

DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Office of Commercial Space Transportation
Finding of No Significant Impact and Record of Decision
for
Tiered Environmental Assessment for SpaceX Starship-Super Heavy
Updates to Airspace Closures

Summary

In 2022, the Federal Aviation Administration (FAA) prepared a Final Programmatic Environmental Assessment (2022 PEA) to analyze the potential environmental impacts of issuing an experimental permit(s) and/or a vehicle operator license to SpaceX for Starship-Super Heavy launch operations at its existing Boca Chica Launch Site in Cameron County, Texas. The Federal action also included the FAA's issuance of temporary airspace closures. The Mitigated Finding of No Significant Impact and Record of Decision (Mitigated FONSI/ROD) for the SpaceX Starship-Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas was issued in June 2022. In addition, in April 2025, FAA issued a second Mitigated FONSI/ROD based on an April 2025 EA tiered from the 2022 PEA evaluating the potential environmental impacts of SpaceX's proposal to increase the number of Starship-Super Heavy operations at the Boca Chica Launch Site to 25 per year.

FAA's attached Final Tiered Environmental Assessment (Final Tiered EA) tiers from the 2022 Final PEA and the April 2025 Tiered EA. The Final Tiered EA analyzes the potential environmental impacts of modifying SpaceX's vehicle operator license for Starship Super/Heavy launches from Boca Chica (VOL-23-129) that would include updates to the Aircraft Hazard Area and Notice to Airmen for the Flight 9 mission profile of the Starship-Super Heavy launch vehicle at its existing Boca Chica Launch Site in Cameron County, Texas. The Final Tiered EA was prepared in accordance with the FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures* (July 16, 2015), to meet the agency's obligations under Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), § 4321-4336, as amended through the Fiscal Responsibility Act of 2023.). This Final Tiered EA is tiered from the 2022 PEA and the

April 2025 Tiered EA for the SpaceX Starship-Super Heavy Launch Vehicle Program at the SpaceX Boca Chica Launch Site in Cameron County, Texas.

After reviewing and analyzing this Final Tiered EA, including all available data and information on existing conditions and potential impacts, the FAA has determined that modifying SpaceX's vehicle operator license supporting the Flight 9 mission profile would not significantly impact the quality of the human environment within the meaning of NEPA. Therefore, the preparation of an Environmental Impact Statement is not required, and the FAA is independently issuing this Mitigated FONSI and ROD. The FAA has made this determination in accordance with applicable environmental laws and FAA regulations. The Final Tiered EA is incorporated by reference into this Mitigated FONSI/ROD.

For any questions or to request a copy of the Final Tiered EA, contact the following FAA Environmental Protection Specialist. A copy of the Final Tiered EA may also be obtained from the FAA's website:

https://www.faa.gov/space/stakeholder_engagement/spacex_starship

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Purpose and Need

As stated in the April 2025 Tiered EA, the purpose of SpaceX's proposed action is to provide greater mission capability to NASA and the Department of Defense (DOD). SpaceX's activities would continue to fulfill the U.S. expectation that increased capabilities and reduced space transportation costs will enhance exploration (including within the Artemis and Human Landing System programs), support U.S. national security, and make space access more affordable. The Space Transportation section of the National Space Transportation Policy of 1994 addressed the commercial launch sector, stating that "assuring reliable and affordable access to space through U.S. space transportation capabilities is a fundamental goal of the U.S. space program." Additionally, the 2021 Space Priorities Framework's Mission states, "The United States will bolster the health and vitality of our space sectors – civil, commercial, and national security – for the benefit of the American people and leverage that strength to lead the international community in preserving the benefits of space for future generations".

SpaceX's proposed action is needed to facilitate frequent launch and landing operations to allow iterative development of Starship-Super Heavy vehicles to achieve rapid launch capability and increase operational efficiency, capabilities, and cost effectiveness of the Starship-Super Heavy program. The proposed action would reduce the cost of launch and increase efficiency, delivering greater access to space and enabling cost-effective delivery of cargo and people to the Moon and Mars. SpaceX's proposed action would satisfy requirements for more efficient and effective space transportation methods and continue the U.S. goal of encouraging activities by the private sector to strengthen and expand U.S. space transportation infrastructure.

Proposed Action

SpaceX is seeking to conduct operations in accordance with its Flight 9 mission profile, which would require FAA to issue a modification of the existing vehicle operator license for updated operations for the Flight 9 mission profile for Starship-Super Heavy operations at the Starbase Launch Site.

Alternatives

Alternatives analyzed in the Final Tiered EA include (1) the Proposed Action and (2) the No Action Alternative. The No Action alternative provides the basis for comparing the environmental consequences of the Proposed Action. Under the No Action Alternative, FAA would not modify a license to SpaceX for the Flight 9 mission profile with updates to the airspace closure areas.

Environmental Impacts

The potential environmental impacts of the Proposed Action and No Action Alternative were evaluated in the attached Final Tiered EA for the relevant environmental impact categories identified in FAA Order 1050.1F. Chapter 3 of the Final Tiered EA describes the affected environment and regulatory setting and identifies the environmental impact categories that are not analyzed in detail: Visual Effects, Cultural Resources, Department of Transportation Act Section 4(f), Water Resources, Coastal Resources, Land Use, and Children's Environmental Health and Safety Risks. Chapter 3 of the Final Tiered EA also provides evaluations of the potential environmental consequences of the Proposed Action for Air Quality and Climate, Noise and Noise Compatible Land Use, Socioeconomics, and Hazardous Materials, Solid Waste and Pollution Prevention and documents the finding that no significant environmental impacts would result from the Proposed Action. A summary of the documented findings for Air Quality

and Climate, Noise and Noise Compatible Land Use, Socioeconomics, and Hazardous Materials, Solid Waste and Pollution Prevention, including requisite findings with respect to relevant special purpose laws, regulations, and executive orders, is presented below.

- **Noise and Noise Compatible Land Use**, Final Tiered EA Section 3.1. Similar to the 2022 PEA and April 2025 Tiered EA, any incremental increases in noise levels at individual airports would only last the duration of the airspace closure and are not expected to meaningfully change existing day/night average sound levels at the affected airports and surrounding areas. Therefore, airspace closures due the Proposed Action are not expected to result in significant noise impacts.
- **Air Quality and Climate**, Final Tiered EA Section 3.2. Similar to the 2022 PEA and April 2025 Tiered EA, airspace closures associated with the Proposed Action would lead to increased emissions from airplanes. This is mainly because planes would need to take pre-established alternative flight routes, which themselves are assessed by the FAA under NEPA. This would result in the usage of more fuel. Increases in GHG emissions would result from the additional fuel usage. Rerouting would be a short-lived scenario for affected planes, and considering the number of planes impacted, would not be substantial enough to notably influence air quality or climate.
- **Hazardous Materials, Solid Waste and Pollution Prevention**, Final Tiered EA Section 3.3. There are no substantial changes from the Proposed Action that would affect hazardous materials, solid waste or pollution prevention from the 2022 PEA and April 2025 Tiered EA other than the potential for hazardous materials impacts in the expanded AHA. Proposed Action would not result in significant impacts to hazardous materials, solid waste and pollution prevention.
- **Socioeconomics**, Final Tiered EA Section 3.4. The Proposed Action would restrict the use of portions of airspace and initiate ground stops at multiple airports for approximately 40 minutes, subject to the timing of the launch occurring at the beginning of the two hour launch window. Though the Proposed Action would include these restrictions, there would be no change in the number of operational personnel or taxes. There would be changes in expenditures due to the delays and associated airline income, but there would be no change expected to economic activity, personal income, employment, population, sustenance, public services, and/or social conditions. Accordingly, consistent with the data and analyses contained in the 2022 PEA and

the April 2025 Tiered EA, the Proposed Action would not result in significant socioeconomic impacts.

Conditions

All conditions in the April 30, 2025 Mitigated FONSI/ROD remain applicable to this FONSI/ROD.

Finding and Decision

The FAA decision in this FONSI/ROD is based on a comparative examination of environmental impacts for each of the alternatives studied during the environmental review process. The Tiered EA discloses the potential environmental impacts for each of the alternatives and provides a full and fair discussion of those impacts. The FAA has determined that no significant impacts would occur as a result of the Proposed Action and, therefore, that preparation of an EIS is not warranted and no conservation measures beyond the ones identified by the Office of Commercial Space Transportation (AST) in the Final Tiered EA are required as a condition of approval, and a FONSI/ROD in accordance with 40 CFR §1501.6 is appropriate.

The FAA believes the Proposed Action best fulfills the purpose and need identified in the 2022 PEA and April 2025 Tiered EA. In contrast, the No Action Alternative fails to meet the purpose and need identified in the 2022 PEA and April 2025 Tiered EA. The FAA has determined that the Proposed Action is a reasonable, feasible, practicable, and prudent alternative for a federal decision in light of the established goals and objectives. An FAA decision to take the required actions and approvals is consistent with its statutory mission and policies supported by the findings and conclusions reflected in the environmental documentation and this FONSI/ROD. After reviewing the Final Tiered EA and all its related materials, the undersigned has carefully considered the FAA's goals and objectives in relation to various aspects of the launch activities described in the Final Tiered EA, including the purpose and need to be met, the alternative means of achieving them, the environmental impacts of these alternatives, and the costs and benefits of achieving the stated purpose and need.

After careful and thorough consideration of the attached Final Tiered EA and the facts contained herein, the undersigned finds that the FAA's federal action is consistent with existing national environmental policies and objectives as set forth in Section 101(a) of NEPA and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include

any condition requiring consultation pursuant to Section 102(2)(C) of NEPA. Therefore, the FAA will not prepare an EIS for this action.

The undersigned hereby directs that actions be taken, together with the necessary related and collateral actions, to carry out the agency decisions as detailed in this FONSI/ROD, including:

- FAA modifying SpaceX's vehicle operator license under 14 CFR Part 150.

STACEY
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APPROVED: _____

Stacey M. Zee
Manager, Operations Support Branch

Right of Appeal

This FONSI/ROD constitutes final order of the FAA Administrator and is subject to exclusive judicial review under 49 U.S.C. 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filling a petition for review in the appropriate United States Court of Appeals no later than 60 days after this order is issued in accordance with the provisions of 49 U.S.C. Section 46110.