Sea Launch Completes Investigation of In-Flight Anomaly

- Preparations for Return to Flight Underway

The Sea Launch Independent Review Board (IRB) has concluded its review of the Telstar 18 mission on June 28, which released the satellite short of its intended target apogee. Sea Launch is now ready to return to flight.

Immediately following the mission, Sea Launch partner RSC Energia appointed a commission in Moscow to investigate a premature shutdown of the Block DM-SL upper stage. RSC Energia was able to recreate the anomaly on the ground in full scope, matching the flight telemetry data from the Telstar 18 mission.

The commission identified the most probable cause as a short in the onboard cable network. This short introduced electrical interference in the circuits that transmit liquid oxygen and fuel flow rate data to the main engine control system. The main engine control system performed nominally, given the distorted data it received from the flow rate sensors. As a result of the main engine control system acting upon the distorted data, the Block DM-SL consumed more fuel than planned and prematurely shut down due to fuel depletion. The shutdown was performed nominally based on the ability of the robust Block DM-SL control system to handle contingency situations.

The IRB unanimously approved the commission's findings and recommended corrective actions. Kirk Pysher, vice president and chief systems engineer for Sea Launch, chaired the IRB, which included the Sea Launch partners, independent reviewers, subject matter experts and customer representatives.

The required corrective actions were developed and verified through test to prevent a similar anomaly from occurring in future flights. The IRB has confirmed the corrective actions are appropriate and will increase the overall Block DM-SL reliability through increased fault tolerance during flight and pre-launch screening for defects. It also confirmed the Block DM-SL is ready for return to flight. Sea Launch remains highly confident in the robust capability of the Zenit-3SL system, including the upper stage. The Block DM-SL is one of the premiere upper stages in the industry, with more than 220 successful flights and an overall reliability of approximately 97%.

Despite the early shutdown of the upper stage engine, spacecraft manufacturer Space Systems/Loral raised the Telstar 18 satellite to its final orbital position, where it is now fully operational. Loral says it expects the spacecraft to meet or exceed its 13-year specified life.

Sea Launch Company, LLC, headquartered in Long Beach, Calif., and marketed through Boeing Launch Services, is the world leader in providing heavy-lift commercial launch services. The international partnership offers the most direct and cost-effective route to geostationary orbit. With the advantage of a launch site on the Equator, the reliable Zenit-3SL rocket can lift a heavier spacecraft mass or provide longer life on orbit, providing best value plus schedule assurance. For additional information, please visit the Sea Launch website at: www.sea-launch.com

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