

From: Laura Stefani

To: Nimesh Sangani

Date: May 24, 2021

Subject: Additional Information Request

Message:

1) What is the basis or other research behind the assertion that most, if not all, collisions will occur in the edge-on configuration instead of other directions?

RESPONSE:

The basis of this assertion is found in Table 1 of the Supplemental Orbital Debris Response. The data contained in Table 1, which comes directly from the DAS analysis, provides:

Probability [1,0,0] = 2.69e-5	This is the probability of collision in the altitude direction
Probability [0,1,0] = 3.57e-2	This is the probability of collision in the velocity direction
Probability [0,0,1] = 1.20e-2	This is the probability of collision in the cross-track direction

Collision probabilities in the spherical shell of the orbit (velocity and cross-track) are 500-1000x more likely than in the radial (altitude) direction.

2) The Updated PNG License file documents that PNG will "register" the satellite with the ITU. Please indicate what country will register the BlueWalker 3 space object with the UN Office of Outer Space Affairs, under the UN Outer Space Treaties.

RESPONSE:

The NICTA Radiocommunications Apparatus Licence issued to AST&Science for the SpaceMobile constellation and the BW3 test satellite notes that technical characteristics are in accordance with information registered with the ITU. This information is in the form of satellite filings and coordination requests made by Papua New Guinea on AST's behalf that include detailed technical information required in such filings.

PNG/NICTA will register the SpaceMobile constellation and the BW3 test satellite with the United Nations Office for Outer Space Affairs, Register of Objects Launched into Outer Space, in accordance with the Convention on Registration of Objects Launched into Outer Space (the "Registration Convention").