National Aeronautics and Space Administration

Office of the Administrator
Washington, DC 20546-0001

October 16, 2012

Dr. Steven W. Squyres
Chairman
NASA Advisory Council
Washington, DC 20546

Steve

Dear ~~Dr. Squyres~~:

Enclosed is NASA's response to a recommendation from the NASA Advisory Council meeting held July 25-27, 2012, at NASA's Goddard Space Flight Center. Please do not hesitate to contact me if the Council would like further background on the response. I appreciate the Council's thoughtful consideration leading to the recommendations and welcome its continued findings, recommendations, and advice concerning the U.S. civil space program.

I look forward to working closely with you and members of the Council in the future.

Sincerely,

Charles F. Bolden, Jr.
Administrator

Enclosure:
2012-02-06 (HEOC-01) Systems Integration

NASA Advisory Council Recommendation

Systems Integration
2012-02-06 (HEOC-01)

Recommendation:
Integration among the Space Launch System (SLS), Orion, and Ground Systems programs requires definition and implementation. The Council recommends that a small team of experienced integrators, led by an empowered, accountable and responsible leader, should be established to ensure adequate integration of the three programs.

Major Reasons for the Recommendation:
Integration at the NASA Headquarters level appears to be insufficient to ensure schedule, technical and cost performance of the system composed of the three separate programs.

Consequences of No Action on the Recommendation:
Due to lack of adequate integration of the three programs, design and configuration disconnects will be identified late resulting in cost overruns, schedule slips and risk to mission.

NASA Response:
NASA agrees that sufficient integration is needed to assure the technical, cost, and schedule integration of the SLS, Orion, and the Ground Systems. The Exploration Systems Development (ESD) Division within the Human Exploration and Operations Mission Directorate (HEOMD) has been established for this purpose. ESD is led by experienced people with human spaceflight development and operations experience, as well as other NASA program hardware development expertise. ESD also takes advantage of the human spaceflight development and operations expertise across the Agency. This expertise has been integrated into the program management processes with appropriate oversight and monitoring by the ESD.

NASA is using the Standing Review Board (SRB) process to review the integration activities as well as the detailed SLS, Orion, and the Ground Systems technical, cost, and schedule performance. The SRB provided an assessment of the integration activities as part of the Cross Program Systems Requirements Review earlier this fiscal year, finding that the approach and processes were sound for the level of integration needed at this phase of the programs. The SRB also pointed out certain areas requiring strengthening, and each of those findings is being addressed.

This fall/winter, the SRB will review the approaches and processes via the Cross Program Systems Definition Review. In addition, integration activities are key aspects of the SRB assessments of the individual programs, with findings and recommendations specifically addressing integration in addition to program specific findings. As we proceed through the development of the initial exploration capabilities, the need to continually assess the approaches, processes, and results has led to the establishment of periodic review checkpoints (annually at a minimum) to objectively assess the integrated technical, cost, and schedule performance, as well as quarterly focus briefings at the Agency Baseline Program Review.

Enclosure

NASA recognizes that this model is being implemented in a constrained fiscal and schedule environment. This integration model has been established to fit within these constraints, assure timely decision making, and make efficient use of resources while assuring rigorous technical, cost, and schedule management. We welcome the NASA Advisory Council's (NAC) input as we continue to develop the next phase of human space exploration. We will provide a more detailed briefing of our approach and process at the next meeting of the NAC Human Exploration and Operations Committee in November 2012.