



**Integrated Vehicle Ground Vibration Test (IVGVT) – Test Stand (TS) 4550 Demolition Work Complete:** Preparation for the IVGVT included the removal of the previous test setup platforms from Marshall Space Flight Center’s (MSFC’s) TS 4550. The platforms installed for the Apollo and Space Shuttle ground vibration test have all been removed. The final platform, pictured below, was removed on September 12. This now prepares the way for facility renovations and the build-up of the platforms and Special Test Equipment for the Ares I IVGVT.



*Removal of the last platform from TS 4550*

*Recent activities specific to the Elements include:*

- **Upper Stage (US)**
  - **US Reaction Control System (RCS) Subsystem:** Aerojet conducted a Prototype Critical Design Review (PCDR) on September 24–25 for the First Stage Roll Control System (RoCS) Development Thruster in compliance with the Advanced Development Contract with MSFC. The review took place in Redmond, WA, and was well-attended by several key members of the US RCS Integrated Product Team (IPT), as well as representatives of Johnson Space Center (JSC) and the Jet Propulsion Laboratory (JPL). Overall, the review was highly



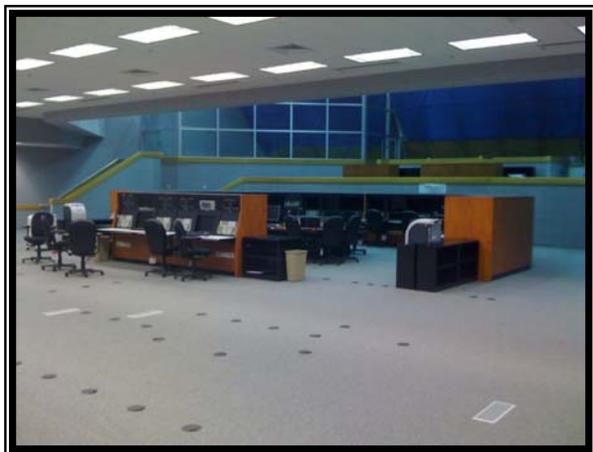
successful and the contractor was deemed ready to proceed with final design, fabrication, assembly, and test. The US RCS IPT manages the First Stage RoCS Development Thruster.

Aerojet presented a very thorough and complete PCDR package that went beyond expectations for a “development” project. It was clearly evident that the contractor has made every attempt to retire risk and ensure development of a successful product within the scope of the contract. Significant technical issues remain to be resolved as part of the test program, which is entirely consistent with the advanced development approach. The intent of this effort is to mitigate such risks prior to entering into a flight qualification program. Hot-fire tests sequences are being constructed to address all thermal-structural issues, except combined hot-fire under vibration, which is not in the current scope of the contract. Data will be collected and used to refine thermal and structural analyses to verify positive margins. Engine #1 vibration testing is scheduled to begin in December 2008, followed by hot fire testing of Engine #1 in January 2009.

- **Flight and Integrated Test Office (FITO) and Ares I-X**
  - **Ares I-X Launch Control Center (LCC) Consoles and Equipment Shipped:** The Ares I-X Avionics IPT successfully passed the pre-ship review for LCC consoles and supporting equipment. This hardware will be part of the Ground Command, Communication, and Control (GC3) system. All comments were dispositioned and constraints to ship were resolved during the review. A status was given to the Mission Manager and approval to ship was received. The LCC equipment was delivered to the KSC Ground Systems (GS) IPT on September 26 and installation began immediately. The remaining GC3 equipment is scheduled for delivery to KSC on October 17 for installation into the Mobile Launch Platform (MLP).



*Engineering Console Table (Close-up)*



*Firing Room*



- **Project Integration (PI)**
  - ***Ares Outreach:*** The Ares Projects outreach team supported an Ares/Constellation presentation to members of the Osher Lifelong Learning Institute at the University of Alabama at Huntsville (UAHuntsville) in Alabama on September 24. Supported by a private foundation, this UAHuntsville activity is one of 119 nationwide aimed at meeting the needs of older students who want to learn simply for the joy of learning and personal fulfillment. The team also supported a video shoot for an Ares career segment to be used by MSFC's Digital Learning Network on September 22.

The Ares Projects look forward the Friction Stir Welding “confidence welds” on actual US dome gores in MSFC Building 4755 in late October; J-2X Critical Design Review (CDR) Pre-Board on October 29–30; and J-2X CDR Board on November 13.

***...and as of this Ares Projects Weekly Summary, there are only 194 days until the first Ares I test flight, Ares I-X!!!***