

October 15, 2020

BY ELECTRONIC FILING

Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, DC 20554

Re: *Space Exploration Holdings, LLC, IBFS File No. SAT-MOD-20200417-00037;
RM 11-768*

Dear Ms. Dortch:

On October 13, 2020, Patricia Cooper and David Goldman of Space Exploration Holdings, LLC (“SpaceX”) had a conference call with members of the Commission’s International Bureau to discuss the above referenced proceedings.¹ To facilitate the discussion, SpaceX shared the attached presentation with the staff.

SpaceX began by providing an overview of its progress to date in deploying its Starlink constellation. SpaceX updated the staff on the successful launch and operation of nearly 300 additional satellites without a failure since before its last report. SpaceX continues investing in its rapid network deployment, including launching as many as 120 satellites a month and installing extensive ground infrastructure across the country. This pace and level of investment demonstrates the urgency to approve SpaceX’s modification so that it may quickly and safely provide improved service to consumers in remote—and Polar—locations.

This investment would be undermined if the Commission were to agree with those trying to cast a pall of regulatory uncertainty over all operators using the 12 GHz band. The Commission set a careful balance in the 12 GHz band allowing operators across a range of industries, including satellite television and satellite broadband, to broadly share and flourish in this spectrum. Yet, despite the clear consumer benefits of the Commission’s current approach, Multichannel Video and Data Distribution Service licensees are now demanding an open-ended rulemaking that would introduce precisely the type of regulatory uncertainty that would deter the hundreds of millions of dollars being invested by companies already serving or about to serve consumers in this band. The Commission should reject these cynical efforts to have the Government intervene in an otherwise successful market.

¹ Participants on the call are listed in Exhibit 1.

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Sincerely,

/s/ David Goldman

David Goldman

Director of Satellite Policy

SPACE EXPLORATION TECHNOLOGIES CORP.

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Washington, DC 20004

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Email: David.Goldman@spacex.com

Attachments

cc: International Bureau participants

EXHIBIT 1
CALL PARTICIPANTS

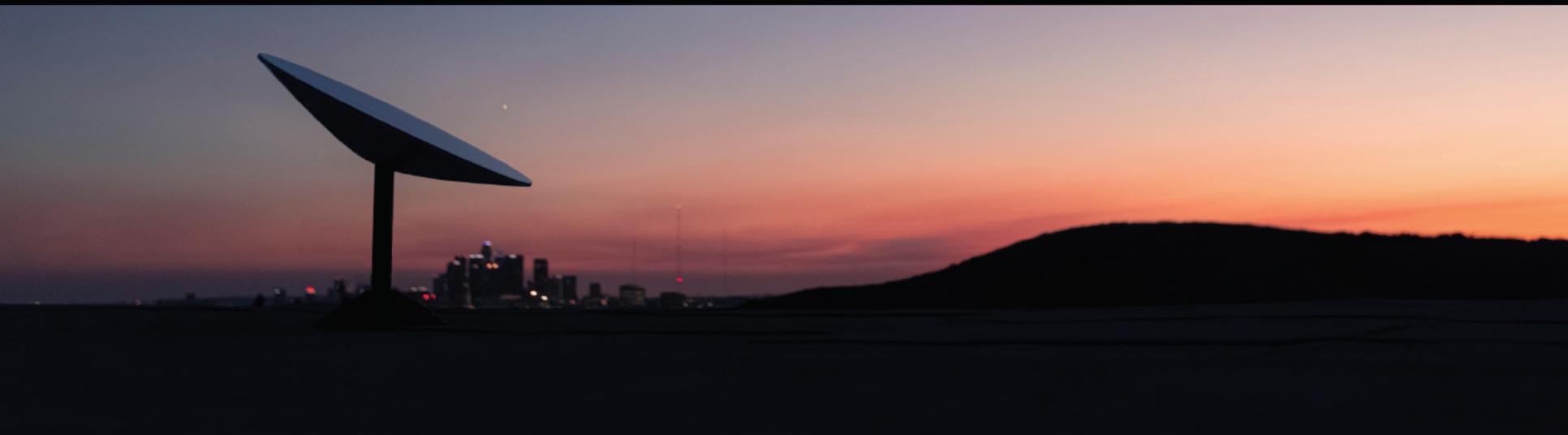
International Bureau

Tom Sullivan
Merissa Velez
Karl Kensinger
Kathleen Collins
Nese Guendelsberger
Kathryn O'Brien
Jim Schlichting
Francis Gutierrez
Troy Tanner
Kerry Murray
Jameyanne Fuller
Jennifer Gilsenan

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SPACEX STARLINK UPDATE

International Bureau



Starlink will provide high speed, low-latency broadband connectivity across the globe, including to locations where traditionally internet has been too expensive, unreliable, or entirely unavailable.



Starlink Deployment Status

- Deployed over 700 satellites to date, now by far the largest satellite constellation in the world
- Begun beta service for users across multiple U.S. states
- Providing service to previously unserved students in rural areas
- **“We are prioritizing emergency responders & locations with no Internet connectivity at all.”**

SHARE [social icons] Result ID 9688465610 RESULTS SETTINGS

PING ms: 19
DOWNLOAD Mbps: 103.07
UPLOAD Mbps: 41.99

GO

Connections: Multi
Rock Island Communications, Seattle, WA
Change Server
SpaceX Starlink, 143.131.2.43

HOW DOES THE CUSTOMER SERVICE OF SPACEX STARLINK COMPARE WITH YOUR EXPECTATIONS?
1 2 3 4 5
Much worse As expected Much better

WA Emergency Management @waEMD

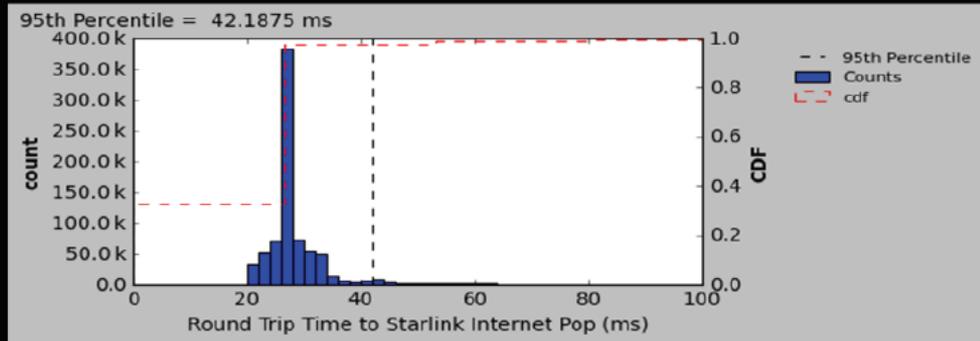
Happy to have the support of @SpaceX's Starlink internet as emergency responders look to help residents rebuild the town of Malden, WA that was overcome by wildfires earlier this month. #wawildfire

The collage consists of three images. The top-left image shows a white Starlink satellite dish mounted on a roof. The top-right image shows a person standing next to a destroyed building with charred remains. The bottom image shows a row of several cars that have been severely damaged by fire, with their bodies melted and interiors exposed.

- Beginning software upgrade to accelerate throughput 2.5x
- Latency consistently far below 40-50 ms round trip to internet

Low-Latency/High Throughput

- Millions of tests on actual consumer-grade equipment in congested cells, showing consistent observed median latency of approximately 30 ms
- Testing performed using peak busy hour conditions, heavily loaded cells, and representative locations
- Recently upgraded software to improve speeds by 2.5 times from previous speed tests



Measurements for a community of 30 high-usage customers, including 1,048,576 datapoints.

- 95th percentile latency = 42 ms
- 50th percentile latency = 30 ms



Modification of Ku/Ka-band License

Partial constellation modification

- Lower remaining satellites to altitudes ranging from 540 km to 570 km
- Align polar shells to speed deployment to Polar Regions, including Alaska

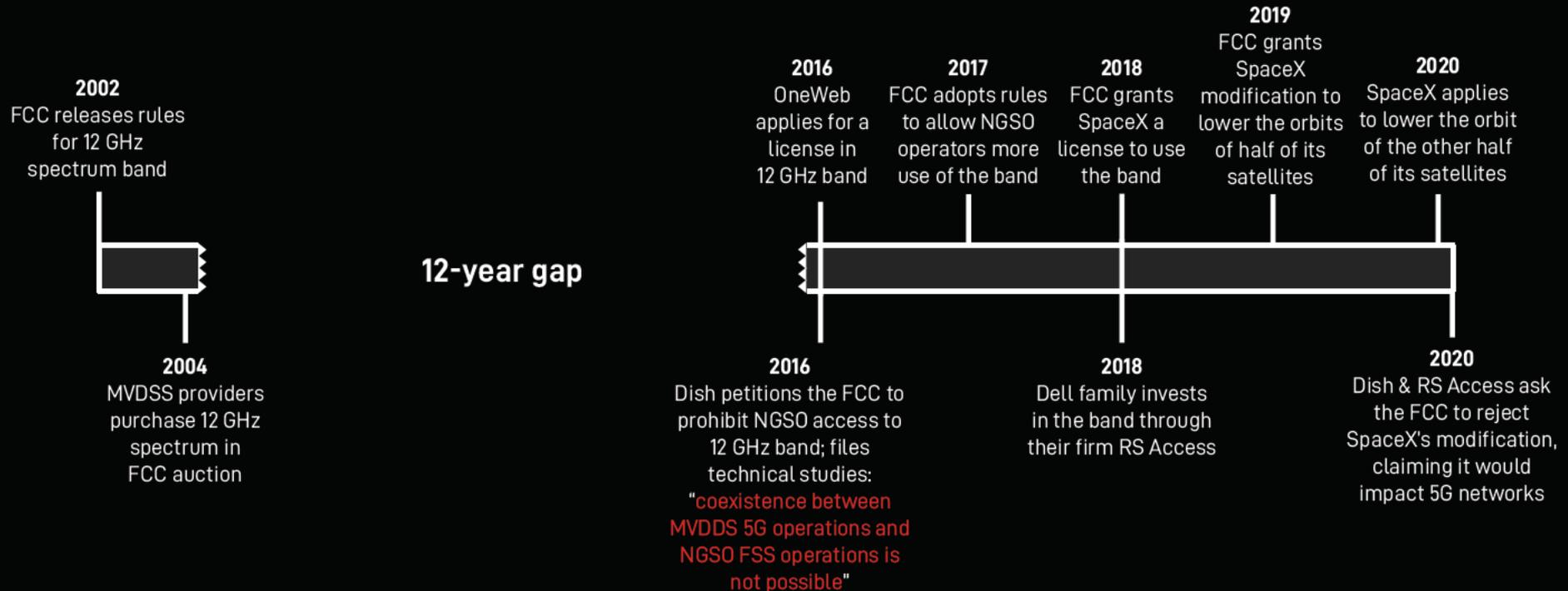
Further enhance space safety

- Update orbital debris showing

Slightly reduce number of satellites

- Now 4,408 satellites
- Demonstrate EPFD, PFD compliance to protect space, terrestrial systems
- Demonstrate lack of significant impact on other licensed NGSO systems

MVDDS Proposal Has Nothing to do with SpaceX's Modification



SPACEX

