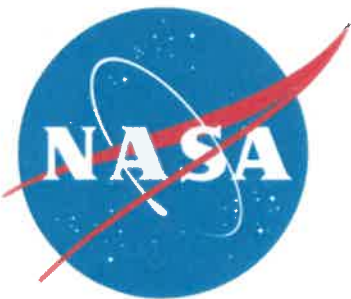


RECORD OF DECISION

**Final Programmatic Environmental Impact Statement for Implementation of the Center
Master Plan at the Kennedy Space Center, Florida**



**National Aeronautics and Space Administration
Kennedy Space Center, Florida
MARCH 2017**

RECORD OF DECISION

FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR IMPLEMENTATION OF THE CENTER MASTER PLAN AT THE KENNEDY SPACE CENTER, FLORIDA

Pursuant to The Council on Environmental Quality (CEQ) Regulations (40 CFR §1505.2), the National Aeronautics and Space Administration's (NASA's) regulations for implementing National Environmental Policy Act (NEPA) (14 CFR Subpart 1216.311), and the NASA NEPA Desk Guide, NASA has prepared this Record of Decision for the purpose of formally recording and announcing to the public which of the three alternatives considered in the Final Programmatic Environmental Impact Statement (PEIS) on the Center Master Plan (CMP) has been selected for implementation.

A. Background

This Final PEIS has been prepared to evaluate the potential environmental impacts from proposed Center-wide Kennedy Space Center (KSC) operations, activities, and facilities for a two-decade planning horizon. These operations, activities, and facilities are described in the KSC 2012–2032 CMP, which has a planning horizon from 2012 to 2032. It considers a range of future scenarios for repurposing existing facilities and recapitalizing infrastructure, and for reorganizing the management of KSC and its land resources, with the potential for various kinds of partnerships (some of which are already in place). The Final PEIS is intended to ensure that NASA is in compliance with applicable environmental statutes as it sets program priorities for future operations and activities.

In the coming years, KSC will remain the world's preeminent launch facility for Government and commercial space access. KSC will support NASA, and ultimately our Nation's competitiveness, by investing in next-generation technologies and encouraging innovation. KSC will foster partnerships—intergovernmental, commercial, academic, and international—to expand its ability to support both public and private space initiatives. These institutional efforts and initiatives necessitate changes to the infrastructure, facilities, and operations at KSC over the coming decades and are identified in a CMP update that was developed by the Center Planning and Development directorate.

The purpose of the action—the CMP—is to provide overall management guidance for KSC from 2012 to 2032. Implementation of the CMP will facilitate a two-decade transformation from a single, Government-user launch complex to a multiuser spaceport. This multiuser spaceport will be developed in concert with NASA's programmatic missions and requirements to explore destinations outside of low Earth orbit.

The need for the action is to update KSC's CMP in a manner that supports achievement of NASA's programmatic mission objectives while maximizing the provision of excess capabilities and assets in support of non-NASA access to space.

Overall, KSC is transitioning to a refocused mission that redefines its relationship with industry and leverages the potential of partnerships. Amid the challenges of an aging and unsustainable asset base and a highly constrained Federal budget, NASA must adopt and implement strategies that preserve the institutional infrastructure needed to support its purpose and programs.

In keeping with CEQ guidance, this Final PEIS outlines and broadly describes actions associated with KSC's proposed programs in the limited detail with which they are known at present. Three programmatic alternatives are described and their potential environmental effects are assessed in fairly general terms. At such time as a given specific project of detailed dimensions and scale is proposed at a specific location and is in the process of being reviewed and approved, this PEIS can serve as a master NEPA document to which future NEPA compliance documents may be "tiered." That is, having already been addressed at a programmatic level, the action or project can incorporate discussion from the broader PEIS by reference and focus on the issues specific to the subsequent tiered proposal. Ideally, this will serve to expedite the environmental review process and facilitate project approval, funding, and implementation.

B. Introduction to the PEIS

The Notice of Intent (NOI) for the PEIS was published in the *Federal Register* on May 20, 2014, informing the public of NASA's intent to prepare a PEIS and conduct scoping. The NOI also included details about the two public scoping meetings, held on June 4 and June 5, 2014. Notices and display ads were printed in local newspapers (*Florida Today*, *Daytona Beach News-Sentinel*, *Orlando Sentinel*), twice in each paper, in the weeks preceding the public scoping meetings. In addition, a 30-second Public Service Announcement (PSA) was provided to multiple local radio stations for the week prior to, and the week of, the public scoping meetings. The PSA was made available in both English and Spanish.

The first public meeting was held from 5 to 8 p.m. on June 4, 2014, at the Eastern Florida State College in Titusville. The second meeting was conducted from 5 to 8 p.m. on June 5, 2014, at the New Smyrna Beach High School. For the first hour of both scoping meetings, an open house format was used to encourage discussion and information sharing and to ensure that the public had opportunities to speak with representatives of NASA and its two Federal partners on Merritt Island, the United States (U.S.) Fish and Wildlife Service (USFWS) and the National Park Service (NPS). Several stations with exhibits, maps, and materials were staffed by representatives of NASA, USFWS, NPS, and NASA's Environmental Impact Statement contractor, Solv LLC. Sign-in sheets, handouts, and comment forms were made available to all scoping meeting attendees, and the proposed CMP was available for review on three iPads.

For the second hour of both scoping meetings, the NASA KSC project manager for the PEIS, the KSC master planner, and the contractor's PEIS project manager all provided brief PowerPoint presentations that described KSC's mission, goals, and the updated CMP as well as the NEPA process and future development of the PEIS. Following these, the public was invited to approach the microphone and deliver remarks in front of the audience and for the record. A court reporter transcribed the presentations and the comments from the public.

The PEIS scoping period extended from May 20, 2014, to June 7, 2014. A total of 60 commenters, including 54 unique commenters, provided input during the PEIS scoping period.

Commenters included Federal, state, and local agencies; non-government organizations (NGOs); and individual members of the public.

The Notice of Availability for the KSC draft PEIS was published in the *Federal Register* on March 4, 2016, commencing a 45-day comment period. Two well-attended public meetings were held on March 29 and March 30, 2016, at the same two venues in Titusville and New Smyrna Beach where the scoping meetings were conducted in 2014. A total of 16 individuals delivered oral comments at these two meetings, and the comments were transcribed by a court reporter. During the comment period in its entirety, written comments were received from four Federal and state agencies, ten individuals, and NGOs. The majority of comments concerned potential socioeconomic benefits of the Proposed Action and Alternative 1, as well as potential adverse direct, indirect, and cumulative effects on wildlife, habitat, and recreation at the Merritt Island National Wildlife Refuge and Canaveral National Seashore. A table summarizing NASA's response to each comment is included in Appendix C: Comment Response Document of the Final PEIS.

Alternatives Considered

As a result of comments received during internal and external (public) scoping, NASA developed three alternatives that are assessed in this PEIS: Proposed Action, Alternative 1, and No Action.

Under the first of these, the Proposed Action, KSC would transition to a multiuser spaceport. A number of new facilities would be constructed, including two seaports and horizontal and vertical launch and landing facilities. There would be changes in the acreage of designated land use categories at KSC.

Alternative 1 was crafted as a direct response to concerns expressed in comments received during the PEIS public scoping period, as well as observations and data acquired from stakeholders and other agencies during the scoping process. Under Alternative 1, as in the Proposed Action, KSC would also transition to a multiuser spaceport. Alternative 1 is similar to the Proposed Action in many regards, but differs in several key aspects: primarily, differences in the siting and size of vertical and horizontal launch and landing facilities and the elimination of two new seaports.

In the No Action Alternative, KSC management would continue its emphasis on dedicated NASA programs and would not transition in the coming years toward a multiuser spaceport. Rather, each NASA program would continue to be operated as an independent entity to a significant degree and to be funded separately, and each would manage activities and buildings in support of its own program. There would continue to be a limited non-NASA presence at KSC.

Under the three PEIS alternatives, there would be differences in the sizes of the areas of designated land uses at KSC. These varying acreages are a function of the different emphases, priorities, and projects of the three PEIS alternatives. Only in the recreation and water categories are the acreages identical in all three alternatives.

Several alternatives were considered but eliminated from detailed consideration, including basing alternatives on the High, Assumed, and Low Flight Rates shown for the different categories of operations/missions in the table labeled “2012–2031 Planning Envelope Forecasts, Average Annual Launch/Landing Flight Operations Departing From or Arriving at KSC” in the Future Development Concept. The launch rates in this table were too conjectural.

Another alternative eliminated was based on shifting activities, facilities, and infrastructure to the Cape Canaveral Air Force Station (CCAFS). This alternative was dismissed because the differing missions and philosophies of NASA and the Air Force do not support shifting a high number of NASA activities to land and facilities operated on CCAFS.

Key Environmental Issues Evaluated

Major issues raised in scoping included the proposed action, cumulative effects, socioeconomics, recreation, water, wildlife, threatened and endangered species, and land use. All of these were addressed in the PEIS, along with several other environmental topics. The PEIS covered the following resource topics:

- Soils and geology
- Water resources
- Hazardous materials and waste
- Air quality
- Climate change
- Acoustic environment (noise)
- Biological resources
- Cultural resources
- Land use
- Transportation
- Utilities
- Socioeconomics
- Recreation
- Environmental justice and protection of children

Environmental Consequences

The Proposed Action would result in intermittent, minor adverse impacts on soils, water resources, air quality, noise, transportation, and utilities. It would entail more substantive adverse impacts to biological resources (wildlife and habitat) as a result of a proposed 4,406-acre reduction in the size of the operational buffer (both public use and conservation components), meaning that 4,406 acres of native vegetation communities (both upland and wetland) would be converted or lost to development. Vertical and horizontal launches could result in localized adverse impacts on native upland and wetland vegetation. Two proposed new seaports would result in the elimination of 286 acres of wetlands vegetation/habitat.

The Proposed Action would produce benefits to land use, transportation, and socioeconomics, and it would also represent an adaptive response to climate change. There would be no environmental justice impacts (because neither Brevard County nor Volusia County constitutes an environmental justice population) and no new potential for environmental justice effects or

increased risk to children under this alternative. All activities under the Proposed Action that may have adverse effects on cultural resources at KSC would be managed in accordance with the KSC Cultural Resources Management Plan.

The impacts of Alternative 1 on most environmental resources (soils, water resources, air quality, noise, transportation, and utilities) would be similar to those of the Proposed Action, though on a somewhat smaller scale. Impacts on existing biological resources would be qualitatively similar to those of the Proposed Action, but quantitatively somewhat less. The combined area of operational buffer/conservation and operational buffer/public use and associated vegetation and wildlife habitat would be reduced by approximately 3,305 acres, because those lands are committed to more developed uses and facilities. A loss of wildlife habitat would result from the conversion of up to 3,286 acres of operational buffer/conservation to other more developed land uses. However, under Alternative 1, the two new seaports associated with the Proposed Action would not be built, thus avoiding the elimination of 286 acres of wetlands vegetation/habitat that would occur under the Proposed Action.

As with the Proposed Action, Alternative 1 would produce benefits to land use, transportation, and socioeconomics, and it would also represent an adaptive response to climate change. There would be no environmental justice impacts (because neither Brevard County nor Volusia County constitutes an environmental justice population) and no new potential for environmental justice effects or increased risk to children under this alternative. All activities under Alternative 1 that may have adverse effects on cultural resources at KSC would be managed in accordance with the KSC Cultural Resources Management Plan.

Under the No Action Alternative, vegetation and wildlife habitat would not be affected by construction or operations as described under the Proposed Action and Alternative 1. Any existing activities or operations would occur in accordance with existing laws and permits, and existing uses would continue at current levels. The effects on vegetation and wildlife habitat from existing activities, such as maintenance of roads and facilities, vertical and horizontal launches, and recreation, would remain unchanged from current levels.

The No Action Alternative would not have any additional impacts on soils and geology, water resources, hazardous materials and waste, air quality, noise, wildlife and other biological resources, cultural resources, land use, transportation, utilities, socioeconomics, recreation, environmental justice, or risks to children. NASA operations at KSC would be at somewhat greater risk from the impacts of climate change than they would be if the additional actions were taken.

C. Assessment of the Analysis

The PEIS broadly predicts and describes the potential environmental consequences resulting from each of the three alternatives. There would be a number of direct and indirect adverse impacts, but none that are considered to be significantly adverse. Beneficial impacts would also occur.

Alternative 1 is NASA's preferred alternative. It was developed as a direct response to concerns expressed during the PEIS public scoping period. Under Alternative 1, KSC would continue to

transition to a multiuser spaceport over the coming decades, but with fewer environmental impacts than in the Proposed Action. Alternative 1 would allow for implementation of the CMP while protecting natural resources and the environment to a greater extent than the Proposed Action.

The environmentally preferred alternative is the No Action Alternative because it would avoid impacts associated with facility construction, land use changes, and the loss of natural habitats. This alternative was not selected because it would allow for neither the transition of KSC to a multiuser spaceport nor for the implementation of the CMP.

D. Additional Information

NASA will continue to work closely with its partners at KSC, including Federal agencies such as the USFWS, NPS, Federal Aviation Administration, CCAFS, and U.S. Army Corps of Engineers; state agencies such as Space Florida, the St. Johns River Water Management District, Florida Department of Environmental Protection, and Florida Fish and Wildlife Conservation Commission; and local governments and agencies in Brevard and Volusia counties.

E. Mitigation

As stated in Chapter 4 of the Final PEIS, NASA commits to implementing mitigation measures to reduce environmental impacts associated with soils and geology, water resources, hazardous materials and waste, air quality, climate change, noise, biological resources, cultural resources, land use, transportation, recreation, and environmental justice.

Decision

Based on all of the foregoing, NASA has decided to select Alternative 1, which would allow for the continuing evolution of KSC toward a multiuser spaceport and implementation of the CMP update, while reducing and mitigating for potential environmental impacts.



Krista Paquin
Associate Administrator
Mission Support Directorate

3/10/17
Date

