



January 4, 2016

Ms. Stacey M. Zee, FAA Environmental Specialist
Spaceport Camden County EIS
c/o Leidos
20201 Century Boulevard, Suite 105
Germantown, MD 20874

Via email: FAACamdenSpaceportEIS@leidos.com

Re: Comments Regarding FAA Notice of Intent to Prepare an Environmental Impact Statement to Evaluate Spaceport Camden

Dear Ms. Zee,

These comments are provided by One Hundred Miles, Inc., Satilla RiverKeeper, and the Southern Environmental Law Center in response to the Notice of Intent to prepare an Environmental Impact Statement (EIS) by the Federal Aviation Administration (FAA) to evaluate the potential environmental impacts of issuing a Launch Site Operator License to the Camden County Board of Commissioners for a proposed commercial space launch site ("Spaceport Camden") as set forth in the Federal Register on November 6, 2015. Pursuant to the Notice and the National Environmental Policy Act (NEPA), these comments reflect our questions and concerns regarding the project's potential adverse impacts to significant local, regional, and national environmental and community resources, including endangered and threatened wildlife. These comments supplement oral comments provided by One Hundred Miles and the Satilla RiverKeeper at the scoping meeting held on December 7, 2015. The Draft EIS should address these concerns and questions.

One Hundred Miles is a membership organization whose mission is to preserve, protect, and enhance Georgia's 100-mile coast. Satilla RiverKeeper is a membership organization with a mission to protect, restore, and educate about the ecological values and unique beauty of the Satilla River. The Southern Environmental Law Center is a non-profit organization dedicated to using the power of the law to champion all we love about the South's natural resources and special places. We are jointly submitting these comments because we share common concerns about Spaceport Camden and its impacts on



Georgia's valuable coastal resources, including the Cumberland Island National Seashore, the Satilla River and its tributaries and estuary, the Floridan Aquifer, and important wildlife habitat.

According to the FAA's notice of intent, the potential environmental impacts of all proposed construction and operational activities, including those from launching orbital and suborbital vertical launch vehicles, will be analyzed in the EIS. The EIS will evaluate the potential environmental impacts associated with air quality; biological resources (including fish, wildlife, and plants); climate; coastal resources; Department of Transportation Act, Section 4(f); farmlands; hazardous materials, solid waste, and pollution prevention; historical, architectural, archeological and cultural resources; land use; natural resources and energy supply; noise and noise-compatible land use; socioeconomics, environmental justice, and children's health and safety risks; visual effects; and water resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers). NEPA requires the FAA to thoroughly and objectively review these impacts and to consider reasonable alternatives to this project. Within each impact category, the FAA must analyze direct, indirect, and cumulative impacts. We will elaborate on specific impact areas below.

Spaceport Camden Purpose and Need:

A Purpose and Need Statement is a fundamental requirement when developing a proposal that will require future NEPA documentation, including an EIS. According to NEPA CEQ regulation, Section 1502.13, a project Purpose and Need statement "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action."

While we understand that Spaceport Camden is still in its project infancy, we are gravely concerned that the purpose and need for the project have been fabricated by the county. To date, there is no evidence in the public record that private spaceport operators are interested in locating in Camden County. Furthermore, the FAA's Notice of Intent states that Camden County will construct and operate the spaceport. We see this fact as evidence that demonstrates that there is little private sector need for a spaceport on the south Georgia coast.

Air Quality:

The proposed action is for the FAA to issue a Launch Site Operator License that would allow commercial launch providers to conduct launch operations of liquid-fueled, medium-lift-class, orbital and suborbital vertical launch vehicles. Spaceport Camden would accommodate up to 12 vertical launches, up to 12 associated launch vehicle first-stage landings, up to 12 static fire engine tests, and up to 12 wet dress rehearsals per year.

Rural Camden County is blessed with relatively fresh, uncontaminated air. Unfortunately, Camden County contains multiple toxic sites, including the property on



which Spaceport Camden would be located. We urge the FAA to consider the impacts to local and regional air quality that 12 vertical launches, 12 associated launch vehicle first-stage landings, 12 static fire engine tests, and 12 wet dress rehearsals per year would cause. We also request that the FAA consider if these operations, which may result in excessive vibration and additional chemical contamination, could volatilize any existing hazardous wastes on the site that may cause harmful releases of toxins into the air. Furthermore, the FAA should analyze whether this project will impact attainment of Clean Air Act standards, particularly the existing nonattainment area for sulfur dioxide located in Nassau County, Florida.

Biological Resources (including fish, wildlife, and plants):

According to the FAA Notice of Intent, Spaceport Camden is to be located in unincorporated Camden County, approximately 11.5 miles due east of the town of Woodbine, GA. While the site location is a former industrial site, the area around the proposed facility is rural and relatively pristine. Furthermore, the proposed site sits at the juncture of the Satilla River and the Intracoastal Waterway, near Little Cumberland Island and Cumberland Island, both of which provide critical habitat to threatened and endangered species.

Given that the proposed launch facility would be located on an undeveloped parcel of land and near valuable wildlife habitat that is currently used for recreation and commercial purposes, we are concerned that the construction and operation of Spaceport Camden would adversely affect terrestrial, riverine, and marine biological habitat and species on and around the site. Furthermore, given that the launches would extend upon an unknown trajectory over the Atlantic Ocean, we are also concerned that the operation of Spaceport Camden would adversely affect marine habitat and species far away from the site in the Atlantic Ocean. Some of the terrestrial, riverine, and marine species are listed below.

Gopher Tortoise (*Gopherus polyphemus*)
Loggerhead Sea Turtle (*Caretta caretta*)
Green Sea Turtle (*Chelonia mydas*)
Kemp's Ridley Sea Turtle (*Lepidochelys kempii*)
Leatherback Sea Turtle (*Dermochelys coriacea*)
Piping Plover (*Charadrius melodus*)
Kirtland's Warbler (*Dendroica kirtlandii*)
Wood Stork (*Mycteria Americana*)
Red-Cockaded Woodpecker (*Picoides borealis*)
Right Whale (*Eubalaena glacialis*)
Humpback Whale (*Megaptera novaeangliae*)
West Indian Manatee (*Trichechus manatus*)
Red Knot (*Calidris canutus*)
American Oystercatcher (*Haematopus palliatus*)
Least Tern (*Sternula antillarum*)



Bottlenose Dolphin (*Tursiops truncatus*)
 Round-Tailed Muskrat (*Neofiber alleni*)
 Eastern Wood Rat (*Neotoma floridana*)
 Bald Eagle (*Haliaeetus leucocephalus*)
 Osprey (*Pandion haliaetus*)
 Southeastern American Kestrel (*Falco sparverius paulus*)
 Pelican
 Ibis
 Egret
 Heron
 Roseate Spoonbill (*Platalea ajaja*)
 Swallow Tailed Kite (*Elanoides forficatus*)
 Black Skimmer (*Rynchops niger*)
 Gull-Billed Tern (*Gelochelidon nilotica*)
 Wilson's Plover (*Chardrius wilsonia*)
 Shortnose Sturgeon (*Acipenser brevirostrum*)
 Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*)
 Eastern Indigo Snake (*Drymarchon couperi*)
 Flatwoods Salamander (*Ambystoma cingulatum*)
 Gopher Frog (*Rana capito*)
 Striped Newt (*Notophthalmus perstraitus*)
 Southern Hognose Snake (*Heterodon simus*)
 Alligator Snapping Turtle (*Macrochelys temminckii*)
 Diamondback Terrapin (*Malaclemys terrapin*)
 Hairy Rattleweed (*Baptisia arachnifera*)

We urge the FAA to evaluate the direct, indirect, and cumulative impacts (including vibration, noise, odor, sight and movement of objects) of the proposed project on these and other valuable biological resources, including species, habitats, and land used for hunting, agriculture, timber management, fishing, kayaking, boating, cycling, and other recreational activities.

Climate:

According to the FAA's Notice of Intent for the Spaceport Camden project, the project would accommodate up to 12 vertical launches, up to 12 associated launch vehicle first-stage landings, up to 12 static fire engine tests, and up to 12 wet dress rehearsals per year. We request that the FAA consider how these operations increase the greenhouse gas and ozone depleting emissions occurring in Camden County. We also urge the FAA to consider the impacts that sea level rise may have on the site.

Coastal Resources:

The Coastal Barrier Resources Act was passed in 1982 to achieve three main goals:

1. Minimize loss of human life by discouraging development in high risk areas;
2. Reduce wasteful expenditures of federal resources; and



3. Protect the natural resources associated with coastal barriers.

According to the map of federally designated coastal barrier resources, the proposed site, Little Cumberland Island and Cumberland Island are located in the Coastal Barrier Resources System. We request that the FAA consider the risks associated with operating a commercial spaceport within the coastal Barrier Resources System. We also ask that FAA evaluate the impacts of the project on Georgia's coastal marshlands, which are protected under state law.

Transportation:

The FAA must undertake comprehensive assessments of nearby properties protected by Section 4(f), including schools, parks, historic sites, and other important cultural resources. The project must minimize impacts to these resources and avoid them altogether if feasible and prudent alternatives exist.

The cumulative transportation impacts from the proposed Spaceport Camden project could be significant. We request that the FAA investigate potential impacts to various aspects of Florida's and Georgia's transportation network.

1. We are concerned that the transportation of materials for the construction and operation of Spaceport Camden, including office buildings, space flight vessels, heavy machinery, etc. will impact Florida and Georgia roads, waterways, railroads, and air.
2. Commerce may be restricted and/or delayed due to increased traffic. This commerce may be reliant on available waterways, highways, railways, or airways.
3. Road networks may need to be expanded to accommodate additional truck traffic. These expansions may have additional environmental impacts.
4. Waterways may need to be dredged or otherwise altered to accommodate barge traffic necessary for the construction or operation of Spaceport Camden. These alternations may have additional environmental impacts.

Farmland:

According to the University of Georgia Cooperative Extension Service and the Carl Vinson Institute of Government, in 2012 there were 69 farms and a total of 15,739 acres in farmland in Camden County. The Georgia Forestry Commission estimates that approximately 64% (258,506 acres) of Camden County is currently being managed for silviculture. We advise the FAA to determine the impact that the proposed Spaceport Camden project will have on the ongoing management and harvest of crops and timber in the county and surrounding area. This analysis should include impacts from vibration, noise, pollution, and other launch side effects on livestock and poultry and management practices such as controlled burning for timber and habitat management.

Hazardous Materials, Solid Waste, and Pollution Prevention:



Documentation is available that reveals the contamination of the property proposed for the spaceport development. Contaminated groundwater, a hazardous waste landfill, unexploded ordinances and other toxic substances are currently present on and nearby the property. The containment of some of these toxins is currently being jeopardized by an eroding streambank at Todd's Creek and movement of groundwater. Furthermore, commercial spaceports are known for also leaving a legacy of contamination at launch sites. We remain concerned about the interaction between Spaceport Camden construction and operation activities and the current contamination of the site. We respectfully request that the FAA consider how construction and ongoing launch activities will disrupt both documented and undocumented toxins currently on the site. We also urge the FAA to evaluate whether future contamination with toxins produced/released as a result of operations at Spaceport Camden will volatilize the existing site contaminants. Finally, the FAA should evaluate the potential effects contamination from ongoing operations at Spaceport Camden as well as a potential catastrophic event will have on the Floridan Aquifer, Brunswick Aquifer, Satilla River and its tributaries, and the Atlantic Ocean.

Historical, Architectural, Archeological and Cultural Resources:

Spaceport Camden is proposed within proximity of critically valuable state and federally protected properties, National Historic Landmarks (NHL), and sites listed on the National Register of Historic Places (NRHP). We urge the FAA to evaluate the impacts of the proposed construction and operation of Spaceport Camden on the following community resources.

Jekyll Island State Park
Crooked River State Park
Cumberland Island National Seashore
Gullah Geechee Heritage Corridor
Fort Clinch State Park (Florida)
Kings Bay Submarine Base
Greyfield (NRHP, Cumberland Island)
Kingsland Commercial Historic District (NRHP, Kingsland)
Orange Hall (NRHP, 311 Osborne St., St. Marys, GA)
St. Marys Historic District (NRHP, St. Marys)
High Point-Half Moon Bluff Historic District (NRHP, Cumberland Island)
Main Road (NRHP, Cumberland Island)
Duck House (NRHP, Cumberland Island)
Crooked River Site (NRHP, St. Marys)
Rayfield Archeological District (NRHP, St. Marys)
Stafford Plantation Historic District (NRHP, Cumberland Island)
Table Point Archeological District (NRHP, St. Marys)
Plum Orchard Historic District (NRHP, Cumberland Island)
Dungeness Historic District (NRHP, Cumberland Island)
Little Cumberland Island Lighthouse (NRHP, Little Cumberland Island)



Faith Chapel (NRHP, Jekyll Island)
Jekyll Island Club (NHL and NRHP, Jekyll Island)
Horton-duBignon House (NRHP, Jekyll Island)
Rockefeller Cottage (NRHP, 331 Riverview Drive, Jekyll Island, GA)
St. Simons Lighthouse (NRHP, 600 Beachview Drive, St. Simons Island, GA)
King and Prince Hotel (NRHP, 4201 First St., St. Simons Island, GA)
Merrick-Simmons House (NRHP, 102 S. 10th St., Fernandina Beach, FL)
Fairbanks House (NRHP, 227 S. 7th St., Fernandina Beach, FL)
Bailey House (NRHP, 7th and Ash St., Fernandina Beach, FL)
Tabby House (NRHP, 7th and Ash St., Fernandina Beach, FL)
Fernandina Beach Historic District (NRHP, Fernandina Beach)
Palmer, John Denham House (NRHP, 1305 Atlantic Ave, Fernandina Beach, FL)
Original Town of Fernandina Historic Site (NRHP, Fernandina Beach)
Amelia Island Lighthouse (NRHP, 215 ½ Lighthouse Circle, Fernandina Beach, FL)
Nassau County Jail (NRHP, 233 S. 3rd St, Fernandina Beach, FL)

In addition to these protected historical sites, there are other documented historical tabby structures (i.e. the Anchor House) and a historic cemetery on the same property of the proposed Spaceport Camden. Other notable historical sites are on surrounding properties. These should be considered when determining the impacts of Spaceport activities on historic resources.

Land Use:

This project has the potential to alter existing land use patterns, particularly given its likely growth-inducing indirect impacts. The EIS must thoroughly examine these foreseeable changes and their impacts on land use and existing transportation and utility infrastructure. The direct impacts of Spaceport Camden are more easily quantified and evaluated than the potential, indirect impacts that will likely result from increased transportation, sewer, water, and other infrastructure upgrades that will be necessary to serve Spaceport Camden. Additionally, the availability of large tracts of land nearby the proposed development will likely facilitate the further industrialization of the area. These impacts must be considered and addressed in the EIS.

Natural Resources and Energy Supply:

Spaceport Camden is an operation that may involve a higher demand for energy and/or natural resources than what is currently on the site. An increase in infrastructure may also cause increased growth in the region from the development of businesses and buildings associated with the site, putting future increased demand on water, energy and natural resource supplies. We urge the FAA to determine the amount, types (fuel, electricity, water, etc.) and sources of energy (coal, gas, solar, etc.) that may be required at the Spaceport Camden site and how this infrastructure will be made available and planned sustainably for the future of the region. Also, we urge the FAA to determine what methods of transportation and infrastructure will be needed to provide these energy sources, such as rocket fuels and potable drinking water supplies.



Water consumption for the proposed Spaceport Camden activities, such as wash down areas during launches, drinking water, etc. is a concern due to the amount that may be required for these activities and the existing groundwater contamination at the proposed site. It is unknown what the potential impacts of groundwater use by the project will have on neighboring communities that rely on the shallow and deep aquifers as their sole source of drinking water. One such concern is the potential movement of existing groundwater contamination into other groundwater aquifers or into nearby surface waters. It is also a concern that with any potential growth in the region due to Spaceport, demand of potable groundwater may exceed supply of these resources and have a negative impact on neighboring communities such as Cumberland Island, Harriett's Bluff, etc. We urge the FAA to study the groundwater, surface water, and sewage capabilities of the area to determine if these will be safe, sustainable and not negatively impact surrounding uses or needs with the development of a Spaceport facility.

Noise and Noise-Compatible Land Use:

Noise from launches, tests, maintenance, construction, and operation of the proposed spaceport has a strong likelihood of impacting nearby natural areas, including wilderness areas, as well as private property values. The EIS should document the existing soundscape conditions and calculate the noise impacts associated with the construction and operation of Spaceport Camden. These impacts should be thoroughly accounted for and disclosed, along with all proposals for minimizing these impacts. We are specifically concerned about noise impacts on the residents in communities along Harriett's Bluff Road, Billyville Road, and on the recreational activities, like hunting and fishing, on nearby properties, including Cabin Bluff.

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

We urge the FAA to consider the economic impacts this project will have on the county. This evaluation should examine both the benefits in terms of jobs and potential tax revenue that would be available to Camden County as well as the potential costs of necessary capital improvements of new infrastructure and ongoing maintenance and upkeep of county facilities necessary to support spaceport operations. We also request that the FAA consider the impact of increased property taxes on residents of the Harriett's Bluff community and surrounding areas. Finally, we urge the FAA to consider the daily quality of life changes that will occur if Spaceport Camden comes to fruition. These quality of life changes will be felt most by those who live within the closest proximity to the project location and may include the need for evacuation, noise impacts, odor, contamination, vibration, and other unpleasant disruptions.

Visual Effects:

The FAA should evaluate the impact that Spaceport Camden will have on Camden County's intracoastal vistas as well as the impact the project's lighting will have on dark skies, which are necessary for wildlife migration of bird and sea turtle species. Direct



lighting impacts from unshielded light in close proximity to the water and indirect light pollution from sky glow should both be considered. We urge the FAA to document the existing lighting conditions and analyze the lighting impacts of construction and operation of Spaceport Camden.

Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers):

The activity proposed at the Spaceport Camden site has the potential to impact ground and surface water quality and quantity, both directly and indirectly. We urge the FAA to determine the water use amounts and sources that are needed for the proposed Spaceport project, and how conservation and reuse can help preserve and protect these water resources. It should also be determined what impact the proposed activity will have on nearby wetlands, streams, groundwater quality, wildlife or local communities, either directly or indirectly, through the water use on site.

Wetlands and streams on site may be directly impacted by any discharge or runoff from the facility, particularly from impervious surfaces, construction activity, launches and landings, and chemical spills or releases. Erosion and sedimentation control measures, as well as other critical pollution control measures, should be considered to protect and preserve local surface waters.

Both the shallow and deep groundwater at the proposed Spaceport site may be susceptible to overuse and contamination. Drawdown of the aquifer water from any wells on site may affect groundwater levels or introduce contamination of this aquifer from nearby groundwater toxins and therefore threaten public drinking water supply, such that public health may be adversely affected. There is also a concern regarding saltwater intrusion that may be caused by groundwater use, similar to what has occurred in neighboring counties. The reduction of infiltration to recharge groundwater due to impervious surfaces may impact the ability for recharge and presence of any faults or fissures in the geology may cause a change in movement and quality of the groundwater.

We urge the FAA to also consider potential wastewater and drinking water treatment operations, their water use amounts and sources, and whose responsibility it will be for maintaining these systems. Also, the Spaceport Camden site should avoid building or placing materials/fuels, etc. in a flood zones or hurricane storm surge prone locations, as the environmental consequences could be catastrophic. The protection of navigability of waters in the ICW for commerce and recreation are also important to consider, as are the potential impacts that a barge port may have on water quality and wildlife resources.

Catastrophic Occurrences:

The FAA must consider worst-case scenarios. As such, the EIS should describe potential catastrophic occurrence scenarios, potential damage to nearby property, wildlife,



human health, and water, and Spaceport Camden's planned response. This response should include the development and implementation of emergency management plans to be coordinated with local authorities, National Park Service, and others.

We are grateful for the opportunity to have input into the scoping process for the Camden County. Thank you for considering our comments. Please contact us if you have questions about any of the comments we have provided.

Sincerely,



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