

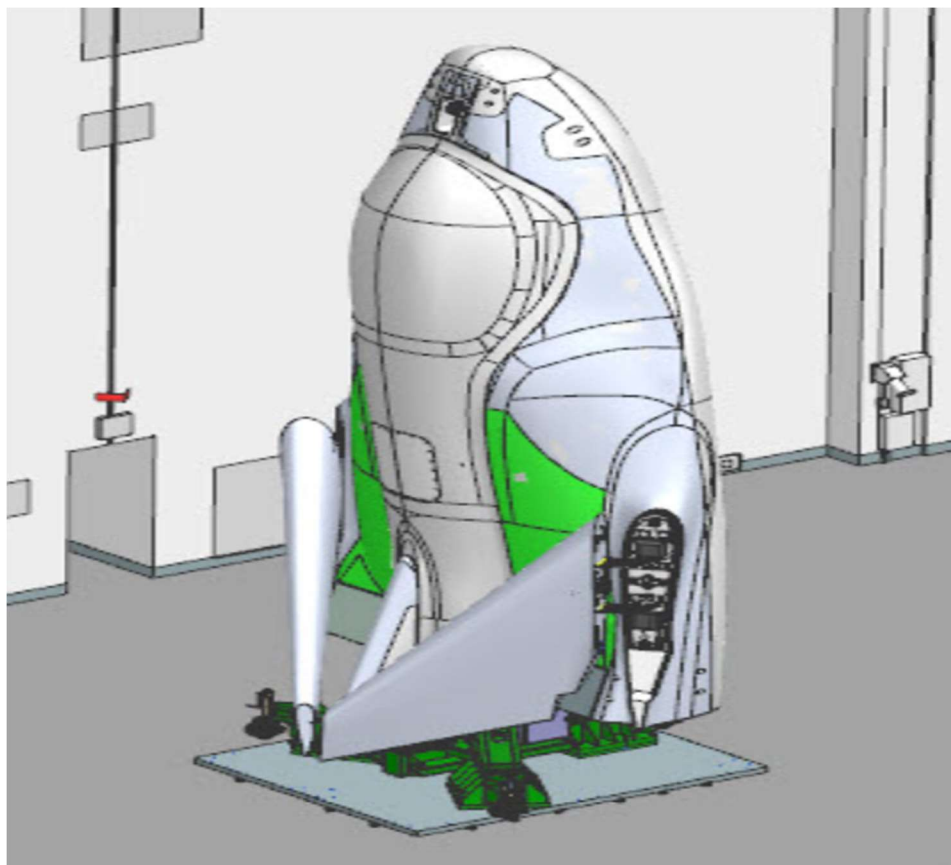
## NARRATIVE STATEMENT

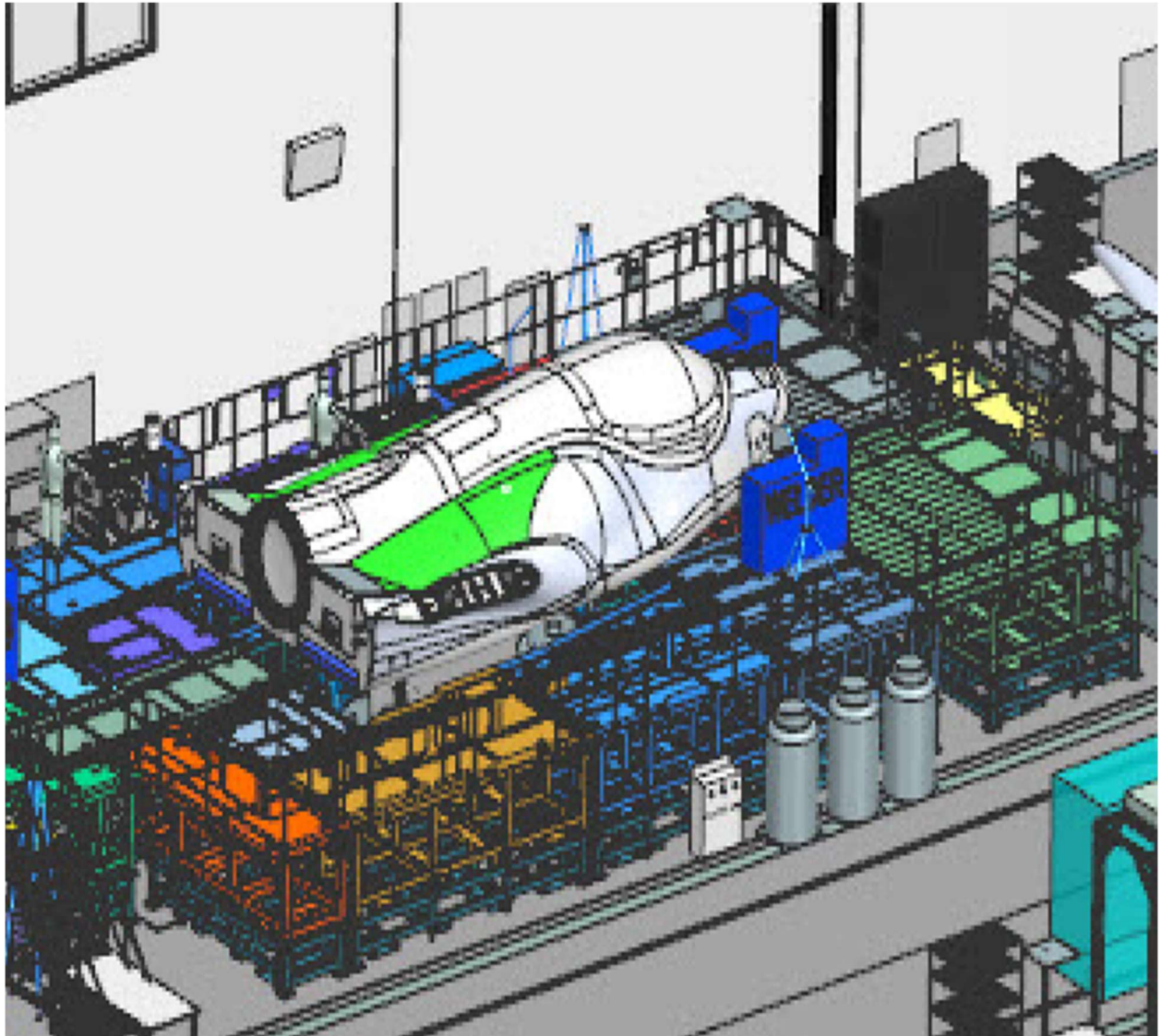
The present application seeks authorization to modify Sierra Space Corporation Experimental license call sign WO2XXQ for GPS rerad transmissions by adding a new location for testing and check out purposes only. This testing pertains to the RF operations of the DCC1 Mission to the International Space Station under a NASA CRS2 contract. The details of these DCC1 RF Mission operations are contained in Sierra Space Corporation STA file number 0660-ST-EX-2024, herein incorporated by reference.

The current grant is for operations consisting of the following:

- Testing inside the Kennedy Space Center (KSC) Space Shuttle Processing Facilities (SSPF) High Bay area
- Testing inside the KSC Airlock area
- Pre-launch check out inside the ULA LV fairing at Cape Canaveral Space Force Station (CSSFS) Vertical Integration Facility (VIF), Space Launch Complex 41 (LC-41)

The proposed modification is to add operations at the Payload Hazardous Processing Facility (PHSF) as depicted below.





**The following certification is pursuant to the present Sierra Space Application, seeking authorization to modify its license call sign WO2XXQ to use a fixed device that re-radiate signals received from the GPS for testing and pre-launch checkout of the Dream Chaser Cargo System (DCCS)**

- a. The devices will not be operated simultaneously at the locations identified in the license on file and the modification as proposed herein. Operation of each fixed device will be at an indoor location.
  - Operation at the proposed new location in the PHSF will be using the GENERAL DYNAMICS Mission System device, model number L1L2-2GP, for the purpose of Functional testing in the PHSF.
  - Only one device will be operated at any given point in time.
- b. Sierra Space Corporation hereby notes that the device will be used as an “Experimental RNSS test Equipment for the purpose of testing RNSS receivers”.
- c. Sierra Space Corporation also notes that approved frequency assignments will be entered in the GMF file and seeks further guidance from the FCC in respect to fulfilling this requirement.
- d. The maximum length of the assignment will be two years, with possible renewal, though the specific need which is the basis of this application is less than 180 days.
- e. The areas of potential interference to GPS reception, the KSC and CCSFS facilities, are under the control of the facility owners, NASA and Space Force respectively, even though Sierra Space Corporation has control of the RF operations which will occur as part of the testing and checkout activities.
- f. The transmitted EIRP values for the proposed re-rad operations, without taking into consideration the building attenuation factor, present a shortfall of 10.4 dB , with respect to the permissible power (Maximum EIRP) levels calculated using the approach in §8.3.28(f).
- g. EIRP consideration with respect to the current license modification application is as follows.
  - Sierra Space corporation will reduce the EIRP levels transmitted by 10.4 dB, with a corresponding ERP value of 14.4 pW.
- h. All of Sierra Space Corporation’s proposed use of the 1575.42 MHz frequency assignment is for the purpose of testing RNSS equipment/systems.
  - The “Stop Buzzer” point of contact for the proposed GPS re-rad RNSS operations, available at all times during these re-rad operations, is as follows for the additional location at which testing or check out operations will occur is as follows:

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