

**October 24, 2024**

**Chief Julie Kearney**

Space Bureau  
Federal Communications Commission  
45 L Street NE  
Washington, DC, 20554

Dear FCC Space Bureau Chief Julie Kearney,

We should look before we leap.

The number of large satellites in the lowest-level of low earth orbit has increased by 127 times and the overall number of large LEO satellites has increased 12 times in five years, led by SpaceX. The new space race is ramping up quickly: some experts are estimating an additional 58,000 satellites will be launched by 2030. Other plans have been proposed to launch 500,000 satellites to create new mega-constellations that would power satellite internet.

The environmental harms of launching and burning up so many satellites aren't clear. That's because the [federal government hasn't conducted an environmental review](#) to understand the impacts. What we do know is that more satellites and more launches lead to more damaging gasses and metals in our atmosphere. We shouldn't rush forward with launching satellites at this scale without making sure the benefits justify the potential consequences of these new mega-constellations being launched, and then re-entering our atmosphere to burn up and or create debris This is a new frontier, and we should save ourselves a lot of trouble by making sure we move forward in a way that doesn't cause major problems for our future.

We need a precautionary agency that can regulate the commons of our final frontier, as has been [recommended](#) by the Government Accountability Office (GAO). The FCC should follow the GAO's recommendations and conduct environmental reviews for large constellations of satellites. Regulators should also ask if we really need multiple disposable constellations competing for the same [limited space](#). We can have affordable internet for everyone without surrounding our globe with tens or hundreds of thousands of disposable satellites that could harm our environment. We call on the FCC to:

**1. Pause new satellite internet low earth orbit satellite launches until the Federal Communications Commission conducts environmental reviews for mega-constellations.**

We shouldn't rush into deploying an untested and under-researched technology into new environments without comprehensive review. Over just five years Starlink has launched more than 6,000 units and now make up more than 60% of all satellites. The new space race took off faster than governments were able to act. Regulatory agencies review individual licenses and lack the policies in place to assess the total effects of all proposed mega-constellations. Until

national and international environmental reviews can be completed we should stop launching further low earth orbit satellites part of constellations that provide consumer internet connectivity.

The FCC is granting licenses on a first-come, first-served basis but both orbital space and the broadcast spectrum are [not infinite](#). National and international regulators need to develop an unprecedented system of cooperation to share the commons of our final frontier. Until extensive coordination is in place, we shouldn't let the commercial interests first to launch determine the rules.

## **2. FCC should end the environmental categorical exclusion of satellites.**

In November 2022, GAO released their report, [Satellite Licensing: FCC Should Reexamine Its Environmental Review Process for Large Constellations of Satellites](#). The report found the FCC sidesteps the National Environmental Policy Act's required environmental review of satellite mega-constellation by claiming a categorical exclusion. Excluding all 24 applications for mega-constellations is absurd given the unprecedented pace at which the FCC is granting licenses. The GAO recommends that the Federal Communications Commission should review whether licensing large constellations of satellites normally does not have significant effects on the human environment. As of May 2024 the FCC has not reexamined their rules and still exclude satellite constellations from environmental review.

That launching 30,000 to 500,000 satellites into low earth orbit doesn't even warrant an environmental review offends common sense. The GAO found that the FCC doesn't have a [documented reason](#) for deciding mega-constellations are categorically excluded from environmental review. The FCC should immediately begin a comprehensive review process working with experts from academia, the Environmental Protection Agency, NASA, and other federal agencies. This review must consider the total effects of proposed mega-constellations in the context of other internationally proposed constellations—not on a one-by-one basis. The effects on the space environment such as orbital debris, and on the atmosphere, astronomy, climate, aviation, and surface all need to be considered. This review needs to be coordinated with international agencies such as the International Telecommunication Union, and researchers.

## **Conclusions**

New large scale technologies require oversight and study. The long term effects of this massive change to our environment aren't clear. What is clear is that we can bring the world online without the unknown environmental harms of satellite mega-constellations. The FCC should coordinate closely with the EPA, NASA, and other national and international regulators to require extensive environmental reviews for the new space age. We're in a short window of time when we can prevent making a mess of space and our atmosphere rather than spend decades cleaning it up.

The new space race doesn't need to create massive space waste.

Sincerely,

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