

An Explainer to the FCC’S Push to Clarify NEPA’s Application to Satellites

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September 2026

It’s rare for an arcane Federal Communications Commission (FCC) agenda item to attract attention outside of the trade press, but the September 30 vote on whether to exempt satellites licensing from National Environmental Policy Act review has some stakeholders up in arms.

BACKGROUND

Since the 1980s, all satellite licensing efforts at the FCC have enjoyed a categorical exemption under the National Environmental Policy Act (NEPA), generally excluding them from its potentially lengthy standard review process. On September 30, the FCC plans to go a step further. Specifically, the FCC is clarifying that space-based activities do not rise to the level of a “major federal action,” as it was recently defined in the Fiscal Responsibility Act of 2023, and therefore are not subject to NEPA.

Activities receive a categorical exclusion under NEPA if a federal agency determines that they do not typically have a significant impact on the human environment. Categorical exclusions allow for a far more streamlined and efficient process for both the federal government and the applicant: A [2014 review](#) estimated about 95% of NEPA analyses are for categorically excluded activities. Note that interested parties can still ask an agency to make an exception to categorical exclusions if the action before them has unusual or extraordinary circumstances.

Now, the FCC is going a step further in arguing that space-based operations under its regulatory authority are not subject to NEPA at all anymore because they no longer meet the scope of activities that legislation is focused on. The new definition of “major federal action” — the threshold for NEPA applying — is “an action that the agency carrying out such action determines is subject to substantial Federal control and responsibility.” The definition further clarifies that non-federal actions carried out without federal funding and without the ability for a federal agency to control the outcome of the project are not considered major federal actions. Given that the FCC is not funding the satellite activities it is licensing or controlling its operations — it simply authorizes satellite utilization of spectrum — this finding appears consistent with the updated statute.

In claiming that NEPA should not apply to satellite licensing, the FCC also cites a longstanding exemption for activities conducted outside of the United States with effects located “entirely outside the jurisdiction of the United States.” However, whether that exemption is applicable is

somewhat murky, given an emerging body of research that points to atmospheric impacts of satellite reentry, among other environmental issues that impact life here on Earth. These concerns will be reviewed in the next section.

ARGUMENTS FROM OPPONENTS

Activists pushing back on the FCC's exclusion of space-based activities from NEPA are concerned that there are major environmental impacts resulting from satellites that impact Earth. Their primary concerns are that: (1) satellite reentry pollution is harming the ozone layer; (2) rocket launch emissions harm the environment; and (3) light and radio pollution harms astronomy. They also push back against the FCC's interpretation of the definition of "major federal action" under NEPA.

Here's a brief rundown on each issue, their impact on the Earth, and how the government has addressed the topic to date:

- The first issue — pollution resulting from satellite reentry — is the murkiest, as the scientific record is still nascent in determining what exactly results from this activity in light of the range of materials used. Potential impacts are ozone depletion and a hotter atmosphere. Additional research to quantify the environmental impacts of satellite reentry, [as PPI called for earlier this year](#), is sorely needed, but that is likely outside of the jurisdiction of the FCC. Naturally, if there is conclusive evidence that a given material used in satellites is particularly harmful, its utilization should be weighed as a potential extraordinary circumstance. However, at this time, [a leading researcher estimated](#) that "about 0.1% of the overall ozone depletion caused by human activities is a result of satellite launches and re-entries," which does not constitute a major impact.
- The second issue — rocket launch emissions — is subject to NEPA review by another agency, the Federal Aviation Administration, as part of its licensing regime for rocket launch and reentry. Repeating that analysis at the FCC would be duplicative and wasteful. It is also worth noting that the vast majority of analyses by the FAA result in findings of no significant impact.
- The third issue — impact on astronomers — is an ongoing debate between astronomers and the satellite industry around what coexisting should look like. Satellites are made of metal and therefore reflect sunlight down to the Earth. Large satellite constellations can disrupt astronomers' ability to study the cosmos by adding light streaks to their observations. There are also potential impacts to radio astronomy. Mitigating the impact of operations on astronomers is often a [requirement](#) of for companies receiving an FCC license. The satellite industry has been forward-leaning in addressing their impact, engaging actively with astronomers and the National Science Foundation to find and implement mitigations that reduce these issues at their own expense.

With regard to the interpretation of the new definition for "major federal actions," opponents cite the Outer Space Treaty, which establishes that objects launched from a given nation are subject to authorization and ongoing supervision by national authorities. The treaty specifically states that countries are required to "retain jurisdiction and control" of such space objects. This is

typically interpreted to mean the laws of the country of origin apply to all people and objects in space. While this calls into question the FCC's invocation of space as an extraterritorial environment, it does not inherently create substantial federal control of the object, as the federal government is not able to do things like order a satellite to be moved.

ARGUMENTS FROM SUPPORTERS

Supporters' arguments are far simpler, as this action is largely a continuation of the status quo. Their primary argument is that applying NEPA to FCC satellite licensing would increase the cost for licensing — for both the federal government and the applicant — and the amount of time it takes to license a constellation without changing the environmental outcome. That would render a change in status not just pointless, but actively costly.

Supporters also note the uptick in litigation arguing for exceptions to the categorical exclusion for space-based objects. This drives up the cost and time for companies to get a license even when the courts side with the satellite operator. It also costs taxpayer dollars as the FCC considers the arguments posed. Deeming space-based activities completely outside of the jurisdiction of NEPA eliminates the ability for concerned parties to sue on these grounds

CONCLUSION

There are a number of complex legal issues tied together in this proposed decision by the FCC as well as questions around the environmental impacts of space on the Earth. The FCC's inclusion of this item on its agenda later this month, when it is overwhelmingly expected to be adopted, indicates the agency intends to push forward in clarifying that space-based operations are not subject to NEPA. Environmental groups have [indicated](#) they plan to push Congress to engage, though, meaning this issue isn't going away anytime soon.

ABOUT THE AUTHOR

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