

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Office of Commercial Space Transportation
Record of Decision
for
Spaceport Camden Final Environmental Impact Statement

Introduction and Background

This Record of Decision (ROD) provides the Federal Aviation Administration's (FAA's) final environmental determination to support the issuance of a Launch Site Operator License (Proposed Action) under 14 Code of Federal Regulations (CFR) part 420 that would allow the Camden County Board of Commissioners (the County) to operate a commercial space launch site called Spaceport Camden (proposed project). The issuance of a Launch Site Operator License would allow the County to offer Spaceport Camden to commercial launch operators to conduct launches of liquid-fueled, small, orbital, vertical-launch vehicles. The Federal action identified in this ROD is the FAA's issuance of a Launch Site Operator License to Spaceport Camden to operate a commercial space launch site in Camden County, Georgia.

The FAA issued a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) on November 6, 2015, which initiated scoping for the proposed project, as originally proposed during pre-application consultation between the County and the FAA. The scoping period lasted until January 18, 2016. The FAA held a public scoping meeting on December 7, 2015, and an agency scoping meeting on December 8, 2015. The FAA then developed a Draft EIS (DEIS) based on a medium-large launch vehicle with a return/flyback of the first stage of the rocket and released it for review in March 2018. The public comment period for the DEIS lasted 90 days, from March 16 to June 14, 2018. The FAA conducted public hearings on April 11 and 12, 2018.

On January 29, 2019, Camden County submitted a license application to the FAA. The application proposed launches of medium-large vehicles and return/flyback of the first stage of the rocket. On December 14, 2019, the County notified the FAA that it intended to submit an amended application that would limit proposed launch operations to small launch vehicles and requested that the FAA toll the license determination period. On January 15, 2020, the County submitted the amended application. In addition to limiting the scope of the application to small launch vehicles and eliminating return/flyback of the first stage of the rocket, the amended application also limited the launch trajectory to a single 100-degree trajectory, as compared to the previous 83 to 115 degree-range proposed in the County's original application.

Per Sections 9-1 and 9-2 of FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, the FAA must complete a written re-evaluation if more than 3 years have passed since a DEIS was circulated. A

written re-evaluation determines whether the contents of a previously prepared environmental document remain substantially valid or whether significant changes to a previously analyzed proposed action require the preparation of a supplemental environmental assessment or EIS. On June 8, 2021, the FAA completed a written re-evaluation of the DEIS. The written re-evaluation (which is attached hereto as Attachment A) concluded that (1) the proposed action conforms to plans or projects for which the DEIS was filed, and there are no substantial changes in the action that are relevant to environmental concerns; and (2) data and analyses contained in the DEIS are still substantially valid, and there are no significant new circumstances or information relevant to environmental concerns and bearing on the Proposed Action or its impacts.

The FAA issued a Final EIS (FEIS) on June 17, 2021. The FEIS considered the potential environmental impacts associated with the Proposed Action, as described in the County's amended application, to all environmental impact categories (also referred to as *resource areas*) required by FAA Order 1050.1F. The FEIS also included responses to all comments received on the DEIS.

This ROD also discloses the Federal, State, and local actions needed before the project may be implemented and identifies the FAA's preferred and selected alternative.

The U.S. Environmental Protection Agency (EPA) published a Notice of Availability (NOA) for the Spaceport Camden FEIS on June 25, 2021, which is the primary reference and basis for preparation of this ROD. The FAA published a separate NOA in the Federal Register on June 24, 2021, announcing the availability of the FEIS. The FEIS documents the analysis of environmental consequences associated with construction and operation of the proposed Spaceport Camden and the No Action Alternative. The FAA is the lead Federal agency responsible for preparation of the EIS and ROD. Cooperating agencies include the National Aeronautics and Space Administration (NASA) and National Park Service (NPS). The EIS and ROD were prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA), 42 United States Code [U.S.C.] § 4321 et seq.); Council on Environmental Quality (CEQ) NEPA implementing regulations (40 CFR parts 1500 to 1508 [CEQ Regulations]);¹ and FAA Order 1050.1F.

The FAA is responsible for the accuracy of the information in the FEIS and ROD. For more information concerning the contents of this ROD or the FEIS, please contact:

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¹ The amended CEQ Regulations became effective on September 14, 2020. Agencies have discretion to apply the amended regulations to NEPA processes that were begun before September 14, 2020 (40 CFR § 1506.13). The FAA initiated its NEPA process for this action in 2015, when the NOI to prepare an environmental impact statement was published in the Federal Register, and the FAA has decided not to apply the amended regulations. Therefore, the prior CEQ Regulations continue to apply to this NEPA process.

Purpose and Need

The purpose of the FAA's Proposed Action in connection with the County's proposed project is to fulfill FAA's responsibilities as authorized by Executive Order 12465, Commercial Expendable Launch Vehicle Activities (49 Federal Register 7099, 3 CFR, 1984 Comp., p. 163), and the Commercial Space Launch Act of 2015 (51 U.S.C. §§50901–50923) as amended by the U.S. Commercial Space Launch Competitiveness Act of 2015 (Public Law 114-90) for oversight of commercial space launch activities, including issuing Launch Site Operator Licenses for the operation of commercial space launch sites.

The need for the Proposed Action results from the statutory direction from Congress under the Commercial Space Launch Act to protect the public health and safety, safety of property, and national security and foreign policy interests of the United States and to encourage, facilitate, and promote commercial space launch and reentry activities by the private sector in order to strengthen and expand U.S. space transportation infrastructure.

The purpose of the County's proposed project is to enhance the County's economic diversification through the construction and operation of a commercial space launch site. Construction and operation of a commercial space launch site would allow the County to offer the site to a growing number of small, orbital, vertical-launch vehicle operators to conduct commercial launches from the east coast of the United States. The County's proposed project, which is also included in the County's 2018–2038 Joint Comprehensive Plan, has been developed in response to commercial market interest from launch companies seeking launch capabilities in a flexible, commercial environment that is not on Federal property.

The proposed commercial space launch site is needed to enhance the County's economic diversification, which was first identified in a 2005 report prepared by Georgia Tech's Office of Economic Development & Technology Ventures, and to further the County's vision, as established in the County's *Strategic Plan 2020–2025–2035*. The County's vision is to create a strong regional economy with diverse job opportunities for four major pillars of economic growth and sustainment, one of which is developing a world-class spaceport that would also attract businesses to support its operation. The County's proposed project is also needed to create launch-site redundancy on the East Coast.

Proposed Action

The Proposed Action is described in detail in the FEIS Chapter 2 and is summarized in this ROD. Under the Proposed Action, which is also the FAA's preferred and selected alternative, the FAA would issue a Launch Site Operator License to the County for the purpose of conducting commercial launches of liquid-fueled, small, orbital, vertical-launch vehicles from Spaceport Camden. The County would construct Spaceport Camden approximately 11.5 miles due east of the City of Woodbine, Georgia, 5 miles due west of Cumberland Island National Seashore, less than 1 nautical mile from the Satilla River, and 6.7 nautical miles from the Atlantic Ocean. The proposed launch site would be constructed within an existing 11,800-acre industrial site, consisting of property currently owned by the Union Carbide Corporation and Bayer CropScience. Spaceport Camden would be constructed as described in the FEIS and below, and the County would offer Spaceport Camden to commercial launch operators to

conduct launches of liquid-fueled, small, orbital, vertical-launch vehicles, also described in the FEIS and below. The FAA would conduct further safety, environmental, and other reviews and analyses before making a determination on any future application from a launch vehicle operator proposing to operate from Spaceport Camden.

Construction

Construction of the launch site would occur on approximately 100 noncontiguous acres of an industrial site. Proposed activities include the construction of four facilities and associated infrastructure: a Vertical Launch Facility, a Launch Control Center Complex, an Alternate Control Center and Visitor Center, and a Mission Preparation Area. The Vertical Launch Facility would include a launch pad and its associated structures, storage tanks, and handling areas; vehicle and payload integration facilities; a lightning-protection system; deluge water systems and associated water capture tank; water tower; and other launch-related facilities and systems, including shops, office facilities, and stormwater retention ponds. The Launch Control Center Complex would include a Launch Control Center Building housing a control room and related equipment and a Payload Processing Building. The Alternate Control Center would mirror the Launch Control Center in facility construction, providing a backup launch-control capability, and would also include a Visitor Center containing informational displays and accommodations for visitors viewing launches. The Mission Preparation Area would be used for remote vehicle processing and would occupy approximately 13 acres. It would primarily consist of a 400-foot by 400-foot concrete pad, as well as a building for operations, storage, and fuel and oxidizer tanks.

Each launch site facility and the western boundary of the site would be fenced to provide security and control access. The Alternate Control Center and Visitor Center is located outside of the Spaceport Camden site boundary on what is currently Bayer CropScience property.

Onsite infrastructure improvements would include improvements to existing internal roads, construction of new roadways, and new electrical distribution, water distribution, and septic systems on the launch site. Electricity and water are available on the adjoining Bayer CropScience property, and there is an access road to the launch site. The County does not anticipate that improvements or expansions would be required for Harriett's Bluff Road/Union Carbide Road outside the proposed spaceport site, which would provide access to the site. Additionally, the County does not anticipate required expansions or improvements to the utilities that bring electricity and communications to the boundary of the industrial property, although expansions and improvements may be required within the boundary of the site to provide utilities to various facilities.

The County expects construction activities to last approximately 15 months. Construction activities would occur 5 days a week during daylight hours. The County anticipates that 40 to 50 construction workers would be required for the construction of the facilities, and 20 additional construction workers would be required for the construction of new infrastructure (i.e., water, sewer, drainage, and roads). Launch site construction activities would not commence until all required Federal, State, and local permits or approvals have been granted.

Operations

The Launch Site Operator License would only authorize the County to operate Spaceport Camden. This license does not authorize FAA-licensed launches. A vehicle operator would be required to obtain a separate Vehicle Operator License from the FAA to launch from Spaceport Camden. As part of the Vehicle Operator License evaluation process, the FAA conducts a policy review, payload review, environmental review, financial determination, and safety review. For the FAA to complete a safety review, a vehicle operator is required to submit a number of analyses to the FAA, including a flight safety analysis that details the specific vehicle trajectory and trajectory-specific safety zones and demonstrates compliance with 14 CFR, Chapter III (Commercial Space Transportation, Federal Aviation Administration, Department of Transportation), Subchapter C (Licensing) requirements. FAA issuance of a Vehicle Operator License to a potential future launch operator to conduct a launch at Spaceport Camden would require a new environmental review under NEPA specific to that potential Vehicle Operator License and would not be conducted as a Written Re-evaluation of the Spaceport Camden EIS. The FAA will prepare an environmental assessment or an EIS, as appropriate, for any proposed Vehicle Operator Licenses. The NEPA analysis for any proposed Vehicle Operator Licenses would include analysis of impacts that could not be analyzed fully in the Spaceport Camden EIS and could reach different conclusions about impacts on the environment, climate change, safety, historic properties, or federally protected lands than the Spaceport Camden EIS due to new and more specific information regarding the proposed launch vehicle trajectory, vehicle design, operating specifications, or other factors.

Operations would consist of up to 12 launches, up to 12 static fire engine tests, and 12 wet dress rehearsals of a liquid-fueled, small, orbital, vertical-launch vehicle per year. One of the 12 launches could be a night launch. The proposed trajectory in the County's application is 100 degrees from true north. The booster rocket(s) providing the initial powered ascent of the launch vehicle (i.e., the *first stage*) would drop into the Atlantic Ocean and not be recovered. The County expects that the first stage would sink in the ocean.

The County anticipates that permanent staffing at the launch site would be approximately 77 full-time employees, with 27 being Camden County employees and 50 being launch operator employees. Depending on the launch operator and type of launch, onsite activities supporting a launch would be expected to begin up to 4 weeks before launch day. About 2 weeks before launch and during launch operations, it is anticipated that the number of staff would increase to approximately 50 to 100 Camden County employees and 150 to 200 launch operator employees.

Spaceport Camden would be available to a range of launch operators, each of which offers various launch vehicles. Although these vehicles would include only small launch vehicles and use liquid propellants, they would have different design and operating specifications.

The representative small launch vehicle that the County proposed for analysis is a two-stage, liquid-fueled (i.e., liquid oxygen and RP-1) launch vehicle with approximately 18,500 pounds thrust at lift-off, carrying a small (i.e., 100 to 300-pound) payload/satellite to low Earth orbit. The representative launch vehicle would be similar in design and performance to a RocketLab Electron launch vehicle. The representative launch vehicle carries approximately 1,000 gallons of liquid oxygen and 750 gallons of RP-

1 and is between 40 to 60 feet tall. The first stage of the representative launch vehicle would drop about 200 to 300 miles offshore in the Atlantic Ocean and would not be recovered.

Alternatives to the Proposed Action

In accordance with CEQ Regulations, the FAA identified a range of reasonable alternatives. The scope of alternatives the FAA considered derives from the actions proposed by the County and the purpose of and need for the Federal Proposed Action in connection with the County's proposed project. The alternatives identified that did not meet the purpose and need, as well as those that were not technically, operationally, or economically prudent or feasible, were excluded from detailed consideration in the FEIS. The FEIS provides a detailed evaluation of the Proposed Action and the No Action Alternative.

The County developed evaluation factors (i.e., criteria) that were applied to potential alternative locations for the Vertical Launch Facility. The potential alternative locations included different locations on the proposed project site, as well as other locations outside the proposed project site. Because the Proposed Action is a County initiative, the County and the FAA only considered locations within Camden County. The criteria included eight primary criteria and two secondary criteria applied to five potential sites identified by county officials (see FEIS Section 2.3 for a description of these factors). With these factors in mind, the County examined alternative sites in its planning process. The alternatives the County considered, but did not carry forward, are listed below. The specific reasons those sites were found to be infeasible are described in the FEIS Section 2.3.

No Action Alternative

Under the No Action Alternative, the FAA would not issue a Launch Site Operator License to the County. No activities related to constructing or operating a commercial spaceport would occur at the site. The County would not exercise its option to purchase the property, and the property would continue to be owned by the private landowner in accordance with its current industrial zoning. The property, currently under private ownership with no public access, is not being used. Under the No Action Alternative, the FAA assumes the property would continue to be unused, and no further development or change in the use of the property would occur.

Alternatives Considered but Not Carried Forward for Detailed Evaluation

Offsite Alternatives

In addition to the site selected for the proposed spaceport, the County considered four other potential locations within Camden County. Each of these locations was assessed against siting criteria important for safety, environmental, logistical, and economic reasons. The siting is influenced by many factors, including FAA regulations contained in 14 CFR Parts 400–499 (and appendices); the size, accessibility, and topography of the location; and the condition of the land under consideration. The four sites identified by the County, aside from the proposed Spaceport Camden site, are the West Site/Undeveloped (Ceylon) site, the Durango/Gilman Mill site in St. Mary's, a Little Cumberland Island site, and a Cumberland Island site. The County was unable to identify any other viable sites in Camden County with the potential of meeting the identified screening criteria. Based on the limitations

identified, none of these alternative sites met the County's criteria sufficiently. Therefore, these sites were eliminated from further consideration as alternatives.

Onsite Alternatives

Two potential onsite locations for the Vertical Launch Facility were considered in addition to the proposed location (identified as Fairfield 33 North): Silo and Fairfield South.

- **On-Site Layout Alternative 1 (Silo):** The Silo site is located along the road leading to the old Thiokol rocket engine test location at the northern end of the property. The site is the northernmost location considered for the Vertical Launch Facility at the launch site and the farthest away from NSB Kings Bay. The Silo site does not meet exclusion zone requirements, as it is too close to the west property edge and the 7,300-foot offset distance significantly overlaps the location for the Launch Control Center Complex, which is a required operational component for a launch. (The Mission Preparation Area, as well as the Alternate Control Center and Visitor Center, would also be inside the 7,300-foot offset distance, but are not required facilities for a launch.) Therefore, the Silo site does not meet the required criteria.
- **On-Site Layout Alternative 2 (Fairfield South):** Fairfield South is the southern location in the Fairfield Point area of the property near Floyd Creek and the existing deep-water dock. Fairfield North and Fairfield South locations are very similar, and both are approximately 2 miles from the main gate. The distance to the western edge of the property on the northern side is more than 2.35 miles from both Fairfield locations. Fairfield North is farther away from NSB Kings Bay, by about 700 to 800 feet, than the Fairfield South location. Fairfield South also borders, or is close to, a large suspected prehistoric site. The proximity of the suspected prehistoric site to the Fairfield South site would not unduly complicate the construction or operation of the launch complex. Therefore, the Fairfield South location meets both primary criteria as an alternative location for the Vertical Launch Facility.

Although initially identified as an alternative location for the Vertical Launch Facility, the Fairfield South location was subsequently determined to be essentially the same as the Fairfield North location. The relocation of the launch pad by 200 yards would not be expected to result in differences in the potential environmental impacts associated with the two locations. The Fairfield South location has been incorporated into the Fairfield North location as a part of the Proposed Action. Should subsequent investigation of the Fairfield North site uncover information that would indicate that siting the facility there could result in avoidable impacts by moving the launch pad location, relocation of the Vertical Launch Facility to the Fairfield South location would be considered as part of the Proposed Action.

Ocean-Landing Only Alternative

In the DEIS, the Ocean-Landing Only Alternative (an alternative for ocean-only first-stage landings) was evaluated in the DEIS. This alternative was dismissed from consideration in the FEIS because the revised Proposed Action only includes launches of small vehicles that do not include the potential for landing of the first stage on land or on a barge.

Preferred Alternative

The FAA's Preferred Alternative is the Proposed Action. In determining the Preferred Alternative, the FAA considered the economic and environmental impacts of the Proposed Action and the No Action Alternative. The FAA evaluated the environmental impacts of the construction and operation of Spaceport Camden in the DEIS and FEIS. Based on these considerations, the FAA determined that the County's proposed project, as modified to incorporate the avoidance, minimization, and mitigation measures described below and in Chapter 6 of the FEIS, constitutes the FAA's Preferred Alternative. Adoption of this alternative will result in the construction and operation of a commercial spaceport that is consistent with the purpose of and need for the Proposed Action, while at the same time avoiding, minimizing, and mitigating the harm to the environment.

Public and Agency Involvement

The FAA provided opportunities for the public to give input on the proposed project through the public scoping period held in November 2015 and again during the public comment period for the DEIS from March 16 to June 14, 2018. The FAA has also worked closely with the cooperating agencies and consulting parties in the preparation of the EIS.

Scoping for the EIS began with the publication of the NOI to *Prepare an Environmental Impact Statement, Open a Public Scoping Period, and to Hold a Public Scoping Meeting in Camden County, Georgia*, in the Federal Register on November 6, 2015 (80 FR 68893). In the NOI, the FAA invited the participation of Federal, State, and local agencies, Native American Tribes, environmental groups, citizens, and other interested parties to assist in determining the scope and significant issues to be evaluated in the EIS. The FAA also notified the following individuals by postcard or email: Federal, State, and local agencies; elected officials; and various groups that were likely to be interested in the Proposed Action and the scoping process. The NOI was also posted on the FAA website. The public scoping comment period was originally scheduled to close on January 4, 2016, but in response to public requests, the FAA extended it until January 18, 2016. The FAA announced the extension by posting a notice in the Federal Register on January 11, 2016 (81 FR 1280), posting a notice on the FAA website, and sending email notifications to those on the FAA's Spaceport Camden EIS mailing list.

In December 2015, the FAA mailed letters to the leaders of the following Native American Tribes, initiating formal government-to-government consultation: Chickasaw Nation, Choctaw Nation of Oklahoma, Muscogee (Creek) Nation, Poarch Band of Creek Indians, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Thlopthlocco Tribal Town. In January 2016, the FAA mailed National Historic Preservation Act (NHPA) Section 106 consultation letters to the Georgia State Historic Preservation Officer (SHPO); the Tribal Historic Preservation Officers of the aforementioned Tribes; and the Cherokee of Georgia Tribal Council, Georgia Tribe of Eastern Cherokee, and the Lower Muscogee Creek Tribe. The FAA also emailed an NHPA Section 106 consultation letter to the Chair of the Gullah Geechee Commission.

The FAA held a public scoping meeting on Monday, December 7, 2015, from 5:00 p.m. to 8:00 p.m., at the Camden County Public Services Authority Recreation Center at 1050 Wildcat Drive in Kingsland,

Georgia. Newspapers published advertisements announcing the public scoping meeting. The advertisements summarized the Proposed Action, provided the time, date, and location of the public scoping meeting, and described the methods for submitting scoping comments. All comments received during the scoping period were given equal consideration in the preparation of the DEIS.

The FAA sent notification of the publication of the DEIS to members of Congress; Federal, State, and local elected and appointed government officials and other agencies; Native American tribal officials; and libraries. The FAA sent notification of the publication of the DEIS to media outlets, special interest groups, organizations, affected landowners, and interested members of the public who requested to be notified of the DEIS, as listed in FEIS Appendix A, *Public Involvement/Agency Coordination and Consultation*. The FAA provided email notification of the availability of the DEIS and the website location to everyone on the distribution list who had a valid email address on March 8 and March 13, 2018; those persons without valid email addresses who provided a mailing address were notified via postcard. Notifications were placed in local newspapers, indicating the availability of the DEIS. The DEIS was also available for review on the FAA website.

A NOA and Request for Comment on the Spaceport Camden Draft EIS, Camden County, Georgia, was published in the Federal Register on March 16, 2018 (83 FR 11810). The NOA described the Proposed Action, provided the public hearing dates and times, informed the public about how to obtain a copy of the DEIS, and initiated the public comment period. The NOA, local newspaper advertisements, DEIS distribution letters, and the FAA website also provided notification of public hearings to gather public input on the DEIS. The public hearings occurred on April 11 and 12, 2018, from 5:30 p.m. to 8:30 p.m., at the Camden County Public Services Authority Recreation Center at 1050 Wildcat Drive in Kingsland, Georgia. Regional notification of the DEIS availability was also provided by placing legal notices in newspapers on March 11, 2018.

The FAA intended to release a Revised DEIS based on a small launch vehicle with no booster flyback and landing. The Revised DEIS would have been released for public review and comment period in or around January 2021. Based on the County's amended application, the FAA updated the EIS analysis to focus on small launch vehicles and removed the medium-large vehicle and flyback of the booster from the EIS. However, once the FAA revised the analyses, it was confirmed that all potential environmental impacts of the small launch vehicle were subsumed within the potential impacts of the medium-large lift class vehicle as described in DEIS, issued for public review in March 2018. Accordingly, on September 11, 2020, the FAA sent a letter to interested parties explaining that the FAA would issue the FEIS without an additional public comment period.

The FAA has provided more than 20 project updates to interested parties, including Federal, State, and local agencies, Native American Tribes, environmental groups, citizens, and other individuals. These updates were communicated via an email distribution list consisting of more than 1,200 recipients, public notices in the Federal Register, and advertisements in local newspapers.

The EPA issued an NOA for the FEIS on June 25, 2021. An electronic version of the FEIS is posted on the FAA website: www.faa.gov/space/environmental/nepa_docs/camden_eis/.

In addition, copies of the FEIS were sent to persons and agencies on the distribution list. Paper and electronic versions of the FEIS were available for review on June 25, 2021, at:

- Camden County Public Library, 1410 Georgia Highway 40, Kingsland, GA 31548
- St. Mary's Public Library, 100 Herb Bauer Drive, St. Mary's, GA 31558
- Brunswick-Glynn County Library, 208 Gloucester Street, Brunswick, GA 31520
- St. Simons Island Public Library, 530A Beachview Drive, St. Simons Island, GA 31522
- Woodbine Public Library, 103 East 8th Street, P.O. Box 986, Woodbine, Georgia 31569

Although the FAA did not solicit public comment on the FEIS, some comments were received.

Summary of the Environmental Consequences of the Preferred Alternative

The FEIS analyzed the direct, indirect, and cumulative environmental impacts of the construction and operation of Spaceport Camden. Resource areas that require avoidance or minimization measures to avoid or reduce impacts include Biological Resources (including Fish, Wildlife, and Plants), Coastal Resources, Historical, Architectural, Archaeological, and Cultural Resources, Land Use Resources, and Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers). The FEIS (Chapter 6) describes measures that would be implemented to avoid, minimize, and/or mitigate environmental impacts; these measures are summarized below in the Mitigation Summary section.

The following sections summarize the impact analysis for each environmental impact category under the Preferred Alternative, including the cumulative impacts of the Preferred Alternative when added to other past, present, and reasonably foreseeable future actions.

Air Quality

Air emissions associated with construction activities would result in short-term and temporary emissions during those activities. Although emissions associated with operational activities would be temporary with respect to individual launches, they would continue for the term of the Launch Site Operator License or longer. However, launch-related emissions would be minimal compared to the regional baseline emissions. Based on an air quality analysis, the Proposed Action would not result in any significant adverse air quality impacts because emissions would not cause any pollutant concentrations to exceed the National Ambient Air Quality Standards (NAAQS) for the time periods analyzed. Air emissions would be permitted by the Georgia Department of Natural Resources (GDNR). Once the final construction plan is developed and facilities are constructed, an emissions inventory should be prepared in order to accurately determine if the facility will be required to obtain a Title V operating permit.

The Proposed Action is unlikely to result in any significant, cumulative, adverse impacts on air quality.

Biological Resources (including Fish, Wildlife, and Plants)

A loss of vegetation would be associated with land-clearing activities, although the area affected is negligible when compared to the overall undeveloped land area associated with the spaceport site.

Wildlife species could be affected due to habitat alteration and loss, disturbance or displacement resulting from human activities and noise, and direct physical impacts. Individual species would experience adverse impacts, which could include injury or mortality. The Proposed Action would not result in an overall decrease in population diversity or abundance for any species. Preconstruction management actions would minimize the potential for physical strikes and habitat disturbance. Effects would generally consist of short-term behavioral reactions, such as a startle response, and would not be considered significant

Endangered Species Act

The FAA has completed consultation under Section 7 of the Endangered Species Act (ESA) with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) for potential effects on ESA-listed species and critical habitat. On February 12, 2018, the FAA received concurrence from the USFWS that the Proposed Action “may affect but is not likely to adversely affect” ESA-listed species under USFWS jurisdiction. In July 2020, the FAA submitted revised consultation documentation reaffirming its effects determinations based on the County’s amended application. The USFWS concurred again with the determinations in September 2020. In December 2020, the FAA re-initiated ESA consultation with the USFWS to address the recently listed eastern black rail (*Laterallus jamaicensis*). The USFWS recommended conservation measures to avoid adversely affecting (or “taking”²) the black rail. The FAA agreed to the proposed measures outlined in the Mitigation section, and the USFWS concurred with FAA’s “may affect, not likely to adversely affect” determination for the eastern black rail. Both the USFWS and NMFS provided concurrence that the Proposed Action is not likely to adversely affect federally listed species, provided that conservation measures identified in the consultation are implemented.

Magnuson-Stevens Fishery and Conservation Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act, the FAA must consult with NMFS regarding any action authorized, funded, or undertaken that may adversely affect essential fish habitat (EFH). NMFS provided comments and EFH Conservation Recommendations on June 14, 2018. The FAA submitted a revised EFH assessment to NMFS on October 9, 2020, to address NMFS’s EFH Conservation Recommendations. On December 4, 2020, NMFS responded to the revised EFH assessment, accepted the mitigation measures included in the letter, and had no additional EFH Conservation Recommendations, which concluded the FAA’s consultation obligations under the act.

Cumulative impacts on biological resources from additional human activity and noise associated with the Proposed Action would occur when combined with other present and reasonably foreseeable future actions. Although there would be some adverse impacts on biological resources from the Proposed Action, given the context and intensity of identified impacts, significant cumulative impacts on biological resources are not expected.

² Section 3(18) of the Federal Endangered Species Act defines *take* as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

Climate

The EIS included a quantitative analysis of greenhouse gas (GHG) emissions associated with the proposed action. This analysis was focused solely on the County's application for a Launch Site Operator License. Additional analysis of GHG emissions associated with any future launches from Spaceport Camden will be conducted as part of the FAA's review of future launch licenses applications. This GHG emissions analysis would include any potential cumulative and lifecycle emissions that may result from the scope of the proposed launch. The small amount of GHGs resulting from construction and operation of the spaceport is not likely to have any impact on global climate change, sea level rise, or any potential impacts of climate change. However, sea level rise and other climatological changes, such as increase in extreme weather events, may affect the spaceport in the coming years.

Coastal Resources

A Federal consistency certification is required for projects such as Spaceport Camden that are federally licensed when they are located in coastal areas. On December 30, 2020, Camden County submitted to GDNR an application for a Coastal Consistency Certification in accordance with the Coastal Zone Management Act (CZMA). The GDNR signed a Federal Consistency Certification Concurrence on July 8, 2021. The GDNR concurred that there would be no impacts on coastal barrier resources, nor adverse impacts on the coastal environment that could not be mitigated satisfactorily. No significant impacts on coastal resources are expected.

The Proposed Action would not result in incremental impacts from other past, present, and reasonably foreseeable future actions. Therefore, cumulative impacts on coastal resources would be the same as those discussed for the Proposed Action, which would not be significant.

Department of Transportation Act, Section 4(f)

The Spaceport Camden FEIS documented the FAA's final determination that the project would not result in a "use" of Cumberland Island National Seashore under Section 4(f). Upland portions of Cumberland Island National Seashore, at a distance of about 3.5 miles from the closest construction (i.e., Vertical Launch Facility), would experience noise levels of approximately 43 A-weighted decibels day-night average sound level. Because the noise would be temporary and limited, the noise would not substantially limit the use nor diminish the quality of any of the Section 4(f) properties, such that their value would be impaired. Additionally, there would be no impact to historic properties from vibration from construction (e.g., pile driving), because the construction would be far enough away from sensitive receptors. Outside of the proposed Spaceport Camden site boundary, the Cumberland Island National Seashore historic properties and cultural landscape are also unlikely to experience audible or visual impacts related to construction activities. Therefore, FAA made the determination that construction activities would not constitute a constructive use of Section 4(f) properties.

The analysis shows that nearby Section 4(f) properties may experience perceptible noise and visual impacts during launch activities; however, these events would be infrequent, and the duration and intensity of these impacts would not result in substantial impairment of the Section 4(f) property necessary to constitute a constructive use. Although Overflight Exclusion Zones and U.S. Coast Guard (USCG) Limited Access Areas would be established to restrict and/or limit access to areas near the

spaceport during launch activities, these would not result in closures of or restricted access to, any Section 4(f) properties. Therefore, the FAA made the determination that operations under the Proposed Action would not result in a constructive use of parks, recreation areas, or historic sites. FAA informed the NPS of its Section 4(f) determination in October 2020.

An application for a Vehicle Operator License to launch from Spaceport Camden would be subject to a new Section 4(f) evaluation to identify any impacts on Section 4(f) properties. The evaluation would include an analysis of the potential for any use of Section 4(f) resources arising from launch operations, access restrictions, and launch failure. If the potential for use existed, the Vehicle Operator License applicant would be required to supply data sufficient to conduct the analysis necessary to support any FAA or County coordination with officials having jurisdiction over Section 4(f) properties.

Should a launch failure occur, the FAA and the County would engage in coordination with officials with jurisdiction over Section 4(f) properties regarding effects. Types of launch failures and their likelihood of occurrence are discussed in Section 2.1.2.7 of the FEIS. Should a launch failure occur, potential impacts on Section 4(f) properties would depend on the scope and location of the failure. Were a failure to occur that results in effects on Section 4(f) properties, the FAA and the County would engage in coordination with officials with jurisdiction applicable to the affected Section 4(f) properties. Construction and operational activities associated with the Proposed Action would not result in permanent incorporation, temporary occupancy, or a *constructive use* of any Section 4(f) properties. Although the Proposed Action operations would result in noise and visual impacts, it would not result in substantial impairment of any Section 4(f) property. As a result, the FAA does not anticipate that the Proposed Action would contribute incrementally to cumulative impacts that would result in substantial impairment of any Section 4(f) property, and any potential cumulative impacts on Section 4(f) properties associated with the Proposed Action would not be significant.

Farmlands

No farmlands, pastureland, cropland, or forest considered to be prime, unique, or of State or local importance have been identified within the project region of influence (ROI). Aquaculture areas could be affected temporarily from access limitations during launch operations; however, these limitations would be infrequent and of short duration, and notification of limitations would be provided to the public in advance. Additionally, should a launch failure occur, aquacultural areas could be affected from the pollutants dispersed. However, the scope of impact depends on a number of factors, including location of failure, weather and tidal conditions, and the actual type and quantity of pollutants dispersed. Given the size of the launch vehicle and amount of propellants used, as well as implementation of emergency and contingency planning, potential impacts would not be expected to be significant and could be mitigated.

There would be no adverse cumulative impacts on prime farmlands from the Proposed Action.

Hazardous Materials, Solid Waste, and Pollution Prevention

Although hazardous materials would be utilized and hazardous and solid wastes generated during construction and operation, impacts would be minimal. No National Priority List properties are involved in the project, and landfill capacities would not be exceeded. There is the potential for effects on

historical contamination sites. Once the land is acquired by the County, the potentially contaminated sites could continue to be managed under the existing hazardous waste facility permit, or it is possible that another State program, such as the Georgia Brownfields Program, could be utilized. Also, the County, as the owner of the property, would be responsible for any limitations placed on the property as part of State-approved corrective actions for the historical sites.

No significant adverse cumulative impacts are identified under the Proposed Action. Under the Proposed Action, there would be an increase in the quantity of hazardous and nonhazardous waste generated in the region. However, with the implementation of appropriate handling and management procedures for hazardous materials, hazardous wastes, and solid wastes generated during the construction and operation of the facility, there would be no significant onsite impacts.

Historical, Architectural, Archeological, and Cultural Resources

NHPA Section 106 consultation is required to identify and evaluate potential effects on historic properties. The FAA initiated Section 106 consultation in 2017 and consulted with the SHPO, Advisory Council on Historic Preservation (ACHP), Native American tribes, and other consulting parties regarding its determination of potential adverse effects on archaeological resources during construction of the proposed spaceport and aboveground historic properties from the operation of the proposed spaceport.

In consultation with the SHPO, the FAA considered the potential direct, indirect, and cumulative effects of the Undertaking as provided in 36 CFR §§ 800.4(a) and 800.16(d) and established and inventoried an Area of Potential Effects (APE) for historic properties. The APE encompasses the boundary of the proposed Spaceport Camden and consists of areas where there would be direct ground disturbance, including construction of facilities, installation and upgrading of utilities, access roads, or other routes, stormwater retention ponds, staging areas, the location of maintenance and operations activities, and noise (including vibration) and visual effects. It consists of an area within a 5-mile radius of the proposed Spaceport Camden, extending around the Proposed Action.

Temporary effects on aboveground historic properties that are either NRHP-eligible properties or contributing sites within NRHP-eligible properties, identified through the Section 106 process, could arise from the changes to the audible and visual environment during operation of the spaceport through introduction of elements inconsistent primarily with the historic properties' setting. However, there would be no adverse effect. Within the project area, but outside the construction zone, three NRHP-eligible components of the Floyd's Fairfield and Bellevue Plantations/Union Carbide Property would experience no adverse effect from vibration related to noise from wet dress rehearsals, static testing, and launches of small launch vehicles. The FAA has determined, at this time, that there would be no adverse effects on aboveground historic properties associated with the construction of Spaceport Camden. The survey found four archeological sites that are potentially eligible for the NRHP. A Programmatic Agreement was developed, which identifies steps to be taken if the sites are unable to be avoided. In addition to further surveying to identify potentially unknown resources, compliance with Section 106 for unsurveyed areas is being addressed through the Programmatic Agreement.

For spaceport operations, the FAA has determined that there would be no adverse effects on archaeological resources. However, the FAA has determined that there is a potential for adverse effects

on aboveground historic properties from the operation of Spaceport Camden. The proposed launch vehicle is conceptual at this time. If a vehicle operator applies for a Vehicle Operator License to launch from Spaceport Camden, the FAA will conduct a separate environmental review and Section 106 consultation. The FAA would review Section 106 findings arising from launch operations and potential launch failure through the Vehicle Operator License application process if a future applicant applies to launch from the site and would amend the Programmatic Agreement if necessary. On April 15, 2021, the SHPO concurred with the FAA's revised Finding of Effects and the APE.

The FAA worked with the consulting parties to develop a Programmatic Agreement to resolve potential adverse effects on historic properties. Consulting parties include Georgia State Historic Preservation Officer, Advisory Council on Historic Preservation, National Park Service, Camden County, the Gullah/Geechee Nation (through the Gullah/Geechee Sea Island Coalition), Little Cumberland Island Homes Association, Inc., and National Trust on Historic Preservation. The Programmatic Agreement was signed by the FAA, the Georgia SHPO, and the ACHP and executed on December 14, 2021.

Adverse effects resulting in impacts on historic properties related to the Proposed Action are likely to add to the cumulative impacts of other actions within the project area. Adverse effects on archaeological resources would be added to the overall loss of archaeological sites from a specific time period and, therefore, the ability to expand understanding of the region over time.

Land Use

There would be no conflict with existing land use management plans, laws, or other policies, and the site would remain within its current industrial land use designation. Adverse impacts on recreational use within the operational ROI would be short-term and temporary during launch operations and would not result in long-term preclusion of certain uses, prohibition or severe access limitations to certain areas, and/or severe alterations or diminished aesthetic recreational experiences (e.g., wilderness solitude). Long-term impacts on the solitude quality of the Cumberland Island Wilderness would result from the sky glow and visual intrusion of the spaceport towers/facilities, but only from west shoreline areas; implementation of a Light Management Plan and vegetative buffers will minimize these impacts. No substantial long-term annoyance (i.e., noise-compatible land use impacts) and/or permanent conflict with landowners has been identified.

However, there is the potential for impacts on the aesthetic recreational experience and access to the Floyd Cut and Floyd Creek areas used as part of the Georgia Coast Saltwater Paddle Trail. There could also be an annoyance impact to residential land uses on Cumberland Island.

Because the site proposed for Spaceport Camden has historically been used for industrial purposes, there would be no change in land use. The proposed spaceport would also not have any adverse land use impacts on the nearby communities of Woodbine, Kingsland, and St. Mary's, Crooked River State Park, NSB Kings Bay, Jekyll Island, or Fort Clinch State Park on Amelia Island. Intracoastal waterway users may experience intermittent and temporary closures. However, although there may be impacts on these areas, the Proposed Action would not contribute incrementally to any cumulative impacts.

Natural Resources and Energy Supply

Although construction and operation of the spaceport would require the use of natural and energy resources, the Proposed Action would not have the potential to cause demand to exceed available or future supplies of applicable resources.

Cumulative impacts on energy use and supply of natural resources could occur if projects near the proposed project area consume energy and/or natural resources; however, the Proposed Action is not expected to contribute in any substantive manner to adverse cumulative impacts on energy use or supply of natural resources.

Noise and Noise-Compatible Land Use

Construction noise would be temporary, lasting only the duration of the construction project, and limited to normal working hours. The proposed construction activities would not be expected to result in significant community noise impacts.

Noise levels during launches and static fire events would be high in areas surrounding Spaceport Camden, but each event type would occur only up to 12 times per year, and no land area outside of Spaceport Camden would experience significant noise impacts (i.e., exposed to noise levels of 65 dBA DNL—an average over a 24-hour period).

Although individual noise events would temporarily alter the quiet setting that is a defining feature in surrounding areas (e.g., Cumberland Island), rocket noise events would be infrequent. Activities other than rocket launches (e.g., construction, loudspeaker announcements) would result in temporary localized noise level increases primarily affecting the area on and immediately surrounding Spaceport Camden. Because the sound environment in noise-sensitive locations near Spaceport Camden would be unchanged during the vast majority of the year, current land uses (e.g., recreation, residences, commercial) would remain compatible.

The area exposed to greater than 115 dBA maximum A-weighted overall sound pressure level ($L_{A,max}$) during launch and static fire events is uninhabited, so the potential for noise-induced hearing loss would be negligible. Noise-induced vibrations in several structures on and near Spaceport Camden would remain below impact thresholds in all frequency bands during launches. Structures located farther away would be exposed to lesser structural vibration levels, and the risk to all structures would be minimal.

Sonic booms of up to 0.2 pound per square foot (psf) would only affect open water, potentially intersecting the surface at approximately 55 miles offshore in the Atlantic Ocean. These overpressures would be potentially noticeable in low ambient-noise environments, but would pose no risk to structures (e.g., windows in boats).

During launches and static fire engine testing, noise levels at two nearby noise-sensitive locations, the closest residence (located southwest of Spaceport Camden) and the Settlement on Cumberland Island, would be exposed to noise levels expected to disrupt normal speech (i.e., 66 dBA) for less than 51 seconds during each single-noise event. In cumulative total, over the course of a year, these two locations would be exposed to noise levels exceeding 66 dBA for up to about 12 minutes. Subsonic noise

would be audible at Naval Submarine Base Kings Bay during launch events, but events would not be at an intensity that would be of concern.

Noise at Cumberland Island National Seashore would be of particular concern because of the expectation among visitors of a completely natural soundscape. Because people's feelings about rockets can be expected to have a strong effect on their perception of rocket noise, previous research conducted on NPS visitor reactions to aircraft noise are not expected to be applicable to predicting the percentage of people highly annoyed by rocket noise. Although existing research does not support prediction of a specific percentage of visitors that would be highly annoyed by the noise of rocket operations, disruption of the natural soundscape, particularly in the designated Cumberland Island Wilderness Area, could degrade the positive experiences of visitors to the island.

Certain people exposed to elevated noise levels during launch and static fire events could become annoyed by the noise. There would be a very low risk of damage to structures due to noise.

There may be short-term incremental noise increases during operational activities; however, noise levels would return to baseline on completion of the operational activity. As a result, any cumulative noise impacts would be short-term and temporary and would not result in sustained, long-term cumulative impacts on the noise environment.

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks

It is estimated that approximately 40 to 50 construction workers would be required for construction of new facilities, and 20 additional workers would be required for construction of new infrastructure. Approximately 77 full-time personnel are estimated to be required during operations. Aerospace industry operations are estimated to result in an additional 130 induced and indirect jobs, which would contribute to the local economy. Any temporary or permanent in-migration of construction workers or anticipated permanent in-migration of operation workers would represent less than 1 percent of the total county population and full-time and part-time jobs. Incoming personnel would require housing throughout Camden County. Demand for public service personnel would increase with incoming personnel, but would not be significant.

Access limitations within the composite USCG Limited Access Area (LAA) under nominal launch situations would be up to 3.5 hours, 12 days a year, for a total of 42 hours. Section 2.1.2.5 of the FEIS provides a detailed description of these limitations and the associated areas. Tourism/ecotourism and commercial and recreational fishing in the ROI could be affected from access limitations during operational activities. Advanced notice and communication of launches would be provided through issuance of Notices to Mariners. Implementation of mitigation measures would minimize the potential adverse impacts from spaceport operations to economic activity in the region.

Construction and operation associated with the Proposed Action would not be expected to cause disproportionately high or adverse effects on minority and low-income populations. Environmental health and safety risks to children and elderly populations would not be anticipated during construction and operation of Spaceport Camden. All Federal, State, and local regulations, emergency plans, and possible mitigations would be implemented to minimize potential adverse impacts on the public. In addition, as noted in the Historical, Architectural, Archeological, and Cultural Resources section, above,

the Gullah/Geechee Sea Island Coalition is a consulting party for the Section 106 process and the Programmatic Agreement for implementation of the Proposed Action.

The Proposed Action would not likely induce substantial economic growth (e.g., establishing projects in an undeveloped area), disrupt or divide the physical arrangement of an established community, cause extensive relocation when sufficient housing is unavailable, cause extensive relocation of community businesses that would cause severe economic hardship for affected communities, disrupt local traffic patterns or substantially reduce the levels of service of roads serving an airport and its surrounding communities, or produce a substantial change in the community tax base. Therefore, there would be no significant cumulative impacts on socioeconomic resources.

Visual Effects (including Light Emissions)

Overall, construction activities would have little effect on visual resources in the areas surrounding the proposed Spaceport Camden. The completed facilities mostly would be screened and not visible from most offsite locations. The tallest elements of the construction are situated at the Vertical Launch Facility and would rise above surrounding forest and vegetation. These elements would be visible from several locations and from open waterways. These elements would be noticeable, but not dominant in the viewshed from the western shoreline of the wilderness areas on Cumberland Island National Seashore. Because these towers would have hazard lighting and markings, they could be annoying to some distant viewers and residents accustomed to nighttime views without artificial lights in this segment of the viewshed.

Lighting at the launch pad during a launch event would be highly noticeable at nighttime for 1 or possibly 2 nights each month on average. The directed light would be highly noticeable from nearby locations and could cause glare depending on the exact position of the viewer, conflicting with activities such as driving and aviation.

Launch failure may produce a short-term, highly visible cloud of fire, smoke, and steam at the launch site or in the air, depending on where the failure occurs in the launch sequence. Following the extinguishing of the associated fire and recovery of any associated debris, no long-term offsite visual changes would result.

Considering past, present, and reasonably foreseeable future development expectations of the local area and region, the visual changes of the spaceport would not result in cumulative impacts.

Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)

Approximately 0.78 acre of wetland and 0.166 acre of waterways may be affected from construction activities; this would require a CWA Section 404 permit from the U.S. Army Corps of Engineers (USACE), and compensatory mitigation would be required for any unavoidable impacts on jurisdictional wetlands and waterways. The filling of wetlands and waterways would result in a loss of wetland and stream function. The amount of wetlands and waterways filled represents a small percentage of the total wetlands and waterways onsite.

The Vertical Launch Facility and Alternate Control Center and Visitor Center would be constructed in the 100- and 500-year flood zone. The main gate area of the project is also within the 500-year flood zone. Approximately 82 acres of proposed facilities would be constructed within flood zones (i.e., 19 acres in the 100-year flood zone, and 63.1 acres in the 500-year flood zone). This represents 0.9 percent of the approximately 9,470 acres of flood zones within the ROI. The Vertical Launch Facility is considered a critical facility under the County's definition in its Unified Development Code (UDC) because the facility would store and use flammable and volatile chemicals. Construction in the floodplain would require an exemption to the County's UDC, which states that critical facilities must not be constructed in a floodplain; the Vertical Launch Facility's storage areas would need to be developed so that the storage of flammable and volatile chemicals would be above the 500-year flood zone.

Potential indirect impacts from proposed construction activities could result in additional sediment loads being transported to surface waters in the vicinity of proposed construction. Increases in sedimentation could alter stream and wetland functions and result in the loss of wildlife habitat. However, during construction, a Storm Water Pollution Prevention Plan (SWPPP) and Sediment and Erosion Control Plan would be prepared in compliance with Georgia's National Pollutant Discharge and Elimination System (NPDES) requirements and Georgia's Erosion and Sedimentation Act of 1975. The SWPPP and Sediment and Erosion Control Plan would implement the use of management practices to minimize erosion and sedimentation. Implementation of these management practices would minimize indirect impacts, and no significant adverse impacts on surface waters would be anticipated.

Surface waters and wetlands could be affected by spills of fuels and other hazardous materials during the construction and operation of Spaceport Camden. Spills could result in the loss of vegetation and pollution of wetlands or surface waters, resulting in a short-term loss of wildlife habitat. However, all hazardous materials use would be conducted in accordance with standard operating procedures that minimize the potential for spills.

The operation of the spaceport would require an NPDES Industrial Stormwater General Permit to accommodate stormwater runoff and identify operational best practices to reduce the potential for onsite stormwater pollution. No adverse impacts on groundwater resources within the aquifers underlying the ROI have been identified, and no Wild and Scenic Rivers are within the project vicinity. No construction-related impacts on the Satilla River are anticipated that would adversely affect this river system. The river is located more than 1 mile from proposed construction activities, and the potential for the offsite migration of sediments would be low.

Types of launch failures and their likelihood of occurrence are discussed in Section 2.1.2.7 of the FEIS. Should a launch failure occur on the launch pad, there would be potential for water resources within the overflight exclusion zone (See Section 2.1.2.5 of the FEIS) to be affected. Should a failure occur during ascent, then impacts could extend into water resources to the north and east, including the Cumberland and Satilla Rivers and the Atlantic Ocean. Overall, emergency and contingency planning and response measures would serve to minimize potential adverse impacts associated with launch failures, and emergency consultation with regulatory agencies (e.g., USFWS, Georgia SHPO, USACE) would be required should a launch failure result in impacts on sensitive resources.

No significant adverse impacts are anticipated on water resources as a result of implementing construction activities or operations at the proposed Spaceport Camden.

Environmentally Preferable Alternative

Section 1505.2(b) of the CEQ Regulations requires that, in cases where an EIS has been prepared, the ROD must identify all alternatives that were considered, "...specifying the alternative or alternatives which were considered to be environmentally preferable." The alternative is that which causes the least damage to the biological and physical environment and best protects, preserves, and enhances historic, cultural, and natural resources.

The environmentally preferable alternative in the FEIS is the No Action Alternative, because there would be no new construction or operations at the proposed site. Continuation of the existing site conditions would result in few, if any, additional environmental impacts outside the scope of current activities/uses of the site. However, the No Action Alternative is not the FAA's Preferred Alternative because it is not consistent with the purpose of and need for action, including the FAA's statutory direction from Congress under the Commercial Space Launch Act to encourage, facilitate, and promote commercial space launch and reentry activities by the private sector to strengthen and expand U.S. space transportation infrastructure.

Findings and Determinations

The FAA makes the following determinations based on the appropriate information and analysis set forth in the FEIS and on other portions of the administrative record.

Selected Alternative and Summary of Necessary Permits and Approvals

Preparation of an EIS, public review and comment, and issuance of this ROD fulfills the FAA's requirements under NEPA. The FAA has selected the Preferred Alternative, which is for the FAA to issue a Launch Site Operator License to the County to operate Spaceport Camden. This alternative would allow the County to offer Spaceport Camden to commercial launch operators to conduct launches of liquid-fueled, small, orbital, vertical-launch vehicles and will hereafter be referred to as the Selected Alternative. The requirements for obtaining and possessing a Launch Site Operator License are described in 14 CFR Parts 400–450. The completion of the environmental review process does not guarantee that the FAA would issue a Launch Site Operator License to the County for the operation of Spaceport Camden. The Selected Alternative must also meet FAA safety and indemnification requirements. As part of the licensing process, the County is required to obtain agreements with FAA Air Traffic Control and the USCG.

Acquisition of permits and approvals under other laws would be required prior to construction and operation, including:

- **Air emissions** would be permitted by the GDNR. The County does not anticipate that Spaceport Camden would be a major source requiring a Title V Permit.

- **Clean Water Act (CWA) Section 404 and Rivers and Harbors Act Section 10 permits** would be required. USACE issues permits for dredging or filling wetlands or other waters of the United States. The proposed construction would affect less than 1 acre of wetlands. Unless final design plans can further avoid wetland impacts, a Section 404 permit will be required prior to construction activities in wetlands.
- An **NPDES permit** is required for point source discharges from Spaceport Camden facilities during construction or operations. For construction, an SWPPP and a Sediment and Erosion Control Plan would be required to obtain an NPDES construction storm water general permit. Operational stormwater discharges would require an NPDES industrial stormwater general permit. GDNR is authorized by the EPA to administer the NPDES program.
- Several septic systems have been proposed for Spaceport Camden; therefore, a **septic system permit** would be required. Septic systems are regulated and permitted by the Georgia Department of Public Health and Camden County Department of Health.
- A **hazardous waste generator operating permit** is required for site operations for hazardous waste handling. The permit is issued by GDNR's Environmental Protection Division (EPD).
- Under the Georgia Boat Safety Act, the GDNR Coastal Resources Division requests notification in writing of all launch operations that require public notification, so that it may assist in alerting the affected public of closures. Operational activities involving closures may require a **Marine Event Permit**, in coordination with GDNR. Marine Event Permits must be applied for 30 to 60 days in advance, depending on the number of spectators anticipated, prior to each closure (Official Code of Georgia Annotated (O.C.G.A.) 52-7-19, Boat Safety Act).
- Under the Shore Protection Act, Individual Security Plans that include motorized vehicular use or temporary structures or staging areas on the beach will require **beach driving permits** and/or **Letters of Permission** from the GDNR Coastal Resources Division (O.C.G.A. 12-5-230, Shore Protection Act).

Section 4(f)

The Selected Alternative would trigger the application of 49 U.S.C. section 303(c), commonly known as Section 4(f) of the Department of Transportation (DOT) Act, with regard to properties protected under that act. The Selected Alternative would not constitute a use of a Section 4(f) resource. The FAA determined that the Selected Alternative does not involve a physical use of a Section 4(f) resource and would not result in a constructive use based on the FAA's determination that the Selected Alternative would not substantially impair a Section 4(f) resource. Therefore, the FAA has determined that the Selected Alternative would not result in significant adverse impacts on Section 4(f) properties/resources.

NHPA

The FAA determined that the Selected Alternative would create an adverse effect on historic properties. The FAA developed a Programmatic Agreement to resolve potential adverse effects on historic properties. The Programmatic Agreement was signed by the FAA, the Georgia SHPO, and the ACHP and executed on December 14, 2021.

Floodplains

The FAA has concluded that the Selected Alternative would not involve a significant encroachment on a floodplain as defined in DOT Order 5650.2, which implements Executive Order 11988. These Orders establish a policy to avoid supporting construction within a 100-year floodplain, where practicable, and, where avoidance is not practicable, to ensure that the construction design minimizes potential harm to or within the floodplain. Consistent with this policy, implementation of the selected alternative could encroach, although the encroachment would not be significant. The FAA has considered whether there are practicable alternatives to this encroachment. Further, the selected alternative conforms to all applicable State and/or local floodplain protection standards (Executive Order 11988).

Wetlands

Executive Order 11990 requires all Federal agencies to avoid providing assistance for new construction located in wetlands, unless there is no practicable alternative to such construction, and all practicable measures to minimize harm to wetlands are included in the action.

Section 4.14 of the FEIS documents that the Selected Alternative will directly affect 0.78 acre of jurisdictional wetlands. The FAA has concluded that no practicable alternative exists to development of the Selected Alternative because the other alternatives fail to meet the purpose and need.

Clean Air Act

The Selected Alternative will conform with the Clean Air Act of 1970, as amended. Because the Selected Alternative would not cause pollutant concentrations to exceed one or more of the NAAQS, as established by the EPA under the Clean Air Act, for any of the time periods analyzed, nor would it increase the frequency or severity of any such existing violations, the FAA has determined that the Selected Alternative would not result in significant adverse air quality impacts.

Endangered Species Act

The Selected Alternative includes all practicable measures to minimize harm to endangered species as much as such harm may result from implementation of the Selected Alternative (Endangered Species Act of 1974, U.S.C. § 1531, as amended).

To comply with Section 7 of the Endangered Species Act of 1974, as amended, agencies overseeing federally approved projects are required to obtain information from the USFWS and NMFS concerning any species, listed or proposed to be listed, as may be present in the area of concern. The FAA completed consultation with USFWS and NMFS in December 2020, in accordance with Section 7 of the ESA. The FAA determined the Selected Alternative would either have “no effect” or “may affect, but is not likely to adversely affect” ESA-listed species, depending on the particular species and scope of associated activity. Both USFWS and NMFS provided concurrence that the Selected Alternative is not likely to adversely affect federally listed species, provided that the conservation measures identified in the consultation are implemented.

Coastal Zone Management Act

The CZMA places obligations on both the FAA and Camden County to ensure actions proposed within or affecting the coastal zone are consistent with the enforceable policies of the state's approved coastal zone management program (CZMP). For FAA licensing approvals, if the proposed action is specifically listed within an existing CZMP, the FAA must ensure that the requirements of 15 CFR, Subpart D, Consistency for Activities Requiring a Federal License or Permit, are satisfied. For unlisted activities, like the Selected Alternative, compliance with this subpart is also required where the responsible state agency specifically indicates to the FAA that approval for a proposed project would affect coastal zone resources and that it intends to review the approval.

On December 30, 2020, Camden County submitted to GDNR an application for a Coastal Consistency Certification in accordance with the CZMA. The GDNR signed a Federal Consistency Certification Concurrence on July 8, 2021. The County declares that its proposal to construct and operate a launch site in Camden County, Georgia, complies with the policies of Georgia's approved Coastal Management Program (i.e., State laws) and will be conducted in a manner consistent with such program.

All Practicable Means to Avoid or Minimize Harm

Implementation of the Selected Action will result in the use of resources and in unavoidable environmental impacts. Section 1505.2(c) of the CEQ Regulations requires the FAA to state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and, if not, why they were not. This section also requires that a monitoring and enforcement program be adopted and summarized where applicable for any mitigation. In this case, the FAA has established measures to avoid and mitigate the adverse effects of the County's construction and operation of the Selected Alternative. Mitigation measures were developed to meet applicable Federal and State requirements and to be consistent with applicable guidance and in consideration of State and local guidelines. Inclusion of these measures within this ROD obligates the County to implement them as a condition of the FAA's environmental determinations. The concerns and interests of the public and government agencies were also considered throughout the environmental review process. The mitigation program is described in detail in Chapter 6 of the FEIS and summarized below in this ROD. The FAA will monitor the implementation of these mitigation measures as necessary and in accordance with the requirements of Section 7-2.3 of FAA Order 1050.1F to assure they are carried out as committed to. The FAA finds that these measures constitute all reasonable steps to avoid or minimize environmental harm from the Selected Alternative.

Independent Evaluation

The FAA has given this proposal the independent and objective evaluation required by Section 1506.5 of the CEQ Regulations. As documented in the FEIS and this ROD, the FAA has engaged in a lengthy and extensive process related to the screening and selection of the viable alternatives that best fulfilled the identified purposes and needs for the proposed spaceport for a Launch Site Operator License. The process included the FAA selecting a consultant/contractor through a competitive process to assist in conducting the environmental process, which included identifying the purpose and need for the project; screening and selecting reasonable alternatives and, ultimately, the Selected Alternative; fully

discovering and disclosing potential environmental impacts; and selecting appropriate mitigation measures. The DEIS and FEIS documents disclose and analyze the environmental impacts of the Selected Alternative and the other reasonable alternatives. The FAA directed the technical analyses provided in the FEIS and provided input, advice, and expertise throughout the planning and technical analysis, along with an administrative and legal review of the project. From its inception, the FAA has taken a strong leadership role in the environmental evaluation of this project and maintained its independence and objectivity.

Mitigation and Monitoring Summary

This section summarizes measures that the County will implement to avoid, minimize, or mitigate the potential environmental consequences of construction and operation of Spaceport Camden. This section reflects the FAA's consideration of all practicable means to minimize harm to those resources that would be subject to unavoidable impacts. Measures described in the following sections include stipulations required by ESA Section 7 and NHPA Section 106 agency consultation, management plans and procedures, best management practices (BMPs), and special conservation measures that will be implemented during construction and operation. Additional measures may be imposed by other State or local agencies as part of the County's permitting process.

Development of the specific plans and other BMPs during the construction phase will be the responsibility of the County, to be delegated to the contractor, as necessary, during construction of Spaceport Camden. The contractor will be required to apply current construction industry BMPs, in accordance with Federal requirements, and NPDES Construction Storm Water General Permit requirements. The County will oversee all contractor performance to ensure that the contractor complies with these requirements.

In accordance with 40 CFR section 1505.3, the FAA will take appropriate steps to ensure the mitigation measures required as a condition of the approval of the action described in the FEIS are implemented during project development. The County will monitor the implementation of these mitigation measures and develop reports of monitoring to ensure representations made in the FEIS with respect to mitigation are conducted. The monitoring reports will be provided to the FAA on an annual basis and inspected by the Launch Site Operator License inspector, as needed. Mitigation measures are stipulated in this Record of Decision, and compliance with these mitigation measures will be included as terms and conditions of a Launch Site Operator License, if issued to the County.

The following sections provide a description of measures to avoid, minimize, or mitigate environmental impacts.

Air Quality

- Once the final construction plan is determined and facilities constructed, an emissions inventory will be prepared in order to accurately determine whether the facility will be required to obtain a Title V operating permit.
- Spaceport Camden will prepare and implement a Hazardous Materials Emergency Response Plan to ensure that adequate and appropriate guidance, policies, and protocols regarding

hazardous material incidents and associated emergency response are available to and followed by all personnel.

Additional measures that can be implemented to further minimize impacts from activities associated with construction can be found in Section 6.1 of the FEIS.

Biological Resources (including Fish, Wildlife, and Plants)

Spaceport Camden will designate an employee or contractor as the Natural Resources Specialist, who will be responsible for overseeing compliance with these conservation measures. The Natural Resources Specialist will be a biologist or have similar ecology or natural resources training. The FAA will require compliance with these conservation measures as part of maintaining an active Launch Site Operator License.

Construction

- Conduct preconstruction sensitive species and associated habitat surveys; the survey protocol will be reviewed and approved by the USFWS.
- Develop a Protected Species and Habitat Management Plan to address sensitive species protection and habitat management at the spaceport at least 6 months prior to starting construction. This plan will include measures to protect wildlife from the impacts of artificial lighting at night.
- Develop a Wildlife Lighting Management Plan in coordination with the USFWS and GDNR:
 - Minimize to the extent possible visibility of facility glow, sky glow, or direct light to wildlife.
 - Provide clear guidance to project and/or facility managers.
 - Consult with the International Dark-Sky Association (IDA) or another similar professional organization when developing the lighting design and management plan for Spaceport Camden.
 - Specifically, for the protection of sea turtles, the lighting plan will use fixtures and practices similar to those prescribed in the Jekyll Island Authority Code of Ordinances, Chapter 10, 28 Article IV (Beach Lighting), Sections 10-81 and 10-83, specifically relating to sea turtle-safe lighting and protocols during nesting seasons.
- Develop a Wildland Fire Management and Burn Plan in coordination with the USFWS and GDNR at least 6 months prior to Spaceport Camden development.
- Follow National Bald Eagle Management Guidelines³
 - A bald eagle nesting survey will be required prior to construction; if an active nest (i.e., nest with eggs or chicks) occurs within the construction ROI, then the nest will be protected until the chicks have fledged.

³ USFWS (May 2007). National Bald Eagle Management Guidelines. Retrieved from National Bald Eagle Management Guidelines: <https://www.fws.gov/southdakotafieldoffice/NationalBaldEagleManagementGuidelines.pdf>.

- State and Federal permits for eagle take (i.e., disturbance) are required in order to avoid liability under the Bald and Golden Eagle Protection Act; the County is responsible for determining if a Bald and Golden Eagle Protection Act permit is necessary.
 - Construction will follow the guidelines for the Georgia Power Avian Protection Plan developed in coordination with the Avian Power Line Interaction Committee (APLIC) and the USFWS (2005) to minimize impacts from power lines, unless structural or human safety would be compromised.
 - The perimeter of all areas to be disturbed during construction or maintenance activities will be clearly demarcated using flagging or temporary construction fence (i.e., silt fence), and no disturbance outside that perimeter will be authorized, particularly in tidal flats. All access routes into and out of the proposed disturbance area will be flagged, and no construction travel outside those boundaries will be authorized. When available, areas already disturbed by past activities or those that will be used later in the construction period will be used for staging, parking, and equipment storage.
 - The County will maintain clear shoulders on road edges to allow drivers to see wildlife along the road edge more easily and reduce incidents of vehicle/wildlife collisions.
- The following measures are part of the Selected Alternative to avoid and minimize the potential for water quality impacts on ESA-listed species and designated critical habitat from construction (e.g., soil erosion, runoff, sedimentation):
 - Camden County does not expect interactions with ESA-listed species and designated critical habitat under NMFS jurisdiction to happen during construction of Spaceport Camden. However, due to proximity, all personnel associated with any aspect of Spaceport Camden construction will be instructed on the presence of ESA-listed species and designated critical habitat prior to the beginning of any aspect of construction.
 - All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species.
 - As part of the NPDES permit program, an SWPPP will be developed and implemented to include techniques that diffuse and slow the velocity of storm water (e.g., silt fencing) during construction.
 - No excavated or fill material will be placed in delineated CWA Section 404 waters of the United States without an authorized permit from USACE.
 - Concrete mixing and placement activities will be conducted to ensure that discharge water associated with these activities will not reach surrounding water bodies or pools unless specifically authorized in a CWA discharge permit.
 - To the maximum extent practicable and where feasible, a vegetated upland buffer of up to 75 feet between developed areas and wetlands will be developed and maintained, and a minimum vegetated buffer of at least 25 feet along all creeks and tidal marshes will be maintained.

Operations

- Integrate the Wildlife Lighting Management module into the comprehensive site visual resource management plan as part of standard operational activities.
- Establish a prescribed fire program in the Wildland Fire Management and Burn Plan that details the frequency, timing, and location of prescribed burns to reduce potential wildfires.
- Develop the proposed USCG LAA in consultation with the FAA, USFWS, GDNR, and NPS to ensure that the Cumberland Island National Seashore and the Satilla River, St. Andrews Sound, and Cumberland River areas are properly secured, with minimal impact to USFWS, GDNR, and NPS activities and operations related to habitat and wildlife management.
- Prior to static fire tests and launches, warning sirens may be employed to deter birds and minimize the probability of bird strikes. The launch team will also look for birds on the radar prior to lift-off, assuming primary radar is in use.
- Beach driving for security sweeps requires a state authorization under O.C.G.A. 12-5-230 *et seq.*, Shore Protection Act, prior to commencing. The rules and other BMPs associated with these authorizations include, but are not limited, to:
 - Law enforcement personnel should minimize their beach driving at night (a half hour after sunset to a half hour before sunrise) between May 1 and October 31.
 - Drive only on the wet sand beach, except when necessary, to drive around a slough or other impassable area on the beach.
 - Access the wet sand beach only from specifically designated points (two points are designated on Little Cumberland Island and eight on Cumberland Island).
 - Limit the maximum speed to 25 mph from August 1 through March 31 and to 20 mph from April 1 through July 31, except in case of emergency.
- The following measures are part of the Selected Alternative to avoid and minimize the potential for operations to effect ESA-listed species and designated critical habitat:
 - All personnel associated with Spaceport Camden launch operations will be instructed about the presence of species and designated critical habitat protected under the ESA and species protected under the Marine Mammal Protection Act (MMPA) prior to conducting any launch or patrol operation.
 - All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species or marine mammals.
 - All marine mammals are protected under the MMPA.
 - A dedicated observer, other than the captain, will be responsible for monitoring and reporting ESA-listed species sightings and interactions during all overwater activities associated with launch or patrol operations.
 - During all overwater operations, the dedicated observer will maintain watch for protected species and keep a logbook noting the date, time, location, species, number

of animals, distance and bearing from the vessel, direction of travel, and other relevant information, for all sightings. Logbooks will be provided to NMFS Protected Resources Division (PRD) by email to takereport.nmfs@noaa.gov on completion of every launch operation.

- In the event of an overwater launch failure, the dedicated observer will survey the impact area for evidence of ESA-listed species killed or injured. The observer will note the date, time, location, species, number of animals, and other relevant information for all mortalities or injuries and report those immediately to NMFS PRD at (1-727-824-5312) or by email to takereport.nmfs@noaa.gov.
 - Any collision(s) with and/or injury to any ESA-listed species, will be reported immediately to NMFS PRD at (1-727-824-5312) or by email to takereport.nmfs@noaa.gov.
 - Any stranded, injured, or dead marine mammals will be reported to 1-877-WHALE HELP (1-877-942-5343).
 - Any injured, dead, or entangled North Atlantic right whales (NARW) will be reported to the USCG via VHF Channel 16.
- All vessels underway and traveling within or between operations will follow speed and distance requirements, defined below, while ensuring vessel safety:
 - If an ESA-listed species is spotted within the vessel's path, initiate evasive maneuvers to avoid collision.
 - If dolphins are bow-riding, maintain course when safely possible, avoiding abrupt speed or direction changes.
 - If a whale (other than a NARW) is spotted, maintain a distance of at least 300 feet (i.e., 100 yards).
 - If a NARW is spotted, slow to 10 knots, and maintain a distance of at least 1,500 feet (i.e., 500 yards) in accordance with the North Atlantic Right Whale Protection Rule (62 FR 6729), and report the observation to 1-877-WHALE-HELP.
 - All vessels involved with the Selected Alternative between November 1 and April 30, regardless of time of day, will follow speed restrictions designed to protect NARW and travel no greater than 10 knots within the Southeast U.S. Seasonal Management Area (as required by 50 CFR 224.103 (c)).⁴
 - Captains will check various communication media for general information regarding avoiding ship strikes and specific information regarding NARW sightings in the area. These include NOAA weather radio, USGC NAVTEX broadcasts, and Notice to Mariners (NOTMARs).
 - To minimize conflicts with NARW aerial surveys:
 - Maximum airspace closure will not exceed 3 hours.
 - Airspace closures will be limited to a total of 10 hours/month between the hours of 9 a.m. and 4 p.m. (i.e., when aerial surveys typically fly).

⁴ <https://www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-vessel-strikes-north-atlantic-right-whales>

- Launch operators will work with early-warning system air survey contractors on days where launches and NARW aerial surveys may overlap.
- When NARW are suspected to be in or adjacent to the launch trajectory, a NMFS Protected Species Observer will ride aboard the “sweeping” plane(s) or vessel(s) or sit next to the unmanned aerial vehicle (UAV) operator when monitoring the closed/restricted area.
- Spaceport Camden operations will not prevent emergency responses to dead, entangled, or injured NARW.
 - FAA inspectors and Spaceport Camden operators will be added to an email distribution list that will provide information on when and where emergency response operations are planned or initiated. FAA inspectors and Spaceport Camden operators will email nmfs.ser.rw.subscribe@noaa.gov with a request to be added to the email distribution list. The email distribution list and information relayed therein will not be shared with anyone outside of Spaceport Camden for emergency planning purposes and the safety of all personnel involved.

Climate

Although the FAA is not requiring specific mitigation measures to reduce climate-related impacts, the FAA encourages the project sponsor to adopt some, if not all, of the mitigation measures to minimize GHG emissions outlined in Section 6.3 of the FEIS. If a vehicle operator applies for a Vehicle Operator License to launch from Spaceport Camden, the FAA will complete additional analysis for climate-related impacts and determine if launch-specific mitigation measures are appropriate.

Coastal Resources

GDNR identified a number of Mitigation Measures to be enforced by the FAA as Terms and Conditions or by reference to the Launch Site Operator License. Camden County is required to comply with these mitigation measures and submit the information outlined below to GDNR. The information below is from the GDNR letter dated July 8, 2021.

1. A minimum of 90 days prior to facility construction the following plans must be submitted to DNR and obtain Federal consistency concurrence prior to FAA approval:
 - a. Mitigation Plan;
 - b. Protected Species and Habitat Management Plan;
 - c. Lighting Management Plan;
 - d. Wild land Fire Management and Burn Plan; and
 - e. Site Revegetation and Landscaping Plan.
2. A minimum of 30 days prior to facility operation the following plans must be submitted to DNR and obtain Federal consistency concurrence prior to FAA approval:
 - a. Storm Water Pollution Prevention Plan;
 - b. Spill Prevention, Control and Countermeasure Plan; and
 - c. Hazardous Waste Management Plan.

3. Launch Site Operator License limits closure of public waters during launches to a maximum of 114 hours annually;
4. All future Vehicle Operator License Comprehensive Launch Plans using Spaceport Camden must avoid launch operations requiring closures of major public waterways on weekends, holidays, and during organized fishing tournaments identified by DNR to the greatest extent practicable;
5. All future Vehicle Operator License Comprehensive Launch Plans using Spaceport Camden must post notice of limited public access dates and times at public access points within 10 miles of the USCG Limited Access Area waterway closures 30 days in advance;
6. Georgia Historic Preservation Division approves the terms and conditions of the Programmatic Agreement to be executed between the FAA and Camden County for cultural and historic resource protection;
7. All future Vehicle Operator License Comprehensive Launch Plans using Spaceport Camden must incorporate debris and contaminant removal protocols;
8. Camden County and future launch vehicle operators must incorporate insurance protocols;
9. All future Vehicle Operator License Comprehensive Launch Plans using Spaceport Camden must incorporate beach driving protocols;
10. Turtle-friendly lighting requirements must be incorporated into
 - a. Launch Site Operator License Protected Species and Habitat Management Plan;
 - b. Launch Site Operator License lighting Management Plan; and
 - c. All future Vehicle Operator License Comprehensive Launch Plans using Spaceport Camden.
11. Launch Site Operator License Stormwater Pollution Prevention Plan must incorporate Coastal Stormwater Supplement designs;
12. Launch Site Operator License Wildland Fire Management and Burn Plan must incorporate Ceylon WMA prescribed burn protocols;
13. Launch Site Operator License Protected Species and Habitat Management Plan must incorporate bird monitoring protocols; and
14. Camden County will submit any modification and/or renewal requests of the Launch Site Operator License to DNR and obtain Federal consistency concurrence prior to FAA approval.

Department of Transportation Act, Section 4(f)

- No specific mitigation measures for Section 4(f) resources other than those identified for other resources throughout the FEIS chapter have been identified at this time. If a vehicle operator applies for a Vehicle Operator License to launch from Spaceport Camden, then the FAA will complete a Section 4(f) evaluation and determine if launch-specific mitigation measures are appropriate.

Farmlands

- Ensure that adjacent farmland property owners and aquaculture lease holders are included on the “authorized persons” list (see FEIS Section 1.4.2, *Other Licenses, Permits, and Approvals*), to

allow their business operations to continue without interruption. This will need to be revisited during the Vehicle Operator License process.

- Follow mitigation measures identified for the other resources to ensure that impacts on aquaculture resources and harvesting activities are minimized.

Hazardous Materials, Solid Waste, and Pollution Prevention

- Containment areas surrounding the fuel storage tanks and any fueling facilities must be designed to ensure adequate containment or catchment of fuel so that tidal resources will not be affected by a fuel spill (O.C.G.A. 12-8-60, Hazardous Waste Management Act).
- Spaceport Camden will prepare and implement a Hazardous Materials Emergency Response Plan to ensure that adequate and appropriate guidance, policies, and protocols regarding hazardous material incidents and associated emergency response are available to and followed by all personnel.

Historical, Architectural, Archeological, and Cultural Resources

Resolution of adverse effects on historic properties requires the avoidance, minimization, or mitigation of the adverse effects (36 CFR § 800.6(b)). Where avoidance is not feasible, mitigation measures are formalized in a Section 106 Programmatic Agreement document between the FAA, the Georgia SHPO, and the ACHP. For historic properties, mitigations of adverse effects may take place at the location of the adverse effect, or at another location if all signatories to the Section 106 Programmatic Agreement document concur. The FAA has determined that the following mitigation measures are appropriate:

- If any of the archaeological sites located within the survey area with undetermined NRHP eligibility cannot be avoided, then the FAA and the County, in consultation with the signatories of the Programmatic Agreement, will conduct Phase II testing to determine if the site(s) are NRHP-eligible.
- If any of the site(s) are determined NRHP-eligible after the Phase II testing, then the FAA and the County, in consultation with the signatories of the Programmatic Agreement and Consulting Parties, will develop a mitigation plan to resolve adverse effects.
- The FAA and the County will monitor the specific Spaceport Camden effects on historic properties in the APE through the completion of a Cultural Resources Management and Monitoring Plan, in consultation with the signatories of the Programmatic Agreement and Consulting Parties, which will include, but is not limited to, the establishment of management boundaries of the project area, specifications of historic properties management procedures and best practices, procedures for inadvertent discoveries, and a monitoring program.
- The FAA and the County will consult with the Programmatic Agreement signatories, Invited signatories, Tribes, and Consulting Parties to seek ways to avoid or minimize adverse effects through possible measures, including, but not limited, to the following: repair, new protocols or changes to protocols, protection of historic properties during construction, additional monitoring.

- If an adverse effect cannot be avoided, the FAA will consult and execute one or more Memoranda of Agreement (MOA(s)) with the Programmatic Agreement signatories, Invited Signatories, and Consulting Parties to document all resolution measures including avoidance, minimization, and mitigation measures.
- The FAA will ensure that the operations of the Selected Alternative are carried out in accordance with the agreed to measures resolving adverse effects and in accordance with the executed MOA(s).
- The FAA and the County will develop an Unanticipated Discoveries Plan, in consultation with Signatories, Invited Signatories, Tribes, and Consulting Parties, that will specify the procedures to be followed in the event that previously unidentified properties are discovered or unanticipated effects on historic properties identified during implementation of the Selected Alternative.
- If a vehicle operator applies for a Vehicle Operator License to launch from Spaceport Camden, then the FAA will complete Section 106 analysis and consultation to determine if mitigation measures are appropriate for the proposed launch operations.

Land Use

Although there are no specific mitigation measures associated with land use, other mitigation measures identified under the resource sections within this ROD could apply to closures, land use, and recreation.

Natural Resources and Energy Supply

The FEIS does not include any required mitigation measures to reduce Natural Resources and Energy Supply-related impacts. For a listing of considered mitigations, refer to Section 6.10 of the FEIS.

Noise and Compatible Land Use

Conducting one launch per year or less during late-night hours (10:00 p.m. to 7:00 a.m.), as described in Section 2.1.2 of the FEIS, would minimize annoyance impacts. Monitoring noise levels using sound level meters during launch and static fire events would allow reconfirmation of predicted noise levels.

Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks

The FEIS does not include any required mitigation measures to minimize impacts on Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks. For a listing of recommended mitigations, refer to Section 6.12 of the FEIS.

Visual Effects (including Light Emissions)

Camden County will incorporate measures to reduce visual impacts from the construction and operations of Spaceport Camden. These measures will address potential negative effects on adjacent land uses, wilderness areas, wildlife, vegetation, and historic sites from changes in visual context resulting from development of the site and the correlated effects of artificial lighting on sensitive resources and receptors. A Visual Resources Management Plan (VRMP) plan will include at least three modules: (1) the Artificial Light Management Plan (ALMP) (addressing the visibility of lighting at night,

sky glow, and glare to receptors in the surrounding areas, including wildlife, persons and activities, and sensitive natural areas); (2) the Site Revegetation and Landscaping Plan (addressing revegetation, landscaping, and irrigation during and post-construction); and (3) the Site and Physical Design Plan (addressing the appearance, character, and visibility of new facilities and infrastructure).

In developing the VRMP, Camden County will coordinate with a team of representatives from other agencies and organizations (i.e., the Georgia SHPO, the USFWS, NPS, GDNR, IDA, local agencies with jurisdiction over resources in the area, local businesses, and local citizen representatives). This group or committee will identify key issues of concern and establish suitable methods and metrics to track changes in the local environment attributable to spaceport lighting. Member agencies will be responsible for establishing a current baseline and collecting and monitoring data to track changes and trends. The group will meet initially during the plan development stage and then periodically to discuss issues and monitoring trends. When needed, the group will discuss and implement any reasonable adjustments to the VRMP that could inhibit undesirable trends, without compromising safety and functionality of the spaceport.

The Site Revegetation and Landscaping Plan will respond to the context, provide for appropriate landscaping around each facility, and address the use of buffers using trees and understory vegetation to fully screen views from offsite locations to the extent possible, particularly from the east and Cumberland Island. The Plan will address establishing new vegetation on areas that are disturbed and cleared during construction (such as stockpiling areas and vehicle maneuvering areas) and augmenting the overall appearance of the spaceport property. The plan will respond to the following guidelines:

- Complement the other modules in providing the best practices to manage water runoff and revegetate using appropriate plant species.
- Compose a list of 100 percent of the species in open-space areas to reflect those that are native and indigenous to the project region. The species list should include trees, shrubs, and an herbaceous understory of varying heights, as well as both evergreen and deciduous types. Use plant variety to increase the effectiveness of revegetated areas by providing multiple layers, seasonality, diverse habitat, and reduced susceptibility to disease.
- Use no invasive plant species at any location.
- Use native grass and wildflower seed for erosion-control measures where they will improve aesthetics. Wildflowers provide seasonal interest to areas where trees and shrubs are removed or grading has occurred. Choose species that are native and indigenous to the area and appropriate to the surrounding habitat. For example, use upland grass and wildflower species for drier, upland areas and wetter grass species for wetland areas. If not appropriate to the surrounding habitat, wildflowers should not be included in the seed mix. Under no circumstances will invasive plant species be used in any erosion control measures.
- Plant vegetation within 2 years following project completion.
- Design landscaping to maximize the use of planting zones that do not need irrigation, such as seeding with a native grassland and wildflower meadow mix, and incorporate aesthetic features,

such as cobbling swales or shallow detention areas, that reduce or eliminate the need for an irrigation system, where appropriate.

- If an irrigation system is required, implement an irrigation and maintenance program during the plant establishment period and continue, as needed, to ensure plant survival.
- If an irrigation system is required, use a smart watering system that evaluates the existing site conditions and plant material against weather conditions, to avoid overwatering of such areas. Avoid undue water through management and rapid repairs of broken, malfunctioning parts or components, with automatic shutoff, until repairs are implemented.

The Site and Physical Design Plan will address how to visually integrate the facilities and operations into the context of surrounding land uses and historical sites.

Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)

- A Section 404 permit will be required from USACE prior to any work in the jurisdictional wetland areas.
- Compensatory mitigation (i.e., mitigation banks, in-lieu fee programs, and permittee-responsible mitigation) will be required for any unavoidable wetland impacts.
- Mitigation measure requirements will be coordinated with USACE as part of the ongoing Section 404 permit process.
- Consistent with recommendations from NMFS to minimize potential impacts on EFH in adjacent marshlands, where there is sufficient distance to do so, incorporate vegetated upland buffers between the proposed developed areas and wetlands (generally 75 feet or more) into the site design plans. A minimum vegetated buffer of at least 25 feet along all creeks and tidal marshes will be required.
- Impacts on floodplains will be mitigated by complying with the floodplain portion of the county UDC. All final designs will be approved by a professional engineer familiar with county requirements. These measures will include, but may not be limited to, the following:
 - Minimization of fill requirements in the floodplain
 - Construction controls to minimize erosion and sedimentation
 - Facility design in compliance with county ordinances that require adequate flow circulation and preserve free, natural drainage
- Grading and excavation activities associated with construction have the potential to increase runoff, erosion, and sedimentation. Any potential impacts on surface water and groundwater will be prevented or minimized by implementing permit-related erosion BMPs during and after construction. Separate Georgia NPDES Construction Stormwater General Permit and land disturbance activity permits from the County will be required.
- The site drainage plan for the spaceport should provide effective engineering controls and adequate naturally vegetated buffers around unused wetlands to prevent any soil, sediment, or

other potential contaminants resulting from stormwater runoff from impervious surfaces (e.g., roads and roofs) from entering these sensitive natural resources. Following construction, disturbed areas not covered with impervious surfaces will be reestablished with appropriate vegetation and native seed mixtures and managed to minimize future erosion potential.

- As part of the NPDES permit program, an SWPPP will be developed and implemented to include techniques that diffuse and slow the velocity of stormwater during construction.
- No excavated or fill material will be placed in delineated CWA Section 404 waters of the United States, except as authorized by a permit from USACE.
- Concrete mixing and placement activities will be conducted to ensure discharge water associated with these activities will not reach surrounding water bodies or pools unless specifically authorized in a CWA discharge permit.
- The County will be responsible for any contamination sites acquired as part of the Proposed Action, and the County will be responsible for soil and groundwater investigations and management of soil and source material that are above Georgia risk-reduction standards. This will involve preparing a Corrective Action Plan (CAP), which will serve as a contract for soil and source cleanup at these sites, in accordance with State of Georgia requirements.

Decision and Order

In making a decision, the undersigned has considered potential environmental impacts as analyzed in the FEIS, applicable regulatory requirements, public comments, and the FAA's responsibilities to encourage, facilitate, and promote commercial space launches and reentries by the private sector and facilitate the strengthening and expansion of U.S. space transportation infrastructure.

The No Action Alternative would result in the FAA not issuing a license, which would impede the FAA's ability to assist the commercial space transportation industry in meeting projected demand for services and expansion in new markets. The Selected Alternative would allow the greatest development and growth of the U.S. commercial space launch industry.

The undersigned carefully considered the FAA's goals and objectives in relation to issuing a Launch Site Operator License that would allow the County to offer Spaceport Camden to commercial launch operators to conduct launches of liquid-fueled, small, orbital, vertical-launch vehicles. The undersigned considered the purpose and need to be served, the alternative means of achieving the purpose and need, the environmental impacts of these alternatives, and the mitigation measures available to preserve and enhance the environment. The undersigned determined that all practicable means to avoid or minimize environmental harm from the Selected Alternative have been adopted. Based on the record of this proposed Federal action, and under the authority delegated to the undersigned by the

Administrator of the FAA, the undersigned finds that the Selected Alternative described in this ROD is reasonably supported. For those actions, the undersigned hereby directs that action be taken, together with the necessary related and collateral actions, to carry out the agency decisions as detailed in this ROD, including:

- A determination under 51 CFR Part 420 as to Camden County, Georgia’s application for a Launch Site Operator License

Responsible FAA Official:

Daniel P Murray
Executive Director, Office of Operational Safety

Date