

```
03 31 2013; 10:44:49AM DAS Application Started
03 31 2013; 10:44:49AM Opened Project X:\Satellites and large Projects (Current)\AC5\Project
Management\FCC\ODAR report\
03 31 2013; 10:45:02AM Mission Editor Changes Applied
03 31 2013; 10:45:08AM Processing Requirement 4.3-1: Return Status : Passed
```

```
=====
Project Data
=====
```

```
Objects Passing Through LEO = True
Number of Objects = 1
```

```
**INPUT**
```

```
Quantity = 9
Final Area-To-Mass Ratio = 0.063000 (m^2/kg)
Perigee Altitude = 479.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = -1.000000 (deg)
Argument of Perigee = -1.000000 (deg)
Mean Anomaly = -1.000000 (deg)
Released Year = 2013.000000 (yr)
```

```
**OUTPUT**
```

```
Perigee Altitude = -6378.136000 (km)
Apogee Altitude = -6378.136000 (km)
Inclination = 0.000000 (deg)
Lifetime = 3.650615 (yr)
Object Reentered within 25 years of Release = True
Object-Time = 32.525667 (obj-yrs)
Total Object-Time = 32.525667 (obj-yrs)
Status = Pass
Returned Error Message - Normal Processing
```

```
=====
```

```
===== End of Requirement 4.3-1 =====
```

```
03 31 2013; 10:45:36AM Processing Requirement 4.5-1: Return Status : Passed
```

```
=====
Run Data
=====
```

```
**INPUT**
```

```
Space Structure Name = Battery bracket
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.105000 (m^2/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.012000 (kg)
Final Mass = 0.012000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)
```

```
**OUTPUT**
```

```
Collision Probability = 0.000000
Returned Error Message: Normal Processing
```

Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Reaction wheel block
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.054000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.015000 (kg)
Final Mass = 0.015000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Antenna
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.047000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.016000 (kg)
Final Mass = 0.007000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Battery
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.031000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.017000 (kg)
Final Mass = 0.017000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = AVO
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.040000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.023000 (kg)
Final Mass = 0.023000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Circuit Boards
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)

Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.037000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.030000 (kg)
Final Mass = 0.030000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = ADIS
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.023000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.049000 (kg)
Final Mass = 0.049000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = AC5 Lids
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)

Final Area-To-Mass Ratio = 0.042000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.086000 (kg)
Final Mass = 0.086000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Payload interface plate
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.038000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 469.000000 (kg)
Final Mass = 0.092000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = STIM
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.016000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.110000 (kg)
Final Mass = 0.110000 (kg)
Duration = 1.000000 (yr)

Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Pea Placer
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.014000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.117000 (kg)
Final Mass = 0.117000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = EM Assembly
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.018000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.275000 (kg)
Final Mass = 0.275000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)

PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Payload Assembly
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.016000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.573000 (kg)
Final Mass = 0.573000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = Body Structure
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.026000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.582000 (kg)
Final Mass = 0.582000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

=====

INPUT

Space Structure Name = CSTT Cover
Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.157000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.020000 (kg)
Final Mass = 0.020000 (kg)
Duration = 1.000000 (yr)
Station-Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Collision Probability = 0.000000
Returned Error Message: Normal Processing
Date Range Error Message: Normal Date Range
Status = Pass

===== End of Requirement 4.5-1 =====
03 31 2013; 10:45:39AM Processing Requirement 4.6 Return Status : Passed

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

INPUT

Space Structure Name = Battery bracket
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.105000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.012000 (kg)
Final Mass = 0.012000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 444.295789 (km)
PMD Apogee Altitude = 720.580761 (km)
PMD Inclination = 119.981958 (deg)
PMD RAAN = 211.673335 (deg)
PMD Argument of Perigee = 320.274294 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 444.295789 (km)
Suggested Apogee Altitude = 720.580761 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2014 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Reaction wheel block
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.054000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.015000 (kg)
Final Mass = 0.015000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 462.833163 (km)
PMD Apogee Altitude = 859.237251 (km)
PMD Inclination = 119.988982 (deg)
PMD RAAN = 190.757228 (deg)
PMD Argument of Perigee = 314.604629 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 462.833163 (km)
Suggested Apogee Altitude = 859.237251 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2016 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Antenna
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.047000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.016000 (kg)
Final Mass = 0.007000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 469.966399 (km)
PMD Apogee Altitude = 929.112677 (km)
PMD Inclination = 119.992140 (deg)

PMD RAAN = 179.447790 (deg)
PMD Argument of Perigee = 311.723072 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 469.966399 (km)
Suggested Apogee Altitude = 929.112677 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2021 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Battery
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.031000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.017000 (kg)
Final Mass = 0.017000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 467.962518 (km)
PMD Apogee Altitude = 908.421428 (km)
PMD Inclination = 119.991241 (deg)
PMD RAAN = 182.832801 (deg)
PMD Argument of Perigee = 312.575255 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 467.962518 (km)
Suggested Apogee Altitude = 908.421428 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2022 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = AVO
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.040000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.023000 (kg)
Final Mass = 0.023000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True

PMD Perigee Altitude = 466.086691 (km)
PMD Apogee Altitude = 889.818226 (km)
PMD Inclination = 119.990404 (deg)
PMD RAAN = 185.852009 (deg)
PMD Argument of Perigee = 313.342435 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 466.086691 (km)
Suggested Apogee Altitude = 889.818226 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2021 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Circuit Boards
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.037000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.030000 (kg)
Final Mass = 0.030000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 466.728407 (km)
PMD Apogee Altitude = 896.104110 (km)
PMD Inclination = 119.990684 (deg)
PMD RAAN = 184.834637 (deg)
PMD Argument of Perigee = 313.083011 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 466.728407 (km)
Suggested Apogee Altitude = 896.104110 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2021 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = ADIS
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.023000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.049000 (kg)
Final Mass = 0.049000 (kg)

Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 469.513431 (km)
PMD Apogee Altitude = 924.359139 (km)
PMD Inclination = 119.991937 (deg)
PMD RAAN = 180.227752 (deg)
PMD Argument of Perigee = 311.918772 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 469.513431 (km)
Suggested Apogee Altitude = 924.359139 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2023 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = AC5 Lids
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.042000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.086000 (kg)
Final Mass = 0.086000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 465.648727 (km)
PMD Apogee Altitude = 885.578161 (km)
PMD Inclination = 119.990211 (deg)
PMD RAAN = 186.536572 (deg)
PMD Argument of Perigee = 313.517378 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 465.648727 (km)
Suggested Apogee Altitude = 885.578161 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2021 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Payload interface plate
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.038000 (m²/kg)

Start Year = 2013.000000 (yr)
Initial Mass = 469.000000 (kg)
Final Mass = 0.092000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 473.476928 (km)
PMD Apogee Altitude = 967.508466 (km)
PMD Inclination = 119.993747 (deg)
PMD RAAN = 173.103272 (deg)
PMD Argument of Perigee = 310.145719 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 473.476928 (km)
Suggested Apogee Altitude = 967.508466 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2022 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = STIM
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.016000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.110000 (kg)
Final Mass = 0.110000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 470.791841 (km)
PMD Apogee Altitude = 937.888169 (km)
PMD Inclination = 119.992513 (deg)
PMD RAAN = 178.004371 (deg)
PMD Argument of Perigee = 311.361942 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 470.791841 (km)
Suggested Apogee Altitude = 937.888169 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2025 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Pea Placer
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)

Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.014000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.117000 (kg)
Final Mass = 0.117000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 471.144787 (km)
PMD Apogee Altitude = 941.687140 (km)
PMD Inclination = 119.992675 (deg)
PMD RAAN = 177.378218 (deg)
PMD Argument of Perigee = 311.205770 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 471.144787 (km)
Suggested Apogee Altitude = 941.687140 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2027 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = EM Assembly
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.018000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.275000 (kg)
Final Mass = 0.275000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 470.433461 (km)
PMD Apogee Altitude = 934.060714 (km)
PMD Inclination = 119.992350 (deg)
PMD RAAN = 178.634496 (deg)
PMD Argument of Perigee = 311.519430 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 470.433461 (km)
Suggested Apogee Altitude = 934.060714 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2024 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Payload Assembly
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)

Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.016000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.573000 (kg)
Final Mass = 0.573000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 470.791841 (km)
PMD Apogee Altitude = 937.888169 (km)
PMD Inclination = 119.992513 (deg)
PMD RAAN = 178.004371 (deg)
PMD Argument of Perigee = 311.361942 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 470.791841 (km)
Suggested Apogee Altitude = 937.888169 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2025 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = Body Structure
Space Structure Type = Payload

Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.026000 (m²/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.582000 (kg)
Final Mass = 0.582000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 468.943720 (km)
PMD Apogee Altitude = 918.444486 (km)
PMD Inclination = 119.991680 (deg)
PMD RAAN = 181.196377 (deg)
PMD Argument of Perigee = 312.162346 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 468.943720 (km)
Suggested Apogee Altitude = 918.444486 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2022 (yr)
Requirement = 61
Compliance Status = Pass

=====

INPUT

Space Structure Name = CSTT Cover

Space Structure Type = Payload
Perigee Altitude = 469.000000 (km)
Apogee Altitude = 972.000000 (km)
Inclination = 120.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.157000 (m^2/kg)
Start Year = 2013.000000 (yr)
Initial Mass = 0.020000 (kg)
Final Mass = 0.020000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = -1.000000 (km)
PMD Apogee Altitude = -1.000000 (km)
PMD Inclination = 0.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)

OUTPUT

Suggested Perigee Altitude = 469.000000 (km)
Suggested Apogee Altitude = 972.000000 (km)
Returned Error Message = Reentry during mission (no PMD req.).

Released Year = 2013 (yr)
Requirement = 61
Compliance Status = Pass

=====

===== End of Requirement 4.6 =====
03 31 2013; 10:45:48AM *****Processing Requirement 4.7-1
Return Status : Passed

*****INPUT****

Item Number = 1

name = Battery bracket
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 0.012000
Thermal Mass = 0.012000
Diameter/Width = 0.026000
Length = 0.090000
Height = 0.013000

name = Battery bracket
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.012000
Thermal Mass = 0.012000
Diameter/Width = 0.026000
Length = 0.090000
Height = 0.013000

*****OUTPUT****

Item Number = 1

name = Battery bracket
Demise Altitude = 77.990980
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000


```
*****
name = Battery bracket
Demise Altitude = 73.122285
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000
*****
```

```
*****INPUT****
```

```
Item Number = 2
```

```
name = Reaction wheel block
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 0.015000
Thermal Mass = 0.015000
Diameter/Width = 0.028000
Length = 0.029000
Height = 0.028000
```

```
name = Reaction wheel block
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.015000
Thermal Mass = 0.015000
Diameter/Width = 0.028000
Length = 0.029000
Height = 0.028000
```

```
*****OUTPUT****
```

```
Item Number = 2
```

```
name = Reaction wheel block
Demise Altitude = 77.986574
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000
```

```
*****
name = Reaction wheel block
Demise Altitude = 73.709980
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000
*****
```

```
*****INPUT****
```

```
Item Number = 3
```

```
name = Antenna
quantity = 1
parent = 0
materialID = 1
type = Flat Plate
Aero Mass = 0.007000
Thermal Mass = 0.007000
Diameter/Width = 0.040000
Length = 0.050000
```

```
name = Antenna
quantity = 1
parent = 1
materialID = 1
type = Flat Plate
Aero Mass = 0.007000
Thermal Mass = 0.007000
Diameter/Width = 0.040000
Length = 0.050000
```

*****OUTPUT****

Item Number = 3

name = Antenna
Demise Altitude = 77.996441
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Antenna
Demise Altitude = 0.000000
Debris Casualty Area = 0.415666
Impact Kinetic Energy = 0.399731

*****INPUT****

Item Number = 4

name = Battery
quantity = 1
parent = 0
materialID = 56
type = Cylinder
Aero Mass = 0.017000
Thermal Mass = 0.017000
Diameter/Width = 0.016000

name = Battery
quantity = 1
parent = 1
materialID = 56
type = Cylinder
Aero Mass = 0.017000
Thermal Mass = 0.017000
Diameter/Width = 0.016000
Length = 0.033000

*****OUTPUT****

Item Number = 4

name = Battery
Demise Altitude = 77.991246
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Battery
Demise Altitude = 68.929245
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****

Item Number = 5

name = AVO
quantity = 1
parent = 0
materialID = 56
type = Cylinder
Aero Mass = 0.023000
Thermal Mass = 0.023000
Diameter/Width = 0.026000

name = AVO
quantity = 1
parent = 1
materialID = 56

type = Cylinder
Aero Mass = 0.023000
Thermal Mass = 0.023000
Diameter/Width = 0.026000
Length = 0.040000

*****OUTPUT****
Item Number = 5

name = AVO
Demise Altitude = 77.995316
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = AVO
Demise Altitude = 0.000000
Debris Casualty Area = 0.399739
Impact Kinetic Energy = 4.963423

*****INPUT****
Item Number = 6

name = Circuit Boards
quantity = 1
parent = 0
materialID = 23
type = Flat Plate
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.056000
Length = 0.056000

name = Circuit Boards
quantity = 1
parent = 1
materialID = 23
type = Flat Plate
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.056000
Length = 0.056000

*****OUTPUT****
Item Number = 6

name = Circuit Boards
Demise Altitude = 77.992472
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Circuit Boards
Demise Altitude = 74.073191
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****
Item Number = 7

name = ADIS
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 0.049000
Thermal Mass = 0.049000

Diameter/Width = 0.044000
Length = 0.047000
Height = 0.014000

name = ADIS
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.049000
Thermal Mass = 0.049000
Diameter/Width = 0.044000
Length = 0.047000
Height = 0.014000

*****OUTPUT****
Item Number = 7

name = ADIS
Demise Altitude = 77.994308
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ADIS
Demise Altitude = 72.455027
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****
Item Number = 8

name = AC5 Lids
quantity = 1
parent = 0
materialID = 8
type = Flat Plate
Aero Mass = 0.086000
Thermal Mass = 0.086000
Diameter/Width = 0.096000
Length = 0.105000

name = AC5 Lids
quantity = 1
parent = 1
materialID = 8
type = Flat Plate
Aero Mass = 0.086000
Thermal Mass = 0.086000
Diameter/Width = 0.096000
Length = 0.105000

*****OUTPUT****
Item Number = 8

name = AC5 Lids
Demise Altitude = 77.987894
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = AC5 Lids
Demise Altitude = 71.265136
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****

Item Number = 9

name = Payload interface plate
quantity = 1
parent = 0
materialID = 8
type = Flat Plate
Aero Mass = 0.092000
Thermal Mass = 0.092000
Diameter/Width = 0.097000
Length = 0.097000

name = Payload interface plate
quantity = 1
parent = 1
materialID = 8
type = Flat Plate
Aero Mass = 0.092000
Thermal Mass = 0.092000
Diameter/Width = 0.097000
Length = 0.097000

*****OUTPUT****
Item Number = 9

name = Payload interface plate
Demise Altitude = 77.989512
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload interface plate
Demise Altitude = 71.224683
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****
Item Number = 10

name = STIM
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 0.110000
Thermal Mass = 0.110000
Diameter/Width = 0.048000
Length = 0.053000
Height = 0.026000

name = STIM
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.110000
Thermal Mass = 0.110000
Diameter/Width = 0.048000
Length = 0.053000
Height = 0.026000

*****OUTPUT****
Item Number = 10

name = STIM
Demise Altitude = 77.990637
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

```
*****
name = STIM
Demise Altitude = 71.782800
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000
*****
```

```
*****INPUT****
```

```
Item Number = 11
```

```
name = Pea Placer
quantity = 1
parent = 0
materialID = 8
type = Cylinder
Aero Mass = 0.117000
Thermal Mass = 0.117000
Diameter/Width = 0.037000
```

```
name = Pea Placer
quantity = 1
parent = 1
materialID = 8
type = Cylinder
Aero Mass = 0.117000
Thermal Mass = 0.117000
Diameter/Width = 0.037000
Length = 0.043000
```

```
*****OUTPUT****
```

```
Item Number = 11
```

```
name = Pea Placer
Demise Altitude = 77.996707
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000
```

```
*****
name = Pea Placer
Demise Altitude = 71.968488
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000
*****
```

```
*****INPUT****
```

```
Item Number = 12
```

```
name = EM Assembly
quantity = 1
parent = 0
materialID = 23
type = Box
Aero Mass = 0.275000
Thermal Mass = 0.275000
Diameter/Width = 0.078000
Length = 0.089000
Height = 0.047000
```

```
name = EM Assembly
quantity = 1
parent = 1
materialID = 23
type = Box
Aero Mass = 0.275000
Thermal Mass = 0.275000
Diameter/Width = 0.078000
Length = 0.089000
Height = 0.047000
```

*****OUTPUT****

Item Number = 12

name = EM Assembly
Demise Altitude = 77.999613
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = EM Assembly
Demise Altitude = 73.208488
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****

Item Number = 13

name = Payload Assembly
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 0.573000
Thermal Mass = 0.573000
Diameter/Width = 0.097000
Length = 0.097000
Height = 0.092000

name = Payload Assembly
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.573000
Thermal Mass = 0.573000
Diameter/Width = 0.097000
Length = 0.097000
Height = 0.092000

*****OUTPUT****

Item Number = 13

name = Payload Assembly
Demise Altitude = 77.992660
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Assembly
Demise Altitude = 70.116386
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****

Item Number = 14

name = Body Structure
quantity = 1
parent = 0
materialID = 8
type = Box
Aero Mass = 0.582000
Thermal Mass = 0.582000
Diameter/Width = 0.105000
Length = 0.165000
Height = 0.105000

name = Body Structure
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 0.582000
Thermal Mass = 0.582000
Diameter/Width = 0.105000
Length = 0.165000
Height = 0.105000

*****OUTPUT****
Item Number = 14

name = Body Structure
Demise Altitude = 77.989785
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Body Structure
Demise Altitude = 71.902894
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

*****INPUT****
Item Number = 15

name = CSTT Cover
quantity = 1
parent = 0
materialID = 8
type = Flat Plate
Aero Mass = 0.020000
Thermal Mass = 0.020000
Diameter/Width = 0.083000
Length = 0.100000

name = CSTT Cover
quantity = 1
parent = 1
materialID = 8
type = Flat Plate
Aero Mass = 0.020000
Thermal Mass = 0.020000
Diameter/Width = 0.083000
Length = 0.100000

*****OUTPUT****
Item Number = 15

name = CSTT Cover
Demise Altitude = 77.997793
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = CSTT Cover
Demise Altitude = 0.000000
Debris Casualty Area = 0.477625
Impact Kinetic Energy = 0.786188

*****INPUT****
Item Number = 16

name = pea
quantity = 9

parent = 0
materialID = 14
type = Cylinder
Aero Mass = 0.001200
Thermal Mass = 0.001200
Diameter/Width = 0.008000

name = pea
quantity = 9
parent = 1
materialID = 14
type = Cylinder
Aero Mass = 0.001200
Thermal Mass = 0.001200
Diameter/Width = 0.008000
Length = 0.013000

*****OUTPUT****
Item Number = 16

name = pea
Demise Altitude = 77.993847
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = pea
Demise Altitude = 76.499472
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

=====
03 31 2013; 10:45:54AM Project Data Saved To File