MISHAP REPORT

SKY SHIELD REACTION MISSION

For 0016-2025A

January 2025

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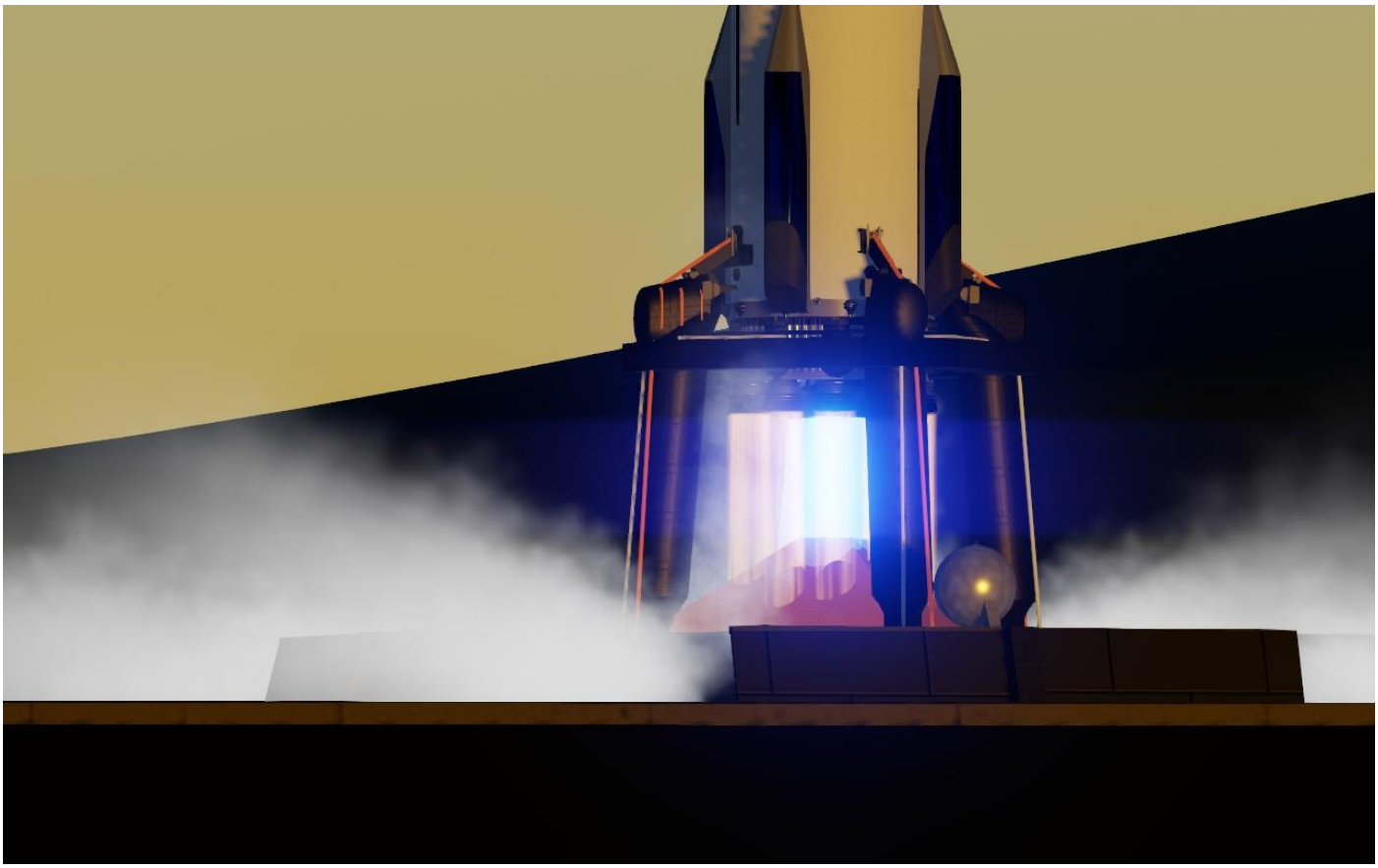
INTRODUCTION

1.1 OUR COMPANY

At sFlightX, we are passionate about pushing the boundaries of aviation and space exploration. Our objectives are to create cutting-edge solutions that redefine how we navigate space. Whether it’s designing next-gen spacecraft, optimizing air traffic management, or exploring new frontiers beyond Earth, we’re committed.



2.1 SUMMARY OF INCIDENT

On January 30, 2025, at 11:52 PM local time, the launch of Maya Block 6 from Terra Aurora, Union of Uthain Republics resulted in failure. The rocket experienced an anomaly during multiple phases of the flight, leading to an unsuccessful mission outcome. The intended mission objective was to deliver a customer payload to 150 km x 150 km orbit which was a success.

2.2 DESCRIPTION OF THE FAILURE

Terra Aurora teams concluded the failure of the first stage, MS-1 was an internal conversion error between the altitude sensors and the main flight computer. The vehicle leaved the launch pad underperformed, thus accelerating below the Thrust to Weight Ratio (TWR) threshold.

2.3 IMPACT AND CONSEQUENCES

Terra Aurora teams concluded with no environmental, property or nearby wildlife impact following the mishap of MS-1 landing failure.

2.4 INITIAL INVESTIGATION AND FINDINGS

On T+ 2:53 seconds into the flight, the first stage engine cuts off, delayed by 9 seconds to compensate for the TWR loss from ascent. A few seconds later, the second stage ignites, and the fairings detached.

Both aerodynamic re-entry and landing burn initiated a few seconds after the initially planned timeline at T+5:44 and T+7:05 respectively. This led to the loss of MS-1 having a hard splashdown at the Gulf of Uthain with the final telemetry transmitted at 125 meters AGL, with the speed of 566km/h.

Same as the first stage, the second stage also underperformed through its circularization burn, overshooting the payload to its intended orbit. However, pre-defined flight parameters suggest a targeted margin of error having ±50km.

2.5 CORRECTIVE ACTIONS AND NEXT STEPS

Maya Booster 6002 implemented substantial upgrades both hardware and software including upgraded flight computers, additional command chip “07” responsible for guidance and navigation systems for redundancy, and upgrades to the command chip “03” responsible for command communications for a landing swing demonstration.

3.0 CONCLUSION

sFlightX confirms no impact of any property following the demise of MS-1, and corrective actions are already implemented. Next flight will carry a dummy payload as well as corrective actions which we are working to have a reliable reusable flight vehicle in the future.

3.1 CONCLUDING DOCUMENTS

Flight Launch License is available at:

https://sflightx.com/blob/license/launch/0016-2025A.pdf

Current Programmatic Environmental Assessment is available for viewing at:

https://sflightx.com/blob/legal/terra-aurora-ea.pdf

CHANGELOG

V1.0	February 20, 2025	Initial Release.