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

December 14, 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 eighteen NASA responses received since April 22, 2011, to their recommendations. The ASAP has statused eleven recommendations as closed; the closed recommendations include 2010-03-01(a) and (b), 2010-03-02, 2010-03-03, 2011-01-03(a), 2011-01-04, 2011-02-01, 2011-02-02, 2011-02-03, 2011-03-01, and 2011-03-03. Comments are provided in Enclosure 1 for four closed recommendations where updated status reporting or verification is requested. The rationale for requesting that seven recommendations remain open is also provided in Enclosure 1.

Enclosure 2 presents a summary status for all ASAP recommendations that were outstanding during the year and provides the basis for our annual report; twenty-five recommendations have been closed and eighteen remain open. Calendar year (CY) 2011 showed good NASA progress in addressing the ASAP recommendations; the eighteen open recommendations are down from thirty in CY 2010 and the thirteen recommendations generated during the year are down from twenty-two in CY 2010.

Sincerely,

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

Enclosures

ASAP Review of NASA Responses

1) The four recommendations statused by the ASAP as closed but for which updated status briefings are requested include:

   a) 2010-03-01(a), Loss of Crew (LOC) Acceptable Risk Criteria – Closed. NASA's response of May 3, 2011 indicates that NASA has undertaken a considerable effort in reevaluating the LOC risk criteria to determine if they represent the best levels of safety that can reasonably be provided by future safety optimized manned spacecraft. The NASA approach that has been adopted with regard to risk tolerance and in having two sets of goals and thresholds; one for the combined ascent and entry phase and one for the overall mission provides flexibility for application to various vehicle design architectures and in allowing risk trades between the two phases. Good work was performed in revisiting the Constellation program requirements and disclosing some major risk contributors that needed to be incorporated. The Agency Program Management Council's approval of the risk criteria for the ISS mission will provide the basis for presenting risk values that can be publicly released and used for future NASA human spaceflight missions though work was still ongoing with regard to documenting the assumptions and rationale for supporting these values. The ASAP requests that NASA provide an update of this activity at the 2012 2nd quarterly meeting in addressing, e.g., the assumptions and rationale supporting the selected goal and threshold values for the ISS mission and also the formal requirements to be incorporated into NASA's Human–Rating Policy.

   b) 2011-01-03(a), Safety Metrics Pertaining to Mishap Analysis – Closed. The NSC has been providing presentations on the safety metrics at every quarterly review and has made great progress in collecting the pertinent data, presenting the data in a format that lends itself to meaningful analyses, and now is proactive in beginning to use the results to identify specific mitigation plans where the risks indicate they are needed. The ASAP requests that these quarterly presentations continue and that the NSC implement similar periodic briefings to provide information to and solicit feedback from NASA senior management.

   c) 2011-03-01, Abort Effectiveness Requirement – Closed. NASA's response of Oct 6, 2011 indicated that the current draft of CCT-REQ-1130, ISS Crew transportation and Services Requirements Document, includes an abort effectiveness requirement. The NASA Commercial Crew Program is currently considering and re-evaluating the requirements related to abort system performance and effectiveness. Further discussion at the ASAP 4th quarterly review at JSC indicated that NASA's approach is planned to be based on specific design and operational requirements rather than relying on its contribution to a LOC probability calculation. The ASAP concurs with this approach and requests an update relating to this subject at the 2012 2nd quarterly meeting.

   d) 2011-03-03, Responsibility, Authority, and Accountability for System Requirement Approval and Design Risk Acceptance – Closed. In NASA's response of Oct. 6, 2011, the Agency and ESMD documents clearly present the process that is to be implemented

to assure involvement of the appropriate managers, technical authorities and NASA executives in the approval of system requirements and acceptance of design risk in the CCP. These requirements are currently being flowed down to the CCP 1100 series documents and implementation during the CCP is forthcoming. The ASAP has been briefed quarterly on all aspects of the CCP including the development of requirements and requests that these quarterly briefings be continued in 2012 to include some examples describing how this decision-making process is working.

The seven recommendations statused by the ASAP as open include:

a) 2009-03-04, Integration of Robotics – Open. As presented in the NASA response to the ASAP dated May 17, 2011, NASA will assess robotics activities at all Centers and determine if there are some efficiency and synergy opportunities. Subsequent communications have occurred between Chris Scolese and ADM Dyer in which NASA has requested assistance from the ASAP in order to properly focus their efforts. The ASAP has concurred and is very willing to help.

b) 2010-04-02(a), Commercial Transportation Document; Expression of LOC Limits – Open. In NASA's response dated April 22, 2011, the NASA plan is to have the ESMD Directorate LOC design certification requirements flow down to the CCP 1100 series documents and ultimately to be incorporated into the procurement and contractual requirements levied on commercial providers. The ASAP requests that the quarterly briefing made to the ASAP by the CCP provide an ongoing progress and status report on the flow down of threshold and goal LOC limits for launch and reentry and the combined mission to the commercial providers to include the process for verification of compliance.

c) 2011-01-01, NASA Alcohol and Testing Policy – Open. As discussed at the ASAP's 2011 4th quarterly meeting at JSC, no progress has been made on designing, developing, and implementing an appropriate post-mishap alcohol testing policy even though NASA concurs with the ASAP recommendation. New personnel will need to be assigned to this task since some of the key personnel that worked on it previously have now retired.

d) 2011-01-02, Safety and Mission Assurance Role Descriptions – Open. In NASA's response dated June 27, 2011, some progress has been made in addressing the workforce needs in transitioning to an R&D environment; however NASA has not yet met its commitment to provide a summary briefing of this report to the Panel. Request that this briefing be scheduled for the 2012 1st quarterly meeting at NASA Headquarters.

e) 2011-01-03(b), IRIS Support – Open. In NASA's response dated June 27, 2011, NASA acknowledged that that the evidence supports this recommendation from the ASAP, and a substantial effort is ongoing to revise the data fields in IRIS to provide more detail as to mishap causes. It is NASA's intention to have the new cause taxonomy agreed upon and implemented within IRS with preliminary results by the end of FY 2012, subject to funding availability. Periodic progress reports were offered, and the ASAP requests that an initial report be provided at the 2012 1st quarterly meeting at NASA Headquarters.

f) 2011-02-04, SMA Software Assurance – Open. In NASA's response dated Aug. 16, 2011, NASA does not concur with the ASAP recommendation to do an analysis on what the impact is to NASA's critical programs by not doing 100-percent IV&V testing for software assurance. At this time, NASA feels that its approach to the use of IV&V on selected safety and mission critical software, which is based on risk assessments and associated classification schemas, provides an acceptable level of risk reduction for the Agency. The ASAP would like to understand this approach in more detail and requests that NASA provide a briefing of its approach showing some examples of how it has been implemented in the past and how it will be applied to programs such as CCIDC and SLS.

g) 2011-03-02, Partner Integration Team Rotation – Open. In NASA's response dated Oct. 6, 2011, the CCP did not concur with the ASAP recommendation to have a policy specifying team rotation schedules based on tour of duty, milestones, and other appropriate criteria to ensure a fresh set of eyes are always protecting the Government's interest for the insight portion of the acquisition strategy. At the ASAP 2011 4th quarterly meeting at JSC, the CCP presented their current strategy that they believe will ensure a consistent approach to insight while providing a diverse team to perform the insight role. The ASAP concurred with the intent of CCP's current practices, e.g., TIL assignments, supervision, and SME involvement, and the CCP agreed to include these in a program policy or procedures document indicating how PITs maintain objectivity.

ASAP Recommendations

	A	B	C	D	E	F
1	**Recommendation No.**	**Title**	**ASAP POC**	**ASAP Status**	**NASA Response Dates**	**ASAP Evaluation of To-Date Responses**
2	2008-01-06 Follow-up 2008-01-06 2007-04-02	NASA Headquarters Mishap Investigation: ASAP Letter dated Nov 16, 2010 requested 2008-01-06 Follow-up. Requested that a briefing be provided at the 1st 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 their five year strategic plan to effect continuous improvement. 2008 - NASA should reevaluate its mishap investigative process, focusing on producing timely report results and using appropriate experts to determine root causes. NASA should consider a 30-day deadline for delivering at least a preliminary mishap report. 2007 - NASA Headquarters needs to provide for more timely completion, review and release of major mishap investigation reports, utilizing the support of the NASA Safety Center if needed. Such increased emphasis on expeditious handling of the investigation findings will ensure that the lessons learned from the investigation are disseminated throughout the agency as soon as possible, to correct unsafe conditions and help prevent a recurrence of the mishap.	Grubbe	2008-01-06 Follow-up Open for presentation of strategic plan for continuous improvement. 2008-01-06 and 2007-04-02 closed. [271 workdays to complete MIB report in 2005 down to 59 workdays in 2010; 752 workdays to complete endorsement process in 2005 down to 68 workdays (still over goal of 30 days) in 2010.]	Oct 20, 2011 Briefing Feb 3, 2011 Briefing Sept 13, 2010 letter April 29, 2010 Briefing Dec 2009 Briefing July 2009 Briefing May 21, 2008 Briefing ASAP synopsis in 2008 2nd Quarterly Report	
3	2008-03-04	Base Realignment and Closure (BRAC) Impact on MSFC: The ASAP concluded that planning for BRAC moves to the Huntsville area is life critical at MSFC, so (1) the Center should review Constellation and other core ongoing programs to identify key and critical personnel whom the Center absolutely must retain to deliver required Constellation Program services; and (2) to protect the integrity of the Constellation Program and level the employment playing field with the DoD, MSFC should immediately request Government waivers from term appointment constraints and from retirement salary reduction offsets.	Frost	Closed	Feb 3, 2011 Briefing Dec 12, 2008 letter	
4	2009-03-03 2008-02-07	Mishap Investigation and Review Timelines: In ASAP letter Nov 16, 2010, -The ASAP requests an update be provided for 2008-02-07, Accident Review Timeline Part I (CLOSED) at the ASAP's 1st quarterly meeting at Headquarters on February 3,2011 to include an executive summary of the end-to-end timeline, i.e., starting with the date of the accident occurrence through to the date of completion of the endorsements, for Type A mishaps over the past 5 years. Also the update should include a report on the status of verification and closeout documentation on corrective actions for which NASA has acknowledged that there is still room for improvement. In addition, NASA is showing that one action remains open for completion this year relating to an analysis of "'Causes of Mishaps." [tracked under 2010-03-02 NSC Agency-Wide Tracking of Safety Metrics] 2009 - The NASA Headquarters Mishap Investigation Office should continue to collect data on tracking and trending of MIB administrative turnaround of reports at NASA Headquarters and present this data to the panel on a quarterly basis. 2008 - The ASAP urged that greater timeliness be achieved in completing accident reviews. The Panel also recommended that an organized and rigorous mishap trend analysis effort be undertaken agency-wide to identify causal trends at an Agency level as well as by Center. The results of this analysis should be briefed on a regular basis to senior Agency leadership. The Panel would like to see the Center analyses during their visits to field operations. The Panel recommended that a policy be implemented to brief senior leadership of initial causal analysis in a timely fashion after major mishaps. Finally, the Panel recommended that a closed loop management tracking system, similar to that used for ground mishaps, be developed to ensure implementation of lessons learned from flight failure investigations.	Marshall	Closed With quarterly monitoring	Feb 3, 2011 Briefing NASA letter dated Sept 13, 2010 NASA letter dated Dec 12,2008	

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1	**Recommendation No.**	**Title**	**ASAP POC**	**ASAP Status**	**NASA Response Dates**	**ASAP Evaluation of To-Date Responses**
5	2009-03-04	Integration of Robotics: The Panel continues to be disappointed in what it sees as a lack of integration of robotics across NASA. Most Center have some robotic activity because they want to be "in the game". There appears to be a loss of momentum and opportunity in this area. The Agency needs to examine the benefits of developing a consolidated and integrated robotics research program to capitalize on the numerous independent programs that have been developed and more fully exploit robotics utilization throughout all missions.	Dyer	Open for report of OCT assessment of current robotic activities to determine if there are efficiency and synergy opportunities.	Oct 20, 2011 Update NASA letter dated May 17, 2011	
6	2010--01-01	Research and Development of SMA Tools: NASA should develop a process to ensure that technical safety tool development is identified as a priority when technology development opportunities are being evaluated for future funding.	Frost	Closed With monitoring.	May 24, 2011 briefing NASA letter dated Sep 13, 2010	
7	2010--01-03	OSMA Analyze Changing Work and Skills Needed for the Future: NASA OSMA should take a leadership role in beginning to analyze how the SMA work is going to change and what kinds of sills are going to be needed in the future.	Grubbe	Open for receipt of a cohesive plan addressing the transition to R&T developmental efforts and CCP.	May 24, 2011 briefing NASA letter dated Sep 13, 2010	
8	2010--01-04(a)	Integration of Crew Requirements Into Design - Vibration Limits: Research should be initiated to establish and codify crew vibration limits for various phases of flight for future space vehicles.	Bagian	Open pending receipt of schedule for incorporation of vibration safety requirements into NASA technical standard 3001.	NASA letter dated June 23, 2010	
9	2010--01-04(b)	Integration of Crew Requirements into Design: Develop and incorporate into the design process a more rigorous process for identifying, assessing, resolving and integrating the crew's desires and needs into the system design requirement for future vehicles.	Bagian	Closed	Oct 20, 2011 briefing NASA letter Feb 28, 2011	
10	2010--01-05	Acquisition Strategy and Timeline for Development and Publication of Human Rating Requirements (HRR) for Commercial Activities: NASA should take action immediately to develop the acquisition strategy to guide the development of the HR process. The ASAP continues its long-standing recommendations that NASA develop the HR process for the commercial sector. The ASAP also recommends a more aggressive timeline for the development and publication of commercially-related human requirements.	Marshall	Closed with monitoring.	NASA letter dated June 23, 2010	
11	2010--01-06	Knowledge Capture and Management : With the dismantlement of the Constellation Program, the Panel recommends that NASA begin now to find and to document the tacit knowledge and to organize the already documented explicit knowledge that has been learned and developed to date.	Grubbe	Closed	Oct 20, 2011 briefing July 15, 2011 briefing NASA letter dated May 5, 2011 NASA letter dated Oct 27, 2010	

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12	2010--01-07	Methodology for Performing an Integrated Abort Risk Analyses and Development of Supporting Tools: NASA should prescribe the methodology for performing an integrated abort risk analysis and develop the supporting tools as needed so that these types of analyses are performed uniformly across the industry.	Frost	Open, pending publication of Chapter 14 of the PRA Procedures Guide and Special Publications documents.	July 15, 2011 briefing NASA letter dated Sep 13, 2010	
13	2010--01-08	Leading Indicators for Industrial Safety: The MSFC SMA organization should spend some time looking at leading indicators that other industries and organizations are using.	Grubbe	Open pending additional analysis (ref: May 2011 Qtrly report).	May 23, 2011 briefing NASA letter dated Sep 13, 2010	
14	2010--02-01	Budget Authority for Facility Maintenance, Infrastructure Development, and Safety Upgrades for NASA Aircraft. The Mission Support Directorate should continue to identify safety-specific issues, not only in the three areas of maintenance, infrastructure improvements, and aircraft, but other areas that will have an impact on quantifying support and justification for further budget requirements.	Marshall	Closed with monitoring.	Oct 20, 2011 briefing NASA letter dated April 25, 2011.	
15	2010--02-02	Mishap Investigation Process and Plan: Each of the Center Directors should exercise leadership to make sure other Centers get mishap information. (Related to 2008-01-06 regarding mishap investigation process improvements and 2010-02-03 regarding codification of lessons learned from recent mishap reports.)	Grubbe	Open pending closure on 2008-01-06 and 2010-02-03 and receipt of Commercial Mishap Investigation Plan pertaining to CCP providers.	NASA letter dated Aug 30, 2010	
16	2010--02-03	Taurus XL Mishap Documentation: ASAP recommends that NASA examine these eleven OCO findings and determine which of them can be codified in some way that can benefit other future programs. NASA should then expand the process used to do that and integrate it into mishap investigation procedures to ensure that there is a process for sharing the results of mishap investigations and corrective actions across all programs, both NASA and commercial.	Frost	Open pending NASA's CE review on how recent Class A mishap recommendations have been codified so lessons learned will not be lost. [There is little evidence that the recommendation has been implemented in any specific way particularly relating to proprietary information.]	Oct 20, 2011 briefing NASA letter dated Feb 28, 2011	
17	2010--02-04 2009--03-07	Public Affairs Role: PAO should follow the advice that they give to NASA's program offices and tell your own bad news; bad news does not get better with age; and tell your own story or someone else will. The PAO needs to become more integrated with the technical people. PAO should take more direct control of their work and play a bigger role.	Frost	Closed with monitoring.	Feb 3, 2011 Briefing NASA letter dated Sep 28(?), 2010 NASA letter dated May 26, 2010	
18	2010-03-01(a)	Loss of Crew (LOC) Acceptable Risk Criteria: NASA should undertake an effort to reevaluate the LOC risk criteria to determine if they represent the best levels of safety that can reasonable be provided by future safety-optimized manned spacecraft. NASA should determine what the current threshold, design requirement, and goal numbers should be for the next refinement of safety risk requirements.	Frost	Closed with monitoring.	NASA letter dated May 3, 2011	

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1	**Recommendation No.**	**Title**	**ASAP POC**	**ASAP Status**	**NASA Response Dates**	**ASAP Evaluation of To-Date Responses**
19	2010-03-01(b)	Risk Requirements - Clarity and Communications: NASA should consider putting all the program requirements in one place so they are easy to find and simpler for configuration control. NASA should be more structured and faster in communicating changes to requirements or additional insight from analysis of requirements.	Frost	Closed	NASA letter dated May 3, 2011	
20	2010--03-02	NASA Safety Center-Wide Tracking of Safety Metrics: The NASA Safety Center should begin to report and track Center by Center comparisons of all metrics as well as the categorization of A, B, C, and D mishaps.	Grubbe	Closed	NASA Letter dated May 3, 2011 Feb 3, 2011 Briefing	
21	2010--03-03	NASA Standards Update as a Result of the NASA Engineering and Safety Center (NESC) Engineering Assessments: The standardized format for NESC engineering reports should be modified to include a section at the end of each report that indicates whether any standards need to be modified or developed as a result of the assessment.	Frost	Closed	NASA letter dated May 3, 2011	
22	2010--04-01	Workforce Wellness; NASA should consider the alternatives that are available within the legal and personnel system and examine the best efficiencies to encourage a regular exercise regimen among the workforce.	Bagian	Open pending receipt of a schedule for implementation and briefing at 2012 1st qtrly meeting.	NASA letter dated Feb 9, 2011	
23	2010-04-02(a)	Commercial Transportation Documents - Expression of Loss of Crew (LOC) Limits: NASA should publish threshold limits, objective limits, and goal limits to let commercial providers know what the ultimate number is. The goal limit should be put into the contract documents and agreements. [ESMD Directorate LOC design certification requirements are 1/1000 for launch and 1/1000 for reentry with 1/270 for 120 day mission to ISS. For CCP, continuous improvement goal of 1/750 for combined ISS mission risk.]	Marshall	Open with monitoring. Request a briefing on progress and status in flow-down of specific ESMD requirements to CCP 1100 and procurement and contractual documents.	NASA letter dated April 22, 2011	
24	2010--04-02b	Commercial Transportation Documents - Safety Language: NASA should specify the safety words to be used and their definitions, or at least how the correlation between industry and NASA terminology.	Frost	Closed	NASA Jan 20 2011 letter	
25	2010--04-04	STS STS Decision: The decision on STS-135 should be made as soon as possible, and no later than the end of the calendar year.	Marshall	Closed	Feb 3, 2011 Briefing NASA Feb 14, 2011 letter	
26	2011-01-01 2010-04-03 2006-03-04	NASA Alcohol Use and Testing Policy: 2011 - NASA should implement a post-mishap blood alcohol and drug testing program for all personnel in sensitive positions that are involved in Class A and B mishaps. That includes NASA contractors, civil servants, political appointees, and all affected visitors. This investigative tool will support key organizational learnings and is in line with many legal requirements in various jurisdictions in which NASA operates. It should be noted that this is NOT a recommendation for a random test program. It is a test for cause after a serious mishap has occurred. 2010 - The lead Headquarters organization responsible for developing the alcohol policy is requested to provide a formal briefing on the status of the policy (including a schedule showing a targeted completion and implementation date) at the ASAP's first quarterly meeting in 2011. 2006 - Random Drug and Alcohol Testing - Recent mishap investigation revelations indicate that there does not seem to be an Agency-wide requirement for random drug and alcohol testing among contractors. ASAP recommends that expanding both random pre-incident and targeted post-incident testing would be well advised for contractors as well as NASA civil servants.	Grubbe	Open pending receipt of a schedule showing a targeted completion and implementation date for 2011-01-01 recommendation.	OSMA concurred at 4th qtrly meeting on Oct 20, 2011 that action remains open. NASA letter dated June 27, 2011. Feb 3, 2011 Briefing Update/ ASAP synopsis in 2008 2nd Quarterly Report / May 21 2008 Presentation/ 5/10/2007 letter	

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1	**Recommendation No.**	**Title**	**ASAP POC**	**ASAP Status**	**NASA Response Dates**	**ASAP Evaluation of To-Date Responses**
27	2011--01-02	Safety and Mission Assurance Role Descriptions; NASA should begin to draft a role description as well as some key job requirements, such as educational background and experience., for the personnel who have to specify, manage, and assure the S&MA activities under the new program direction. NASA needs to articulate the skills needed as soon as possible. [Prime focus area is TRL of 4-6. NASA plan to have summary briefing at nest qrtly briefing not met.]	Grubbe	Open, pending receipt of a briefing addressing the findings of the OSMA's Research and Technology Strategy Team Study.	NASA letter dated June 27, 2011	
28	2011--01-03a	Safety Metrics: Mishap analysis: The NSC should expand mishap analysis to include all types of mishaps, not just those in certain areas. As this process develops and matures, and as the comparisons make the data more meaningful, the ASAP recommends that the NSC brief the senior leadership of the Centers and the Agency on the results.	Grubbe	Closed with quarterly monitoring.	NASA letter dated June 27, 2011	
29	2011-01-03b	IRIS Support: The ASAP would like to understand how the IRIS supports causal analysis and include the causations in the periodic reports together with their associated mitigation actions and schedules for completion to management. Steps should be taken to have the system do the analysis and reporting automatically.	Bagian	Open, with a request for a progress report at 1st quarterly meeting in 2012.	NASA letter dated June 27, 2011	
30	2011--01-04	Document Title for "Commercial Crew Transportation System Certification Requirements for NASA Low Earth Orbit Missions": NASA should change the document title from "Commercial Crew transportation system Certification requirement for NASA Low Earth Orbit Missions" to one that clearly indicates that the document applies to NASA crew transport to LEO only. One of the Pane suggestions is "Certification requirements for NASA Crew Commercial transportation systems to Low Earth Orbit."	Bagian	Closed	NASA letter dated April 22, 2011	
31	2011--02-01	Commercial Crew Program: NASA needs to apply appropriate resources to the CCP to ensure that it meets or beats the 2016 goal while maintaining NASA's high standards for quality and safety. To this end, NASA should seek additional resources either within the existing budget or through additional appropriations.	Marshall	Closed	NASA letter dated Aug 24, 2011	
32	2011--02-02	Space Shuttle Launch and Re-entry Risk Study: Following the Space Shuttle Program completion, NASA should perform an analytical study on the Space Shuttle launch and re-entry risk to both crew and public safety. It is likely this will be a function of both time and change with major alterations in the system . This study should be done using a consistent set of assumptions over the total launch history.	McErlean	Closed	Oct 20, 2011 Briefing NASA Letter dated Aug 8, 2011	
33	2011--02-03	Space Operations Mission Directorate (SOMD)/ Exploration Systems Mission directorate (ESMD) Organizational Merger: The Office of Safety and Mission Assurance (OSMA) should review the current reorganizational plans to ensure that no current critical safety and mission assurance (SMA) aspects, particularly programmatic, are inadvertently eliminated or disrupted due to the merger.	Marshall	Closed	NASA letter dated Aug 16, 2011	
34	2011--02-04	SMA Software Assurance: The Office of Safety and Mission Assurance (OSMA) should do an analysis on what the impact is to NASA's critical programs by not doing 100 percent IV&V for software assurance. [NASA concurred with 100 % IV&V; current approach based on risk assessment and associated classification schemas adequate to provide for acceptable level of risk for the Agency.]	Marshall	Open for a briefing showing how the process has been and is being applied to programs such as CCIDC and SLS.	NASA letter dated Aug 16, 2011	

ASAP Recommendations

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1	**Recommendation No.**	**Title**	**ASAP POC**	**ASAP Status**	**NASA Response Dates**	**ASAP Evaluation of To-Date Responses**
35	2011--03-01	Abort Effectiveness Requirement: The Panel recommends that requirements for abort system effectiveness be retained as a safety requirement.	Frost	Closed with monitoring.	Discussion at Oct 20, 2011 meeting NASA letter dated Oct 6, 2011.	
36	2011--03-02	Partner Integration Team Rotation: The Panel recommends that the CCP develop a written policy specifying team rotation schedules based on tour of duty, milestones, or other appropriate criteria, to ensure a fresh set of eyes are always protecting the government's interest for the insight portion of the acquisition strategy. [NASA letter concurred however after discussion at Oct 20, 20011 meeting, Brent Jett agreed to document a policy or procedures involving current practices, e.g. TIL meetings, supervision, SME involvement, by which objectivity is assured.]	Frost	Open for receipt of a program policy or procedure addressing practices to assure that PIT maintains objectivity in their insight role	Discussion provided at the Oct 20, 2011 meeting NASA letter dated Oct 6, 2011.	
37	2011--03-03	Responsibility, Authority, and Accountability for System Requirement Approval and Design Risk Acceptance: NASA's Chief of Safety and Mission Assurance, Chief Engineer, and Associate Administrator for the Exploration Systems Mission Directorate should clarify who has responsibility, authority, and accountability to approve system requirements and accept design risks associated with the CCP program.	McErlean	Closed with monitoring	NASA letter dated Oct 6, 2011.	
38	2011--04-01	Chief Knowledge Officer Positions: To ensure the identification and capture of critical NASA implicit and explicit knowledge, the ASAP recommends NASA establish a single focal point (a Chief Knowledge Officer) within the Agency to develop the policy and requirements necessary to integrate knowledge capture across programs, projects, and Centers. Additionally, the ASAP recommends that NASA consider establishing Chief Knowledge Officer positions at all NASA Centers and in all Mission Directorates to ensure standardization of programs and lessons-learned as we move forward.	Marshall	Open		
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