

ORION

CREW EXPLORATION VEHICLE

WEEKLY ACCOMPLISHMENTS



10.23.09



A successful Pad Abort 1 launch pad range integration risk reduction mission simulation (Photo left) was completed including a check of combined systems and identification and resolution of range issues.

The Pad Abort 1 crew module (center), crew module pathfinder (far left) and launch abort system pathfinder (far right) is shown in photo above at the White Sands Missile Range complex in New Mexico.



The Orion crew module display format definition (Photo right) review and development for the controller for guidance, navigation and control continues. The first review for the display format will conclude early next year with concurrence on the display format dictionary.



Several out briefs from recent Human-in-the-Loop evaluations were provided by the joint NASA/Lockheed Martin Human Engineering team. The recent keypad evaluation concluded that the layout, size, and shape were acceptable from an ergonomic and error rate standpoint. The Cursor Control Device (CCD) ergonomic evaluations that have been conducted in recent months have resulted in selecting an optimal shape, which is now being implemented in the design.



The first flight tooling, called the Orion Crew Module (CM) Support Structure with air bearing dolly arrived at the Orion Operations & Checkout (O&C) facility at Kennedy Space Center. The CM support structure will be used as the base support for the CM during the assembly, integration & production flow and also as the air bearing transfer dolly between processing stations. Laminar flow air walls were delivered to the O&C for testing this week. These walls allow areas of high cleanliness to be easily established for Orion CEV operations such as tube welding. The walls are portable and can be moved throughout the facility as required. Tests will be conducted during welding operations to measure the performance of the walls.



The Exploration Development Lab (EDL) in Houston is doing a small scale prototype of the storage solutions that will eventually be used as part of the CEV Avionics Integration Lab (CAIL). The EDL has two vendors participating in this, IBM and NetApp. Each vendor is providing an integration solution with various tiers of storage including archival to tape. As part of the prototyping effort, the lab will evaluate the data management software each of the vendors has selected to integrate with our in-house test processing/analysis tools. The result of this evaluation will be used by the CAIL team in their final selection process for their storage solution.

