



PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT APPROACH

NASAfacts

Programmatic National Environmental Policy Act (NEPA) documents are typically used to assess the environmental impacts of proposed policies, plans, programs, or projects for which subsequent actions will be implemented based on the programmatic analyses. The programmatic document provides the foundation for subsequent specific actions that “tier” from the programmatic document. Tiering allows an agency to eliminate repetitive discussions of the same issues, focus on the actual issues ripe for decision, and exclude from consideration issues already decided or not yet ripe for environmental review.

Programmatic NEPA analysis is appropriate in cases where an agency is adopting a large multi-phased program. It allows an agency to make informed decisions timed to coincide with meaningful points in agency planning and decision making. Such is the case with the Mars Sample Return Campaign, where certain future actions are under development (i.e., sample transportation and siting/construction/operation of a Sample Receiving Facility [SRF]). The analyses for these actions will be broadly discussed in the programmatic document and the specific analyses deferred to the subsequent tiered NEPA document.

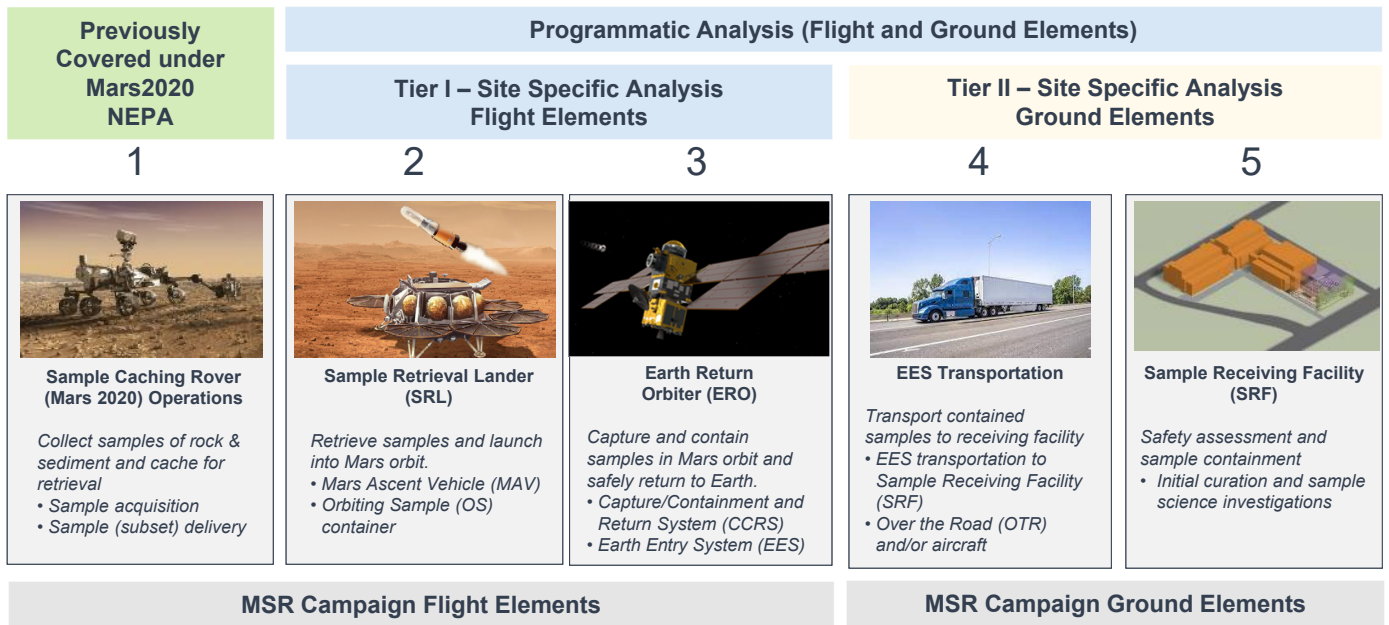
Agencies may prepare a single NEPA document to support both programmatic and project-specific proposals. For the Mars Sample Return Campaign, a single NEPA document will be used to support analyses of both programmatic and project-specific aspects of the Proposed Action.

- **Programmatic:** Mars Sample Return Flight Elements / Mars Sample Return Ground Elements (see Proposed Action and No Action Factsheet)
- **Project-specific:** Mars Sample Return Ground Elements (sample site preparation and sample recovery) at the Utah Test and Training Range (see Recovery Operations Factsheet)

The Draft Programmatic Environmental Impact Statement (EIS) for the Mars Sample Return Campaign clearly communicates:

- The purpose and need for the proposed action, including programmatic and site-specific elements
- Decisions NASA proposes to make, based directly on the Programmatic EIS
 - Programmatic decision: Return Mars samples to Earth for transport and analysis
 - Site-specific decision: Location of landing for returned Mars samples
 - Future (tiered) decision: Sample transportation methods and SRF location
- Distinguish the analysis of impacts and alternatives of the broad programmatic proposals from project- or site-specific proposals.

The environmental impacts of the Mars Perseverance rover mission were analyzed in the Supplemental EIS for the Mars 2020 Mission. The rover is included in the Mars Sample Return Campaign Programmatic EIS to describe the enabling role it plays in implementing the Mars Sample Return Campaign on the surface of Mars, which is to assemble a cache of samples for possible future return to Earth. The Mars Sample Return Campaign Programmatic EIS divides the remaining elements of the Mars Sample Return Campaign into two tiers.



Tier I

The Tier 1 analysis includes the following flight and ground elements:

Sample Retrieval Lander

- It is anticipated that the launch of the sample retrieval lander would occur in 2028 from either Kennedy Space Center or Cape Canaveral Space Force Station (Brevard County, Florida). NASA has concluded that the sample retrieval lander falls within the scope of the payload characteristics analyzed in NASA's 2011 "Routine Payload EA" and its launch from either Kennedy Space Center or Cape Canaveral Space Force Station would not result in significant environmental impacts. The "Routine Payload" checklist is included in Appendix C of the Mars Sample Return Campaign Programmatic EIS.

Earth Return Orbiter

- The Earth Return Orbiter is proposed to be launched from the European Space Agency's launch complex in French Guiana. The environmental impacts of this mission component are addressed under Executive Order 12114 (Environmental Effects Abroad of Major Federal Actions). NASA's EO 12114 checklist is found in Appendix C of the Mars Sample Return Programmatic EIS.

Earth Entry System

- The Programmatic EIS describes the potential environmental impacts and associated mitigation measures related to the entry, descent, landing, and recovery of the Earth Entry System.

Sample Transportation and Sample Receiving Facility

- The Programmatic EIS evaluates representative methods of sample transportation and siting, construction, and operation of an SRF. As described earlier, these components of the proposed action are under development and will be analyzed in specific detail in a future "tiered" NEPA document.

Site-specific analysis

- Mars sample recovery operations at the Utah Test and Training Range include landing area preparation and returned sample containment.

Tier II

- The Programmatic EIS will inform NASA decision making on the Mars Sample Return Campaign. NASA will issue a Record of Decision not earlier than 30-days after the Final PEIS is published. Depending on the decision, future Tier II analysis would include the following:
 - Action-specific analysis of specific sample transportation methods
 - Site-specific analysis of the location and type of sample receiving facility
 - Action-specific analysis of the employment of specific sample transportation