

SLS PDR

PRELIMINARY DESIGN REVIEW

SPACECRAFT & PAYLOAD INTEGRATION

WHERE WE ARE

- Completed Preliminary Design Review on June 27, 2013.
 - Encompassed Launch Vehicle Stage Adapter (LVSA), Interim Cryogenic Propulsion Stage (ICPS), Orion Multi-purpose Crew Vehicle (MPCV) Stage Adapter (MSA), and Separation System.
 - Will demonstrate compliance with the Space Launch System (SLS) vehicle architecture.
- Expediting MSA design work to provide adapter to Orion for Exploration Flight Test 1 (EFT-1) in September 2014.
- Completed Payload Fairing (5 m and 8.4 m) conceptual analyses in support of SLS evolvability studies.
- Conducted Request for Information to industry for large payload fairings and payload adapters. Evaluated responses in partnership with Glenn Research Center.

MAJOR ACCOMPLISHMENTS

Interim Cryogenic Propulsion Stage



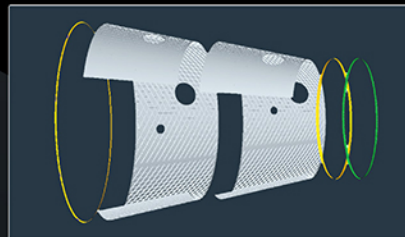
- Incorporated modified 2016 production version of 5-m Delta Cryogenic Second Stage (DCSS) with RL10B-2 engine.
- Completed feasibility study of DCSS for SLS application.

MPCV Stage Adapter



- Completed 2 production MSA welded assemblies for EFT-1 flight and structural test articles.
- Performed fit-check of DCSS to MSA Structural Test Article to demonstrate hardware interface compatibility.
- Partnered with Langley Research Center to develop and produce MSA diaphragm.

Launch Vehicle Stage Adapter



- Designed to mechanically attach the 8.4-m-diameter Core Stage with the 5-m ICPS.
- Marshall Space Flight Center Engineering Directorate maturing design to PDR level, supporting transition to industry in October 2013.
- Targeting test article completion in Summer 2015 to support spacecraft and payload integrated structural test.