

EXHIBIT 3

TECHNICAL ANNEX

1 INTRODUCTION

This Technical Appendix to the Space Logistics, LLC (SpaceLogistics) application, to operate the telemetry and commanding systems of the Mission Extension Pod (MEP), provides information in response to Section 25.114(d) of the Commission's rules and to support the application.

2 CONTACT INFORMATION

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3 GENERAL DESCRIPTION OF MEP SYSTEM

The MEP is a propulsion augmentation spacecraft designed to provide delta-V augmentation for its client vehicle using electric propulsion. It is SpaceLogistics' second-generation in-space servicing spacecraft and leverages our proven MEV technology and proven on-orbit capabilities to extend the life of satellites at geosynchronous orbit (GSO). Unlike the MEV, the MEP does not have the ability to independently conduct rendezvous, proximity

operations and docking (RPOD) with its client vehicle, rather the MEP is installed on the client vehicle using our servicing system called the Mission Robotic Vehicle (MRV). The MEP, approximately the size of a dishwasher, weighs approximately 500 kg at launch.

Building upon the success of the MEV, the MEP mechanically attaches to a client's Liquid Apogee Engine (LAE) using an improved capture mechanism. Since the MEP is significantly smaller and lighter than the MEV, it does not require stanchions contacting the launch adaptor ring. This makes the MEP compatible with a broader range of GSO satellites than the MEV. While the MEP cannot undock from its client vehicle on its own, it has been designed such that it can be removed and re-installed on another satellite with the assistance of the MRV.

The MEP has a redundant electric propulsion system using Hall Current Thrusters and xenon fuel to perform Electric Propulsion Orbit Raising (EPOR) and station keeping. This system is sized to perform geosynchronous transfer orbit (GTO) to GSO orbit raising in approximately 10 months assuming an 1,800 m/s launch vehicle injection velocity. Once on orbit and installed by the MRV, the MEP will provide approximately 6 years of full North-South and East-West station keeping for a 2,000 kg client vehicle.

To transfer the MEP from GTO to GSO, the MEP has an attitude control system (ACS) designed only for controlling the MEP through its EPOR and until the MRV captures the MEP for installation on the client vehicle. Once the MEP is retrieved by the MRV, the ACS system is disabled.

The MEP includes a 1.5 kW solar power system supported by a 3.2 kWh battery used to support the electric propulsion system and other bus requirements including telemetry, tracking and control (TT&C) and thermal controls.

The MEP redundancy (elimination of credible single point mission failures) and predicted reliability levels are consistent with long life GSO spacecraft designs and are expected to be comparable to those of the client vehicle. The current MEP design has a reliability prediction of approximately 0.89 after 10 months of orbit raising, 1 year of in-orbit storage and 6 years of operation at GSO (8 years in space).

Like the MEV, the MEP's TT&C system also operates within the spectrum allocation of the client vehicle or through coordination, within the allocation of the operator authorized to use the spectrum, and like MEV is offset by frequency or polarity to prevent interference.

Consistent with SpaceLogistics' operating philosophy, the company will conduct operations in a responsible, transparent and cooperative manner aligned with the ISO standard 24330 (Space systems — Rendezvous and Proximity Operations (RPO) and On Orbit Servicing (OOS) - Programmatic principles and practices).

3.1 Concept of Operations

After launch, separation, and in-orbit testing, each MEP will conduct an orbit raising maneuver to GSO. The MEP orbit raising is performed semi autonomously with ground control and monitoring from the SpaceLogistics MEP Mission Operations Center (MOC). Using inertial navigation, MEPs will assume a passively safe position several kilometers away from their client vehicle in the GEO belt. The MEP will then be captured by the MRV via its precision RPO capabilities and the pod capture tool. The MRV will then transport the MEP and conduct a second precision RPO with the client vehicle to install the MEP. Like the MEV, this features the proven, semi-autonomous waypoint driven approach of far hold, near hold, pre capture box, and capture box holds. Once aligned and coordinated with the client vehicle operations team, the MEP is commanded to capture and secure itself to the client's LAE.

Once installed, the MRV releases the MEP and backs away from the newly formed augmented vehicle stack (AVS) for the ground to perform the MEP system checkout sequence and the client vehicle resumes attitude control of the AVS.

Following initial checkouts, the MRV will relocate to its next client. Meanwhile the MEP control is transferred to the client vehicle mission operations center where it is controlled by the client vehicle operations team.

Our MEP customers will integrate the MEP operations database and procedures directly into their existing satellite operations command and control systems.

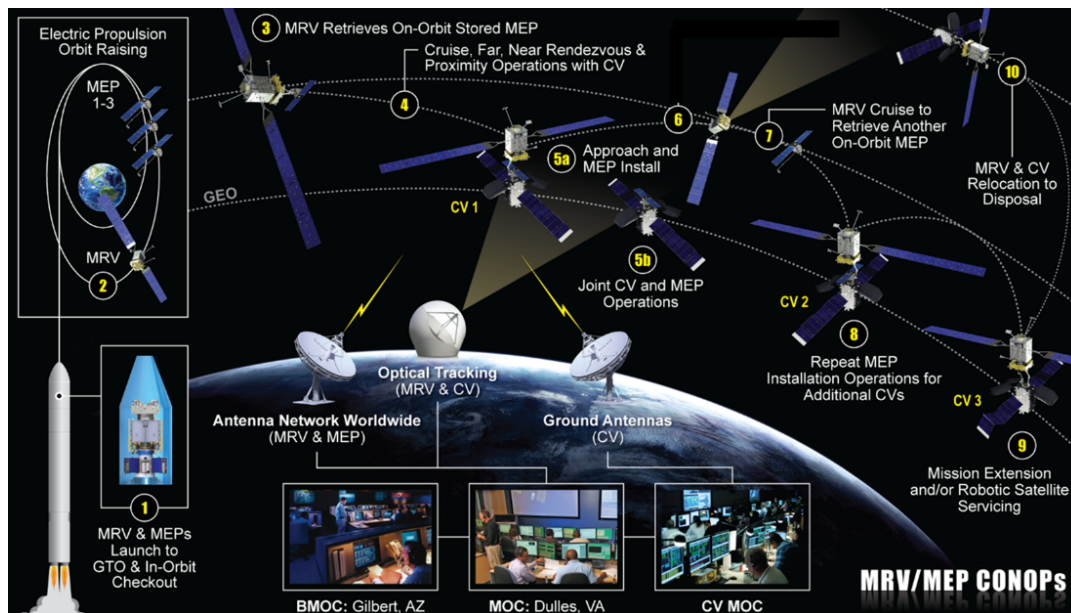


Figure 1 - Nominal Mission Sequence

3.2 Space Segment Communications

The MEP does not have a typical GSO communications payload as it only needs capability for TT&C functions to control the MEP satellite using frequencies allocated to the fixed-satellite service (“FSS”). Specifically, the MEP will have two Ku-band transmitters (11450 – 12200 MHz space-to-Earth) each of which is tunable in 100 kHz increments. This transmission

flexibility is necessary to minimize interference and facilitate coordination with the CV and adjacent satellite operators. All transmitters are circular polarized.

The downlink communication for the MEP consists of ranging data, state-of-health telemetry information, and imaging data during RPO, capture, installation and servicing operations. The telemetry system has the capability to operate in three different bandwidths or modes depending on the mission phase and operational requirements, as outlined in Table 1.

Downlink Telemetry Mode	Bandwidth	Data Rate
Low rate: Contingency operations (e.g., spacecraft safe mode)	200 kHz	1.2 kbps
Medium rate: EPOR, free flyer, RPO, installation, capture, storage	400 kHz	4.8 kbps
High rate: AVS operations	400 kHz	9 kbps

Table 1 - Bandwidths for each MEP telemetry mode

The receive communication consists of command and ranging for the MEP. The MEP will have two Ku-band receivers (13750 – 14500 Earth-to-space) each of which is tunable in 100 kHz increments. The command uplink has a bandwidth of 1 MHz. This receive flexibility is necessary to minimize interference and facilitate coordination with the CV and adjacent satellite operators. Both receivers are circular polarized.

Table 2 provides the tunable frequency range for the TT&C system. The center frequency of the command and telemetry communications links can be any frequency (subject to the bandwidth of the transmission) within the tunable frequency range in increments of the 100 kHz tuning resolution. The MEP is capable of ceasing radio emissions, as required.¹

¹ 47 C.F.R. § 25.207.

	Command - Uplink		Telemetry - Downlink	
	Tunable Frequency Range (MHz)	Polarization	Tunable Frequency Range (MHz)	Polarization
Ku-Band	13750 – 14500	LHCP or RHCP	11450 – 12200	LHCP or RHCP

Table 2 - MEP TT&C Tunable Frequency Ranges and Polarizations

For the avoidance of doubt, selectable center frequencies for the Ku-band channel may be calculated as:

$$\text{Ku-band Uplink Center Frequency (MHz)} = 13750 + 0.1 * m_1$$

$$\text{Ku-band Downlink Center Frequency (MHz)} = 11450 + 0.1 * m_2$$

Where m_1 is an integer from 0 to 7500 (inclusive) and m_2 is an integer from 0 to 8000 (inclusive).

3.3 Ground Segment Communications

The ground segment consists of the MRV and MEP primary and backup mission operations centers (MOC) for controlling the spacecraft, ground networks and earth stations providing the radiofrequency communications links to the spacecraft. The backup MOCs are for emergency operations in case the primary MOCs are unavailable. No RPO or robotic operations will be performed from the backup MOC.

The MEP MOC is in Dulles, Virginia at the Northrop Grumman operations facility, co-located with other mission operation centers, including the MEV-1 & 2, MRV, Cygnus, and the GEOSTar orbit raising and on-orbit support centers. The MEP backup MOC is in Gilbert, Arizona, co-located with the MEV-1 & 2 and MRV backup MOCs.

During orbit raising, in-orbit testing (IOT), and drifting, the MEPs will utilize a leased global network of Ku-band TT&C earth stations networked to the MOC. During RPO and AVS operations, the MEPs will nominally use the CV's primary and redundant TT&C stations and ground antennas with redundant communication links between the TT&C stations and the MOC.

However, there may be occasions when MRV and MEPs will need to utilize leased earth stations to perform such RPO operations.

The MRV/MEP MOC and the CV MOC will be in communications during joint operations and AVS servicing to support coordination of activities and safety of both spacecraft. Both MOCs will share critical state of health telemetry of both vehicles and coordinate orbit and maneuver data.

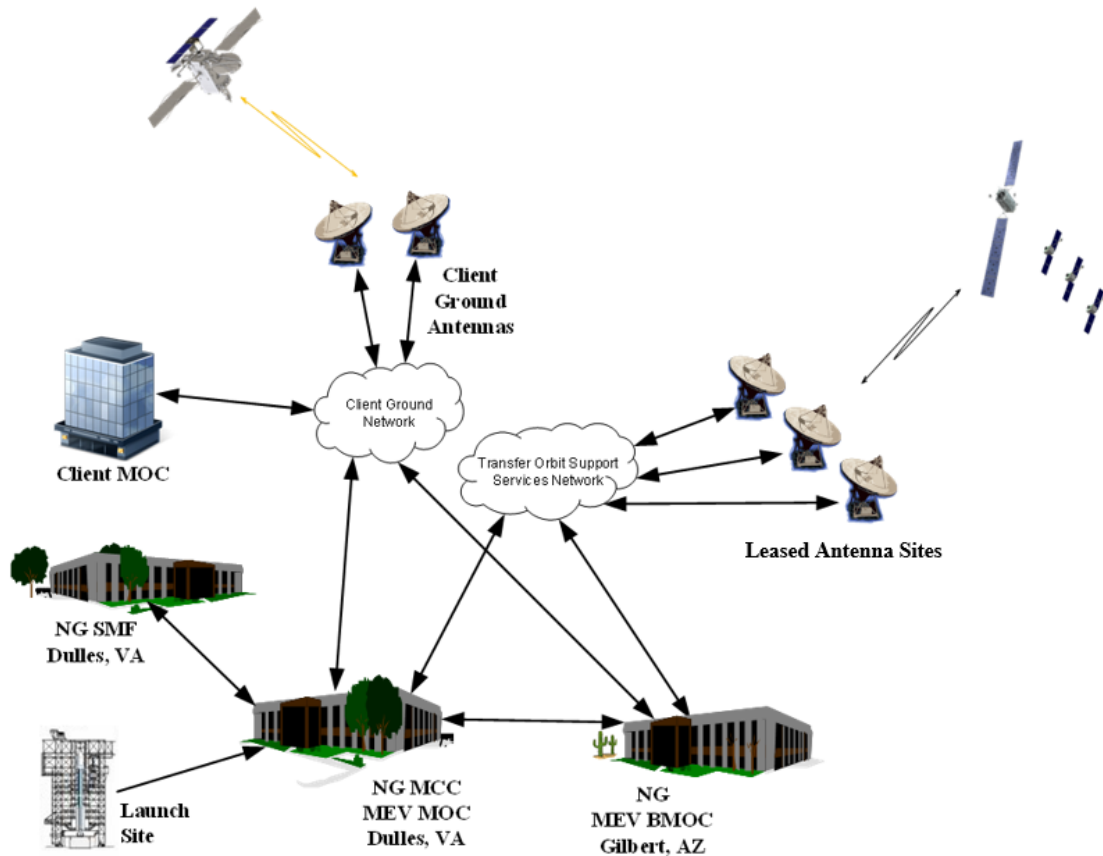


Figure 2 – MRV/MEP Spacecraft Data Flow with Ground CVs and NG Space Assets

3.4 Launch Segment

The MEPs are scheduled to be launched on a Falcon-9 between the second and fourth quarter of 2026. Each will be launched into GTO, leaving approximately 1700 m/s remaining to reach GSO. Table 3 lists the nominal Falcon-9 injection parameters for this mission.

Geosynchronous Transfer Orbit (GTO) Parameters ¹	Target Value	Allowable Dispersion
Perigee altitude (km), osculating at orbit injection	300 km	± 15.0 km
Apogee altitude (km), osculating at orbit injection	44,120 km	± 500 km
Orbit Inclination (degrees), osculating at orbit injection	27.0 deg	± 0.1 deg

Table 3 – Initial Orbit Parameters

3.5 Emission Compliance

The carrier frequency of each transmitter for the MEP shall be maintained within 0.002% of the reference frequency.² All emissions from the MEP shall meet the out-of-band emission limits specified in the Commission's rules.³

4 ANTENNA GAIN CONTOURS

The TT&C Ku-band antennas for the MEP provide $\pm 17^\circ$ half-power beam width from GSO orbit meaning that no transmit or receive antenna gain contours intersect the Earth's surface. Therefore, pursuant to Section 25.114(c)(4)(vi)(A) of the FCC's rules, contours for these beams are not required to be provided and the associated GXT files have not been included in Schedule S.

² 47 C.F.R. § 25.202(e).

³ 47 C.F.R. § 25.202(f).

5 INTERFERENCE ANALYSIS

5.1 Interference Analysis for Hypothetical, Identical Space Station within 2 Degrees of MEP

SpaceLogistics certifies that the MEP downlink EIRP density will not exceed 14 dBW/4kHz for digital transmissions during operations. SpaceLogistics certifies that the levels of the uplink emissions in the Ku-band will not exceed the limits set in 47 C.F.R. § 25.218.

5.2 Band Edge Interference

TT&C signals shall be transmitted within the frequency bands specified in Table 4-1. Such transmissions shall cause no greater interference and require no greater protection than the communications traffic authorized for the client vehicle at its operational orbital location. Alternatively, the TT&C signals shall be coordinated with operators of co-frequency space stations at orbital locations within six degrees of the assigned orbital location.

5.3 Sharing with terrestrial stations

The 11.45-11.7 GHz band is allocated on a primary basis internationally and domestically in the United States to the fixed service and FSS.⁴ Section 25.208(b) of the Commission's rules contains power flux-density (PFD) limits at the Earth's surface produced by emissions from GSO space stations operating in the 10.95-11.2 and 11.45-11.7 GHz bands.⁵ The rule states that the PFD at the Earth's surface produced by emissions from an FSS space station shall not exceed the following levels:

- -126 dB(W/m²) in any 1 MHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;
- $-126 + (\delta - 5)/2$ dB(W/m²) in any 1 MHz band for angles of arrival (in degrees) between 5 and 25 degrees above the horizontal plane; and

⁴ See 47 C.F.R. § 2.106

⁵ See 47 C.F.R. § 25.208(b).

- $-116 \text{ dB(W/m}^2\text{)}$ in any 1 MHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

Figure 3 demonstrates that the MEP space station will comply with these limits at all angles of arrival on the Earth.

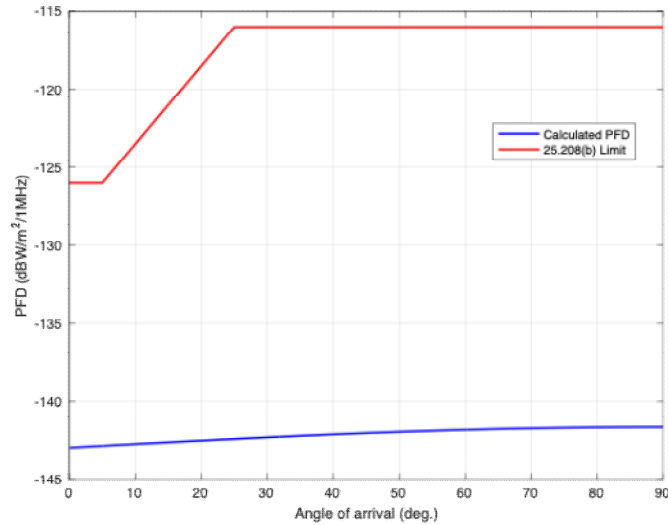


Figure 3 – PFD Showing

6 ORBITAL DEBRIS MITIGATION PLAN

6.1 MEP Flight Safety

SpaceLogistics has established a Systems Safety Program Plan (SSPP) for the identification, evaluation, mitigation, and tracking of all potential hazards associated with the mission. The SSPP defines a Safety Review Process (SRP), which outlines the exact procedures for executing the mitigation and tracking of identified potential hazards. The SRP is a general Northrop Grumman practice that SpaceLogistics has tailored specifically to the MRV and MEP programs. All potential hazards are categorized by mission phase, including flight operations covering activities after launch and separation. Detailed analyses for each potential hazard in

applicable flight operations are documented in the Flight Safety Data Package (FSDP). Orbital debris generation is a subcategory under the FSDP.

The MEP is designed such that no debris is generated because of normal operations. This leaves four primary sources for potentially generating debris from the MEP mission including:

- 1) Accidental explosions from internal or external sources
- 2) Collision during non-RPO operations
- 3) Collision during RPO, capture and installation operations
- 4) End-of-life decommissioning

SpaceLogistics leverages four key mitigation layers that address these sources of debris generation, each applying to a unique set of mitigation strategies. The mitigation layers for these debris' generation sources include spacecraft design, autonomous fault protection, the ground segment, and mission operations including trajectory design. Figure 4 illustrates how these mitigations are layered to prevent the generation of orbital debris during the mission. The layers progressively involve mission operators to fully mitigate the potential generation of orbital debris.

In the first layer, the spacecraft hardware is designed such that nominal operating conditions do not generate orbital debris. This layer has the least amount of operator intervention since the spacecraft hardware cannot be modified once in orbit. The next layer consists of the MEP on board fault protection, which can autonomously identify, isolate and recover from potential safety issues. In the next layer, the ground segment provides for operator interaction with and configuration of the MEP and provides for coordination between the MRV/MEP MOC and the CV MOC. The ground systems in the MRV/MEP MOCs also actively monitor available spacecraft telemetry and issue alarms to alert the operator and enable ground intervention if

necessary. The final layer is mission operations including trajectory design. Mission operations establish and execute operating sequences including trajectories, which are designed to be passively safe, up to the point of final approach and docking, to protect against collisions with the CV and other tracked Resident Space Objects (RSOs). This layer involves significant mission operator involvement and active coordination with other GSO spacecraft operators.

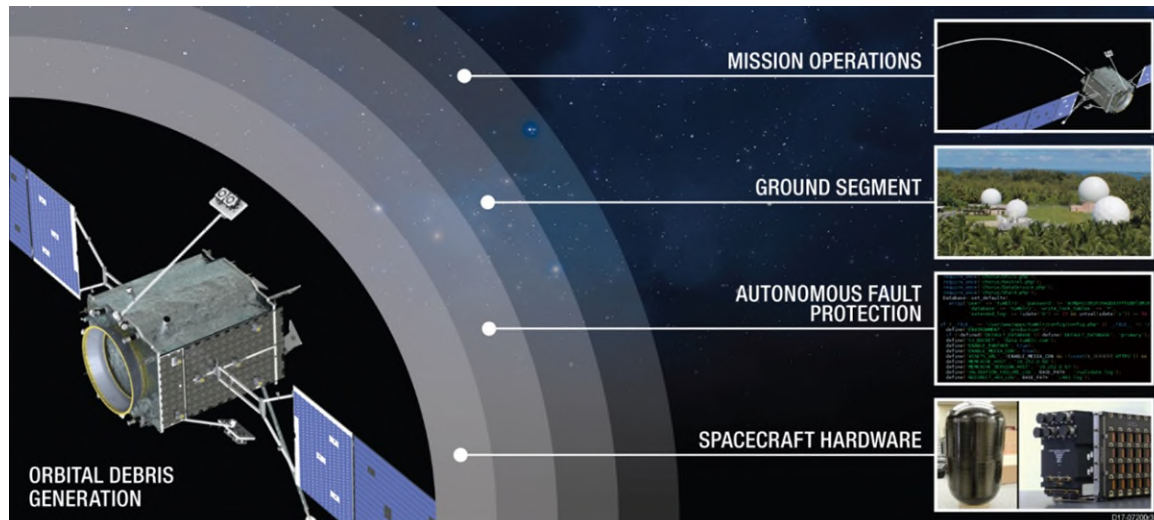


Figure 4 - The mission layers mitigations to protect against orbital debris generation

In addressing each of the possible sources of orbital debris generation, the strategies employed within each of the layers discussed above are identified and detailed below.

6.2 Mitigation Against Accidental Explosion Events and Collision with Small Objects

Mitigation Layer: Spacecraft Design

SpaceLogistics has assessed and limited the probability of accidental explosions caused by either internal or external sources during and after completion of mission operations.⁶ The MEP is designed in a manner to minimize the potential for such explosions. Propellant tanks and

⁶ 47 C.F.R. § 25.114(d)(14)(iii), 47 C.F.R. 25.114(d)(14)(vi).

thrusters are isolated using redundant valves and electrical power systems are shielded in accordance with standard industry practices. Pressure regulators, downstream of the xenon propellant tanks, are redundant, providing an extra safeguard against over pressurizing the lines, xenon flow control units, and electric thrusters.

The propulsion subsystem component construction, preflight verification (through both proof testing and analysis), and quality standards have been designed to ensure a very low risk of leakage or over-pressurization with a potential to cause explosions. Best industry practices, such as using tanks/lines with burst pressures greater than 4 times the maximum expected operating pressures, have been incorporated into the spacecraft design. Note that there is no expected release of liquids from the MEP. The MEP uses gaseous xenon in its propulsion system.

The batteries are designed with sufficient safety factors to prevent any accidental explosions due to over pressurization. Redundant on-board systems manage the charging and discharging of the batteries to ensure that these factors of safety are maintained. At the end of life, the batteries can also be remotely discharged from the ground.

SpaceLogistics has assessed and limited the probability of the space station becoming a source of debris by collision with small debris or meteoroids of less than one centimeter in diameter that could cause loss of control and prevent post-mission disposal.⁷ SpaceLogistics has designed the MEP to contain most energy-storage components within the solid aluminum panel core structure, including the propellant storage tank. This provides the highest level of protection against collisions with micrometeoroids or other space debris. Using a Northrop Grumman

⁷ 47 C.F.R. § 25.114(d)(14)(ii), 47 C.F.R. 25.114(d)(14)(vi).

assessment tool validated against NASA Debris Assessment Software, SpaceLogistics has calculated this probability to be 0.009937, in compliance with the 47 C.F.R. § 25.114(d)(14)(ii).

Mitigation Layer: Autonomous Fault Protection Design

The MEP autonomous fault protection is designed to continuously monitor subsystem conditions during mission operations which could lead to over-pressurization of the propellant tanks or stressing of the batteries. The primary cause of propellant or battery explosion is over-pressurization due to high temperature and/or overcharging. Additionally, there are autonomous responses for voltage spikes in the battery cells that could lead to a failure or higher risk of explosion.

Mitigation Layer: Ground Segment Design

In addition to the on-board autonomous fault protection of the subsystems, the spacecraft transmits state of health information for all subsystems including telemetry for propulsion tank pressures and temperatures, as well as battery pressures, temperatures, and cell voltages.

All of these telemetry points are monitored by the ground software with autonomous limit checking. Out-of-limit conditions are flagged on the MOC displays with a prominent alert and require operator acknowledgement. Conditions detected by limit or other signatures in the ground systems can also initiate activities such as alerting off-console support engineers to investigate anomalies and provide assistance as needed to the Mission operators to resolve potentially hazardous situations as quickly as possible.

Mitigation Layer: Mission Operations

Mission Operations employs flight rule constraints to avoid potentially hazardous conditions, trends subsystems data to actively avoid risks leading to a hazardous condition, and re-actively responds to ground system alerts. At the completion of the mission and upon disposal

of the spacecraft, SpaceLogistics will ensure the removal of all stored energy on the spacecraft by depleting all propellant tanks, venting all pressurized systems and by leaving the batteries in a permanently discharged state.

6.3 Mitigation Against Collisions with Other GSO Satellites and Tracked Residential Space Objects (RSOs) (non-RPO)

Mitigation Layer: Mission Operations and Trajectory Design

SpaceLogistics will take standard measures to ensure that MEP will not collide with other RSOs (including other space stations and large debris).⁸ This includes the utilization of both commercial and U.S. government orbit determination services (such as Space-Track) to coordinate MEP mission planning and trajectory design.

SpaceLogistics uses the Space-Track to monitor the risk of close approach of its satellites with other objects. The 19th Space Defense Squadron (19 SDS) executes the conjunction assessment mission on behalf of U.S. Space Command in cooperation with the 18th Space Defense Squadron (18 SDS). Both 19 SDS and 18 SDS provide spaceflight safety services for Space-Track. Any close encounters (separation of less than 10 km) are flagged and investigated in more detail. If required, avoidance maneuvers are performed to eliminate the possibility of collisions.

The MEP spacecraft will be trackable.

6.4 Rendezvous, Proximity Operations, Capture and Installation

RPO, capture and installation is a unique feature of the MEP mission compared to other vehicles operating in the GSO arc. The MEP is designed to approach and mechanically attach

⁸ 47 C.F.R. 25.114(d)(14)(iv).

cooperatively with another satellite with the aid of an MRV. This mission activity introduces debris-generating risks which SpaceLogistics has diligently mitigated, as required by 47 C.F.R. 25.114(d)(14)(vi), through a layered approach based on heritage rendezvous and proximity operations and berthing operations of the Cygnus system with the manned International Space Station. In this section, docking refers to installing a MEP. The docking is the most safety critical phase of the mission and there will be both manual ground-based and autonomous on-board elements to preclude and detect failures and respond appropriately. Mitigation design strategies to effectively mitigate risk of release of debris, accidental explosions, and accidental collision during planned proximity operations are described in the subsections below.

Mitigation Layer: Spacecraft Design

Redundant RPO sensors onboard the MRV provide visual imaging and telemetry that are used both onboard and on ground to determine relative position and attitude between MRV, MEP and the CV. During RPO, capture and installation, the MRV provides high data rate telemetry of these sensors to support ground-based monitoring and authorization to proceed. The MEPs capture mechanism is designed to minimize contact forces to prevent unwanted relative dynamic motion between the MEP and the CV. Design elements have also been included to address any electrical charge potential between MEP and the CV which could result in damaging Electro-Static Discharge (ESD) events. Full six-degree of freedom control is implemented on MRV using the chemical propulsion system, in conjunction with momentum wheels providing additional margins on control authority needed for the proximity operations.

Specifically, the MRV RPO subsystem consists of the sensors, electronics, and algorithms required for detecting and tracking the CV during rendezvous and proximity operations, sensing the relative position and attitude of the CV, and enabling each robotic arm to

be properly positioned such that the required task can be successfully executed – E.g., grappling a space object. The RPO techniques used by the MRV are directly derived from the successful MEV 1 & 2 missions; taking advantage of lessons learned.

Mitigation Layer: Autonomous Fault Protection

At any point during RPO, capture and installation, the MRV-1, which is holding the MEP in a fixed position, can autonomously detect anomalies either in MRV-1 itself, or the relative position and orientation with the CV and take appropriate action from recovering from the fault to aborting the approach and causing a retreat to a safe orbit.

Mitigation Layer: Ground Segment

The MEP ground segment is designed to provide redundancy during mission operations. The primary MEP MOC is located in Dulles, VA while the backup MOC is located in Gilbert, AZ. This provides enough geographical separation to isolate the two MOCs from common weather hazards and other contingencies that may occur. Additionally, the TT&C ground stations utilize multiple redundant and diverse ground networks for added reliability.

During the RPO, capture and installation phase, the MRV MOC, MEP MOC and the CV MOC are connected through a continuous, real-time interface to ensure critical data is passed between operators of the three spacecraft. Autonomous telemetry monitors continuously check for events and alarms, while an independent ground-based system correlates relative position and attitude information using telemetered RPO sensor data from MRV. Mission operators are provided both graphical and tabular data displays to provide full situational awareness.

Mitigation Layer: Mission Operations and Trajectory Design

Nominal and contingency procedures will be developed for all identified practicable scenarios. These procedures will be executed on simulators and the actual spacecraft on the

ground when feasible, prior to being needed during the mission on-orbit. SpaceLogistics will conduct multiple rehearsals for both nominal and contingency mission scenarios to adequately train the operations staff and test all software and ground systems under flight-like conditions. During the mission, critical operations such as the RPO phase are fully staffed by a team of experts with a wealth of mission operations and technical experience. When a particular operation and/or procedure is deemed to have low in-space heritage SpaceLogistics will use a “calibration” or “practice” approach to verify performance, timing etc. prior to executing the actual mission that will result in contact, capture, or docking.

During RPO, capture and installation, mission operations are performed collaboratively with the CV MOC. At each proximity operation waypoint mentioned above, both SpaceLogistics and the CV operators must provide authorizations to proceed to continue to the next waypoint. During the docking phase, MRV-1 operators utilize the CV as a viable control to help prevent the vehicles from colliding under some fault scenarios.⁹ The ground operators can also send retreat, scrub, or abort commands to MEP if an anomalous condition is detected in either MRV or the CV. MRV-1 is designed to safely and autonomously retreat and depart (if necessary) from the defined keep-out zones around the CV following an autonomous or ground-initiated scrub or abort.

SpaceLogistics uses a robust trajectory design to minimize risk of collision as MRV-1 approaches the MEP and CV. This trajectory ensures that the natural motion orbit of the spacecraft does not intersect the CV including over and under thrust performance or failure to

⁹ Narrative at 4-6, 14-15 (discussing SpaceLogistics’ cooperative, transparent, and responsible operating philosophy).

execute a maneuver, during all but the very final RPO maneuver which has additional safety procedures incorporated to prevent collision.

The final approach trajectory is designed to minimize any chances of impacts that could generate orbital debris. During this final approach, the relative speed is decreased from 30 mm/s to about 1 mm/s just before MRV-1 enters the capture box directly behind the CV. At this speed, the potential for debris generation caused by an unintended impact has been assessed to be very low. As an added layer of protection during this phase, MRV-1 approaches the capture box in such a way as to allow dual fault tolerance to credible scenarios of loss of control of MRV-1 by allowing time for the CV mission operators to perform a collision avoidance maneuver if they determine MRV-1 is unable to respond.

6.5 Post-Mission Disposal

Mitigation Layer: Trajectory Design

SpaceLogistics expects the MEP operator to reserve sufficient fuel and power to dispose of the combined MEP and CV stack at the end of its mission-capable life at a planned minimum altitude of **300 kilometers (perigee) above the GSO arc**.¹⁰ The proposed disposal orbit altitude complies with the minimum altitude resulting from application of the Inter-Agency Space Debris Coordination Committee (“IADC”) formula based on the following calculation:

$$36,021 \text{ km} + (1000 \times C_R \times A/m) = 36,044.0 \text{ km, or } \mathbf{274 \text{ km above the GSO arc}}$$
 (35,786 km), where

A, Area of the satellite (average aspect area) is: 42 m²
m, Mass of the spacecraft is: 1600 kg, minimum expected EOL mass
C_R (solar radiation pressure coefficient) is: 1.5

¹⁰ 47 C.F.R. § 25.283(a); *see also* Inter-Agency Space Debris Coordination Committee, IADC Space Debris Mitigation Guidelines, § 5.3 (2007).

Accordingly, the MEP's planned disposal orbit complies with the FCC's rules.¹¹

Mitigation Layer: Mission Operations and Trajectory Design

After the MEP reaches its final disposal orbit, SpaceLogistics expects that the MEP operator will deplete all on-board sources of stored energy, all batteries will be left in a permanent discharge state, and the transmitters will be turned off.¹² The solar arrays will also be skewed away from the sun to minimize power generation.

¹¹ 47 C.F.R. § 25.283(a).

¹² 47 C.F.R. §§ 25.283(c), 25.114(d)(14)(ii).

Technical Certification

I, Gregg Herbert, hereby certify, under penalty of perjury, that I am the technically qualified person responsible for the preparation of the engineering information contained in the technical portions of the foregoing application and the related attachments, that I am familiar with Part 25 of the Commission's rules, and that the technical information is complete and accurate to the best of my knowledge and belief.

/s/ Gregg Herbert

Gregg Herbert

Systems Engineer

Northrop Grumman, parent company of
Space Logistics LLC

Dated: January 6, 2026