



# National Environmental Policy Act

Overview for NASA GSFC Program and Project Managers

# Training Overview

- National Environmental Policy Act (NEPA) Background
- NASA's Responsibility to Comply with NEPA
- NASA Roles and Responsibilities
- NASA NEPA Process and Types of NEPA Documentation
- Public Involvement in the NEPA Process
- Executive Order (EO) 12898 and the Reach of NEPA
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- Test Your Knowledge

# NEPA Background

- Signed into law in 1970.
- Requires federal agencies to consider the environmental effects of their proposed federal actions prior to making decisions.
  - A Federal action is defined as new and continuing activities, including projects and programs entirely or partly financed, assisted, conducted, regulated, or approved by federal agencies; new or revised agency rules, regulations, plans, policies, or procedures; legislative proposals.
- Implemented by the Council on Environmental Quality (CEQ) Regulations for Implementing NEPA, 40 Code of Federal Regulations (CFR) parts 1500-1508



# Important Considerations

- NEPA applies to most proposed NASA actions (programs and projects) regardless of the complexity (e.g., construction, operations, management, research and development activities).
- NEPA applies to programs and projects undertaken by non-Federal entities which, if approved or funded by NASA, may require environmental impact review.
- NEPA provides for public participation and comment, but not a voting forum of alternatives.
- The NEPA process needs to be included in program/project cost and schedule.
- NEPA does not require a NASA program/project to be:
  - Free of environmental impact
  - The most environmentally benign or wise alternative
  - Cost effective



# NASA's Responsibility to Comply with NEPA

- NEPA is a procedural statute that applies to all federal agencies.
- NEPA requires NASA to incorporate environmental considerations into planning and decision-making.
- NEPA requires NASA to identify and assess the potential environmental impacts of and alternatives to proposed NASA actions that may affect the quality of the human environment.
  - An environmental impact is a change to the environment, whether adverse or beneficial
  - Human environment is interpreted comprehensively to include the natural and physical environment.



# NEPA Compliance and Risk Avoidance



- **Litigation Risk**
  - Federal law and regulations require compliance (NASA 14 CFR 1216.3).
  - Non-compliance may result in law suits filed under the Administrative Procedure Act.
  - NEPA provides the agency with an administrative record which supports non-arbitrary agency decision-making.
  - Litigation may result in schedule and launch delays.
- **Mission Risk**
  - Early NEPA compliance avoids irretrievable commitment of NASA resources before final decisions are made.
- **Reputational Risk**
  - Non-compliance jeopardizes the public trust in NASA decision-making and environmental stewardship.

# GSFC NEPA Roles and Responsibilities

Click the boxes to review specific roles and responsibilities at a Center and Component Facility level:

Center Director, NASA Management Office (NMO) Director, Component Facility Manager, or other Center/Component Facility Responsible Official

Center/Component Facility NEPA Manager (CNM)

Center Office of Chief Counsel

Center Program/Project Manager

# NASA NEPA Requirements

- **Regulations:**

- CEQ Regulations for Implementing NEPA: 40 CFR 1500 – 1508
- NASA Agency-specific NEPA regulations: 14 CFR 1216.3 ; ***NASA's regulations adopt and supplement CEQ's regulations***

- **NPRs that apply:**

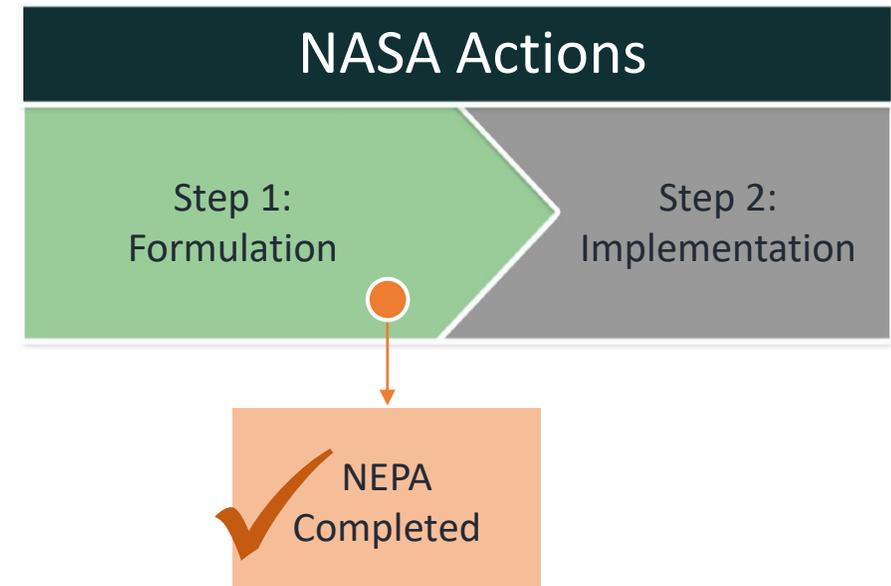
- [NPR 8580.1](#) – Implementing NEPA and EO 12114
- [NPR 7120.5](#) – NASA Space Flight Program and Project Management Requirements
  - Environmental Management Plan (EMP) preparation (required for programmatic and mission or research and development activities)
- [NPR 7120.8](#) – NASA Research and Technology Program and Project Management Requirements
  - EMP baselined to Key Decision Point
- [NPR 8820.2](#) – Facility Project Requirements (FPR)

# GSFC NEPA Requirements

- GSFC Medical and Environmental Management Division (MEMD) and the Safety and Mission Assurance (SMA) Directorate have the responsibility to assess facilities, projects, and activities for potential environmental and safety impacts:
  - GPR 8500.1, *Environmental Planning and Impact Assessment*, specifies procedures and responsibilities to provide environmental planning and ensure compliance with NEPA and other environmental requirements.
  - GPR 7320.1, *Facility Safety Management Process*, specifies procedures and responsibilities to review hazards and ensure safety requirements are included throughout the facility's life cycle.
- MEMD and SMA created the online Management Operations Services and Information (MOSI) Environmental and Safety Review (E&SR) process to streamline and document these compliance requirements.

# NASA NEPA Process

- Integrating environmental considerations into the planning stage of proposed NASA actions should occur at the earliest possible time.
- NASA actions generally have two distinct phases: formulation and implementation.
  - The major decision point for most proposed actions occurs toward the end of the formulation phase.
  - NEPA should be completed during the formulation phase and prior to beginning the implementation phase.



# NASA NEPA Process (continued)

- NASA must take no action which would have an adverse environmental impact or limit the choice of reasonable alternatives prior to completion of the NEPA process.
- Reasonable alternatives should be addressed and include those that are practical or feasible from a technical and economic standpoint, and using common sense, rather than simply being desirable to NASA.
- Initiating MOSI E&SR process as early as possible in the planning phase of an action is a key component of NASA's NEPA process.
- Program/Project Managers should incorporate the anticipated timeframe for completion of NEPA analysis into the program/project schedule.

# Levels of NEPA Analysis/Documentation

**Categorical Exclusion (CatEx)** is a category of actions which do not individually or cumulatively have a significant effect on the human environment. NASA CatEx's are set forth in regulations at 14 CFR 1216.304 and most are documented using an environmental checklist or a Record of Environmental Consideration

**Environmental Assessment (EA)** is a concise public document which provides sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact

**Environmental Impact Statement (EIS)** is a detailed written statement which analyzes the environmental impacts of a NASA proposed action on the natural and physical environment and the relationship of humans with that environment

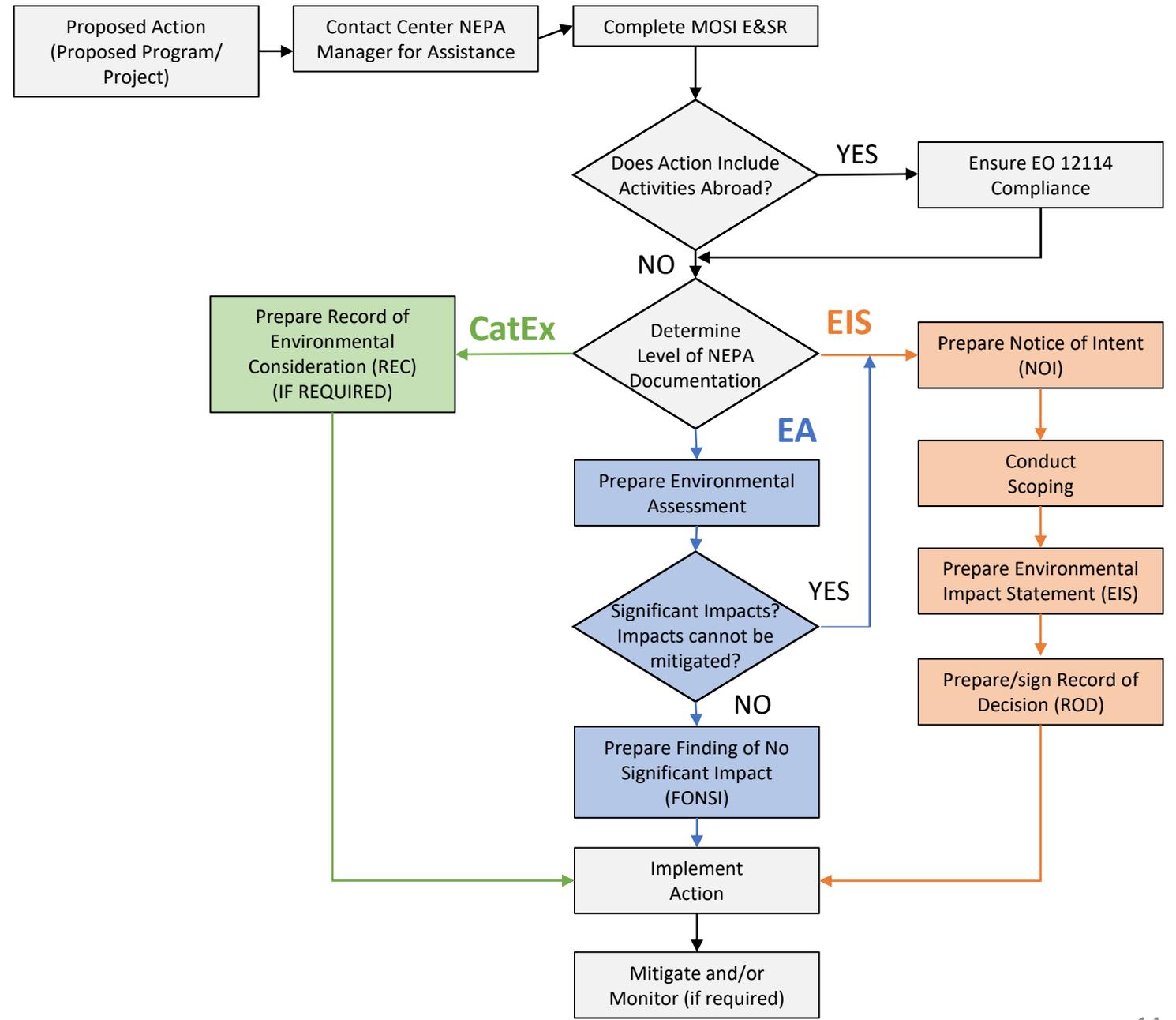
# NEPA Analysis and Determination/Decision Documents

<b>Analysis</b>	<b>Impact Determination/ Decision Document</b>	<b>Typical Timeframe to Complete</b>	<b>Rough Order of Magnitude \$</b>
CatEx	Environmental Checklist/ Record of Environmental Consideration (REC)	30 days	Minimal
EA	Finding of No Significant Impact (FONSI)	6 – 12 months	Up to \$300K
EIS	Record of Decision (ROD)	18 – 24 months	Up to \$2M

# NEPA Process Flowchart

- Review is initiated through MOSI E&SR online process by the Program/Project Manager. The CNM assists in the determination of the appropriate level of NEPA documentation.
- If the E&SR determines additional NEPA analysis is needed, NEPA needs to be added to budget and schedule.

Sources: NPR 8580.1 and GPR 8500.1



# MOSI E&SR Process

1. Initiator/PM enters project, mission, or activity for review and uploads relevant information in Attachments tab.
2. Auto-generated confirmation email is sent to Initiator/PM and CNM.
3. Based on project description, checklist, and attachments, CNM will select which resource areas require review and what level of NEPA analysis is required.
4. Within 10 days, resource area Subject Matter Experts (SMEs) will either:
  - Request additional information through the Reviewer Q&A tab,
  - Enter comments in the Comment box,
  - Mark that a Follow-up is Required, or
  - Mark the Review Complete.
5. Initiator/PM must respond to Q&A and incorporate Comments into project design.
6. After the Project E&SR is Closed, an Adobe pdf can be downloaded.

# To Access MOSI E&SR

<https://mosi.ndc.nasa.gov/EnvironmentalSafetyReview/>



This U.S. Government computer is for authorized users only. By accessing this system you are consenting to complete monitoring with no expectation of privacy. Unauthorized access or use may subject you to disciplinary action and criminal prosecution.

**SUBMIT, APPROVE,  
OR VIEW SERVICES**  
CLICK HERE



Continue to Applications

[Submit suggestions, comments, concerns, or kudos](#)  
[Download MOSI training](#)

[GSFC Environmental & Safety Project Review System](#)

Continue to report Emergency & Trouble Calls to: Greenbelt x6-5555 Wallops x7-4357

- Room temperature (too hot/cold)
- Repair bathroom fixtures/accessories
- Leaks/clogs (and other plumbing issues)
- Door/door hardware issues
- Electrical/power issues
- Light issues
- Alarms
- Elevator issues
- Fallen trees/limbs
- Fencing repairs
- Pot holes in road
- Trash or Recycle bins
- Exhaust fan issues
- Strange odor or noises
- Humidity issues
- Tripping hazards

# Entering a Project into MOSI E&SR

<https://mosi.ndc.nasa.gov/EnvironmentalSafetyReview/>

The screenshot displays the MOSI Environmental and Safety Review web application. At the top, the MOSI logo is accompanied by icons for various services, and the text "Management Operations Services and Information" is visible. The user "Shari A Miller; Shari Aviva Miller" is logged in, with a "Log out" link. The page title is "Environmental and Safety Review". A navigation menu includes "Home", "My Projects", "Greenbelt", "Wallops", and "Search". A "Submit New Project" button is located in the top right. The main content area features a "General" section with a welcome message and a "Training" section with contact information for staff members.

**MOSI** Management Operations Services and Information

Shari A Miller; Shari Aviva Miller [Log out]

Environmental and Safety Review

Submit New Project

**Home** My Projects Greenbelt Wallops Search

**General**

Welcome to the GSFC Environmental & Safety Project Review System. This web application will walk you through gathering the data needed for the GSFC Environmental & Safety Office to review your proposed project and ensure compliance with multiple environmental and safety regulations. After submission, you will be able to access your submittal to view comments and the status. You will be notified via email once the review is complete.

**Training**

The GSFC Environmental & Safety Office is happy to provide training in the use of this web application. Please do not hesitate to contact Irene Romero (301.286.8644) and Michelle Leimbach (301.286.0340) at Greenbelt and Shari Miller (757.824.2327) or Greg Cusimano (757.824.1384) at Wallops.

NASA Official: Terri Randall  
[NASA Web Privacy Policy and Important Notices](#)

Greenbelt Help Desk 301.286.4663 (6-4MOD)  
Wallops Help Desk 757.824.2466 (7-HELP)

# Categorical Exclusions (CatExs)

- Most E&SRs will result in a CatEx.
- CatExs apply to actions that (individually or cumulatively) do not have a significant effect on the quality of the human environment.
- CatExs provide for an expedited NEPA process because regulatory and public review has already been completed.

**NOTE:** CatExs are not an **exclusion** or **waiver** from the NEPA process

- NASA's NEPA regulations currently include 23 NASA CatExs (14 CFR 1216.304).
- NASA CatExs provide NEPA coverage for most NASA actions (~ 99%).
- NASA CatExs generally do not require a REC and can be applied following completion of an environmental checklist.

# CatExs (continued)

Click the boxes to review **NASA's most commonly applied CatExs:**

Operations and Management  
Activities

Research and Development  
Activities

- Note: Minor for operations and management may not equal minor environmental impacts as extraordinary circumstances may exist.
- NASA has seven extraordinary circumstances that **preclude the use of a CatEx**. Click the box to review them:

Extraordinary Circumstances

# Process for CatEx Determination

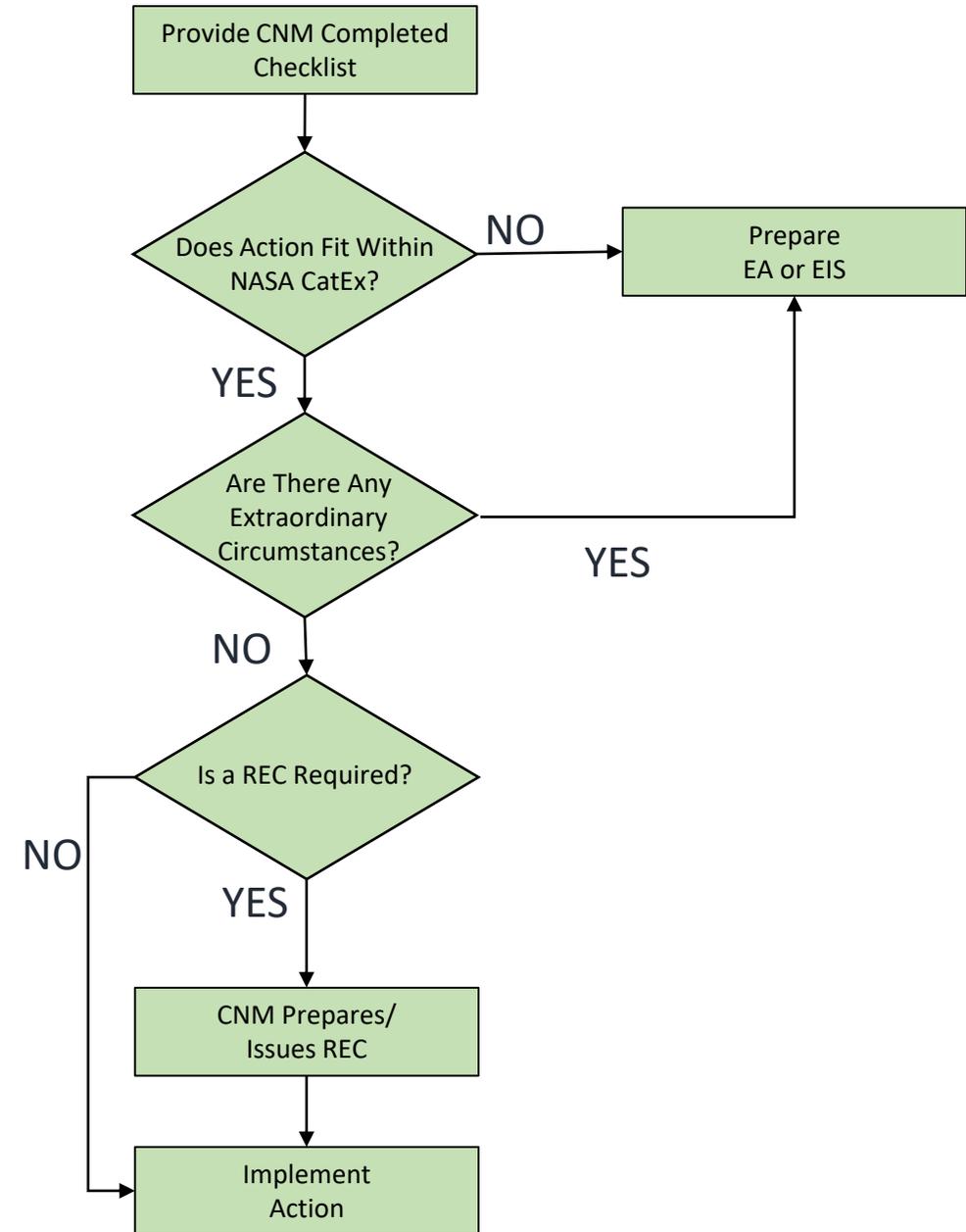
CNM = Center NEPA Manager

REC = Record of Environmental Consideration

EA = Environmental Assessment

EIS = Environmental Impact Statement

Source: NPR 8580.1



# Environmental Assessment (EA)

- An EA is prepared when the proposed action falls outside the scope of an applicable CatEx.
- An EA is a concise public document which analyzes the environmental impacts of the proposed action and alternatives (including the No Action Alternative).
- The EA informs the decisionmaker of possible environmental impacts and determines if a more detailed study is needed.
- If the analysis in the EA supports the conclusion that no significant impacts would occur, or that anticipated impacts can be mitigated, a Finding of No Significant Impact (FONSI) is prepared, and the action can proceed.
- If analysis reveals that significant impacts which cannot be mitigated would occur as a result of the proposed action, a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) is prepared and the EIS process begins.

# EA (continued)

## **NASA actions normally requiring an EA include:**

- Specific spacecraft development and space flight projects/programs.
- Actions altering the ongoing operations at a NASA Center which could lead directly, indirectly, or cumulatively to substantial natural or physical environmental impacts.
- Construction or modifications of facilities which are not minor.
- Proposed actions that are expected to result in significant changes to established land use.
- A space flight project/program that would return extraterrestrial samples to Earth from solar system bodies (such as asteroids, comets, planets, dwarf planets, and planetary moons), which would likely receive an Unrestricted Earth Return categorization from NASA's Planetary Protection Office (PPO) prior to the return of samples to the Earth.

# EA Process

(assumes a FONSI)

Multi-centered, multi-enterprise or controversial EAs are prepared in consultation with Headquarters Environmental Management Division (EMD).

Source: NPR 8580.1



# Environmental Impact Statement (EIS)

- An EIS documents the most detailed and rigorous level of NEPA analysis and is used as a planning and decision-making tool when significant adverse environmental impacts are likely.
- An EIS informs decisionmakers and the public of reasonable alternatives that would avoid or minimize adverse impacts or enhance the quality of the human environment.
- The EIS process is more complicated than an EA and involves more interaction with Headquarters, the public, and other government agencies.

# EIS (continued)

## **NASA actions normally requiring an EIS include:**

- Development and operation of new launch vehicles or space transportation systems.
- Development and operation of a space flight project/program which would launch and operate a nuclear reactor or radioisotope power systems and devices using a total quantity of radioactive material greater than the quantity for which the NASA Nuclear Flight Safety Assurance Manager may grant nuclear safety launch approval.
- Development and operation of a space flight project/program which would return samples to Earth from solar system bodies (such as asteroids, comets, planets, dwarf planets, and planetary moons), which would likely receive a Restricted Earth Return categorization from the NASA Planetary Protection Office.
- Substantial modification of a NASA facility's master plan in a manner expected to result in significant effect(s) on the quality of the human environment.
- Substantial construction projects expected to result in significant effect(s) on the quality of the human environment, when such construction and its effects are not within the scope of an existing master plan and EIS.

# EIS Key Elements

- Scoping meetings may be held at the start of the EIS to refine the proposed action and alternatives.
- The draft document is made available for a 45-day public review and comment period.
- The decision document is a Record of Decision (ROD), and the proposed action cannot proceed until a ROD is signed.
- There is a 30-day period between the Notice of Availability (NOA) for the Final EIS and issuing the ROD.
- The signed ROD is posted on NASA's Public NEPA website.

# EIS Process

(Assumes a ROD)

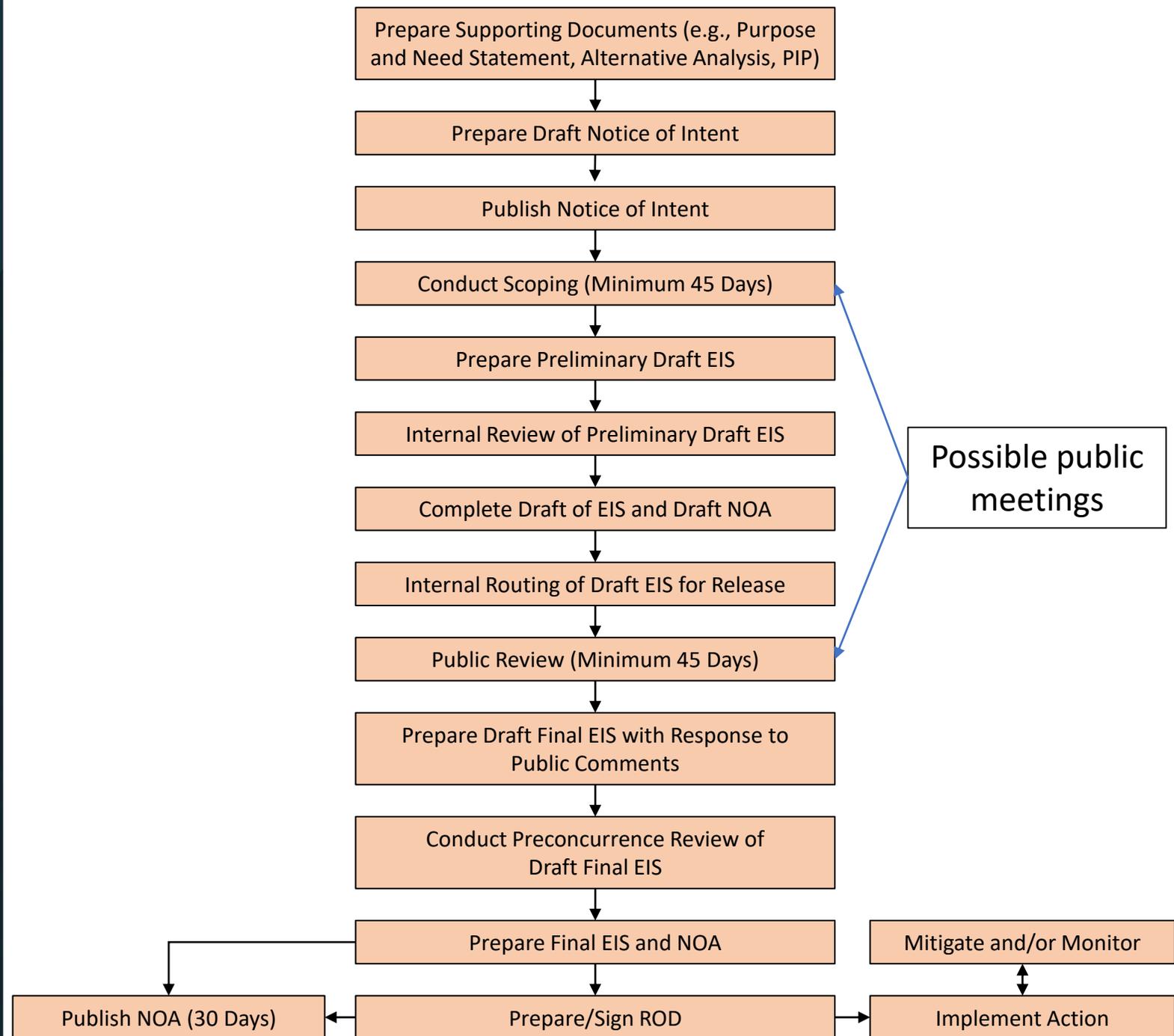
Includes coordination with Headquarters EMD.

EIS = Environmental Impact Statement

NOA = Notice of Availability

PIP = Public Involvement Plan

Source: NPR 8580.1



# Programmatic NEPA Documents

- Programmatic NEPA documents address broad actions that may include several phases or involve common elements such as groups of geographically related projects, and/or projects with relevant similarities (e.g., common timing, impacts, alternatives, methods of implementation, subject matter, or affected media).
- **Key Elements of a Programmatic NEPA document:**
  - avoids segmenting environmental analyses of common concerns by analyzing them in the entire program or suite of related or similar actions.
  - simplifies preparation of subsequent site- or mission-specific “tiered” NEPA documents addressing sub-elements of the broad action previously analyzed in a programmatic NEPA document.
  - programmatic analyses may take the form of a REC, EA, or EIS.
- The CNM must be consulted before initiating a Programmatic NEPA document.

# NASA Programmatic NEPA Documents

Before assuming you need to prepare an EA or EIS, check with your Center NEPA Manager to see if your mission or Construction of Facilities (CoF) project fits within an existing programmatic NEPA document.

Click the boxes to review examples of NASA Programmatic NEPA Documents:

## **On-Site/Infrastructure Examples**

Shoreline Restoration and Infrastructure  
Protection Program (SRIPP)  
Programmatic EIS

Master Plan Programmatic NEPA  
Documents

Wallops Flight Facility Site-wide  
Programmatic EIS

## **Mission Examples**

NASA Routine Payloads Programmatic EA

NASA Balloon Program Programmatic EA

Mars 2020 Programmatic EIS

# Supplemental NEPA Documents

After preparing an EA or EIS for a project, NASA may need to prepare a Supplemental EA or EIS when:

- NASA makes substantial changes to the proposed action that are relevant to environmental concerns; or
- There are significant new circumstances or information (e.g., changed baseline conditions or new analytical methodologies) relevant to environmental concerns and bearing on the proposed action or its impacts

CEQ guidance recommends agencies re-examine NEPA documents that are more than five years old to ensure the environmental analysis is still valid.

- Preparing an EA or EIS within five years of the planned start date (payload launch or ground breaking) may help avoid the need to prepare Supplemental EAs or EISs.
- Notify your Center NEPA Manager of changes to your project that are being considered. They can assist you in determining if a supplemental analysis is needed.

# NASA Supplemental NEPA Documents

**Johnson Space Center Building 24 Combined Heat and Power (CHP):** NASA prepared a Supplemental EA for revisions to the design and facility layout for the CHP facility previously described in the 2014 EA. The Proposed Action in the SEA relocated the CHP equipment from being entirely contained within a two-story expansion of the existing Building 24 to outside of the building, and included construction of an additional small building and parking lot expansion.



<https://www.energy.gov/eere/articles/space-exploration-powered-combined-heat-and-power>

**Low Density Supersonic Decelerator (LDSD) Technology Demonstration Mission (TDM):** The LDSD EA was published in 2013. Based on information gleaned from the first test conducted in 2014 at the U.S. Navy Pacific Missile Range Facility (PMRF), Hawaii, NASA prepared a Supplemental EA to evaluate the potential environmental impacts of changes planned for future test campaigns to be conducted at PMRF, including landing and recovery in the Papahānaumokuākea Marine National Monument (PMNM).



Navy Divers  
recover test  
article from  
the Pacific  
Ocean

<https://mars.nasa.gov/news/1829/nasas-ldsd-project-completes-second-experimental-test-flight/>

# Public Involvement in the NEPA Process

- Public involvement is one of the key elements in NEPA compliance activities during the EA and EIS processes.
- Public involvement can include:
  - Mailings/public website postings
  - Public comment reviews
  - Public meetings
- Mailing lists typically include:
  - Federal, State, and local agencies
  - Interested organizations and individuals
  - Native American tribes
  - Individuals potentially affected by the action



# Executive Order 12898

## ***EO 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations***

- Environmental Justice must be addressed in EAs and EISs.
- All Federal Agencies identify and address the disproportionately high and adverse effects of its actions on minority and low-income populations.
- Every NASA Center has an Environmental Justice Plan.
- For more information, visit [NASA Environmental Management Division's Environmental Justice website](#).



# Reach of NEPA

- NEPA applies to actions occurring within the United States, its territories, and Antarctica.
- For actions occurring outside the United States, its territories and Antarctica, NASA must comply with EO 12114: Environmental Effects of Federal Actions Conducted Abroad.
- NASA has an EO 12114 checklist to document compliance for projects occurring outside the United States, its territories and Antarctica.

To learn why  
NEPA applies to  
Antarctica,  
click here.

EO 12114 Training  
is available in  
SATERN,  
click here.

# GSFC Center NEPA Managers

## Greenbelt:

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301.286.8644

<https://code200-external.gsfc.nasa.gov/250/environmental/environmental-management-system>

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757.824.2327

<https://code200-external.gsfc.nasa.gov/250-WFF/program-areas-environmental-planning-impact-assessment>

# NEPA Resources

- NEPA Guidance Documents are available from your Center NEPA Manager
  - NASA NEPA Desk Guide
  - EO 12114 Environmental Effects of Federal Actions Conducted Abroad Desk Guide
  - Coordinating NEPA and National Historic Preservation Act
  - Applying NEPA to Grant Awards
  - NASA Nuclear NEPA Handbook
- NASA NEPA Library
- NASA NEPA Website
- NASA Environmental Tracking System (NETS)





# Test Your Knowledge

# Test Your Knowledge

Which of the following is correct?

- A. NEPA applies to projects undertaken by non-Federal entities which, if approved or funded by NASA, may require environmental impact review.
- B. Public participation during the NEPA process includes allowing the public to vote on possible alternatives.
- C. NEPA only applies to NASA's most complex programs and projects.
- D. The NEPA process needs to be included in program/project cost and schedule.

**Select an Answer:**

- A and C
- B and D
- A, C, and D
- A and D

# Test Your Knowledge

## True or False?

NEPA does not require Federal Agencies to select the alternative action with the least environmental impact.

## Select an Answer:

- True
- False

# Test Your Knowledge

**Potential consequence(s) of noncompliance with NEPA include:**

- A. Violating Federal law
- B. Risk of increased cost to program/project
- C. Risk of schedule delays, including launch
- D. Litigation and adverse judicial judgments
- E. Damaged reputation - public trust & environmental stewardship

**Select an Answer:**

- A and D
- B and C
- E only
- All of the above

# Test Your Knowledge

Who determines the appropriate level of NEPA documentation for a GSFC program/project?

- A. Program/Project Manager
- B. Center Director
- C. Center NEPA Manager

**Select an Answer:**

- A only
- B only
- C only

# Test Your Knowledge

Which of the following is correct?

- A. All NEPA decision documents are signed by the same person.
- B. The CNM oversees most NEPA document preparation.
- C. Multi-center, multi-enterprise, or controversial NEPA documents are prepared in consultation with the Headquarters EMD.
- D. The first step in GSFC's NEPA process is for the action proponent to initiate MOSI E&SR.

**Select an Answer:**

- A and C
- B, C, and D
- B only
- All of the above

# Test Your Knowledge

## True or False?

In general, NEPA should be completed during the formulation phase and prior to beginning the implementation phase.

## Select an Answer:

- True
- False

# Test Your Knowledge

## True or False?

NASA must comply with both CEQ regulations (40 CFR 1500-1508) and NASA's NEPA regulations (14 CFR 1216.3).

## Select an Answer:

- True
- False

# Test Your Knowledge

## True or False?

“Actions that are expected to result in major changes to established land use but where environmental impacts are not expected to be significant” is an example of a NASA action normally requiring preparation of an EIS.

## Select an Answer:

- True
- False

# Test Your Knowledge

Which of the following is correct?

- A. An EA is typically prepared when impacts are not known but are suspected to not be significant.
- B. An EIS is the most detailed and rigorous level of NEPA documentation and is used as a planning and decision-making tool when significant adverse impacts are likely.
- C. A CatEx is for actions that (individually or cumulatively) have no potential for substantial effects on the quality of the human environment.

**Select an Answer:**

- A only
- B only
- C only
- All of the above

# Test Your Knowledge

Which of the following is correct?

- A. NASA can implement an action prior to completion of the NEPA process.
- B. Time for completion of NEPA analysis should be included in the program/project schedule.
- C. Integrating environmental considerations into the planning stage of NASA actions should occur at the earliest possible time.

**Select an Answer:**

- A and B
- B and C
- B only

# Test Your Knowledge

Which of the following is correct?

- A. Programmatic NEPA documents address conceptual or planning alternatives that may include several phases or involve common elements such as groups of geographically related projects or actions.
- B. Programmatic NEPA documents simplify preparation of subsequent site- or mission-specific “tiered” NEPA documents addressing sub-elements of a broad action.
- C. Only EISs can be programmatic NEPA documents.

**Select an Answer:**

- A only
- A and B
- A and C
- All of the above

# Test Your Knowledge

Which of the following is correct?

- A. Public involvement is part of the NEPA process.
- B. CatExs provide for an expedited NEPA process because regulatory and public review has already been completed.
- C. NEPA public involvement typically includes the general public, other agencies, and interested groups.

**Select an Answer:**

- A only
- B only
- C only
- All of the above

# Test Your Knowledge

## True or False?

NEPA applies to NASA actions occurring outside the United States, its territories, and Antarctica.

### Select an Answer:

- True
- False



*Thank you taking the NEPA Overview  
for NASA Program and Project  
Managers!*

*Please remember  
NASA's Team of NEPA Managers are  
tasked with supporting mission success by  
assisting you with environmental  
compliance for U.S. and international  
projects.*