

NASA AEROSPACE SAFETY ADVISORY PANEL
National Aeronautics and Space Administration
Washington, DC 20546
VADM Joseph W. Dyer USN, (Ret.), Chair

November 17, 2014

Mr. Charles F. Bolden, Jr.
Administrator
National Aeronautics and Space Administration
Washington, DC 20546

Dear Mr. Bolden:

The Aerospace Safety Advisory Panel (ASAP) has reviewed the ten open NASA responses to their recommendations. Of these ten recommendations, the ASAP has determined that three of these recommendations can be closed. The enclosures provide rationale for closure of the three recommendations and a summary of the seven remaining open recommendations.

Sincerely,

A handwritten signature in black ink, appearing to read "J. W. Dyer". The signature is fluid and cursive, with a large initial "J" and "W".

VADM Joseph W. Dyer, USN (Ret.)
Chair

Enclosures
ASAP Closed Recommendations
ASAP Open Recommendations

ASAP CLOSED RECOMMENDATIONS

The ASAP has closed the following recommendations:

2013-01-01 Philosophy on the Certification Process: NASA should develop a philosophical approach to the certification process; specifically, when NASA certification is required and when it is not.

Rationale: NASA has provided an acceptable response on CCP approach. The ASAP understands there is no current plan for NASA to fly personnel on Flight Opportunities Programs. If NASA decide to fly personnel on Flight Opportunities Programs, then ASAP would like to hear about certification approach for those missions in advance of the decision to fly.

2014-AR-02 Identification and Communication of Safety Risk: NASA should rigorously identify the risks that it is accepting and the rationale for accepting them – i.e., the value expected that justifies accepting a safety risk – and transparently communicate this information to NASA’s stakeholders and the public.

Rationale: NASA briefed the ASAP on their decision process for cis-lunar LOC/LOM threshold and goal.

2014-AR-03 Competition in the Commercial Crew Program: In a fixed-price environment, NASA should maintain competition in the CCP until there is confidence that the acceptable level of safety will be achieved

Rationale: NASA selected Boeing and Space X for CCtCap on September 16, 2014 maintaining competition on the Commercial Crew Program.

ASAP Open Recommendations

<u>Rec. No.</u>	<u>Title</u>	<u>ASAP POC</u>	<u>ASAP Status</u>	<u>ASAP Evaluation of To-Date Responses</u>
2012-01-02	ISS Deorbit Capability: (1) To assess the urgency of this issue, NASA should develop an estimate of the risk to ground personnel in the event of uncontrolled ISS reentry. (2) NASA should then develop a timeline for development of a controlled reentry capability that can safely deorbit the ISS in the event of foreseeable anomalies.	Bagian	Open. Awaiting completion of timeline for the detailed planning AND software for controlled ISS deorbit, in both the planned and unplanned conditions.	
2012-03-01	Software Assurance and CMMI Requirements: All NASA internal safety-critical software development groups should achieve CMMI Level 3 (or an equivalent as established by external validation agent) by the end of FY 14.	Sanders	Open. Pending completion of CCMI ML 3 at KSC expected in Spring 2015. ASAP changed status to yellow in July 2014 due to consistent schedule slip.	
2012-03-05	Five Year Roadmap for Continuous Improvement of the Agency's Mishap Investigation Process: NASA should continue to report to the ASAP on the training of the MIT and the investigation Board Chairs in greater detail to include the method, consistency, and quality of training for MIT members and Board Chairs.	Conway	Open. Awaiting development and implementation of safety investigation training program with planned completion in FY15.	

ASAP Open Recommendations

<u>Rec. No.</u>	<u>Title</u>	<u>ASAP POC</u>	<u>ASAP Status</u>	<u>ASAP Evaluation of To-Date Responses</u>
2013-03-01	<p>Technical Authority and Role of Center Director (a): Revise NPD 1000.0A, NASA Governance and Strategic Management Handbook, to reflect the Administrator’s current governance model and specifically address the question about how non-concurrences are handled. (b): Make a clear distinction in the Technical Authority policy between the formal appeal process related to Technical Authority decisions and the dissent process related to non-authoritative differences of opinion on matters outside the TA’s authority.</p>	McErlean	<p>Open. Pending release of NPD 1000.0. The ASAP is happy with the process and progress to date and like the direction. It remains open until final review and sign off. The final review of this document has been in final signature for months. We look forward to prompt release of this document.</p>	
2014-01-01	<p>Radiation Risk Decision on Deep Space Mission: The ASAP recommends that (1) NASA continue to seek mitigations for the radiation risk and (2) establish an appropriate decision milestone point by which to determine acceptability for this risk to inform the decision about a deep space mission. This risk choice should be made before NASA decides to go forward with the investment in a future long-term mission.</p>	Frost	<p>Open. Follow on action: NASA should adopt the process as briefed.</p>	

ASAP Open Recommendations

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2014-01-02	<p>Knowledge Capture and Lessons Learned: The ASAP strongly recommends a continuous and formal effort in knowledge capture and lessons learned that will make them highly visible and easily accessible. Modern tools exist to facilitate this and NASA should avail itself of them. NASA’s Knowledge Management system should include risk-informed prioritization of lessons and a process to determine which lessons have generic (vs. local or project unique) potential. Further, it should be supplemented by formal incorporation into appropriate policies and technical standards of those lessons that are most important to safety and mission success. Rigor in this area is particularly critical as the experience in specific skills dissipates over time and as engineering talent is stretched across programs.</p>	Sanders	Open. Pending NASA implementing a policy that formally incorporating appropriate policies and technical standards of those lessons that are most important to safety and mission success	
2014-AR-05	<p>Processes for Managing Risk with Clear Accountability: NASA should consistently provide formal versus ad hoc processes for managing risk with clear accountability.</p>	Sanders	Open. There remains a reluctance and/or a delay in implementation of a single signature risk acceptance process during development. Currently risk is often accepted collectively by committees and panels and documented in their minutes without assigning specific leadership accountability.	

Red highlights what the ASAP considers to be a long-standing concern or an issue that has not yet been adequately addressed by NASA.

Yellow highlights an important ASAP concern or issue, but one that is currently being addressed by NASA.

Green indicates a positive aspect or a concern that is being adequately addressed by NASA but continues to be followed by the Panel.