

Public Scoping Meeting

**Environmental Impact Statement
for SpaceX Starship-Super Heavy Launch Vehicle
at Launch Complex 39A at the Kennedy Space Center, Florida**

June 17, 2024



**Federal Aviation
Administration**



Agenda



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- » **National Environmental Policy Act (NEPA)**
- » **Proposed Action**
 - Location
 - Previous NEPA Analysis
 - Infrastructure Improvements
 - Launch Vehicle
 - Launches & Landings
- » **Alternatives**
- » **Purpose and Need**
- » **Role of FAA**
- » **Cooperating Agencies**
- » **Resource areas to be studied in the EIS**
- » **How to submit comments**



National Environmental Policy Act (NEPA)



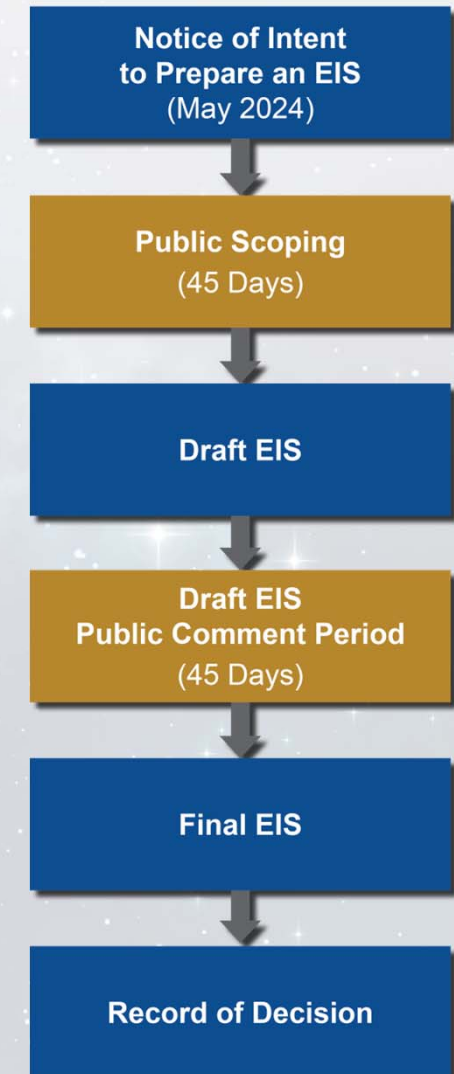
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- » Environmental legislation that requires federal agencies to assess the environmental impacts prior to making decisions on major Federal actions.
- » FAA released the notice of intent to prepare an EIS on May 10, 2024.
- » FAA is the lead agency on the EIS.

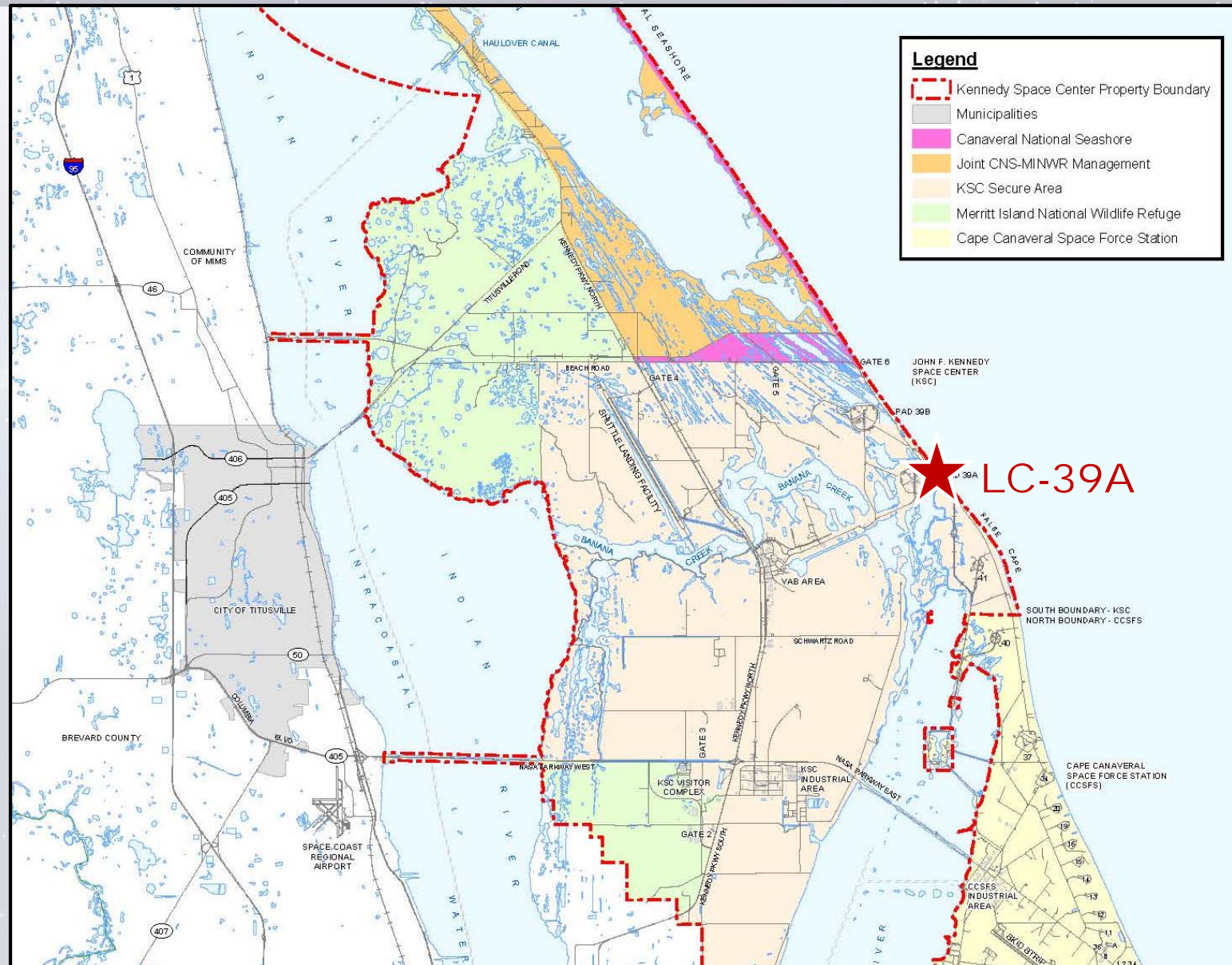
The public is encouraged to participate in the NEPA process.



— EIS MILESTONES —



Proposed Action – Location



Proposed Action – Previous NEPA Analysis



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- » **September 2019** - NASA completed an Environmental Assessment for the SpaceX Starship and Super Heavy Launch Vehicle at Kennedy Space Center and signed a Finding of No Significant Impact.
- » Some infrastructure projects are underway.
- » **May 2024** - SpaceX has evolved the concept of operations so a new EIS is being prepared.



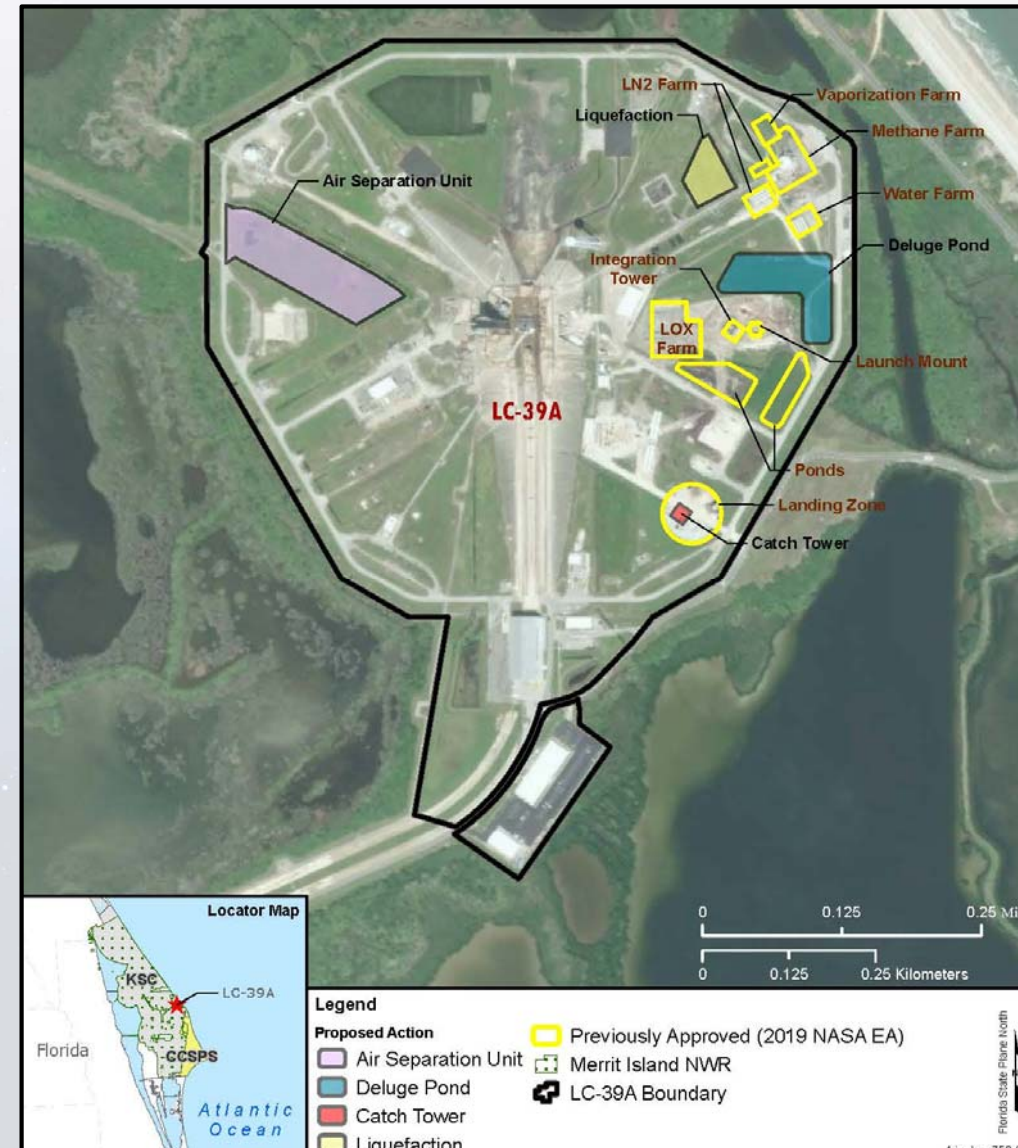
Proposed Action – Infrastructure Improvements



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» Construct launch, landing, and other infrastructure at LC-39A

- Air Separation Unit
- Deluge Ponds
- Catch Tower
- Liquefaction Processing



Proposed Action – Starship-Super Heavy Launch Vehicle



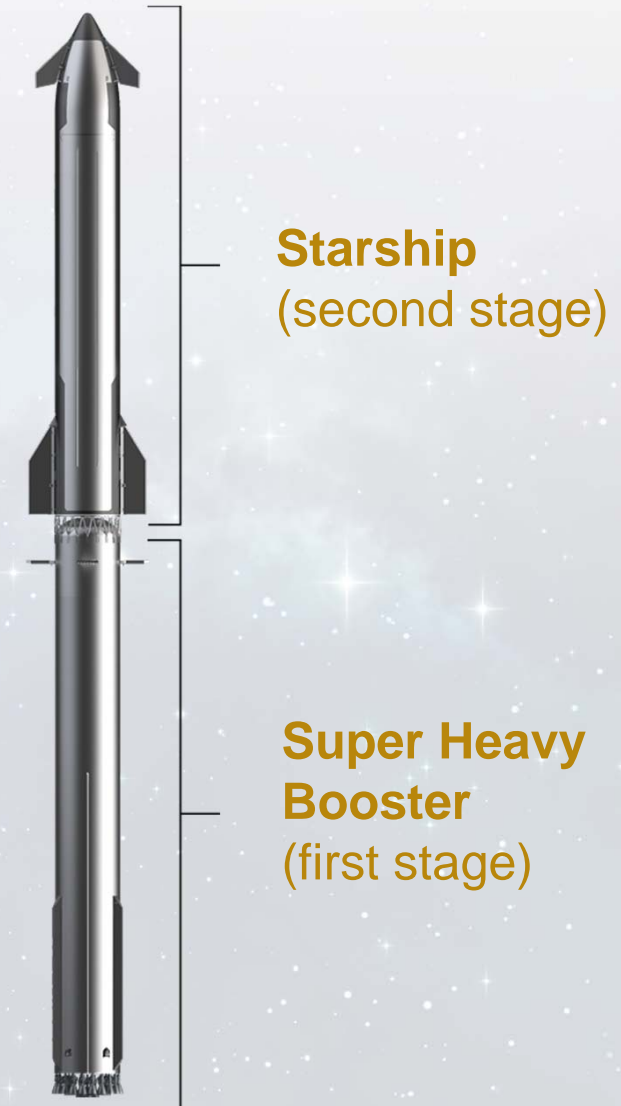
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» Composed of 2 stages

- Super Heavy or booster – 35 Raptor Engines
- Starship – 9 Raptor Engines

» Operations

- Pre-launch – testing and rehearsals
- Starship-Super Heavy Launches
- Starship-Super Heavy Landings/Recovery

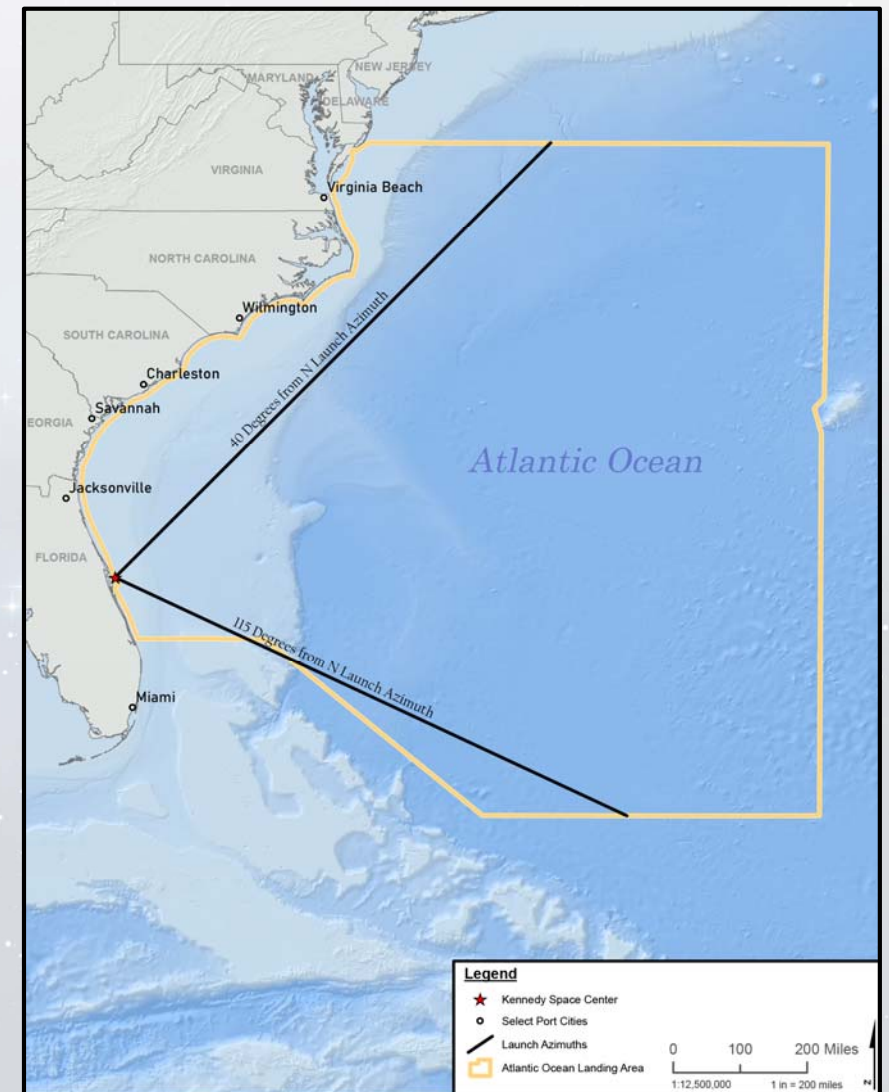


Proposed Action – Launches and Landings



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- » Up to 44 day/night launches per year at LC-39A.
- » Super Heavy Landings –
 - At LC-39A or downrange on a droneship in the Atlantic Ocean.
 - Expended in the Atlantic Ocean at least 5 nautical miles from shore.
- » Starship Landings –
 - At LC-39A or on a droneship in the open ocean between 55 degrees south latitude and 55 degrees north latitude.
 - Expended in the open ocean.



Alternatives



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- » The 2019 EA determined that LC-39A was the appropriate location for Starship-Super Heavy
- » This EIS will analyze:
 - Proposed Action
 - No Action Alternative



Source: NASA 2022



» Purpose

- Supports:
 - NASA's mandate to encourage the fullest commercial use of space
 - Goals of the National Aeronautics and Space Act
 - National Space Policy that Federal agencies shall ensure that U.S. Government space technology and infrastructure are made available for commercial use on a reimbursable, noninterference, and equitable basis

» Need

- U.S. goal of encouraging activities by the private sector to strengthen and expand U.S. space transportation infrastructure



FAA's Involvement

- » **FAA is the lead agency for the EIS**
 - The FAA is the licensing authority.
 - NASA requested that FAA lead the EIS.

FAA's Federal Action

- » Issue a license(s) to SpaceX for Starship-Super Heavy commercial operations at KSC LC-39A.
- » Approve airspace closures for launch and landing operations to ensure public safety.

License Determination

- » FAA conducts policy, location, safety, and environmental reviews.
- » EIS fulfills the environmental review portion of the license evaluation and determination.
- » The environmental review must be complete before the FAA makes a decision on the license.
- » Any environmental mitigation requirements will become a term and condition of the license.
- » Successful completion of the environmental review does not guarantee that the FAA will issue a license.
- » The FAA will perform safety inspections during the licensed operations.



FAA Licensing Process



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Cooperating Agencies



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National Aeronautics and Space Administration (NASA)

Owens and operates KSC.



United States Coast Guard

Regulatory authority over waters subject to jurisdiction of the United States.



Department of the Air Force and Space Force

Special expertise with regards to launch activities on the Eastern Range.



United States Fish and Wildlife Service

Special expertise and management responsibilities for MINWR.



National Park Service

Special expertise and management responsibilities for CANA.



Resources to be Studied in the EIS



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Analysis is in the preliminary stages at this time –
potential impacts will be identified in the EIS for the following:

- Air Quality
- Biological Resources
- Climate
- Coastal Resources
- Department of Transportation Act Section 4(f)
- Farmlands
- Hazardous Materials, Solid Waste, and Pollution Prevention
- Historical, Architectural, Archaeological & Cultural Resources
- Land Use
- Natural Resources & Energy Supplies
- Noise & Noise-Compatible Land Use
- Socioeconomics, Environmental Justice, & Children's Environmental Health & Safety Risks
- Visual Effects
- Water Resources
- Cumulative Impacts



The FAA is initiating
consultation with:

- » **United States Fish and Wildlife Service** under Section 7 of the Endangered Species Act and the Migratory Bird Treaty Act
- » **National Marine Fisheries Service** under the Magnuson–Stevens Fishery Conservation and Management Act and the Marine Mammal Protection Act
- » **Florida Historic Preservation Office** under the National Historic Preservation Act Section 106



What is Noise?

Unwanted, extraneous, or annoying sound that interferes with or disrupts normal human activities.

» Response of different individuals to similar noise events is diverse.

» Perception and evaluation of sound involves three basic physical characteristics:

Duration – the length of time the sound can be detected.

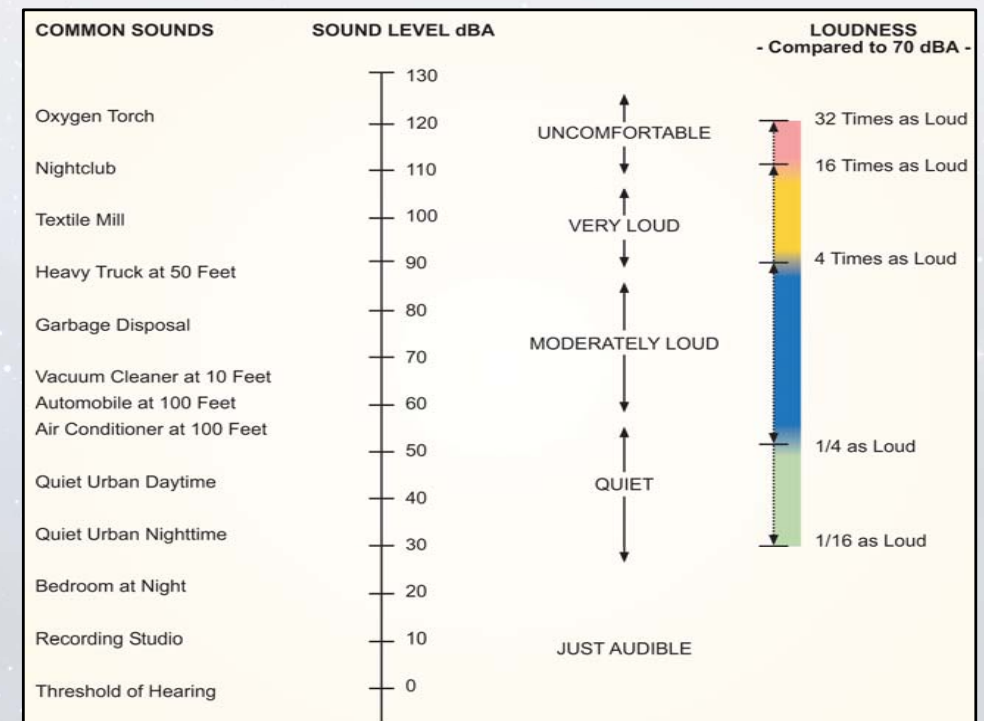
Magnitude – the acoustic energy, which is expressed in terms of sound pressure, in decibels (dB).

Frequency – the number of cycles per second the air vibrates, in hertz.

Impact Analysis Considers (including but not limited to):

- » Human Annoyance
- » Ecological Effects
- » Hearing Conservation
- » Structural Damage
- » Land Use Compatibility
- » Biological Resources

Typical A-Weighted Levels of Common Sounds



Thank You for Listening



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

