National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001

June 22, 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 on March 8-9, 2012, at NASA Headquarters. 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.

IT WAS GREAT TO SEE YOU DURING YOUR NEEMO TOUR.. I HOPE IT WAS AS EXCITING AS IT LOOKED.

Sincerely,

Charles F. Bolden, Jr.
Administrator

Enclosure:
2012-01-02 (HEOC-02) Specify Mission Objectives

NASA Advisory Council Recommendation

Specify Mission Objectives
2012-01-02 (HEOC-02)

Recommendation:

The Council recommends developing specific mission objectives for Exploration Mission-2 (EM-2) that justify the need for a crewed lunar orbit mission.

Major Reasons for the Recommendation:

The current mission objective for EM-2 is listed as, "Demonstrate crewed flight beyond Low Earth Orbit (LEO)." Crewed flight beyond LEO was demonstrated more than 40 years ago in the Apollo program. NASA needs to show how EM-2 fits within the architecture for future human exploration beyond LEO and ensure that the objectives for a crewed lunar mission are consistent with the cost and risks involved.

Consequences of No Action on the Recommendation:

NASA leaves itself open to public criticism and loss of Congressional support if it cannot sufficiently justify the need for conducting a mission such as EM-2.

NASA Response:

NASA concurs with comment. Mission objectives for Exploration Mission-2, our first planned test flight with crew, has the primary mission objective of exercising the Environmental Control/Life Support Systems with the intended crew of four in a beyond LEO environment. Although this test flight could be accomplished in LEO, the added benefit of exercising the mission control team in planning and executing the overall escape/insertion burns, navigational waypoints, and command/communications blackout zones is something that this generation of flight controllers has not yet experienced. We assert that these benefits are commensurate with the risks associated with exposing our crew to a beyond LEO mission and attaining exploration objectives to demonstrate necessary capabilities for exploration missions to asteroids, cis-lunar space, and ultimately Mars. Additionally, NASA continues to assess other potential mission profiles that could be accomplished during EM-2 that utilize, to the fullest extent possible, the capabilities of the Block 1 Space Launch System and Orion spacecraft.