Exhibit 2

Orbital Debris Assessment Report

Orbital Debris Assessment Report for Cluster 15
HawkEye 360, Inc.

This report is presented in compliance with NASA-STD-8719.14C, APPENDIX A.

Document Data is Not Restricted.
This document contains no proprietary, ITAR, or export controlled information.
DAS Software Version Used in Analysis: v3.2.7

Change Log

ODAR Version	Date	DAS Version Used
Cluster 15	May 15, 2026	v3.2.7
Cluster 15+	November 17, 2025	v3.2.6
Cluster 12+	July 17, 2024	v3.2.6

INTRODUCTION

HawkEye 360, Inc. ("HE360"), a U.S. company headquartered in Herndon, Virginia, plans to launch a commercial constellation of up to 60 simultaneously operating microsatellites. The satellites will fly in groups of 3 in proximate formation and work together to form a single observation platform ("cluster").

This Orbital Debris Assessment Report ("ODAR") concerns specifically Cluster 15 of the constellation. The HE360 Cluster 15 satellites will deploy from the launch vehicle into a low Earth orbit at altitudes between 570 km and 610 km, with a nominal inclination of ~53 degrees. The HE360 Cluster 15 is composed of the Hawk microsatellite form factor.

The satellites are calculated to re-enter the Earth's atmosphere and burn up completely in 5 years or less after a nominal 5-year mission life. To meet the post-mission deorbit requirement, Cluster 15 spacecraft may conduct a beginning-of-mission orbit lowering maneuver if the spacecraft is inserted into an orbit higher than the orbit altitude predicted to allow for passive deorbit during mission operations plus a 5-year post-mission deorbit period. As a result of the 11-year solar cycle, this orbit altitude changes depending on the launch time. HE360 has verified that the post-mission deorbit time meets the required deorbit period for any launch from October 2026 through the beginning of 2030.

The NASA Debris Assessment Software confirmed that the HE360 satellites satisfy all the Requirements for Limiting Orbital Debris including:

a. Mission-Related Debris Passing Through LEO
b. Mission-Related Debris Passing Near GEO
c. Long-Term Risk from Planned Breakups
d. Probability of Collision with Large Objects
e. Probability of Damage from Small Objects
f. Post-mission Disposal
g. Casualty Risk from Reentry Debris

HE360 confirms that the satellites will not undergo any planned release of debris during their normal operations. In addition, all separation and deployment mechanisms, and any other potential source of debris will be retained by the spacecraft or launch vehicle. HE360 has also assessed the probability of the spacecraft 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. HE360 has taken steps to limit the effects of such collisions through shielding, the placement of components, and the use of redundant systems.

HE360 has assessed and limited the probability of accidental explosions during and after completion of mission operations through a failure mode verification analysis. As part of the satellite manufacturing process, HE360 has taken steps to ensure that debris generation will not result from the conversion of energy sources on board the satellites into energy that fragments the satellites. All sources of stored energy onboard the spacecraft will have been depleted or safely contained when no longer required for mission operations or post-mission disposal.

HE360 has assessed and limited the probability of the spacecraft becoming a source of debris by collisions with large debris or other operational spacecraft. HE360 does not intend to place any satellites in an orbit that is identical to or very similar to an orbit used by other space stations, and, in any event, will work closely with the cluster launch providers to ensure that the satellites are deployed in such a way as to mitigate the potential for collision with any other spacecraft. This specifically includes minimizing the potential for collision with manned spacecraft.

The HE360 satellites will perform station-keeping maneuvers to maintain separation between the satellites within a cluster and sustain the desired geometry. Typical inter-satellite distances between the satellites will be approximately 75-125 km and maintenance maneuvers will be conducted relatively infrequently – approximately once a week. However, the cluster will not maintain the satellites' inclination angles, apogees, perigees, and right ascension of the ascending node to any specified degrees of accuracy beyond the goals of maintaining the cluster geometry.

HE360's disclosure of the above parameters, as well as the number of space stations, the number and inclination of orbital planes, and the orbital period to be used, can assist third parties in identifying potential problems. This information also lends itself to physical coordination between HE360 and other operators.

The instant ODAR applies to Clusters 15 only. The ODARs associated with prior clusters appear in previously approved HE360 applications. *See, e.g.,* Application of HE360, ICFS File No. SAT-MOD-20251118-00324 (filed December 12, 2025)(providing the ODAR for Clusters 15+); Application of HE360, ICFS File No. SAT-MOD-20240812-00180 (granted May 30, 2025; reissued June 18, 2025) (providing the ODAR for Clusters 12+); Application of HE360, ICFS File No. SAT-MOD-20240619-00139 (granted Nov. 15, 2024) (providing the ODAR for Kestrel-0A);Application of HE360, ICFS File No. SAT-MOD-20220906-00099, at Exhibit 7, ODAR (granted in part Mar. 3, 2023; granted in part Nov. 15, 2024) (providing the ODAR for Clusters 7-11); Application of HE360, ICFS File No. SAT-MOD-20210114-00010, at Exhibit 2, ODAR (Granted May 25, 2021) (providing the ODAR for Clusters 3-6); Letter from Tony Lin, Counsel to HE360, to Marlene H. Dortch, Secretary, FCC, ICFS File No. SAT-AMD-20200728-00090 (filed Sept. 23, 2020) (providing the ODAR for Cluster 2); Application of HE360, ELS File No. 0024-EX-CN-2017, at Exhibit 3, ODAR (filed Mar. 10, 2017) (providing the ODAR for Cluster 1).

1. Self Assessment of the ODAR using the format in Appendix A.2 of NASA-STD-8719.14 Revision A with Change 1

A self-assessment is provided below in accordance with the assessment format provided in Appendix A.2 of NASA-STD-8719.14C.

Table 1: Orbital Debris Self-Assessment Report Evaluation for the HE360 Commercial Constellation

Req		Spacecraft			Comments
#	Description	Compliant or N/A	Not Compliant	Incomplete	
4.3-1a	Debris-LEO	x			No debris released in LEO.
4.3-1b	Debris-LEO	x			No debris released in LEO.
4.3-2	Debris-GEO	x			No debris released near GEO.
4.4-1	Explosions	x			
4.4-2	Passivation	x			
4.4-3	Long-term risk	x			No planned breakups.
4.4-4	Short-term risk	x			No planned breakups.
4.5-1	Debris from collisions-large obj	x			
4.5-2	Debris from collisions-small obj	x			
4.6-1a	Disposal by re-entry	x			
4.6-1b	Disposal by maneuvers	x			
4.6-1c	Disposal by retrieval	x			No planned retrieval.
4.6-2	Disposal near GEO	x			LEO orbits only.
4.6-3	Disposal between LEO,GEO	x			LEO orbits only.
4.6-4	Reliability of disposal	x			No planned disposal operations.
4.7-1	Risk of human casualty	x			
4.8-1	Special Classes of Space Missions	x			

2. Assessment Report Format

ODAR Technical Sections Format Requirements:

This ODAR follows the format recommended in NASA-STD-8719.14 Revision C, Appendix A.1 and includes the content indicated at a minimum in each section 2 through 8 below for the satellites in the constellation. Sections 9 through 14 apply to the launch platform and are not covered here.

3. ODAR Section 1: Program Management and Mission Overview

Project Manager: HE360

Foreign government or space agency participation: No foreign government or space agency participation is anticipated.

Schedule of upcoming mission milestones:
Launch: No earlier than October 2026.

Mission Overview:
The satellites comprising each cluster will be launched and rapidly deployed from their restraint mechanisms and commissioned. Depending upon the insertion orbit, the spacecraft orbit altitude may be reduced during the first 11 weeks on orbit to ensure a 5-year deorbit following the completion of mission operations. The cluster will then begin payload operations that will continue for an estimated 5 years for Hawk clusters.

Cluster 15 is being deployed on an upcoming SpaceX rideshare launch opportunity that will be inserting it into a mid-inclination orbit (~53 degrees) of 590 km +/- 20 km. In order to address the worst-case orbit insertion scenario of 610 km x 610 km, HE360 has coordinated with its bus supplier to augment the solar panel design to include "drag sail" panels that increase the area/mass ratio in order to ensure passive deorbit within 5 years following a 5-year mission. Since the drag sail panels are part of the solar array assembly, the same single deployment mechanism is employed for both, which is activated shortly after satellite separation. Therefore, the reliability of deployment is not affected by the addition of the drag sail panels.

ODAR Summary: No debris released in normal operations; no credible scenario for breakups; the collision probability with other objects is compliant with NASA standards; and the estimated nominal post-mission de-orbit lifetime is less than 5 years, as calculated by DAS.

Launch vehicle and launch site: Launch vehicle and site are to be determined for each HE360 cluster. One or more clusters of 3 satellites will be launched together on one launch vehicle in order to obtain the desired cluster formation. There are several launch vehicle options that are capable of launching the Hawk clusters of 3 satellites into the desired orbits. HE360 will select launch vehicles for each cluster based on vehicle and site availability, as well as cost and reliability.

Proposed launch date: No earlier than October 2026.

Mission duration: Nominal mission lifetime is 5 years for Hawk satellites, following 11 weeks of spacecraft checkout and beginning-of-mission orbit lowering. The estimated nominal post-mission de-orbit lifetime is less than 5 years.

Launch and deployment profile, including all parking, transfer, and operational orbits

with apogee, perigee, and inclination: The HE360 Cluster 15 satellites will deploy from the launch vehicle into a low Earth orbit at altitudes between 570 km and 610 km at an inclination of approximately 53 degrees.

The HE360 satellites have propulsion for station-keeping, cluster formation establishment, collision avoidance, and orbit lowering. There is no parking or transfer orbit.

Reason for selection of operational orbit(s): Orbits were chosen to maximize global coverage and ground station communication opportunities.

Identification of any interaction or potential physical interference with other operational spacecraft: The HE360 satellites are not expected to interact or physically interfere with other operational spacecraft.

4. ODAR Section 2: Spacecraft Description

Physical description of the spacecraft:

Hawk:

The Hawk satellites are microsatellites, each with a launch mass of less than 33.44 kg. To perform the intended mission, the HE360 spacecraft have a variety of antennas mounted externally to the spacecraft. The specific antennas included on any individual cluster of spacecraft may vary, but the inclusive set of all possible antennas at this time have been included in this ODAR for analysis.

Hawk basic physical outside dimensions are approximately: 44 cm x 59 cm x 187 cm.

Hawk spacecraft are composed of an aluminum structure with deployable solar arrays. The Cluster 15 Hawk satellites will also have drag sail panels, as discussed above.

Hawk power storage is provided by nine prismatic Lithium-Ion cells. The batteries will be recharged by solar cells mounted on both deployed arrays and on the body of the satellite.

Detailed illustration of the entire spacecraft in the mission operation configuration with clear overall dimensional markings:

Hawk:

Figures 1-2 show the external layout of the Hawk spacecraft with dimensional markings.

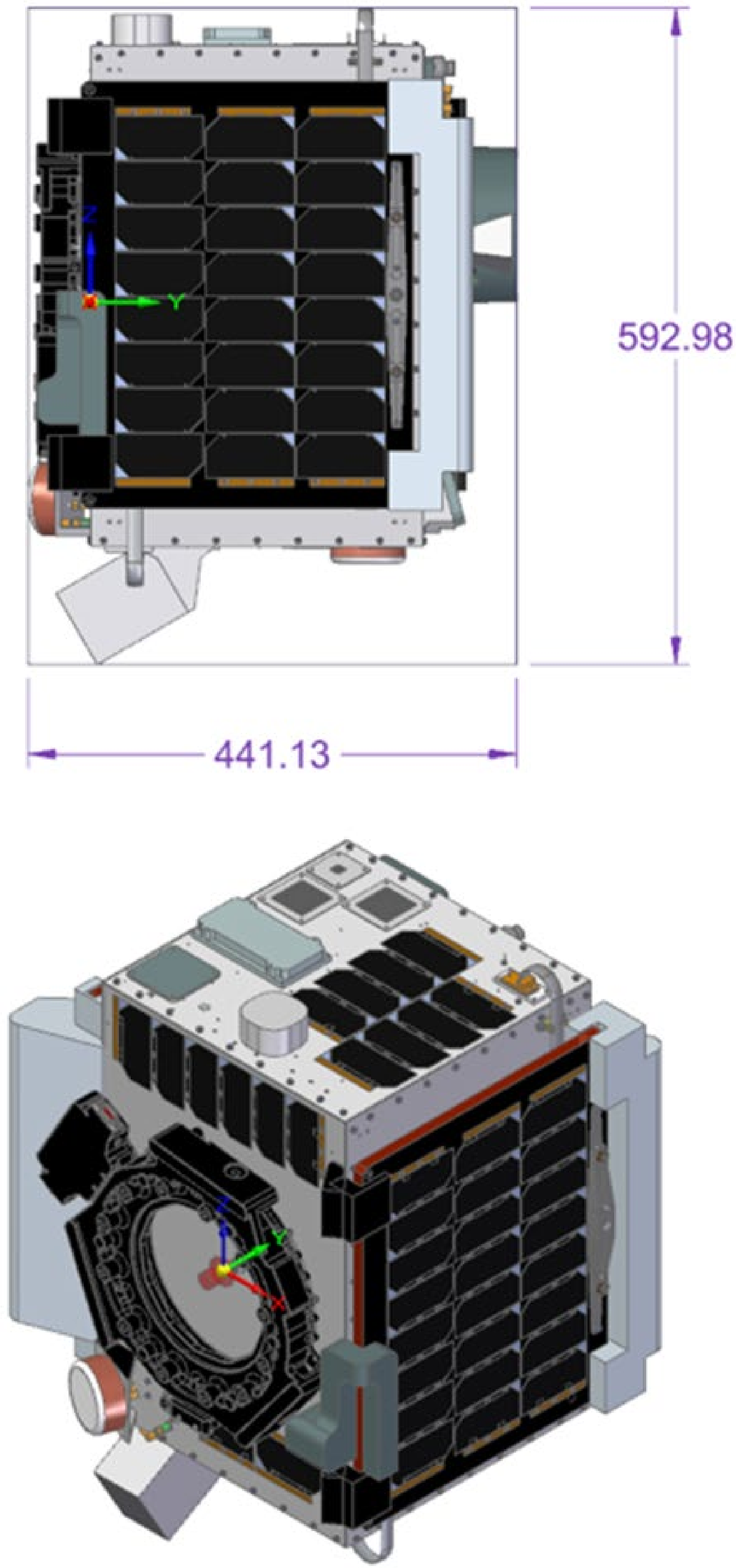

Figure 1 Hawk Spacecraft in Stowed Configuration

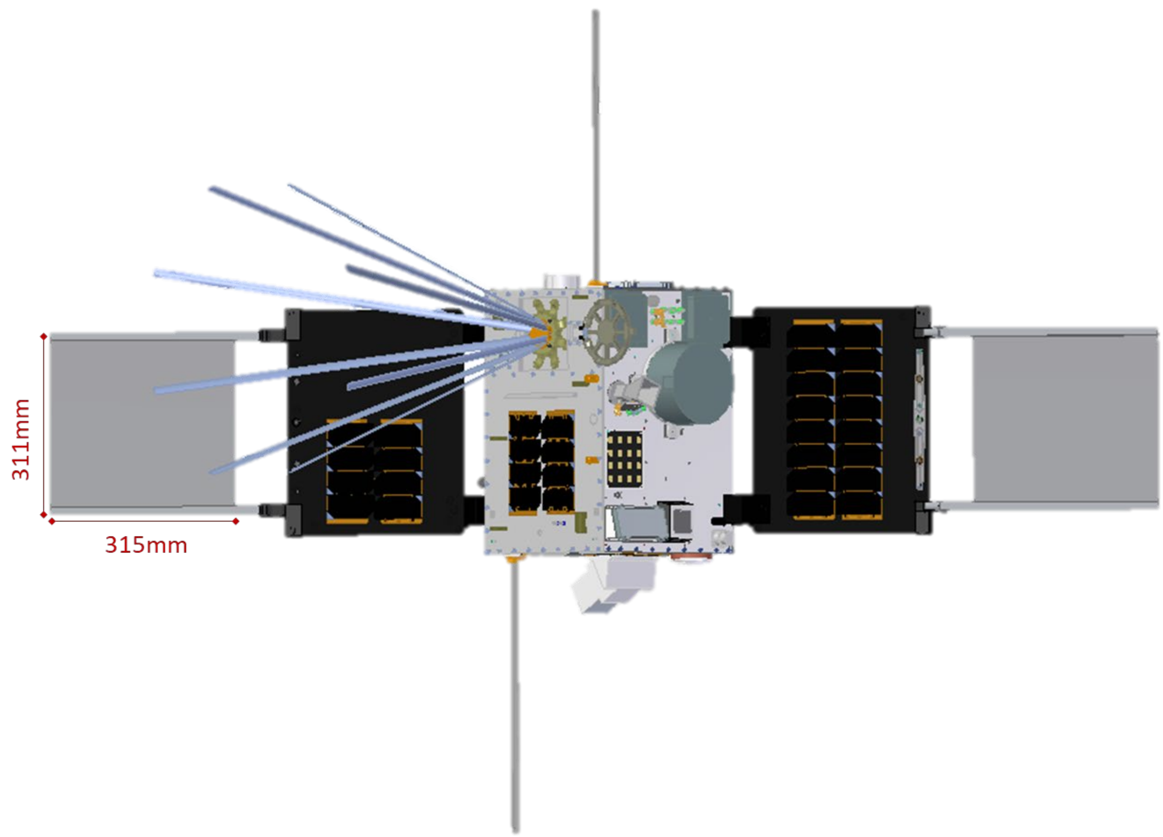

Figure 2 Hawk Spacecraft in Deployed Configuration, with Drag Sails

Total satellite mass at launch, including all propellants and fluids:

Hawk:

Maximum of 33.44 kg including separation system

Dry mass of satellites at launch, excluding propellant:

Hawk:

Water-based Propulsion Option**:** Maximum of 32.7 kg including separation system

Description of all propulsion systems (cold gas, mono-propellant, bi-propellant, electric, nuclear):
Hawk spacecraft will employ a water-based propulsion system on its satellites.

Identification, including mass and pressure, of all fluids (liquids and gases) planned to be

on board and a description of the fluid loading plan or strategies, excluding fluids in sealed heat pipes:

Hawk:

Distilled water and methanol[1] (700 g) and FE-36 pressurant (40 g) at a maximum pressure of 3.7 barA. Fluid will be loaded into the propulsion system by the manufacturer and will be installed in a flight-ready configuration with no additional pressurization operations required.

Fluids in Pressurized Batteries:

Hawk:

None. The satellites use heritage, unpressurized, standard COTS Lithium-Ion battery cells.

Description of attitude control system and indication of the normal attitude of the spacecraft with respect to the velocity vector:
Satellite attitude is controlled by magnetorquers and reaction wheels. The nominal attitude is an align/constrain sun-tracking mode where a particular fixed body-frame vector, chosen to maximize power generation, is aligned with the sun, and rotation about the sun vector is constrained to point a second fixed body-frame axis to nadir. Other possible attitude modes include: nadir-pointing, target-tracking, tumble/de-tumble and low/high drag profiles.

Description of any range safety or other pyrotechnic devices: No pyrotechnic devices are used.

Description of the electrical generation and storage system: Standard COTS Lithium-Ion battery cells are charged before payload integration and provide electrical energy during the mission. The cells are recharged by triple-junction GaAs solar cells. A battery protection circuit protects against over and undercharge conditions.

Identification of any other sources of stored energy not noted above: None.

Identification of any radioactive materials on board: None.

Address the trackability of the spacecraft. Spacecraft operating in low-Earth orbit will be presumed trackable if each individual spacecraft is 10 cm or larger in its smallest dimension, excluding deployable components:
The spacecraft are in low-Earth orbit, and the smallest dimension of the spacecraft measures at least 10 cm. Thus, they are trackable.

The statement shall also disclose the following:

[1] Methenol lowers the freezing point of the distilled water.

How the operator plans to identify the spacecraft following deployment and whether spacecraft tracking will be active or passive:
Spacecraft tracking will be active. Prior to deployment, an initial ephemeris is produced by the launch service that will be used to schedule a contact time window with the ground station. The accuracy of the ephemeris will depend on the launch vehicle's performance, delays, and deployment times. A more accurate ephemeris will be made available shortly after deployment. After deployment when the satellite establishes contact, active satellite tracking will be employed to enhance and maintain satellite ephemeris data. The collected data will be used to identify the spacecraft from two-line element sets once they become available by the 18th Space Defense Squadron.

Whether, prior to deployment, the spacecraft will be registered with the 18th Space Control Squadron or successor entity:
Prior to deployment, the spacecraft will be registered with the 18th Space Defense Squadron via their Satellite Registration Form and Space Situational Awareness (SSA) Sharing Agreement.

The extent to which the spacecraft operator plans to share information regarding initial deployment, ephemeris, and/or planned maneuvers with the 18th Space Control Squadron or successor entity, other entities that engage in space situational awareness or space traffic management functions, and/or other operators:
HE360 will provide the 18th Space Defense Squadron information regarding initial deployment, owner/operator (O/O) ephemeris, and planned maneuvers. This is intended to provide better space situational awareness and improve the accuracy of conjunction analysis (CA). The higher accuracy O/O ephemeris will improve the quality of the CA and reduce the frequency of Conjunction Data Messages (CDMs). HE360 intends to publish its ephemeris online three times daily, via Space-Track.org, and coordinate with LeoLabs, Inc. or other similar organization, to publish HE360-generated ephemeris.

Planned Proximity Operations
The satellite clusters fly in formation in groups of 3 and work together to form a single observation platform. Spacing will be maintained with propulsion and differential drag to ensure approximately 75-125 km minimum separation.

5. ODAR Section 3: Assessment of Spacecraft Debris Released during Normal Operation

Identification of any object (>1 mm) expected to be released from the spacecraft any time after launch, including object dimensions, mass, and material: There are no intentional releases.

Rationale/necessity for release of each object: N/A.

Time of release of each object, relative to launch time: N/A.

Release velocity of each object with respect to spacecraft: N/A.

Expected orbital parameters (apogee, perigee, and inclination) of each object after release: N/A.

Calculated orbital lifetime of each object, including time spent in Low Earth Orbit (LEO): N/A.

Assessment of spacecraft compliance with Requirements 4.3-1 and 4.3-2 (per DAS):

Requirement 4.3-1: Mission Related Debris Passing Through LEO. a. Requirement 4.3-1a: All debris released during the deployment, operation, and disposal phases shall be limited to a maximum orbital lifetime of 25 years from date of release (Requirement 56398). b. Requirement 4.3-1b: The total object-time product shall be no larger than 100 object-years per mission (Requirement 56399). The object-time product is the sum of all debris of the total time spent below 2,000 km altitude during the orbital lifetime of each object. (See section 4.3.4.2 for methods to calculate the object-time product.)
Compliance Statement: COMPLIANT There are no intentional releases.

Requirement 4.3-2: Mission Related Debris Passing Near GEO. For missions leaving debris in orbits with the potential of traversing GEO (GEO altitude +/- 200 km and +/- 15 degrees latitude), released debris with diameters of 5 cm or greater shall be left in orbits which will ensure that within 25 years after release the apogee will no longer exceed GEO - 200 km (Requirement 56400).
Compliance Statement: COMPLIANT No released debris.

6. ODAR Section 4: Assessment of Spacecraft Intentional Breakups and Potential for Explosions

Potential causes of spacecraft breakup during deployment and mission operations: There is no credible scenario that would result in spacecraft breakup during normal deployment and operations.

Summary of failure modes and effects analyses of all credible failure modes which may lead to an accidental explosion: In-mission failure of a battery cell protection circuit could lead to a short circuit resulting in overheating and a very remote possibility of battery cell explosive rupture. The battery safety systems discussed in the FMEA (see requirement 4.4-1 below) describe the combined faults that must occur for any of seven (7) independent, mutually exclusive failure modes to lead to explosive rupture. The batteries include vent-before-burst features to minimize the chances of explosive rupture.

Detailed plan for any designed spacecraft breakup, including explosions and intentional

collisions: There are no planned breakups.

List of components which shall be passivated at End of Mission (EOM) including method of passivation and amount which cannot be passivated: None. At end of mission, under nominal situations, any remaining propellant will be used to decay orbit as much as possible, therefore depleting propellant. The batteries will not be passivated at End of Mission due to the low risk and low impact of explosive rupturing, and the extremely short lifetime at mission conclusion. The maximum total chemical energy stored in the battery is approximately 626.4 kJ for Hawk spacecraft.

Rationale for all items which are required to be passivated, but cannot be due to their design: The battery charge circuits include overcharge protection to limit the risk of battery failure. However, in the unlikely event that a battery cell does explosively rupture, the small size, mass, and potential energy, of these small batteries is such that while the spacecraft could be expected to vent gases, most debris from the battery rupture should be contained within the vessel due to the lack of penetration energy.

Hawk: This electrical power system has already been flight qualified and has since been flown on multiple HE360 missions.

Assessment of spacecraft compliance with Requirements 4.4-1 through 4.4-4:

Requirement 4.4-1: Limiting the risk to other space systems from accidental explosions during deployment and mission operations while in orbit about Earth or the Moon. For each spacecraft and launch vehicle orbital stage employed for a mission, the program or project shall demonstrate, via failure mode and effects analyses or equivalent analyses, that the integrated probability of explosion for all credible failure modes of each spacecraft and launch vehicle is less than 0.001 (excluding small particle impacts) (Requirement 56449).
Compliance Statement: COMPLIANT Expected probability: 0.000

Supporting Rationale and FMEA details (Hawk):
Battery explosion:

Effect: All failure modes below might theoretically result in battery explosive rupture with the possibility of orbital debris generation. However, in the unlikely event that a battery cell does explosively rupture, the small size, mass, and potential energy, of the selected COTS batteries is such that while the spacecraft could be expected to vent gases, most debris from the battery rupture should be contained within the vessel due to the lack of penetration energy. Furthermore, each battery has a pressure relief burst disc that prevents catastrophic battery enclosure failure.
Probability: Extremely low. It is believed to be much less than 0.1% probability that multiple independent (not common mode) faults occur for each failure mode to cause the ultimate effect (explosion).

Failure mode 1: Internal short circuit.
Mitigation 1: Qualification and acceptance shock, vibration, thermal cycling, and vacuum tests followed by maximum system rate-limited charge and discharge to prove that no internal short circuit sensitivity exists.
Combined faults required for realized failure: Environmental testing AND functional charge/discharge tests must both fail for this failure mode to occur.

Failure Mode 2: Internal thermal rise due to high load discharge rate.
Mitigation 2: Cells were tested in lab for high load discharge rates in a variety of flight-like configurations to determine likelihood and impact of an out of control thermal rise in the cell. Cells were also tested in a hot environment to test the upper limit of the cells capability. No failures were seen.
Combined faults required for realized failure: Spacecraft thermal design must be incorrect AND external over-current detection and disconnect function must fail for this failure mode to occur.

Failure Mode 3: Excessive discharge rate or short circuit due to external device failure or terminal contact with conductors not at battery voltage levels (due to abrasion or inadequate proximity separation).
Mitigation 3: This failure mode is negated by a) qualification-tested short circuit protection on each external circuit, b) design of battery packs and insulators such that no contact with nearby board traces is possible without being caused by some other mechanical failure, c) obviation of such other mechanical failures by proto-qualification and acceptance environmental tests (shock, vibration, thermal cycling, and thermal-vacuum tests).
Combined faults required for realized failure: An external load must fail/short-circuit AND external over-current detection and disconnect function must fail for this failure mode to occur.

Failure Mode 4: Inoperable vents.
Mitigation 4: Battery vents are not inhibited by the battery holder design or the spacecraft.
Combined effects required for realized failure: The final assembler must fail to install proper venting for this failure mode to occur.

Failure Mode 5: Crushing.
Mitigation 5: This mode is negated by spacecraft design. There are no moving parts in the proximity of the batteries.
Combined faults required for realized failure: A catastrophic failure must occur in an external system AND the failure must cause a collision sufficient to crush the batteries leading to an internal short circuit AND the satellite must be in a naturally sustained orbit at the time the crushing occurs for this failure mode to occur.

Failure Mode 6: Low level current leakage or short-circuit through battery pack case or due to moisture-based degradation of insulators.
Mitigation 6: These modes are negated by a) battery holder/case design made of

non-conductive plastic, and b) operation in vacuum such that no moisture can affect insulators.
Combined faults required for realized failure: Abrasion or piercing failure of circuit board coating or wire insulators AND dislocation of battery packs AND failure of battery terminal insulators AND failure to detect such failure modes in environmental tests must occur for this failure mode to occur.

Failure Mode 7: Excess temperatures due to orbital environment and high discharge combined.
Mitigation 7: The spacecraft thermal design will negate this possibility. Thermal rise has been analyzed in combination with space environment temperatures showing that batteries do not exceed normal allowable operating temperatures which are well below temperatures of concern for explosions. This design has been verified through the GHGSat-D and other SFL missions.
Combined faults required for realized failure: Thermal analysis AND thermal design AND mission simulations in thermal-vacuum chamber testing AND over-current monitoring and control must all fail for this failure mode to occur.

Requirement 4.4-2: Design for passivation after completion of mission operations while in orbit about Earth or the Moon. Design of all spacecraft and launch vehicle orbital stages shall include the ability to deplete all onboard sources of stored energy and disconnect all energy generation sources when they are no longer required for mission operations or post-mission disposal or control to a level which cannot cause an explosion or deflagration large enough to release orbital debris or break up the spacecraft (Requirement 56450).
Compliance statement: COMPLIANT At end of mission, all remaining propellant will be used to lower orbit altitude or vented, if possible.[2] Onboard sources of energy include onboard batteries for energy storage. The battery charge circuits include overcharge protection to limit the risk of battery failure. As previously mentioned, the integrated burst disc should prevent any explosion altogether. However, in the unlikely event that a battery cell does explosively rupture, the small size, mass, and potential energy, of these small batteries is such that while the spacecraft could be expected to vent gases, most debris from the battery rupture should be contained within the vessel due to the lack of penetration energy. There is no expectation of producing orbital debris or spacecraft breakup from an unlikely battery explosion.

Requirement 4.4-3. Limiting the long-term risk to other space systems from planned breakups. Planned explosions or intentional collisions shall: a. Be conducted at an altitude such that for orbital debris fragments larger than 10 cm the object-time product does not exceed 100 object-years (Requirement 56453). For example, if the debris

[2] Propulsion will not be used to actively lower the orbit altitude through the ISS orbit.

fragments greater than 10 cm decay in the maximum allowed 1 year, a maximum of 100 such fragments can be generated by the breakup. b. Not generate debris larger than 1 mm that remains in Earth orbit longer than one year (Requirement 56454).
Compliance statement: Not applicable; there are no planned breakups.

Requirement 4.4-4: Limiting the short-term risk to other space systems from planned breakups. Immediately before a planned explosion or intentional collision, the probability of debris, orbital or ballistic, larger than 1 mm colliding with any operating spacecraft within 24 hours of the breakup shall be verified to not exceed 10^-6 (Requirement 56455).
Compliance statement: N/A; There are no planned breakups.

7. ODAR Section 5: Assessment of Spacecraft Potential for On-Orbit Collisions

Assessment of spacecraft compliance with Requirements 4.5-1 and 4.5-2 (per DAS, and calculation methods provided in NASA-STD-8719.14 Revision A with Change 1, section 4.5.4):

Requirement 4.5-1: Limiting debris generated by collisions with large objects when operating in Earth orbit. For each spacecraft and launch vehicle orbital stage in or passing through LEO, the program or project shall demonstrate that, during the orbital lifetime of each spacecraft and orbital stage, the probability of accidental collision with space objects larger than 10 cm in diameter is less than 0.001 (Requirement 56506).
Compliance Statement: COMPLIANT **Large Object Impact and Debris Generation Probability:** Collision Probability: < 0.000029470

Supporting Deployment and Collision Risk Analysis
The above collision probability is a product of NASA's DAS software.

Detailed description and assessment of efficacy of any planned debris avoidance capability intended to help in meeting requirement 4.5-1
There is no significant risk of collision based on orbital parameters and propulsion capability. Furthermore, HE360 will register all HE360 spacecraft with the US Space Force’s 18th Space Defense Squadron, which provides active monitoring in conjunction with the Combined Space Operations Center.

HE360 will also work with other spacecraft operators to avoid potential collisions with HE360 satellites, as necessary.

If at any time during the spacecraft's mission or de-orbit phase the spacecraft will operate in or transit through the orbits used by any planned or inhabitable spacecraft, including the International Space Station, describe the design and operational strategies, such as coordination, that will be used to minimize the risk of collision and avoid posing any operational constraints to the spacecraft
With respect to the operational strategies to minimize risk to the ISS or any other inhabitable spacecraft in low Earth orbit, such as Tiangong, HE360 intends to monitor the location of its satellites and work closely with organizations, such as the 18th Space Defense Squadron, NASA, and CMSA (operator of the Tiangong space station), as appropriate.

Certify that upon receipt of a space situational awareness conjunction warning, the operator will review and take all possible steps to assess the collision risk, and will mitigate the collision risk if necessary
Upon receipt of a space situational awareness conjunction warning, HE360 certifies that it will attempt to contact the operator of any active spacecraft involved in such a warning, share ephemeris data and other appropriate operational information with any such operator, and modify the spacecraft's attitude, orbit, and/or operations in order to avoid a collision. If the operator of the other spacecraft does not have maneuvering capabilities or is not expedient in response, HE360 will upload potential maneuvers via API to the 18th Space Defense Squadron in order to avoid a collision. High risk events will be mitigated to at least one and a half orders of magnitude below the collision probability mitigated action threshold of 1E-5.

Requirement 4.5-2: Limiting debris generated by collisions with small objects when operating in Earth or lunar orbit. For each spacecraft, the program or project shall demonstrate that, during the mission of the spacecraft, the probability of accidental collision with orbital debris and meteoroids sufficient to prevent compliance with the applicable post-mission disposal requirements is less than 0.01 (Requirement 56507).
Compliance Statement: COMPLIANT **DAS Analysis for Small Object Impact and Debris Generation Probability:** COMPLIANT. In order to meet the 5-year deorbit requirement, HE360 will lower the orbit altitude (as necessary) of Cluster 15 during the first 3-4-months of operation to a 5-year deorbit compliant orbit (*e.g.,* circular orbit altitude of 575 km, an elliptical orbit of 610 km x 540 km, or something in-between) which enables passive deorbit within 5 years following the 5-year operational mission. Based upon this approach, the probability of collision with small objects has been conducted based upon an operational duration of only 3-4 months. Given such a short time period, we were able to make extremely conservative assumptions. The critical surface was defined as the largest surface of the spacecraft body. Solar panels were not included due to the inherently parallel nature of solar power generation. Even with the

extremely conservative assumption described above, the probability of collision with small objects is <.01, *i.e.*, specifically 8.7103E-05.

Because HE360 may engage in a beginning-of-mission propulsive maneuver to ensure compliance with the 5-year post-mission deorbit rule, HE360 is required to demonstrate a 90% reliability of completing this maneuver. The Hawk satellites using the water-based propulsion system have more than 600 spacecraft-months of operation without a failure, suggesting a mean time between failures (MTBF) of more than 600 months, which is approximately a 99.3% reliability for the first four months of operation. An MTBF of ~300 months translates into a 98.6% reliability for a four-month period, as calculated below:

$$R(t) = EXP(-\frac{t}{MTBF})$$

$$R(3\, months) = EXP(-4\frac{months}{300\, months})$$

$$R(3\, months) = 0.986$$

8. ODAR Section 6: Assessment of Spacecraft Post-mission Disposal Plans and Procedures

Description of spacecraft disposal option selected: The HE360 satellites will be disposed of by atmospheric re-entry.

Identification of all systems or components required to accomplish any post-mission disposal operation, including passivation and maneuvering:
Nothing is required for post-mission disposal to meet the 5-year deorbit requirement. However, to meet the post-mission deorbit requirement, the HE360 spacecraft will conduct a beginning-of-mission orbit lowering maneuver if the spacecraft are inserted into an orbit greater than an orbit altitude which enables passive deorbit within 5-years following the operational mission, as discussed above. In order to achieve this orbit lowering maneuver, all primary bus functionality will be required, including: TT&C, flight, AODC, EPS, and propulsion.

Plan for any spacecraft maneuvers required to accomplish post-mission disposal:
Under nominal situations, any remaining propellant at EOM may be used to further decrease the orbit altitude and significantly reduce the post-operations lifetime. To be clear, no such action is necessary to meet regulatory requirements.

Calculation of area-to-mass ratio after post-mission disposal, if the controlled reentry option is not selected:

The area-to-mass ratio calculations presented below are worst-case with additional mass margin to provide a buffer to address modest changes to satellite design over the life of the constellation which might increase satellite mass. By selecting a worst-case mass, HE360 is over-estimating the orbital lifetime. The cross-sectional areas were computed using the HE360 spacecraft solid model.

Hawk (Cluster 15): with drag sail addition

Spacecraft mass: 33.44 kg
Cross-sectional area:
Maximum Drag Area: 0.6763 m^2 (drag area)
Tumbling Drag Area: 0.4367 m^2 (drag area)

Tumbling area to mass ratio: 0.013059

Assessment of spacecraft compliance with Requirements 4.6-1 through 4.6-5 (per DAS and NASA-STD-8719.14 Revision C):

Cluster 15 will be launched into an orbit of 590 +/- 20 km and lowered during the first four months of operation (if necessary) to an orbit of either 575 km (circular), 610 km x 540 km, or something in-between to ensure that after 5-years of operation that Cluster 15 is capable of passively deorbiting within 5 years. The apogee/perigee history after initial orbit lowering is illustrated below in **Figure 3** and **Figure 4** for the two previously described edge cases. HE360 has verified that the post-mission deorbit time meets the required deorbit period for any launch from October 2026 through the beginning of 2030, due to the current phase in the solar cycle.

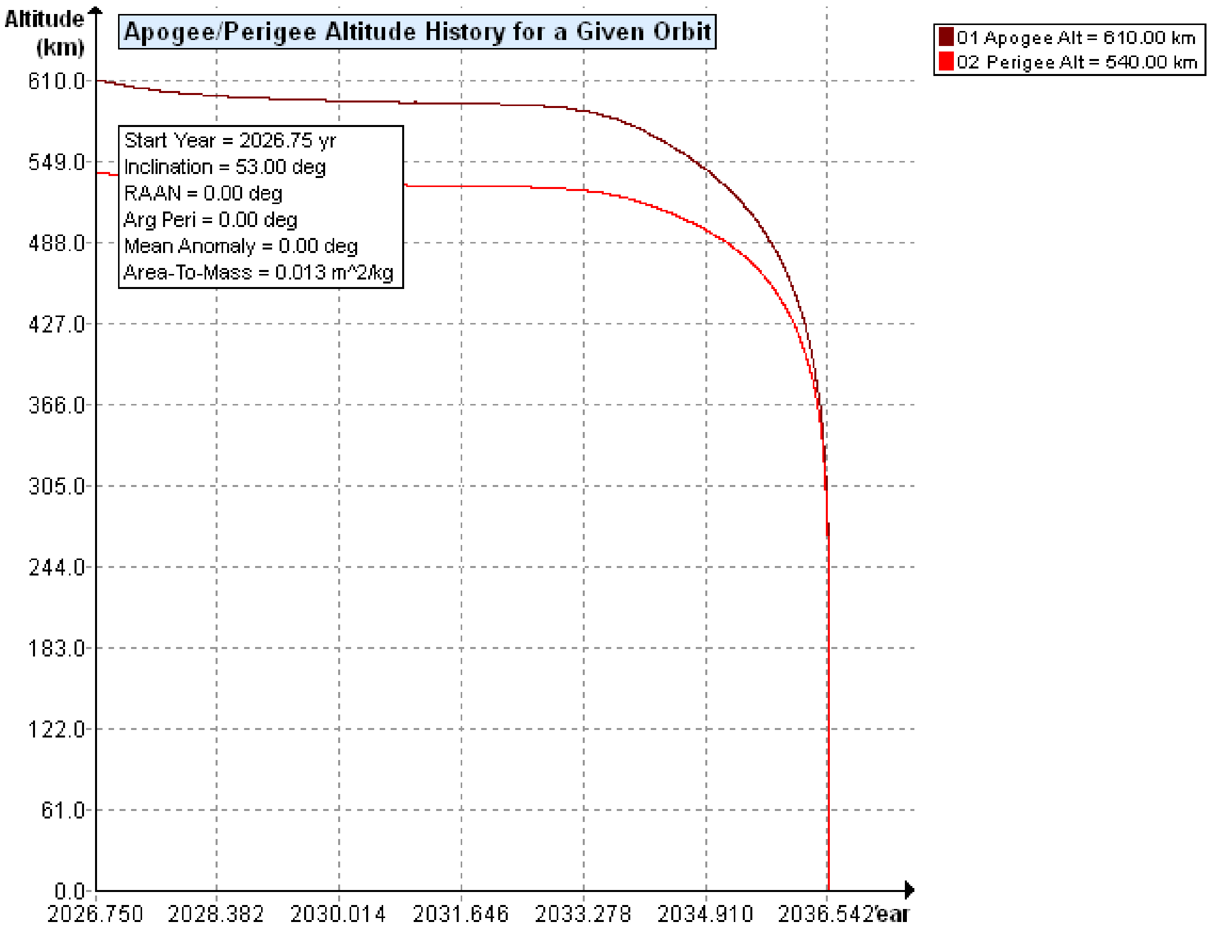

Figure 3 Passive Deorbit Lifetime following Perigee Lowering to 610 km x 540 km Orbit

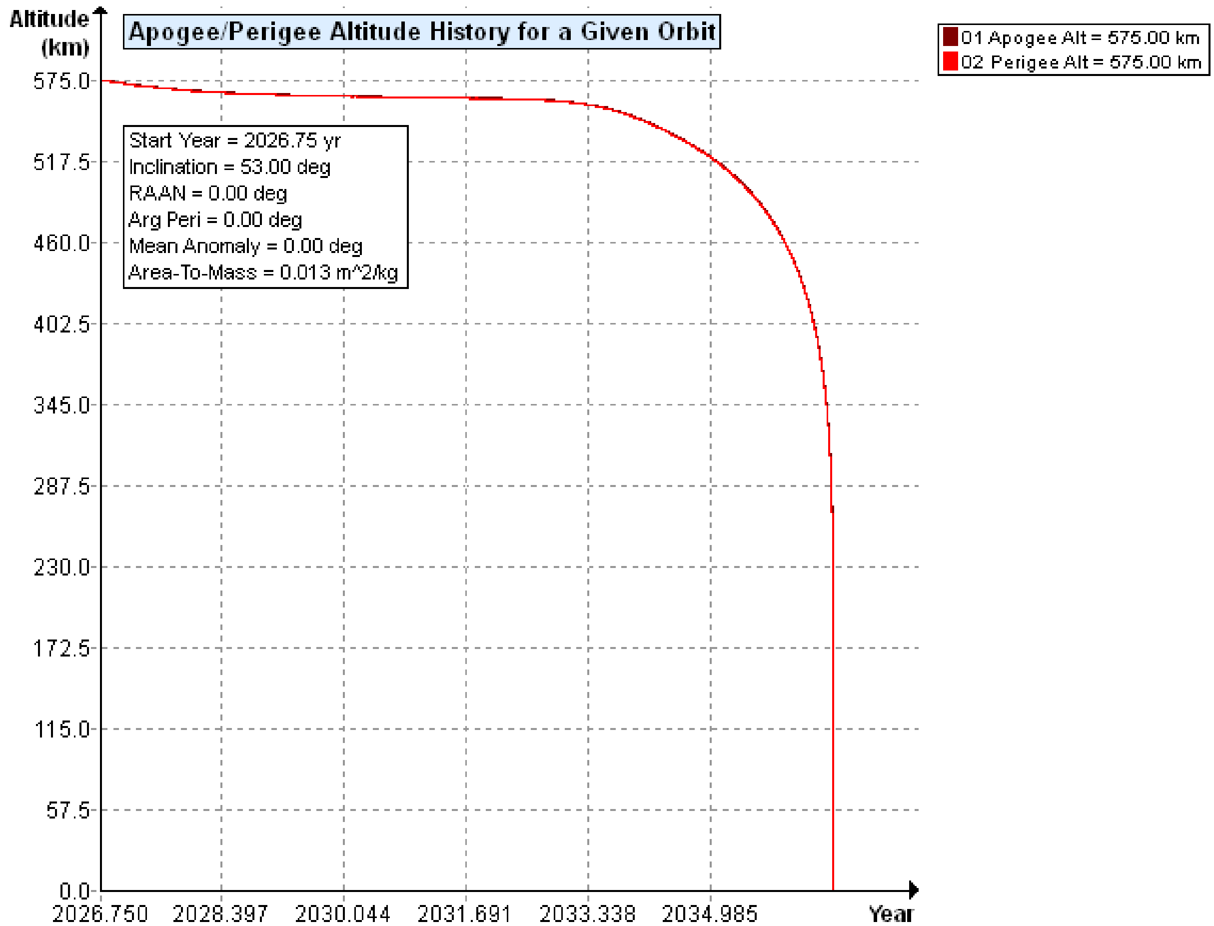

Figure 4 Passive Deorbit Lifetime following Circular Orbit Lowering to 575 km x 575 km

The HE360 clusters do not station keep at a specific operating orbit but passively deorbit during operation. At the end of the planned operational mission, HE360 will assess the state of the cluster and decide to either deorbit or continue operations if the cluster is still healthy and providing good operational data.

Requirement 4.6-1: Disposal for space structures passing through LEO:
A spacecraft or orbital stage with a perigee altitude below 2000 km shall be disposed of by one of three methods:
(Requirement 56557)

a) Atmospheric reentry option:
- Leave the space structure in an orbit in which natural forces will lead to atmospheric reentry within 25 years after the completion of mission but no more than 30 years after launch; or
- Maneuver the space structure into a controlled de-orbit trajectory as soon as practical after completion of mission.

b) Storage orbit option: Maneuver the space structure into an orbit with perigee altitude greater than 2000 km and apogee less than GEO - 500 km.

c) Direct retrieval: Retrieve the space structure and remove it from orbit within 10 years

after completion of mission
Compliance Statement: COMPLIANT **DAS Analysis:** The HE360 satellite disposal plan is COMPLIANT using the atmospheric re-entry option. Launch orbit selection and beginning-of-mission orbit lowering operations will be selected for each launch to ensure compliance.

Requirement 4.6-2: Disposal for space structures near GEO. A spacecraft or orbital stage in an orbit near GEO shall be maneuvered at EOM to a disposal orbit above GEO with a predicted minimum perigee of GEO +200 km (35,986 km) or below GEO with an apogee of GEO – 200 km (35,586 km) for a period of at least 100 years after disposal (Requirement 56563).
Compliance Statement: Not applicable; no orbits planned near GEO.

Requirement 4.6-3: Disposal for space structures between LEO and GEO. a. A spacecraft or orbital stage shall be left in an orbit with a perigee greater than 2000 km above the Earth's surface and apogee less than 500 km below GEO (Requirement 56565). b. A spacecraft or orbital stage shall not use nearly circular disposal orbits near regions of high value operational space structures, such as between 19,200 km and 20,700 km (Requirement 56566).
Compliance Statement: Not applicable; no orbits planned between LEO and GEO.

Requirement 4.6-4: Reliability of Post-mission Disposal Operations in Earth orbit. NASA space programs and projects shall ensure that all post mission disposal operations to meet Requirements 4.6-1, 4.6-2, and/or 4.6-3 are designed for a probability of success as follows: (Requirement 56567) a. Be no less than 0.90 at EOM. b. For controlled reentry, the probability of success at the time of reentry burn must be sufficiently high so as not to cause a violation of Requirement 4.7-1 pertaining to limiting the risk of human casualty.
Compliance Statement: N/A; No plans for post-mission disposal operations. However, to meet the post-mission deorbit requirement, the HE360 spacecraft may conduct a beginning-of-mission orbit altitude lowering maneuver if the spacecraft is inserted into an orbit greater than what is predicted to allow passive deorbit within 5 years following planned mission lifetime.

9. ODAR Section 7: Assessment of Spacecraft Reentry Hazards

HE360 has analyzed the demise analysis for the following spacecraft configuration: Cluster 15.

Results from DAS show that no components are expected to survive re-entry with an impacting kinetic energy in excess of 15 joules from any of the planned orbits. Details of the DAS analysis are illustrated in Annex A below.

Assessment of spacecraft compliance with Requirement 4.7-1:

Requirement 4.7-1a: Limit the risk of human casualty. The potential for human casualty is assumed for any object with an impacting kinetic energy in excess of 15 joules: a) For uncontrolled reentry, the risk of human casualty from surviving debris shall not exceed 0.0001 (1:10,000) (Requirement 56626).
Compliance Statement: COMPLIANT. Analysis performed using DAS shows that no part of the satellite is expected to have an impacting kinetic energy in excess of 15 joules, and that the risk of human casualty is zero (0) for all planned orbits and inclinations for the Hawk form factor.

Requirement 4.7-1b: For controlled reentry, the selected trajectory shall ensure that no surviving debris impact with a kinetic energy greater than 15 joules is closer than 370 km from foreign landmasses, or is within 50 km from the continental U.S., territories of the U.S., and the permanent ice pack of Antarctica (Requirement 56627).
Compliance Statement: Not Applicable; no plans to use controlled re-entry.

Requirement 4.7-1c: For controlled reentries, the product of the probability of failure of the reentry burn (from Requirement 4.6-4.b) and the risk of human casualty assuming uncontrolled reentry shall not exceed 0.0001 (1:10,000) (Requirement 56628).
Compliance Statement: Not Applicable; no plans to use controlled re-entry.

10. ODAR Section 7A: Assessment of Spacecraft Hazardous Materials

HE360 spacecraft do not contain any hazardous materials.

11. ODAR Section 8: Special Classes of Space Missions

Requirement 4.8-1: Mitigate the collision hazards of space tethers in Earth or Lunar orbits. Intact and remnants of severed tether systems in Earth and lunar orbit shall meet the requirements limiting the generation of orbital debris from on-orbit collisions (Requirements 4.5-1 and 4.5-2) and the requirements governing post-mission disposal (Requirements 4.6-1 through 4.6-4) to the limits specified in those paragraphs (Requirement 56652).
Compliance Statement: Not Applicable; there are no tethers in the HE360 mission.

Annex A – DAS Log Results

05 14 2026; 15:50:47PM Project Data Saved To File
05 14 2026; 15:50:54PM Processing Requirement 4.3-1: Return Status : Not Run

=====================
No Project Data Available
=====================

=============== End of Requirement 4.3-1 ===============
05 14 2026; 15:50:56PM Processing Requirement 4.3-2: Return Status : Passed

=====================
No Project Data Available
=====================

=============== End of Requirement 4.3-2 ===============
05 14 2026; 16:16:15PM Processing Requirement 4.5-1: Return Status : Passed

==============
Run Data
==============

INPUT

Space Structure Name = HE360-MID
Space Structure Type = Payload
Perigee Altitude = 540.000 (km)
Apogee Altitude = 610.000 (km)
Inclination = 53.000 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass Ratio = 0.0131 (m^2/kg)
Start Year = 2026.750 (yr)
Initial Mass = 33.440 (kg)
Final Mass = 32.700 (kg)
Duration = 5.000 (yr)
Station-Kept = False
Abandoned = True
Long-Term Reentry = False

OUTPUT

Collision Probability = 2.9470E-05

Returned Message: Normal Processing
Date Range Message: Normal Date Range
Status = Pass

==============

============== End of Requirement 4.5-1 ===============

05 14 2026; 16:16:18PM   Project Data Saved To File
05 14 2026; 16:18:59PM   Requirement 4.5-2: Compliant

==
Spacecraft = HE360-MID-SmallObj
Critical Surface = Critical Surface
==

INPUT

Apogee Altitude = 610.000 (km)
Perigee Altitude = 610.000 (km)
Orbital Inclination = 53.000 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass = 0.0131 (m^2/kg)
Initial Mass = 32.700 (kg)
Final Mass = 32.700 (kg)
Station Kept = No
Start Year = 2026.750 (yr)
Duration = 0.250 (yr)
Orientation = Random Tumbling
CS Areal Density = 0.550 (g/cm^2)
CS Surface Area = 0.1610 (m^2)
Vector = (0.000000 (u), 0.000000 (v), 0.000000 (w))
CS Pressurized = No
Outer Wall 1 Density: 0.550 (g/cm^2) Separation: 10.000 (cm)
Outer Wall 2 Density: 0.550 (g/cm^2) Separation: 2.000 (cm)

OUTPUT

Probability of Penetration = 8.7103E-05
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range

============== End of Requirement 4.5-2 ===============
05 14 2026; 16:16:21PM   Processing Requirement 4.6 Return Status : Passed

==============
Project Data
==============

INPUT

Space Structure Name = HE360-MID
Space Structure Type = Payload

Perigee Altitude = 540.000000 (km)
Apogee Altitude = 610.000000 (km)
Inclination = 53.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.013059 (m^2/kg)
Start Year = 2026.750000 (yr)
Initial Mass = 33.440000 (kg)
Final Mass = 32.700000 (kg)
Duration = 5.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 530.389257 (km)
PMD Apogee Altitude = 592.277533 (km)
PMD Inclination = 53.496061 (deg)
PMD RAAN = 234.855955 (deg)
PMD Argument of Perigee = 147.934343 (deg)
PMD Mean Anomaly = 0.000000 (deg)
Long-Term Reentry = False

OUTPUT

Suggested Perigee Altitude = 530.389257 (km)
Suggested Apogee Altitude = 592.277533 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2036 (yr)
Requirement = 61
Compliance Status = Pass

==============

=============== End of Requirement 4.6 ===============
05 15 2026; 07:07:49AM *********Processing Requirement 4.7-1
Return Status : Passed

***********INPUT****
Item Number = 1

name = HE360-MID
quantity = 1
parent = 0
materialID = 5
type = Box
Aero Mass = 32.700001
Thermal Mass = 32.700001
Diameter/Width = 0.300000
Length = 0.450000
Height = 0.300000

name = HE360-MID-GPS Antenna 1
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.187000
Thermal Mass = 0.187000
Diameter/Width = 0.068000
Length = 0.070000
Height = 0.053000

name = HE360-MID-GPS Antenna 2
quantity = 1
parent = 1
materialID = 8
type = Cylinder
Aero Mass = 0.126000
Thermal Mass = 0.126000
Diameter/Width = 0.070000
Length = 0.022000

name = HE360-MID-GPS Filter
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.040000
Thermal Mass = 0.040000
Diameter/Width = 0.050000
Length = 0.068000
Height = 0.008500

name = HE360-MID-Solar Wings
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 0.906000
Thermal Mass = 0.906000
Diameter/Width = 0.330000
Length = 0.360000
Height = 0.060000

name = HE360-MID-Z panels
quantity = 2
parent = 1
materialID = 8
type = Flat Plate
Aero Mass = 7.727500
Thermal Mass = 0.871000
Diameter/Width = 0.300000
Length = 0.300000

name = HE360-MID-Radio Enclosures
quantity = 2
parent = 6
materialID = 8
type = Box
Aero Mass = 0.538000
Thermal Mass = 0.538000
Diameter/Width = 0.120000
Length = 0.160000
Height = 0.067000

name = HE360-MID-Wheel Assembly
quantity = 1
parent = 6
materialID = 54
type = Box
Aero Mass = 1.261000
Thermal Mass = 1.261000
Diameter/Width = 0.140000
Length = 0.170000
Height = 0.077000

name = HE360-MID-Battery
quantity = 1

parent = 6
materialID = 8
type = Box
Aero Mass = 1.775000
Thermal Mass = 1.775000
Diameter/Width = 0.083000
Length = 0.181000
Height = 0.080000

name = HE360-MID-Power Supply
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.928000
Thermal Mass = 0.928000
Diameter/Width = 0.082000
Length = 0.240000
Height = 0.071000

name = HE360-MID-GPS Receiver
quantity = 2
parent = 6
materialID = 8
type = Flat Plate
Aero Mass = 0.125000
Thermal Mass = 0.125000
Diameter/Width = 0.072000
Length = 0.120000

name = HE360-MID-Propulsion Assembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 2.051000
Thermal Mass = 2.051000
Diameter/Width = 0.130000
Length = 0.260000
Height = 0.094000

name = HE360-MID-Rate Sensor Assembly
quantity = 1
parent = 6
materialID = 8
type = Box

Aero Mass = 0.134000
Thermal Mass = 0.134000
Diameter/Width = 0.098000
Length = 0.110000
Height = 0.041000

name = HE360-MID-Computer Assembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.384000
Thermal Mass = 0.384000
Diameter/Width = 0.090000
Length = 0.200000
Height = 0.080000

name = HE360-MID-Ka-S_Transceiver
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 1.250000
Thermal Mass = 1.250000
Diameter/Width = 0.112200
Length = 0.115000
Height = 0.083000

name = HE360-MID-Transmitter
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.400000
Thermal Mass = 0.400000
Diameter/Width = 0.090000
Length = 0.095000
Height = 0.029000

name = HE360-MID-LNA Subassembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.934000
Thermal Mass = 0.934000

Diameter/Width = 0.125000
Length = 0.140000
Height = 0.058000

name = HE360-MID-MUX Subassembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 1.570000
Thermal Mass = 1.570000
Diameter/Width = 0.125000
Length = 0.150000
Height = 0.080000

name = HE360-MID-SDR1 Subassembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.335000
Thermal Mass = 0.335000
Diameter/Width = 0.094000
Length = 0.110000
Height = 0.044000

name = HE360-MID-SDR2 Subassembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 1.030000
Thermal Mass = 1.030000
Diameter/Width = 0.108000
Length = 0.166000
Height = 0.079000

name = HE360-MID-LNB Subassembly
quantity = 1
parent = 6
materialID = 8
type = Box
Aero Mass = 0.335000
Thermal Mass = 0.335000
Diameter/Width = 0.097000
Length = 0.110000

Height = 0.046000

name = HE360-MID-Wing Deployer
quantity = 2
parent = 1
materialID = 54
type = Cylinder
Aero Mass = 0.325000
Thermal Mass = 0.325000
Diameter/Width = 0.350000
Length = 0.200000

name = HE360-MID-X Panels
quantity = 2
parent = 1
materialID = 8
type = Flat Plate
Aero Mass = 1.093000
Thermal Mass = 1.093000
Diameter/Width = 0.300000
Length = 0.450000

name = HE360-MID-Y Panels
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 1.609500
Thermal Mass = 1.609500
Diameter/Width = 0.300000
Length = 0.450000
Height = 0.062000

name = HE360-MID-Tray-X
quantity = 2
parent = 1
materialID = 9
type = Flat Plate
Aero Mass = 0.836000
Thermal Mass = 0.836000
Diameter/Width = 0.300000
Length = 0.300000

name = HE360-MID-Tray-Z
quantity = 1
parent = 1

materialID = 9
type = Flat Plate
Aero Mass = 0.970000
Thermal Mass = 0.970000
Diameter/Width = 0.300000
Length = 0.300000

name = HE360-MID-Startracker
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.447000
Thermal Mass = 0.447000
Diameter/Width = 0.104000
Length = 0.128000
Height = 0.030000

name = HE360-MID-GNSS Antenna
quantity = 1
parent = 1
materialID = 8
type = Cylinder
Aero Mass = 0.255000
Thermal Mass = 0.255000
Diameter/Width = 0.078000
Length = 0.030000

name = HE360-MID-Horn Antenna
quantity = 1
parent = 1
materialID = 5
type = Cylinder
Aero Mass = 0.120000
Thermal Mass = 0.120000
Diameter/Width = 0.070000
Length = 0.081000

name = HE360-MID-CBS Antenna
quantity = 1
parent = 1
materialID = 5
type = Cylinder
Aero Mass = 0.714000
Thermal Mass = 0.714000
Diameter/Width = 0.140000

Length = 0.070000

name = HE360-MID-Discone Antenna
quantity = 8
parent = 1
materialID = 54
type = Flat Plate
Aero Mass = 0.005000
Thermal Mass = 0.005000
Diameter/Width = 0.013000
Length = 0.715000

name = HE360-MID-Discone Bracket
quantity = 1
parent = 1
materialID = -1
type = Cylinder
Aero Mass = 0.034000
Thermal Mass = 0.034000
Diameter/Width = 0.112000
Length = 0.065000

name = HE360-MID-Sband Antenna
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.100000
Thermal Mass = 0.100000
Diameter/Width = 0.098000
Length = 0.098000

name = HE360-MID-S_Ka-band Antenna
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.235000
Thermal Mass = 0.235000
Diameter/Width = 0.120000
Length = 0.195500

name = HE360-MID-UHF Antenna
quantity = 1
parent = 1
materialID = 54

type = Flat Plate
Aero Mass = 0.021000
Thermal Mass = 0.021000
Diameter/Width = 0.013000
Length = 0.177000

name = HE360-MID-VHF Antenna
quantity = 1
parent = 1
materialID = 54
type = Flat Plate
Aero Mass = 0.054000
Thermal Mass = 0.054000
Diameter/Width = 0.013000
Length = 0.460000

name = HE360-MID-Whip Antenna
quantity = 1
parent = 1
materialID = 54
type = Flat Plate
Aero Mass = 0.029000
Thermal Mass = 0.029000
Diameter/Width = 0.013000
Length = 0.250000

name = HE360-MID-S-Band Uplink Antenna
quantity = 2
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.055000
Length = 0.055000

name = HE360-MID-X-Band Antenna
quantity = 2
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.080000
Thermal Mass = 0.080000
Diameter/Width = 0.060000
Length = 0.120000

name = HE360-MID-Self-imager
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.200000
Thermal Mass = 0.200000
Diameter/Width = 0.080000
Length = 0.080000
Height = 0.040000

name = HE360-MID-Separation Ring
quantity = 1
parent = 1
materialID = 5
type = Cylinder
Aero Mass = 0.444000
Thermal Mass = 0.444000
Diameter/Width = 0.252000
Length = 0.100000

name = HE360-MID-X-band-2-Antenna
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 0.025000
Thermal Mass = 0.025000
Diameter/Width = 0.040000
Length = 0.070000
Height = 0.006000

name = HE360-MID-RF-Switch
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 0.184000
Thermal Mass = 0.184000
Diameter/Width = 0.044000
Length = 0.089000
Height = 0.022000

name = HE360-MID S-band Uplink Antenna Bracket
quantity = 1
parent = 1

materialID = 8
type = Box
Aero Mass = 0.035000
Thermal Mass = 0.035000
Diameter/Width = 0.057000
Length = 0.070000
Height = 0.030000

name = HE360-MID Drag Sail
quantity = 2
parent = 1
materialID = 8
type = Flat Plate
Aero Mass = 0.002000
Thermal Mass = 0.002000
Diameter/Width = 0.311000
Length = 0.315000

name = HE360-MID Drag Sail Support
quantity = 4
parent = 1
materialID = 54
type = Box
Aero Mass = 0.007500
Thermal Mass = 0.007500
Diameter/Width = 0.020000
Length = 0.400000
Height = 0.002000

name = HE360-MID Drag Sail Beams
quantity = 4
parent = 1
materialID = -2
type = Box
Aero Mass = 0.087500
Thermal Mass = 0.087500
Diameter/Width = 0.020000
Length = 0.400000
Height = 0.020000

*************OUTPUT****
Item Number = 1

name = HE360-MID
Demise Altitude = 78.004024
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

****
name = HE360-MID-GPS Antenna 1
Demise Altitude = 76.087858
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-GPS Antenna 2
Demise Altitude = 74.472455
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-GPS Filter
Demise Altitude = 77.127527
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Solar Wings
Demise Altitude = 76.656797
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Z panels
Demise Altitude = 76.276289
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Radio Enclosures
Demise Altitude = 74.255365
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Wheel Assembly
Demise Altitude = 69.773797
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Battery

Demise Altitude = 70.602821
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Power Supply
Demise Altitude = 73.582579
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-GPS Receiver
Demise Altitude = 74.817578
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Propulsion Assembly
Demise Altitude = 72.022858
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Rate Sensor Assembly
Demise Altitude = 75.370440
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Computer Assembly
Demise Altitude = 75.094201
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Ka-S_Transceiver
Demise Altitude = 70.702596
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Transmitter
Demise Altitude = 72.779006
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-LNA Subassembly
Demise Altitude = 72.152042
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-MUX Subassembly
Demise Altitude = 70.734244
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-SDR1 Subassembly
Demise Altitude = 74.066826
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-SDR2 Subassembly
Demise Altitude = 72.809208
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-LNB Subassembly
Demise Altitude = 74.116000
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Wing Deployer
Demise Altitude = 0.000000
Debris Casualty Area = 1.430400
Impact Kinetic Energy = 12.147539

****
name = HE360-MID-X Panels
Demise Altitude = 76.281437
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Y Panels
Demise Altitude = 76.037658
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Tray-X
Demise Altitude = 76.165927
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Tray-Z
Demise Altitude = 75.865874
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Startracker
Demise Altitude = 75.126039
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-GNSS Antenna
Demise Altitude = 73.182142
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Horn Antenna
Demise Altitude = 76.452000
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-CBS Antenna
Demise Altitude = 73.051828
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Discone Antenna
Demise Altitude = 77.964269
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Discone Bracket

Demise Altitude = 77.819895
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Sband Antenna
Demise Altitude = 76.757587
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-S_Ka-band Antenna
Demise Altitude = 76.680902
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-UHF Antenna
Demise Altitude = 77.061198
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-VHF Antenna
Demise Altitude = 77.067190
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Whip Antenna
Demise Altitude = 77.078926
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-S-Band Uplink Antenna
Demise Altitude = 77.058701
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-X-Band Antenna
Demise Altitude = 76.875553
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Self-imager
Demise Altitude = 76.000900
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-Separation Ring
Demise Altitude = 76.572614
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-X-band-2-Antenna
Demise Altitude = 77.360341
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID-RF-Switch
Demise Altitude = 75.473912
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID S-band Uplink Antenna Bracket
Demise Altitude = 77.509426
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID Drag Sail
Demise Altitude = 78.004024
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID Drag Sail Support
Demise Altitude = 77.905939
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

****
name = HE360-MID Drag Sail Beams
Demise Altitude = 77.845680
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

****

=============== End of Requirement 4.7-1 ===============
05 15 2026; 07:07:49AM Project Data Saved To File**END of ODAR for HawkEye 360**