

A SpacePolicyOnline.Com Hearing Summary

Key Issues and Challenges Facing NASA: Views of the Agency's Watchdogs House Committee on Science and Technology Subcommittee on Space and Aeronautics February 3, 2010

Chair: [Gabrielle Giffords](#) (D-AZ) ([opening statement](#))

Ranking Member: [Pete Olson](#) (R-TX) ([opening statement](#))

Witnesses

- Paul K. Martin, Inspector General, National Aeronautics and Space Administration ([prepared statement](#))
- Cristina T. Chaplain, Director, Acquisition and Sourcing Management, Government Accountability Office ([prepared statement](#))
- Vice Admiral Joseph W. Dyer (U.S. Navy, ret.), Chair, Aerospace Safety Advisory Panel, National Aeronautics and Space Administration ([prepared statement](#))

Background

In some respects, this hearing was the next in a series of oversight hearings looking at specific issues identified by NASA's "watchdogs" – the NASA Inspector General, Congress' Government Accountability Office, and the NASA Aerospace Safety Advisory Panel (ASAP), created by Congress in 1967. However, coming as it did two days after the release of NASA's [FY2011 budget request](#) and its dramatic proposed change of course for the human space flight program – cancelling Project Constellation and its Ares launch vehicles in favor a commercial alternative -- the hearing focused on issues such as crew safety requirements for potential commercial human space flight providers. For more information, see the hearing [charter](#) prepared by subcommittee staff and the [webcast](#).

Nuggets

"...for the life of me I cannot understand how this Administration can rationalize its decision to scrap Constellation and simply start anew..."

House Science and Technology Committee Ranking Member Ralph Hall (R-TX)

"The [ASAP] position is that if the goal is to minimize the gap between shuttle and a follow-on vehicle, then Ares I offers the safest, quickest, opportunity – probably the most cost-effective one."

ASAP Chairman Dyer

“NASA would be foolish to cede [to another agency] any issues dealing with the safety of its most precious cargo – that is, the astronauts.”

NASA Inspector General Martin

Hearing Highlights

In this first House Science and Technology Subcommittee on Space and Aeronautics hearing for 2010, subcommittee members framed their concerns about NASA’s future direction following the proposed cancellation of Project Constellation in NASA’s FY2011 budget request and relying on the commercial sector for building future human space flight transportation systems. In her opening statement, Chairwoman Giffords expressed concern that the policies proposed in the President’s budget request would compromise “the fate of the American dream to reach for the stars.” In sentiments that were echoed several times during the hearing, she cautioned that such a move would have negative ripple effects on a range of areas, including science, technology, engineering and mathematics (STEM) education and workforce sustainability. Rep. Ralph Hall (R-TX), ranking Member of the full Committee, described NASA’s proposal as “alarming” in his [opening statement](#) and said that Congress needs a justification of these proposed policy changes and that he could not “understand how this Administration can rationalize its decision to scrap Constellation and simply start anew.”

NASA’s Inspector General, Paul Martin, identified risk management and the transition from the Space Shuttle to the next generation of launch vehicles as two of the most critical challenges facing NASA. These could become interrelated if Congress supports the decision to turn human space flight over to commercial companies. Representing NASA’s Aerospace Safety Advisory Panel (ASAP), Vice Admiral Dyer (Ret.) stressed the need for NASA to assume responsibility for both updating and making public human rating requirements (HRRs) for commercial launch vehicles and spacecraft and providing guidance on risk levels to assure that commercial vehicles provide the necessary level of confidence. Extending Space Shuttle flights beyond the current five remaining on the schedule without a formal recertification process should not be pursued, he said, but that does not mean there cannot be additional shuttle flights – its that recertification is likely to be quite expensive. He stressed that serial extensions – approving one shuttle flight and then another one, for example – posed the most risk. He also said that ASAP is not opposed to commercial transport of astronauts, only that there needs to be appropriate HRR standards for these vehicles. In response to questions from Rep. Rohrabacher (R-CA) as to how long it *should* take for NASA to develop the HRR standards, Admiral Dyer said “less time than it will take.” The recent progress in developing the Ares I launch vehicle prompted ASAP to conclude in its 2009 annual report that “if the goal is to minimize the gap between Shuttle and a follow-on vehicle, then Ares I offers the safest, quickest, opportunity – probably the most cost-effective one,” he said.

With respect to NASA’s development of the HRR standards that commercial companies need to follow, subcommittee Ranking Member Olson asked the panel of witnesses for their opinions about whether NASA should turn to the Federal Aviation Administration (FAA) for guidance, since it certifies commercial aircraft. Mr. Martin said that “NASA

would be foolish to cede any issues dealing with the safety of its most precious cargo – that is, the astronauts” to another agency. Admiral Dyer replied that it would present “two evolving Catch 22 opportunities”: first, the FAA has great knowledge about how to certify vehicles but little knowledge about space while NASA has little knowledge about certification but a great deal of knowledge about space, and second the commercial sector thinks it can deliver on cost and schedule only if NASA is kept at arm’s length, but NASA cannot be kept at arms length to ensure safety.

Admiral Dyer asserted that the claims from some commercial companies that they can deliver a vehicle in three years are “probably unrealistic.” The standards developed by NASA, he explained, would probably account for different designs used by different companies, but that the performance requirements would probably be the same for all of them. Responding to a question by Rep. Donna Edwards (D-MD), who repeated a comment by SpaceX’s President Elon Musk that his Falcon 9 and Dragon vehicles already meet NASA human rating requirements, Admiral Dyer reiterated that since “human rating requirements have not been published,” to say these vehicles meet them “is not correct.”

Another issue brought up during the hearing was concern over workforce sustainability if Constellation is cancelled. Mr. Martin acknowledged that the workforce transition plan previously developed by NASA was based on the transition from Shuttle to Constellation and that a new one would be needed if this new course of action is adopted. Ms. Chaplain expressed confidence in NASA’s ability to undertake this task, saying that NASA has “a robust strategic human management program...NASA has the tools to manage these uncertainties.” An ongoing skill mapping exercise, she added, would be the first step in judging which skill sets would be at risk if Constellation is cancelled.

The President’s budget proposal also includes operating the International Space Station (ISS) through 2020, five years later than the previous plan. Ms. Chaplain outlined a series of challenges NASA faces in making effective use of the ISS, including the high cost of developing and carrying out experiments, and the small amount of crew time available for research, which requires that many of these experiments be automated. She noted progress in NASA’s user outreach activities – including five interagency agreements – and concluded that putting resources into the hands of ISS managers would be one of the biggest issues to address.

Other important issues discussed at the hearing were related to NASA’s financial management and what Mr. Martin described as “systemic weaknesses” in acquisition processes. Financial management issues are being addressed by NASA in conjunction with its independent auditor Ernst & Young, he said. Ms. Chaplain mentioned the results of a recently released GAO report on NASA’s major acquisition programs that demonstrates that NASA still has problems in acquisition, such as allowing programs to go forward when technical and design issues persist. Addressing these is “critical to the success of the agency,” she said, regardless of whatever policy in place: “The broad changes to NASA’s direction proposed in the President’s budget this week do not change the basic challenges facing the Agency.”