

04 15 2019; 09:28:02AM Activity Log Started
04 15 2019; 09:28:02AM Opened Project C:\Users\WanoAvionics\AppData\Local\NASA\IDAS2.1.11
04 15 2019; 09:30:25AM Mission Editor Changes Applied
04 15 2019; 09:31:16AM Science and Engineering - Orbit Lifetime/Dwell Time

***INPUT**

Start Year = 2019.249000 (yr)
Perigee Altitude = 435.000000 (km)
Apogee Altitude = 514.000000 (km)
Inclination = 94.090000 (deg)
RAAN = 165.423300 (deg)
Argument of Perigee = 302.984200 (deg)
Area-To-Mass Ratio = 0.003910 (m²/kg)

***OUTPUT**

Orbital Lifetime from Startyr = 4.709103 (yr)
Time Spent in LEO during Lifetime = 4.709103 (yr)
Last year of Propagation = 2023 (yr)
Returned Error Message: Object reentered

04 15 2019; 09:31:31AM Processing Requirement 4.3-1: Return Status : Not Run

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No Project Data Available
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===== End of Requirement 4.3-1 =====

04 15 2019; 09:31:33AM Processing Requirement 4.3-2: Return Status : Passed

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No Project Data Available
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===== End of Requirement 4.3-2 =====

04 15 2019; 09:31:35AM Requirement 4.4-3: Compliant

===== End of Requirement 4.4-3 =====

04/15/2019; 12:11:09PM Processing Requirement 4.5-1: Return Status : Passed

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Run Data

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****INPUT****

Space Structure Name = BlueWalker1
Space Structure Type = Payload
Perigee Altitude = 435.000000 (km)
Apogee Altitude = 514.000000 (km)
Inclination = 94.090000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Final Area-To-Mass Ratio = 0.003910 (m²/kg)
Start Year = 2019.249000 (yr)
Initial Mass = 7.061000 (kg)
Final Mass = 7.061000 (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

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

04 15 2019; 09:32:02AM Requirement 4.5-2: Compliant

04 15 2019; 09:32:04AM Processing Requirement 4.6 Return Status : Passed

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Project Data
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****INPUT****

Space Structure Name = BlueWalker1
Space Structure Type = Payload

Perigee Altitude = 435.000000 (km)
Apogee Altitude = 514.000000 (km)
Inclination = 94.090000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.003910 (m²/kg)
Start Year = 2019.249000 (yr)
Initial Mass = 7.061000 (kg)
Final Mass = 7.061000 (kg)
Duration = 1.000000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 427.829560 (km)
PMD Apogee Altitude = 519.375602 (km)
PMD Inclination = 94.086270 (deg)
PMD RAAN = 200.766428 (deg)
PMD Argument of Perigee = 58.729944 (deg)
PMD Mean Anomaly = 0.000000 (deg)

****OUTPUT****

Suggested Perigee Altitude = 427.829560 (km)
Suggested Apogee Altitude = 519.375602 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

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

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===== End of Requirement 4.6 =====

04 15 2019; 10:40:21 AM *****Processing Requirement 4.7-1
Return Status : Passed

*****INPUT*****

Item Number = 1

name = BlueWalker1
quantity = 1
parent = 0
materialID = 9
type = Box
Aero Mass = 7.061000
Thermal Mass = 7.061000
Diameter/Width = 0.226300
Length = 0.340500
Height = 0.100000

name = Solar Panels Y
quantity = 2
parent = 1
materialID = 23
type = Box
Aero Mass = 0.252240
Thermal Mass = 0.250000
Diameter/Width = 0.210000
Length = 0.330000
Height = 0.002500

name = Solar Cells
quantity = 16
parent = 2
materialID = 24
type = Box
Aero Mass = 0.000280
Thermal Mass = 0.000280
Diameter/Width = 0.080150
Length = 0.080150
Height = 0.040150

name = Frame
quantity = 1
parent = 1
materialID = 9
type = Box
Aero Mass = 0.730000
Thermal Mass = 0.730000
Diameter/Width = 0.226300
Length = 0.340500
Height = 0.100000

name = Solar Panels X
quantity = 2
parent = 1
materialID = 23
type = Box
Aero Mass = 0.100000
Thermal Mass = 0.100000
Diameter/Width = 0.090000
Length = 0.340500
Height = 0.002500

name = Reaction Wheels
quantity = 1
parent = 1
materialID = 9
type = Box
Aero Mass = 0.800000
Thermal Mass = 0.800000
Diameter/Width = 0.092500
Length = 0.092500
Height = 0.051000

name = Batteries
quantity = 8
parent = 1
materialID = 9
type = Cylinder
Aero Mass = 0.048000
Thermal Mass = 0.048000
Diameter/Width = 0.018500
Length = 0.065000

name = S-Band
quantity = 1
parent = 1
materialID = 9
type = Box
Aero Mass = 0.216000
Thermal Mass = 0.216000
Diameter/Width = 0.087000
Length = 0.093000
Height = 0.017000

name = Electronics
quantity = 1
parent = 1
materialID = 23
type = Box
Aero Mass = 0.600000
Thermal Mass = 0.600000
Diameter/Width = 0.095000
Length = 0.095000
Height = 0.065000

name = Payload
quantity = 2
parent = 1
materialID = 9
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.095000
Length = 0.200000
Height = 0.095000

*****OUT PUT*****
Item Number = 1

name = BlueWalker1
Demise Altitude = 77.998901
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panels Y
Demise Altitude = 77.161652
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Cells
Demise Altitude = 77.161652
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Frame
Demise Altitude = 76.058914
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panels X
Demise Altitude = 77.420013
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Reaction Wheels
Demise Altitude = 68.557236
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Batteries
Demise Altitude = 75.119247
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = S-Band
Demise Altitude = 73.973518
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Electronics
Demise Altitude = 73.187279
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload
Demise Altitude = 71.125763
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

===== End of Requirement 4.7-1 =====