

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

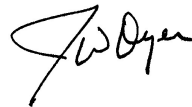
May 5, 2011

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 twelve NASA responses to its recommendations. Six NASA responses were in letters dated December 16, 2010; January 20, 2011; February 9, 14 and 28, 2011; and six were in briefings provided to the ASAP at their 2011 1<sup>st</sup> quarterly meeting on February 3. The ASAP has stasured seven recommendations as closed with comments provided if updated status reporting or verification is requested. The rationale for requesting that five recommendations remain open is provided along with the name of the ASAP point-of-contact if further discussion and clarification may be needed. NASA is encouraged to make use of this ASAP resource to make sure there is a clear understanding of the intent of the ASAP request.

Sincerely,



Joseph W. Dyer, VADM, USN (Ret.)  
Chair  
Aerospace Safety Advisory Panel

Enclosure

## ASAP Review of NASA Responses

- 1) The five recommendations stated by the ASAP as open include:
  - a) 2008-01-06, NASA Headquarters Mishap Investigation – Open. ASAP Letter dated November 16, 2010, requested that “a briefing be provided at the 1<sup>st</sup> quarterly meeting at NASA Headquarters on February 3, 2011, relating to the changes and status of the NPR changes. Now that the immediate changes required to effect near-term process improvements have taken place, it is appropriate to begin a strategic review of the mishap investigation process. Request that NASA discuss its five year strategic plan to effect continuous improvement.” For the 2008-01-06 agenda topic, a presentation of the mishap metrics was provided. There was no presentation of the aforementioned topic. The work processes to be addressed by this recommendation are twofold: the work process for carrying out this activity on an on-going, normal basis; and the continuous improvement process that will be implemented over time.
  - b) 2010-01-04B, Integration of Crew Requirement into Design – Open. NASA’s description (reference NASA letter to the ASAP dated February 28, 2011) of the normal program processes in which the astronauts participate does not satisfy the ASAP’s concern about the astronauts’ role in determining system design requirements for future vehicles. Based on our review of various aspects of work being done to determine the vibration limits that would have been applied to Ares thrust oscillation, the ASAP believes that much can be gained by having further discourse on real issues such as this. The ASAP’s concern revolves around the question regarding the processes in place to not only assure that crew input is solicited but that such input is considered in a rationale evidence- and risk-based manner before deciding whether or not to incorporate such input to design criteria or goals. For example, the examination of the processes applied in the development of vibration limits applicable to the Ares thrust oscillation and the lessons of how that process could be improved may serve as a representative example of how development of system design requirements for future vehicles, both NASA and commercial flights, can transparently and rationally decide whether or not to incorporate crew input. The ASAP finds this topic to be of particular interest since the recently released NASA SP-2010-30, Human Integration Design handbook, has a section reserved for vibration but is without any content. There is still a need to address this issue in the near term for commercial launches of NASA astronauts. Another example that may be worth examining for an understanding of the astronauts’ participation in the decision-making processes may be to address the process surrounding the decision on whether or not to have an override switch for launch abort. The ASAP requests that NASA provide a briefing to provide more detail relating to this discussion at the ASAP’s 4<sup>th</sup> quarterly meeting at JSC in October.
  - c) 2010-02-03, Taurus XL Mishap Documentation – Open. The ASAP requests that NASA provide an updated briefing at the ASAP’s 3<sup>rd</sup> quarterly meeting at GSFC in July to discuss the timeline and progress being made to codify the OCO findings into NASA lessons learned. As part of the briefing, we would ask that NASA address potential solutions to the dual problems of 1) inaccessibility of some safety lessons learned to

commercial providers and 2) inability to require compliance with design features recommended as lessons learned by Mishap Investigation Boards. Optimally, these solutions would result in a process that could be implemented agency-wide to consistently ensure the codification of significant findings, when appropriate, so that those findings would result in a continuously improving design requirements portfolio that could be imposed contractually for all providers.

- d) 2010-04-01, Workforce Wellness – Open. The types of programs described to be pursued are commended and appear to address the issues the Panel identified. The ASAP requests that NASA provide a schedule showing the timeline for implementation of the various activities involved in the “Walk to Wellness” and “Wellness Works” campaigns, as well as the overarching effort to facilitate time for exercise in the workforce. The ASAP also requests that a briefing be provided at its 4<sup>th</sup> quarterly meeting at JSC in October to report on the status and progress made at that time.
- e) 2010-04-03, NASA Alcohol Use and Testing Policy – Open. The ASAP requests that a schedule be provided now showing the targeted completion date and timeline for supporting activities required for implementation of the post-mishap blood alcohol and drug testing program recommended in ASAP most recent recommendation 2011-01-01.

2) The seven recommendations stated by the ASAP as closed include:

- a) 2008-03-04. Base Realignment and Closure (BRAC) Impact on MSFC – Closed. The ASAP is not only very pleased with the thoroughness and persistency associated with this effort, but also in the favorable results to date. The impact to MSFC civil servants has been minimal and for contractor employees, the BRAC even provided mitigation for the current downturn in jobs.
- b) 2009-03-03, Accident Review Timeline, Part 1 - Closed. A good executive summary of the end-to-end timeline involved in the various phases of activity starting with the mishap investigation through dissemination of the mishap results was provided for the major mishaps over the past 5 years. The ASAP requests that this presentation be updated and provided to the ASAP quarterly and also to NASA senior management on a regular basis to apprise them of the current trends in the results and continuing problem areas.
- c) 2010-0106, Knowledge Capture and Management – Closed. A good plan was provided by NASA including a schedule showing the various tasks required for completion of the effort to find and document the tacit knowledge and to organize the already documented explicit knowledge that has been learned and developed to date on the Constellation Program. The ASAP requests that an interim progress report, including an updated schedule, be briefed at the ASAP’s 3<sup>rd</sup> quarterly meeting at GSFC in July to provide a sense of the quality of the outputs, e.g., describe some of the nuggets found to date.
- d) 2010-02-04, Public Affairs Role – Closed. The PAO was requested to attend the ASAP’s 1<sup>st</sup> quarterly meeting and rather than provide a briefing engaged the ASAP in an informal discussion so as to better understand the intent of the ASAP’s recommendation. Considering that the Glory mishap occurred shortly thereafter and the ASAP judged the real-time PAO activities as very good in content and frequency in which NASA told its

own bad news and story, one may conclude that our communication was effective. The ASAP intends to monitor this activity periodically.

- e) 2010-03-02, NASA Safety Center-Wide Tracking of Safety Metrics – Closed. The NASA Safety Center has made a good start in reporting and tracking Center to Center comparisons of all metrics relating to mishaps and other high-risk targeted areas provided by the ASAP. The data analysis associated with the causal factors is expected to improve once the data collection problems are resolved and the data is examined with some rigor. An outcome of the ASAP's 1<sup>st</sup> Quarterly meeting were two new recommendations in this area; one intended to expand and strengthen the data analysis that is currently underway and the other to address potential problems in extracting the information from IRIS. The ASAP will continue to monitor the progress being made and requests that updates to the metrics be provided to the ASAP quarterly.
- f) 2010-04-02b Safety Language – Closed. The ASAP members were provided with copies of NASA-STD 8709.22, Safety and Mission Assurance Acronyms, Abbreviations, and Definitions released in December 2010 and find that the NASA effort to provide transparency to the normal as well as variations in NASA usage should make this a useful reference.
- g) 2010-04-04, STS-135 Decision – Closed. The ASAP was pleased to see that NASA on 23 December 2010 took the necessary action to inform the ISS and STS programs that work was to continue on preparing for the STS 135 launch thus not disturbing the workforce by notifying affected personnel prematurely of their impending lay-off.