TIMELINE OF NEPA IN U.S. SPACE POLICY



USSR launches Sputnik, the first human-made satellite.

1958

1957

U.S. National Academy of Sciences

(NAS) urges lunar operations not

"make impossible forever after critical scientific experiments."

*

 Committee on Space Research (COSPAR) formed and takes on



1967

United States, Great

Space Treaty (OST).

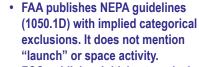
Britain, and the Russian

Federation sign the Outer



Apollo 11 mission lands first humans on the lunar surface

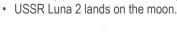
1969



FCC publishes initial categorical exclusion criterion.

1959

planetary protection internationally.



2013



Photo credit: NASA

NASA publishes its programmatic assessment for routine payloads.



United States Government orbital debris mitigation policies first established.

NEPA signed into law

in the United States.

2001

1999 FAA adopts debris mitigation

practices but does not require collision avoidance, post-mission disposal, or minimum lifetimes in commercial licensing regulations.

FAA streamlines processing of experimental permit applications for reusable suborbital rockets. The EIS proposes an unlimited number of launches and reentries for one year.

FAA issues guidance on

NEPA compliance.

"experimental permits" for

reusable suborbital rockets for

human spaceflight while ensuring



· The Commercial Space Launch Amendments Act of 2004 (CSLAA) enacted.

FAA updates its categorical exclusion document (1050.1E) preparing evaluation for commercial launch applications where an EA has not been prepared.





FAA allows license applicants to prove an "equivalent level of safety" for human spaceflight, craft reentry, and launch site

· FCC proposes rulemaking to mitigate orbital debris.

2018



First mission of the International Space Station.



FAA begins revising of launch and reentry licensing regulations to prevent orbital debris from upper stages. Paused to update the U.S. Government orbital debris mitigation standard practices (completed in 2019).



FAA updates its categorical exclusions (1050.1F) to specify when commercial launch site operators require an EA for vertical or horizontal launch and reentry.





· FCC proposes rule amendment for orbital debris mitigation of orbital debris in the new Space Age.

Orbital Debris Mitigation Standard Practices published by NASA with FAA, NOAA, and FCC input.

SpaceIL lander crashes on the moon carrying tardigrades and human DNA.



2023

 FAA proposes rule for removing upper stages of commercial launch vehicles and other components within 25 years.

 The Fiscal Responsibility Act defines a major federal action requiring a NEPA review as an action determined by the agency to "subject to substantial Federal control and responsibility" and exclusions from the definition.



GAO publishes Large Constellations of Satellites: Mitigating Environmental and Other Effects, and Satellite Licensing: FCC Should Reexamine Its **Environmental Review Process for Large** Constellations of Satellites.

National Orbital Debris Implementation Plan.



2021

FAA begins regulation revision for upper stages of commercial launch vehicles.





- FAA Streamlined Launch and Reentry Licensing Requirements codifies 1050.1F.
- Boeing, Lockheed Martin, Northrop Grumman, and ULA recommend the FAA amend §450.47 to address space environmental impacts such as debris, collision risk, and interference.
 - The FAA disagrees; states the applicability of NEPA to space debris is outside the scope of its rulemaking.
- · FCC updates its rules on orbital debris mitigation seeking comments on the probability of accidental explosions, collision risk for multi-satellite systems, maneuverability requirements, and casualty risk.



- · FCC Space Bureau seeks comments on proposed rules to orbital debris
- NOAA revisits debris mitigation rules for remote sensing missions.
- Loper Bright Enterprises v. Raimondo strips agencies of their Chevron
- · Viasat v. FCC and International Dark-Sky Association v. FCC occur.
- · CEQ final ruling issued that the CEQ revise its regulations for implementing NEPA.
- Authors wrote their contributions to this paper.





implementing NEPA. FAA updates its categorical exclusion document (1050.1G)

specifying an EA is required for launches at existing launch sites.

• Executive Order 14335 directs the FAA to eliminate or expedite environmental reviews for launch and reentry, determine which actions are not subject to NEPA, and establish categorical exclusions.



