



First Stage (FS) Preliminary Design Review (PDR): The Ares I FS PDR Board convened on June 5 at the ATK Lakeside Office in Huntsville. Three Review Item Discrepancies (RIDs) were presented to the Board for disposition. All were approved for implementation with remarks or actions. A summary of the Avionics and Software Recovery Plan was also presented to the Board as a special topic item. The plan was requested as a follow-up action from the FS PDR Pre-Board and was formally discussed and approved at an FS Engineering Review Board (ERB) prior to this Board. The FS PDR Board provided approval that the FS Element has met the criteria for successful completion of PDR, pending implementation of all RIDs accrued during PDR. The Board also recommended proceeding to Critical Design Review (CDR).

Recent activities specific to the Elements include:

- **Flight and Integrated Test Office (FITO) and Ares I-X**
 - **Integrated Vehicle Ground Vibration Test (IVGVT) –Tennessee Valley Authority (TVA) Tower Crane:** The IVGVT team received the TVA tower crane in support of platform demolition in Test Stand 4550 (TS 4550). The crane was leased from the TVA and was delivered to Marshall Space Flight Center (MSFC) in 20 trucks. The entire effort was an excellent example of team work as the Test Lab, Facilities, Security, Safety, Special Test Equipment (STE) Design, and Procurement were all instrumental in getting the crane to TS 4550 and set up properly. In 1 week of use, the crane has already made significant progress, removing all the Level 9 platforms from TS 4550. Platform demolition is on-going and is expected to complete in October 2008.



TVA Tower Crane and tail rigging on TS 4550



Section of Shuttle-era platform being removed



Section of Shuttle-era platform ready for removal

- **Ares I-X Avionics Integrated Product Team (IPT):** The Ares I-X Avionics IPT and Kennedy Space Center (KSC) Ground Operations (GO) IPT held an Integrated Test Plan Summit at the Atlas Space Operations Center (ASOC) Cape Canaveral, Florida June 17-18, 2008. The purpose of the meeting was to review Atlas integrated test procedures and redline them for application on the Ares I-X vehicle. Representatives from Ares I-X Systems Engineering and Integration, GO and Avionics IPTs, Lockheed Martin-Denver and Cape Canaveral launch site participated in the discussions. Excellent dialog took place to advance the understanding and planning for avionics testing of itself as well as how avionics will support integrated vehicle testing. Considerable time was spent investigating how the vehicle will be physically configured, for both internal testing and vehicle to Range testing. The testing represents detailed integration for resource planning, challenges of schedule planning for efficiency & compatibility, and coordination with the Range for their resources and compatibility. This represents a first session on this subject. Follow up dialog is necessary to continue and flesh out specifics, engage First Stage and RoCS IPTs for their test needs and formally document activities. KSC will be capturing this information in their Solumina environment for use during the timeframe the activities are performed.
- **Ares I-X Roll Control System (RoCS) Element:** Assembly Stand #1 was proof-loaded and transferred to the Teledyne Clean Room. A consolidated tracking spreadsheet for the Verification Requirements Definition Sheets (VRDSs) was developed in anticipation of call for weekly statusing. Ongoing reviews of the draft RoCS/Upper Stage Interface Requirements Document (IRD) updates were supported. These IRD updates capture the interface changes and agreements. The affected flight panels to be match-drilled have been received at Teledyne from the machining vendor and will be going to chem-film.



Proof-loading of RoCS Module Assembly Stand



*Interstage-Interfacing RoCS Module Panel
(non-flight unit)*



- **Upper Stage (US)**

- **US – Avionics and Software:** The Boeing Company has awarded three small business subcontracts under the Ares I Upper Stage Instrument Unit contract. The subcontracts were awarded to minority-owned GeoLogics Corporation based in Alexandria, VA; to minority-owned Moseley Technical Services, Inc., based in Huntsville, AL; and to service-disabled veteran owned Muñiz Engineering, Inc., based in Houston, TX. The three companies are classified as small disadvantaged businesses under government contracting deadlines. Moseley Technical Services will focus on supporting avionics subsystem development and systems engineering and integration, GeoLogics will provide software support to Boeing, and Muñiz Engineering will provide support for the electronic ground equipment development and test activities. The contracts are for a period of 1 year, with four option years that could last through 2013.

- **Project Integration (PI)**

- **University of Alabama in Huntsville (UAHuntsville) and Space Camp Teachers Conferences:** The Ares Projects integration team supported presentations to two teacher groups. On June 10, the team spoke to 46 Alabama teachers attending a workshop at UAHuntsville entitled “Exploring the Future: Attracting a New Generation to Mathematics and Science.” On June 13, the team spoke to 100 teachers from across the United States and several foreign countries attending Space Camp for Teachers at the U.S. Space & Rocket Center. Teachers learned about Constellation/Ares and what educational resources are available to them.



The PI team presents an overview of Constellation/Ares to national and international teachers attending Space Camp for Teachers.

The Ares Projects looks forward to the many Element Preliminary Design Review (PDR) and Critical Design Review (CDR) Kickoffs, Boards, and Readiness Reviews in June and July.

...and as of this Ares Projects Weekly Summary, there are only 299 days until the first Ares I test flight, Ares I-X!!!