

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

January 21, 2009

Mr. Christopher J. Scolese
Acting Administrator
National Aeronautics and Space Administration
Washington, DC 20546

Dear Mr. Scolese:

I invite your attention to NASA's response to the Aerospace Safety Advisory Panel (ASAP) recommendation regarding formulating a decision tree for optimizing the use of robotics in exploration (tracking number 2008-02-04, copy attached).

The ASAP members made this recommendation because we strongly believe that NASA could improve safety by using a better process to determine those missions that should employ human crews, those that should rely on robotics, and those in which humans should be supported by robotic assistance. In addition, during our fact-finding trips to NASA centers, we have visited those offices responsible for developing robots for exploration missions. We note few new efforts under way, and scientists and engineers are frustrated that utilization of robots as a part of lunar and Mars missions is "mostly just viewgraphs." Furthermore, we observe that NASA missions have been culturally compartmentalized to a significant extent; that is, pure science missions do not use human crews, and most other missions do.

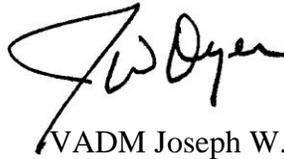
In NASA's response to the ASAP recommendation, the Agency concurred on the need to develop a decision tree for optimizing the use of robotics in exploration and thereby diminishing the risk to humans. However, the rest of the text (more than 75 percent of the written response) focused on having the ASAP understand "...that human exploration is necessary for the purpose of the following goals:

- Discovery and science in ways that are only possible through firsthand investigation and observation
- Extending human presence off-planet and on to other planetary bodies
- Gaining the experience and knowledge to travel and explore in ever-expanding dimensions within the solar system
- Gaining operational experience on the Moon to prepare for exploration of Mars
- Extending our economic sphere of influence beyond Earth and low-Earth orbit
- Bringing the excitement and experience of exploration back to the people on Earth
- Sharing these goals and the exploration experience with other nations of the world, building on current partnerships and building new ones"

The ASAP understands and supports these goals—and, without reservation, the Panel supports human exploration of space. However, we believe that NASA leaders are so strongly focused on human exploration that they are missing opportunities to reduce the risk of human exploration. **We therefore reiterate our recommendation for a more structured and open-minded analysis of alternatives for human, robotic, and human robotic-assisted missions.**

I look forward to discussing this and other issues with you in the future.

Sincerely,

A handwritten signature in black ink, appearing to read 'J W Dyer', written in a cursive style.

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

Enclosure