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Ms. Stacey M. Zee
FAA Environmental Specialist
Spaceport Camden EIS
c/o Leidos
2109 Air Park Road SE, Suite 209
Albuquerque, NM 87106

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Dear Ms. Zee,

On behalf of the Center for a Sustainable Coast (“Center”) we submit the following comments on various important issues among those that are inaccurately and incompletely analyzed in the Draft Spaceport Camden Environmental Impact Statement (DEIS).

We believe that the flaws in the DEIS are so numerous and substantive that, if these profound problems are corrected in the final EIS, the only finding possible would be to deny the project as proposed.

PURPOSE AND NEED NOT ESTABLISHED

In *Section ES.1 Purpose and Need*, the applicant, Camden County, has not demonstrated that there is a need for a commercial spaceport on the Georgia coast. The DEIS does not indicate that there are any commercial launch operators interested in using the facility, and the fact that Camden County, a local government with constrained financial resources, proposes to construct, own, and operate the facility with no private sector partners, suggests that the emerging commercial space industry lacks any interest in developing a launching facility at the proposed location. The highly speculative nature of the project is evidenced by the following sentence: “The need for the proposed commercial space launch site is to further the goals of Camden County as established in the County’s Strategic Plan 2018, 2023, 2032 to create a strong regional economy with diverse job opportunities based on 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.” In other words - if you build it, they will come – a speculative rationale that is contradicted by hard facts.

Numerous FAA-certified spaceports around the nation have fewer risks, yet they are failing financially. It’s our understanding, based on research of FAA launch forecasts and existing vertical launch spaceport licenses, presented at “Spaceportfacts.org,” that existing launch capacity in the U.S. is nearly four times demand anticipated through 2024. (See <https://www.spaceportfacts.org/the-numbers>). The absence of sufficient demand should be acknowledged in the EIS, or reasons to substantiate greater increases in demand must be credibly documented.

Calculation of benefit/cost ratio is directly tied to the project’s objective. To accurately estimate benefits, well-founded documentation of demand for the proposed facilities is required, yet the DEIS lacks any

such information. Public benefits from the proposed action cannot be reliably estimated without explaining details based on authoritative projections of unmet demand (if any) to be satisfied by the spaceport facility. To the contrary, the points raised throughout these comments strongly suggest far greater project costs (burdens on and threats to the public) than implied by the incomplete and incorrect DEIS.

GROSSLY UNDERSTATED DANGER ZONES

It is our understanding based on research presented at “Spaceportfacts.org,” which compares maps of actual real world launches with the maps displayed at “Spaceport Camden”*, that the “hazard zone” [launch danger zone, or LDZ] area for the smallest rocket to be launched from “Spaceport Camden” is twice as large as depicted in the DEIS (*Exhibits ES-5 and ES-6*).

* (See <https://www.spaceportfacts.org/their-maps---our-maps>)

To consider the “smallest-possible” instead of the “most-likely” danger-zone profile grossly under-represents adverse impacts to the surrounding communities. The feasibility of launches from the proposed location on Harriett’s Bluff, hazards and evacuation costs to the public, and the endangerment of public and private property, cannot be accurately evaluated until the launch danger zones for the prospective rockets are properly represented.

As with the above questions regarding public need, absence of reliable information about risks and evaluation expenditures linked to LDZs make it impossible to determine the proposed activity’s net benefit (if any) because a reliable basis for cost assessment is not provided in the DEIS. It should be noted that a properly depicted, expanded LDZ would likely raise the specter of risks to the south end of Jekyll Island State Park, including commonly occupied areas. Such added risks associated with accurate depiction of the LDZs significantly compound hazards to the public already suggested by the DEIS.

HAZARDOUS MATERIAL THREATS UNJUSTLY MARGINALIZED

Hazardous materials stored near the proposed launching area present an enormous risk to public health and safety, but are dismissively treated in the DEIS. A legally binding environmental covenant on the hazardous landfill, enforced under both state and federal law, prohibits disturbance of the entire tract, which includes the proposed launch site. Such restrictions are in place due to serious risks to public health caused by disturbance of the hazardous materials disposed of at that landfill.

Historically the property in question was used for the production of explosives and pesticides, associated with a hazardous landfill and multiple Solid Waste Manage Units, all on-site. In efforts to provide reasonable protection of public safety, Union Carbide entered into an “environmental covenant” with the State of Georgia and Camden County. To repeat: this covenant applied to – and still applies to – the entire 4,011-acre site, including the spaceport.

According to legal provisions of the covenant – which is a recorded deed restriction covering the entire site – the covenant would have to be legally eliminated or substantially modified to permit *any* land disturbance activities on *any* portion of the site. There is no evidence that Georgia’s Environmental Protection Division (EPD) intends to make such concessions in the enforcement of precautions provided by the covenant under state and federal law.

The DEIS fails to properly describe the covenant or to suggest related impacts on the site development plans, much less evaluate such impacts and how to properly mitigate them – assuming that they can be safely, reliably mitigated. The applicable *Hazardous Waste Site Permit [HW-063(d)]* is currently effective for the entire site. This Permit fulfills compliance requirements with *40CFR270 - the EPA Administered Hazardous Waste Permit Program*.

Although the DEIS acknowledges this permit, it misleadingly implies that the expiration of the 10-year permit in 2021 ends all restrictive provisions of the EPA/EPD requirements. That portrayal is an unequivocal, misleading, and perilous misinterpretation of the explicit law intended to protect the public from dangerous hazardous materials. Unquestionably, contrary to the DEIS, under current circumstances this covenant explicitly prohibits installation of the spaceport or any other land-disturbing activity due to serious hazards to public safety.

The law states: *40CFR270.19(c)*: “Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit. Owners and operators of . . . landfills, land treatment units, and waste pile units that received waste after July 26, 1982, or that certified closure (according to §265.115 of this chapter) after January 26, 1983, must have post-closure permits, unless they demonstrate closure by removal or decontamination as provided under § 270.1 (c)(5) and (6), or obtain an enforceable document in lieu of a post-closure permit, as provided under paragraph (c)(7) of this section.”

There is no application or approved plan to “demonstrate closure by removal or decontamination” of the Hazardous Landfill. Thus, contrary to the implication/omission of the DEIS, the RCRA permit will remain active, or must be replaced with a new permit in 2021 – which would require demonstrating a reliable method for ensuring public safety despite the presence of hazardous materials.

The Purchase Option Contract between Union Carbide and Camden County states: “Whereas, Grantor intends to subdivide the Site in order to exclude the Retained Land from any sale of the remainder of the Site (the “Subdivision”), such remainder, exclusive of the Retained Land, to comprise about 3930.82 acres, more or less (the “Property”);”

Although there’s no reference in the DEIS regarding the agreement to subdivide the property, *such subdivision does not alter its risks* due to proximity to the spaceport launch pad, *nor does it provide any allowance for circumventing the legal requirements of the covenant*. Any such circumvention would endanger the public and be legally indefensible.

COSTS AND RISKS TO INDIVIDUALS AND PUBLIC RESOURCES

Populated areas within the hazard zone would be threatened, and use of private property would be impaired. This intrusion raises constitutional issues as well as imposing unjustified risks to public safety.

By restricting the access to and use of private property in areas within the “Launch Danger Zones,” the proposed action would have a “takings” impact, with potentially significant costs that are not properly identified or evaluated in the DEIS.

So extreme are the circumstances of the proposed action that unprecedented procedures have been proposed to allow individuals who are within the LDZ for any particular rocket launching to remain in the danger zone if they choose to do so. The reason why this is unprecedented is because no other spaceport has been licensed where occupied, privately-owned and inhabited areas are endangered.

If such an allowance were made, presumably those who are willing to accept the risk of staying in the LDZ during launches would forfeit their legal rights to seek compensation if injured. Similarly, if official waivers were given, the estates of individuals signing them would forfeit legal options to seek compensation in the event of death caused by the referenced launch.

Whether these extreme exemptions were afforded or not, private property and public resources within the LDZ would still be in jeopardy, and any damages incurred due to launches could be – and most likely would be – granted monetary compensation in civil court. In the event of a failed launch, such monetary compensation awards, for property damage alone, could be in the many millions of dollars. Cumulatively, over decades of operation, such court-awarded payments could amount to billions of dollars, by any reasonable range of estimated impacts.

Despite these costs, the DEIS provides no evaluation of them. Likewise, the DEIS does not account for what parties would be responsible for paying such expenses. If a rocket company could not afford making legally required payments, excess unpaid costs could be expected to become the obligation of the owner of the spaceport facility. Under the proposal being evaluated in the DEIS, the spaceport facility owner would be Camden County – meaning that liability burdens would be shared by the taxpayers, yet the DEIS provides no assessment of such costs or the potentially controversial determination of who would be responsible for paying them.

CUMBERLAND ISLAND NATIONAL SEASHORE & WILDERNESS AREA

The Wilderness Act defines wilderness as having “outstanding opportunities for solitude or a primitive and unconfined type of recreation” (*The Wilderness Act. Pub. L. 88-577. 78 Stat. 891. 3 September 1964.*)

It is perplexing to see the National Park Service, as the agency responsible for maintaining the character of designated wilderness areas under its management, listed as a cooperating agency on a document which discounts the deleterious effects the spaceport would have on the use, character and enjoyment of the 9,866 acres of federally designated Wilderness Area at Cumberland Island National Seashore (CUIS). Such contradictory positions appear to be legally vulnerable under federal statutes, considering the threatening impacts of spaceport launches.

Rocket launches over the island, and intrusive noise extending for miles beyond the LDZ, would destroy the tranquil and undisturbed quality of Cumberland Island Wilderness Area, constituting a violation of the Wilderness Act. The DEIS recognizes that noise levels and artificial light from spaceport activities would be incompatible with wilderness qualities, but then discounts the impact as either ‘infrequent’, or affecting only a small number of people.

Regarding the frequency and duration of the impact, if the spaceport were to conduct the proposed 12 rocket launches and 12 supportive activities per year, this would be equivalent to monthly disruptions of visitor enjoyment of CUIS. This constitutes a substantial impingement on the operation of a popular and unique publicly-owned destination for outdoor recreation. The DEIS ineffectually attempts to discount this impact by claiming that “[a]dvanced notification will be provided to the public prior to each launch that will inform the public of the area closure. Wilderness visitors that access Cumberland Island Wilderness outside the closure area will be made aware of the launch and will either expect the noise disturbance to occur or choose not to visit the wilderness during that time.”

This analysis fails to recognize that visits to CUIS are typically planned months in advance, and many visitors travel long distances at great expense to enjoy solitude and serenity in a place untrammled by modern civilization. These kinds of travel plans are not easily changed given the limited spaces available at campsites and other travel constraints, and it is doubtful that advance notice would be sufficient to allow time for people to change their plans. Also, given the vagaries of weather and other uncertainties, the reliability of an advance launch schedule to help visitors make plans is extremely questionable.

More importantly, providing advance warning of the intrusive rocket launch is definitely not equivalent to mitigating the impact to wilderness qualities. The temporary nature of a disturbance does not make it allowable, or acceptable, under the Wilderness Act which prohibits many activities (the use of mechanized equipment for example) while making no exceptions for infrequency or short duration of such objectionable actions.

When describing visual impacts to the wilderness, the DEIS states, “[f]or the long-term impacts from the visual presence of the towers/facilities and lighting/skyglow, they are only experienced by wilderness visitors on the western shoreline facing the proposed spaceport site.” Elsewhere in the document, these are quantified as the “24 allowed campers per day at Brickhill Bluff”. The DEIS, while repeating claims about forewarning visitors and the temporary nature of the disturbance states, “A maximum of 72 people could potentially be impacted because only authorized campers could remain within the wilderness on

launch day. As these events would be highly publicized and all authorized campers would be notified, there should not be any concern for startle effects due to the visual component of the launches. Recovery operations would be similar to a small aircraft landing. These operations would be infrequent and cause no permanent change to views in the area.”

By definition, wilderness is “untrammeled” and as such, one should expect only a small number of people to be present during any given time period. If the number of people benefiting from the wilderness experience is small by definition, it is disingenuous to present that as a reason to discount the impact. The Wilderness Act makes no exceptions based on the number of people affected by a violation of the wilderness. It’s a violation of the delegated, legal purpose of wilderness even if no people are present.

Evacuating visitors at CUIS for rocket launches, in accordance with established FAA procedures, would be exceptionally difficult and disruptive due to the remote location of campsites, habitats, and hiking paths. Scheduling launches while ensuring adequate public safety would be extremely expensive if not impossible to implement. These substantial difficulties are circumvented in the DEIS by describing “residents, vacation house owners, permit-holding campers, and National Park personnel” as “authorized persons” for whom leaving the area during a launch would be optional. The Center – for reasons described above in comments regarding liability – seriously doubts that anyone will be allowed to remain in hazard areas as an “authorized person.” There is no precedent or legal justification for such a provision.

For the same reasons the proposed Spaceport violates the Wilderness Act, the DEIS is in violation of the Department of Transportation Act, Section 4(f), by not to making a “constructive use” determination “because sufficient information about individual launches that may take place at the proposed launch site is not yet available.” According to *23CFR§774.15(e)(3)* constructive use occurs when “[t]he project results in a restriction of access which substantially diminishes the utility of a significant publicly owned park, recreation area, or a historic site”. On this one criterion alone, the DEIS has enough information to determine that CUIS would be subject to up to 12 closures per year. By deferring a “constructive use” evaluation to the time when individual launch licenses are applied for would result in the deferral of such assessment to a time when each launch would be evaluated separately – and thus unlawfully circumventing evaluation of cumulative impacts caused by the anticipated 12 launches per year.

FURTHER OBJECTIONS TO PROPOSED LAUNCH CORRIDOR OCCUPANCY

Lacking realistic assessment of the consequences/costs of risk and safety precautions, the DEIS fails to support even an approximate estimation of costs for spaceport implementation and operations related to the risky, unprecedented allowance for occupancy of the launch corridor. As previously stated: Without having credible, complete estimates for such costs, the proposed action cannot be properly evaluated.

To further substantiate the above comments, I refer to the April 2018 newspaper article by Mary Landers of the Savannah Morning News (See <http://www.savannahnow.com/news/20180409/cumberland-island-landowners-object-to-camden-spaceport-plans>). The article quotes Ray Lugo, the director of the Florida Space Institute at the University of Central Florida and a rocket scientist who has participated in approximately 100 launches, saying that it is “delusional” to think that it would be safe to allow anyone to remain in the launch corridor. In his experience with rocket launches at Vandenberg Air Force Base, launches were scrubbed if there was just one person in the area where debris could fall.

The Launch Site Safety Assessment Overview and Update published on the FAA website (See https://www.faa.gov/about/office_org/headquarters_offices/ast/regulations/media/Launch_Site_Safety_re-Assessment_Matrix_Pkg.pdf) further supports the conclusion that it would be highly irregular to allow anyone to remain in hazard areas, as it states that “[t]he launch operator must evacuate and monitor each

launch site hazard area to ensure compliance with §§ 417.107(b)(2) — (b)(3). These paragraphs from 14 CFR §417.107 read as follows:

- (2) A launch operator may initiate flight only if the risk to any individual member of the public does not exceed a casualty expectation of 1×10^{-6} per launch for each hazard.
- (3) A launch operator must establish any water borne vessel hazard areas necessary to ensure the probability of impact (Pi) with debris capable of causing a casualty for water borne vessels does not exceed 1×10^{-5} .

The DEIS provides no analysis confirming that these criteria would be met without completely evacuating the LDZ. Unless a credible analysis is provided, this issue would significantly add to the project's legal vulnerability as a threat to public safety.

IMPACTS ON THE TIDAL MARSH AND RELATED HABITAT

The Center is also very concerned about harmful impacts of proposed spaceport operations on the tidal marshes and highly valued fish and wildlife habitat in the surrounding area – which have not been properly evaluated, or even identified, in the DEIS. We share concerns raised in more detailed comments on these issues submitted by Camden County resident, Steve Weinkle, entitled “Impacts and Risks to Tidal Marsh are Not Addressed.” Please reference Mr. Weinkle's comments for more details on this issue.

CONCLUSION

Mr. Lugo is also quoted in another article by Mary Landers* in which he explains that the EIS process allows the safety analysis to select a narrow launch corridor and small hypothetical rocket to expedite approval of a spaceport license. This does a disservice to the taxpayers of Camden County because it misrepresents actual real-world rocket impacts and launch requirements. The DEIS's unrealistic portrayal of this proposed spaceport could result in the construction of a spaceport which will never launch a rocket. *(<http://www.savannahnow.com/news/20180413/camden-county-spaceport-gets-hearing-but-not-answers>)

Because of this breach of public interest – allowing unrepresentative assessment of impacts – and for reasons covered throughout these comments, we believe that the DEIS is severely impaired. Unless these deficiencies are corrected in the Final EIS, we firmly believe the review process would violate NEPA. Further, given the importance of formidable, unresolved issues raised in the DEIS, we are convinced that a complete and accurate Final EIS can only reach one conclusion: that the proposed project is contrary to public interest and licensing should be denied. We advise that FAA's decision to move ahead by licensing a spaceport in this location would be legally vulnerable and justifiably challenged in court.

Submitted by:

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