, as required, throughout the life cycle of the system.” After the Full Rate Production Decision, NEPA analysis responsibility for fielding a weapon system normally resides with the receiving command, installation, and/or unit. This transition of NEPA responsibility applies to the initial increment (Figure 8-1), as well as to each additional increment of an evolutionary development (Figure 8-2). In each case, the MATDEV PM should provide applicable NEPA documents (e.g., generic system deployment environmental analyses) and other supporting information to receiving commands and installations for their use in analyzing and documenting system fielding activities.

At the end of the program’s life cycle, in preparation for system disposal, NEPA responsibility is likely to fall on the designated materiel manager at either the MATDEV or owning commands. Who has responsibility for system disposal may vary depending on the type of materiel (including any critical environmental issues associated with it), the quantity of materiel, and location of the materiel. Designation of such responsibilities should be identified early on by the MATDEV in their development of system demilitarization and disposal plans.

Acquisition managers should generally adhere to the process described above. However, they must tailor their program, whenever appropriate, to satisfy individual program needs. A “one-size-fits-all programs” approach to acquisition NEPA compliance is not realistic. Individual programs should tailor life-cycle supplemental and tiered NEPA analysis in accordance with their specific acquisition strategy.

8.2 MATERIEL SOLUTION ANALYSIS PHASE

The Materiel Solution Analysis phase explores materiel concept alternatives and available technologies to satisfy the mission need, defines the most promising concepts, develops supporting analyses and information, initiates development of a proposed acquisition strategy, and develops broad initial program objectives for cost, schedule, and performance for the most promising system concept(s). This phase consists of competitive, parallel short-term concept studies.

Alternative concepts and technologies are identified that could potentially fulfill and satisfy an identified mission need. It is desirable that the set of alternative concepts identified are environmentally diverse enough to provide alternative solutions that avoid or minimize adverse environmental effects. For example, if it is assumed that lead-based propellants will be used, the Army may be locked into an undesirable environmental position. A more desirable position also includes the consideration of non-lead based propellants. It should be noted that, even though activities during the Materiel Solution Analysis phase are not normally part of a formal acquisition program, they are not necessarily exempt from the requirements of NEPA. In particular, those activities associated with testing should be reviewed to determine if a NEPA analysis is required.

8.3 MILESTONE A - AUTHORITY TO ENTER THE TECHNOLOGY MATURATION AND RISK REDUCTION PHASE

At Milestone A, a decision is made to study program alternative concepts to satisfy the mission need, and funding is provided to enter the Technology Maturation and Risk Reduction phase. This normally does not constitute the initiation of an acquisition program, but rather, is generally the initiation of a science and/or technology program. Under normal circumstances, there is not an assigned PM. It is imperative that these environmental considerations be passed on to the MATDEV so that he or she can summarize them as part of the Support Strategy section of the Acquisition Strategy and include them in the PESHE, which are requirements for Milestone B.

8.4 TECHNOLOGY MATURATION AND RISK REDUCTION PHASE

During the Technology Maturation and Risk Reduction phase, an affordable increment of militarily-useful capability is identified; the technology for the identified increment is demonstrated in a relevant environment; and a determination is made that a system can be developed for production within a short timeframe (normally less than 5 years). During this phase, there is further refinement of the acquisition strategy and initial program objectives for cost, schedule, and performance of the most promising system concept(s). It is imperative that all environmental considerations be passed on to the MATDEV so that they can be summarized in the Acquisition Strategy and included in the PESHE.

As with Materiel Solution Analysis, Technology Maturation and Risk Reduction activities, which are not normally part of a formal acquisition program, are not necessarily exempt from the requirements of NEPA. Particular attention must be paid to those activities associated with testing.

This phase normally culminates with a decision to initiate an acquisition program (Milestone B). By Milestone B, a preliminary understanding of the magnitude of the environmental considerations associated with the chosen concept should be known.

8.5 MILESTONE B - AUTHORITY TO ENTER THE ENGINEERING AND MANUFACTURING DEVELOPMENT PHASE

At Milestone B, a determination is made that a new acquisition program is warranted and an Acquisition Program Baseline (APB) is established, consisting of the initial program cost, schedule, and performance thresholds and objectives. The most promising alternative is selected to continue into the Engineering and Manufacturing Development (EMD) phase. This is the initiation point for most acquisition programs and the normal point at which a PM is assigned. DoDI 5000.02 requires the development of a program NEPA schedule in support of a Milestone B decision. Full funding is required to be in place.

The second and subsequent increments (Figure 8-2) are also initiated by Milestone B decisions. Follow-on increments proceed through the same process as the initial increment. Each follow-on increment may need updated (supplemental) or tiered NEPA analyses and documentation.

8.6 ENGINEERING AND MANUFACTURING DEVELOPMENT PHASE

Early in the EMD phase, the PM must complete the initial Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE). At this point, it is likely that the PESHE has informational voids. Since the PESHE covers the entire system life cycle, subsequent phases may not be completely defined. These shortcomings are overcome later by PESHE updates as the program progresses and more is known about life-cycle activities. The PM must ensure that other program documentation and decisions include consideration of any associated environmental impacts and/or mitigations.

A key consideration for PMs early in the development process is to assess considerations of the environmental impacts of operation of Army materiel systems in the field. It is critical to identify and consider the potential effects of fielding, operation, and ultimately disposing of systems early in their system development. As programs proceed, opportunities for adjusting the system design to accommodate environmental concerns become more and more limited.

During EMD, the system proponent (normally the PM) uses the systems engineering process to define subsystem requirements; develop prototypes; explore alternative designs; evaluate risks to cost, schedule, and performance; and develop system specifications. The design specifications must consider environmental requirements, and reflect the PESHE analysis. Systems engineering is the process that drives the technical development of a weapon system and determines the system's environmental "footprint." Environmental engineering, one of the disciplines managed by systems engineering, is fundamental to minimizing resulting environmental impacts. The program's Acquisition Strategy provides guidance to the systems engineering process. The PESHE should also contain a comprehensive strategy to implement the hazardous materials and pollution prevention (P2) programs. If this strategy is effectively applied to the systems engineering process, implementation of the NEPA process will likely be less complicated.

During the EMD phase, system attributes and characteristics are developed and identified. A number of lower-level system design alternatives may be evaluated and long-lasting decisions may be made. Decisions made during the EMD phase will eliminate many future system options. NEPA analyses of alternatives considered should be performed to support these decisions. It is important to remember that whenever decisions are being made that may have significant environmental impacts, NEPA analyses must be conducted to support those decisions, regardless of the acquisition phase. It is important that, as issues are identified, evaluated, and resolved, environmental issues also be identified and become part of the decision-making process. EMD phase activities often involve evaluations regarding potential use of hazardous materials and production of hazardous wastes, environmental risks, and environmental life-cycle costs. EMD phase activities also involve drafting a Hazardous Materials Management Plan (HMMP) and a plan for NEPA analysis for later life-cycle activities, such as testing, manufacturing, fielding, and disposal. Reviews are accomplished through Working Level and Overarching IPTs, which address critical issues and establish exit or "pass" criteria for milestone decisions.

Normally, formal NEPA analysis and documentation efforts commence after the EMD phase approval with the initiation of a programmatic environmental analysis covering the potential environmental impacts of each alternative throughout the system life-cycle. In all cases, a programmatic environmental analysis must be completed by the Design Readiness Review (see Figure 8-1). This review, by the MDA, is a mid-phase determination to move from system development to system demonstration. The programmatic environmental analysis, which is the proponent's responsibility, may take the form of either an EA or an EIS, depending on whether significant environmental impacts and/or public controversy are expected. There are many unknowns in an acquisition program at this stage, but the life-cycle analysis should be performed in as much detail as the available information allows, addressing the nature of the system itself. Expected impacts related to testing, development, production, fielding, operation, and disposal known at the time, should be included. The programmatic analysis that is developed in this phase normally is supplemented or "tiered from" during later program phases.

Impacts that are site specific, or new information on activities that are to occur during later phases of the acquisition process should be addressed in supplemental or tiered NEPA analyses. These supplemental documents must then incorporate the characteristics of potential fielding sites, or other decisions made in the later stages of the acquisition process. See Subsections 7.2 and 7.3 of this Manual for further details on programmatic analyses and tiering, respectively.

During the EMD phase, the IPTs and the Project Office should continue P2 efforts that were initiated earlier. As a minimum, potential environmental consequences and appropriate mitigation measures must be identified during this phase. The NEPA process, P2 efforts, and other environmental studies should be mutually supportive to avoid duplication of effort.

As noted in Subsection 2.2 of this Manual, NEPA planning should begin during initial development of the Acquisition Strategy (AS). Analysis under NEPA has an independent legal requirement, but is also one of the areas included in the PESHE. The PESHE evaluation's strategies, plans, and status are a component of the AS. The PESHE evaluation addresses a program's life-cycle plans and status concerning NEPA. NEPA analysis normally evaluates all environmental impacts, including hazardous materials/waste and health and safety issues.

Regardless of the approach utilized, it is extremely important that appropriate IPTs be kept informed of the known relevant facts associated with the life cycle of each basic system concept. The IPTs should ensure that enough information is known about the project so that potential "show-stopper" issues are, to the extent possible, avoided in later phases. The IPTs must closely coordinate and share information to determine whether decisions made at this point may result in significant environmental impacts.

8.7 MILESTONE C - AUTHORITY TO ENTER THE PRODUCTION AND DEPLOYMENT PHASE

At Milestone C, a determination is made whether the program warrants continuation, and the APB, with associated program cost and schedule, is refined. A favorable Milestone C decision is the commitment to produce, deploy, and support the system. The system design is complete and manufacturing plans have been approved; consequently, opportunities for reducing environmental effects are greatly reduced. Once the design is finalized, retrofitting the system to mitigate environmental impacts becomes very expensive. The MDA must reconfirm that the potential environmental consequences of the program have been analyzed and that appropriate mitigation measures have been developed. As a result of refining and completing the development of

potential environmental consequences and appropriate mitigation measures, the programmatic analysis previously prepared and updated normally needs to be updated or supplemented. This can be accomplished by tiering, or in some cases, undertaking completely new analyses, as appropriate. An updated schedule for completion of all anticipated NEPA activities is a DoDI 5000.02 requirement for a Milestone C decision.

Although fielding decisions are the responsibility of the Department of the Army, the MATDEV and installation commanders have responsibility to ensure NEPA requirements for fielding are fully satisfied. Prior to the fielding decision(s), the PM (or other appropriate materiel developer office) is responsible for ensuring that the life-cycle programmatic analysis, or other appropriate analyses, adequately reflect potential impacts in a generic sense when exact fielding sites are not yet known.

The Materiel Developer should provide any pertinent NEPA analysis and supporting documentation to the receiving commands to facilitate their preparation of any site-specific required NEPA analysis. Funding for site-specific fielding/deployment NEPA analyses is normally the responsibility of the receiving command/installation.

8.8 PRODUCTION AND DEPLOYMENT PHASE

Production and Deployment phase efforts establish a stable and efficient production and support base, achieve operational capability, and establish a training capability for the remainder of the system life cycle.

A major environmental function of the Project Office during the Production and Deployment phase is to monitor the mitigation activities as defined in the programmatic and lower tiered NEPA analysis documents to ensure the mitigations are being carried out and to assess their effectiveness. They must also ensure that procedures for the ultimate demilitarization and disposal of the materiel system are finalized and that no new environmental effects are created which would require mitigation.

During the first portion of the Production and Deployment phase, a number of activities are undertaken. They include Low Rate Initial Production (LRIP), Operational and Live Fire Test and Evaluation, and the establishment of a Full Rate Production (FRP) capability. This portion of the Production and Deployment phase ends with a FRP Review and Decision by the MDA. The program's NEPA analysis and documentation must be evaluated to determine if supplementation or tiering is required to support the decision. It is likely that some further analysis will be required because of design changes and enhanced knowledge of the system and its use.

8.9 OPERATIONS AND SUPPORT PHASE

The Operations and Support Phase overlaps with materiel fielding and begins after initial systems have been fielded. A major NEPA-related responsibility of the Project Office or designated materiel management office during this phase is the auditing and monitoring of the mitigation measures outlined in earlier environmental documentation.

During deployment, the focus of many environmental-related issues shifts from the PM to the gaining organization. Deployment of the system may require construction of storage, maintenance, training, or other facilities. Cleaning, maintaining, fielding, storing, etc., causes environmental issues that must be dealt with during deployment and operation of the system. Deployment and

operational NEPA analyses and other site-specific environmental requirements normally are the responsibility of the receiving command and installation.

An organization equipped with the acquired materiel system may need to train with the equipment in order to gain and maintain their operational and combat proficiency. In such instances, site-specific NEPA and other training-related environmental requirements also must be addressed and satisfied by the unit being trained, the organization providing the training, and/or the installation where the training takes place.

8.10 MODIFICATIONS

Major modification approvals are utilized as required. System upgrades and modifications are discussed in Subsection 2.7.6 of this Manual. The MDA determines whether or not a system upgrade or major modification is warranted. Once a determination has been made as to when the system upgrade or modification will begin, the PM or other designated materiel manager must revise the acquisition baseline. System modifications may be driven by a desire to modify equipment produced during earlier increments to make their capabilities match the equipment produced in later increments.

The Project Office needs to be involved in any major upgrade or modification to the system. The upgrade or modification should be evaluated by the Project Office for environmental impacts, environmental compliance, and P2 concerns. Based on the scope of the modification, a decision must be made regarding the need to prepare or update NEPA documentation. Once the acquisition baseline has been identified for the upgrade or modification, the Project Office needs to carry out activities described previously for all the acquisition phases in the modification effort.

8.11 DEMILITARIZATION AND DISPOSAL

Demilitarization and disposal usually occur during or after completion of the operations and support phase. Small quantities of any materiel system may require demilitarization and disposal during the operations and support phase because they may be rendered economically unrepairable because of accidents and/or major breakdowns. Unless sold as foreign military sales, the balance of the materiel system is demilitarized and disposed of when it is no longer needed by the operational force.

Demilitarization will be accomplished according to procedures that are normally finalized early in the Production and Deployment phase. These considerations may prove very important in minimizing the life cycle costs and impacts of acquisition systems. Over the last several decades, remediation and disposal costs of Army systems have become very significant, and such costs may be best eliminated through better early design. These considerations may prove very important in minimizing the life cycle costs and impacts of acquisition systems. Over the last several decades, remediation and disposal costs of Army systems have become very significant, and such costs may be best eliminated through better early design. The designated materiel manager must ensure that materiel is demilitarized and disposed of in a manner that minimizes DoD's liability due to environmental, safety, security, and health issues. The time between initial deployment and demilitarization and disposal may exceed twenty years.

The environmental consequences of system demilitarization and disposal activities must be analyzed and, in all likelihood, a NEPA analysis will be required for system closeout. The depth

and span of NEPA analysis to be undertaken varies with the critical environmental issues surrounding system disposal. Special attention should be directed to hazardous materials disposition and, as appropriate, pollution concerns.

CHAPTER 9.0: REFERENCES

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