

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



August 8, 2011

Vice Admiral Joseph W. Dyer, USN (Ret.)  
Chair  
Aerospace Safety Advisory Panel  
National Aeronautics and Space Administration  
Washington, DC 20546

~~Joe~~  
Dear Admiral Dyer:

Enclosed is NASA's response to Recommendation 2011-02-02 from the 2011 Second Quarterly Meeting of the Aerospace Safety Advisory Panel (ASAP). Please do not hesitate to contact me if the ASAP would like further background on the information provided in the enclosure.

I look forward to receiving continued advice from the ASAP that results from your important fact-finding and quarterly meetings.

Sincerely,

*Charles F. Bolden, Jr.*

Charles F. Bolden, Jr.  
Administrator

Enclosure  
NASA Response to 2011-02-02 Space Shuttle Launch and Re-Entry Risk Study

**ASAP Tracking Number 2011-02-02**  
**Space Shuttle Launch and Re-Entry Risk Study**

**Finding**

As the Nation's longest running human spaceflight program with over 100 launches, the Shuttle Program represents the largest database available for analysis. It is inevitable that it will become the baseline against which all future human-carrying space systems will be compared.

**Recommendation**

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.

**Rationale**

An accurate and consistent calculation of what the risk actually was at launch and re-entry for both crew and public safety over the total time history is essential. This will provide a reference baseline for future programs.

**NASA Response**

NASA concurs with the recommendation. Based on the understanding developed in a meeting on June 29, 2011, between NASA Headquarters and the Johnson Space Center (JSC) and the Aerospace Safety Advisory Panel (ASAP) (Dr. James Bagian and Dr. George Nield), NASA plans to brief the ASAP on the requested information at their 2011 4<sup>th</sup> Quarter Meeting at JSC in October 2011. The JSC Space Shuttle Program Office will present three briefings: a Probabilistic Risk Assessment (PRA) briefing; an Orbiter entry risk briefing; and, working with the 45<sup>th</sup> Space Wing at Patrick Air Force Base, a Space Shuttle Vehicle ascent risk briefing. Dr. Bagian and Dr. Nield agreed that these briefings were the content the ASAP wanted to receive. NASA will formally close this action following the ASAP's October 2011 meeting.

Enclosure