DG Consents Sub, Inc.
Request for 180-day STA

Narrative Attachment

DG Consents Sub, Inc. ("DigitalGlobe") requests special temporary authority ("STA") for 180 days to relocate and operate WorldView-4, authorized under Call Sign S2348, at orbital altitudes between 350 and 450 km.[1] DigitalGlobe is in the process of commencing end of mission procedures for WorldView-4, which due to previous anomalies to the spacecraft, must be performed in discrete stages. Through this application, DigitalGlobe requests permission to lower the satellite from its current operation arc of 425-525 km[2] to 350-450 km as it undertakes its end of life maneuvers. DigitalGlobe has filed an application for 30-day STA to relocate and operate WorldView-4 at 350-450 km concurrently with this request.

On January 7, 2019, WorldView-4 experienced a failure in its control moment gyros, preventing the satellite from collecting usable imagery due to the loss of an axis of stability. However, WorldView-4's authorized communication paths remain operational, and DigitalGlobe maintains control of the satellite. Pursuant to STA, DigitalGlobe has been operating the WorldView-4 in the 425-525 km range to conduct testing and training – enhancing the skills and experience of DigitalGlobe's network operators.[3]

Subject to FCC approval, DigitalGlobe will undertake the next phases of its end of life maneuvers by lowering the satellite to a new temporary operating range of 350-450 km. DigitalGlobe will continue to operate only the satellite's telemetry, tracking, and command ("TT&C") frequencies during relocation and will do so on a non-interference basis. TT&C communications will continue to occur in the same frequencies as currently authorized, at 8386 MHz (120 KHz) for downlink and 2052 MHz (64 KHz) for uplink. Once at the 350-450 km orbital altitude, DigitalGlobe will conduct X-band data downlink at 8025-8400 MHz at the new altitude in addition to TT&C.

As explained in its earlier applications to relocate WorldView-4, grant of this STA request will allow DigitalGlobe to maximize the utility of WorldView-4, while ensuring

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1 47 C.F.R. § 25.120.

2 *See DG Consents Sub, Inc.*, Stamp Grant, IBFS File No. SAT-STA-20190816-00076, Call Sign S2348 (granted Aug. 21, 2019); *Policy Branch Information; Actions Taken*, Report No. SAT-01419, File No. SAT-STA-20190917-00094 (Oct. 4, 2019) (Public Notice); *Policy Branch Information; Actions Taken*, Report No. SAT-01419, File No. SAT-STA-20190816-00077 (Oct. 4, 2019) (Public Notice); *Policy Branch Information; Actions Taken*, Report No. SAT-01464, File No. SAT-STA-20200306-00024 (May 8, 2020) (Public Notice); Application of DG Consents Sub, Inc. for 180-day STA Extension, IBFS File No. SAT-STA-20200917-00110, Call Sign S2348 (filed Sep. 17, 2020). Pursuant to Section 1.62 of the Commission's rules, DigitalGlobe is operating WorldView-4 under the terms and conditions of its existing STA pending action on its timely filed renewal request. *See* 47 C.F.R. § 1.62.

3 *See supra* n. 2

complete deorbit of the impaired satellite. Lowering WorldView-4 to 350-450 km will allow DigitalGlobe to undertake its phased re-entry plan for the impaired spacecraft, mitigating the likelihood of further anomalies during deorbit. Additionally, the phased deorbit will permit DigitalGlobe to continue to use the space station for training purposes while operating at 350-450 km.

DigitalGlobe will concurrently notify the National Oceanic and Atmospheric Administration of its intent to relocate and operate WorldView-4 at 350-450 km, as required. In addition, DigitalGlobe will coordinate with the Consolidated Space Operations Center at the Vandenberg Air Force Base, as well as with all potentially affected satellite operators authorized at orbital altitudes between 350 and 450 km.