

## Nimesh Sangani

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**From:** David A Hinkley <david.a.hinkley@aero.org>  
**Sent:** Friday, September 4, 2020 11:42 AM  
**To:** Nimesh Sangani  
**Subject:** FW: Request for Info - File # 0583-EX-CN-2020

Hi Nimesh,

In regard to this latest question:

1. The 0.0079 m<sup>2</sup>/kg is for a tumbling Slingshot-1 with the solar arrays deployed. We assume tumbling, which is an off-nominal and undesirable situation is a possible outcome if attitude control fails sometime after the solar arrays deployed. In this case, DAS3.1 predicts a 2 year orbit lifetime. The 0.0098 m<sup>2</sup>/kg is for the satellite in a solar inertial attitude throughout its lifetime, which is nominal and desired. In that attitude, DAS3.1 also predicts a 2-year lifetime. Since we expect to operate the vehicle for 2 years, then it can be said that the satellite will remain pointed at the sun until it re enters. In both attitudes, the large object collision probability is 0.00000, per DAS 3.1.
2. I have asked for this information and am waiting to receive it. I do not understand its importance. If the solar arrays fail to deploy, then the vehicle area/mass is 0.0032 m<sup>2</sup>/kg and re entry is in 10 years with a large object collision probability 0.00000, per DAS 3.1. This anomalous configuration still meets requirements. Please advise.

I hope you are well.

Regards,

David.

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David Hinkley  
Sr. Project Leader  
The Aerospace Corporation  
562-805-5515 (cell)

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**ssFrom:** oetech@fcc.gov <oetech@fcc.gov>  
**Sent:** Thursday, September 3, 2020 11:50 AM  
**To:** David A Hinkley <david.a.hinkley@aero.org>  
**Subject:** Request for Info - File # 0583-EX-CN-2020



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To: david hinkley, Aerospace Corporation, The  
[david.a.hinkley@aero.org](mailto:david.a.hinkley@aero.org)

From: Nimesh Sangani  
[Nimesh.Sangani@fcc.gov](mailto:Nimesh.Sangani@fcc.gov)

Applicant: Aerospace Corporation, The  
File Number: 0583-EX-CN-2020  
Correspondence Reference Number: 57190  
Date of Original Email: 09/03/2020

Please address the following questions/concerns. 1. The nominal area-to-mass of the spacecraft is given as two different figures on page 11 of the ODAR, both 0.0079 m<sup>2</sup>/kg and 0.0098 m<sup>2</sup>/kg. Please indicate what spacecraft configurations these two figures represent and fix the wording in the ODAR to be consistent throughout. 2. What is the mechanism employed for deployment of the solar arrays? Additionally, please provide any heritage flight information for this mechanism.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of 09/03/2020 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

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