

Options and Issues for NASA's Human Space Flight Program: Report of  
the "Review of U.S. Human Space Flight Plans" Committee  
House Committee on Science and Technology  
September 15, 2009

Chair: [Bart Gordon](#) (D-TN) ([opening statement](#))

Ranking Member: [Ralph Hall](#) (R-TX) ([opening statement](#))

Witnesses:

- Mr. Norman Augustine, Chair, Review of U.S. Human Space Flight Plans Committee ([prepared statement](#)), accompanied by Dr. Edward Crawley, MIT, member of the committee
- Vice Admiral Joseph W. Dyer USN (Ret.), Chair, NASA Aerospace Safety Advisory Panel ([prepared statement](#))
- Dr. Michael D. Griffin, University of Alabama in Huntsville, and former NASA Administrator ([prepared statement](#))

Background

In May 2009, President Obama [directed](#) NASA to establish a committee to assess the condition of the current U.S. human space flight program, as framed by President Bush's 2004 Vision for Space Exploration (VSE) and which has concentrated on development of the Constellation Program, and provide potential options for the new Administration to ensure its future sustainability. On September 8, 2009, the committee issued a [Summary Report](#) with a set of key findings that supports their claim that the "U.S. human spaceflight program appears to be on an unsustainable trajectory." A one-page summary of the committee's report is available at [SpacePolicyOnline.com](http://SpacePolicyOnline.com). The final report is due by the end of September 2009. For more information, see the [hearing charter](#) prepared by committee staff and the [webcast](#) of the hearing.

Nuggets

"I have no interest in buying a pig in a poke... we need to know how we can credibly compare options proposed by the review panel that are immature technically, programmatically, and from a cost estimation standpoint—especially relative to the current program.

Chairman Gordon

“If we don’t get additional funding, one option is to continue the present program until it – frankly – falls off the cliff for lack of money.”

Mr. Augustine

“...can any of us in good conscience recommend canceling the exploration systems development programs that Congress has funded for the past four years on the basis of the sketchy alternatives contained in the panel’s report?”

Representative Giffords

“No one in the space community wants that [commercial space transport] capability to exist more than I. But it does not presently exist, and will not exist in the near future.”

Dr. Griffin

### **Hearing Highlights**

The House Science and Technology Committee’s three-hour hearing was characterized by very strong support for the existing Constellation Program. Committee members on both sides focused on why the nation should change the current program if the only issue is funding and none of the alternatives identified by the Augustine Committee could be achieved for less. Many of the questions revealed a fundamental misunderstanding of the Augustine Committee’s mandate, which was to provide options not to make recommendations.

Several references were made to the fact that Congress has passed two laws (the 2005 and 2008 NASA authorization acts) that support the current program. Representative Bart Gordon (D-TN), chairman of the House Science and Technology Committee, said that his Committee plans to complete work on a new NASA authorization bill this year.

### ***Future of the Constellation Program***

The predominant topic of the hearing was the future of the Constellation Program. In his opening statement, Chairman Gordon said that –

... we will need to know whether or not the review panel found any major problems with the Constellation program that would warrant its cancellation, such as technical “showstoppers”, [sic] improper cost controls, or mismanagement. If it didn’t, logic would argue that our focus should be on ensuring the success of the current approach, not walking away from it.

The chairwoman of the Committee’s Space and Aeronautics Subcommittee, Representative Giffords (D-AZ), delivered an even more stark [opening statement](#) expressing frustration on the prominence given to new exploration strategies that she interpreted as a recommendation to cancel the Constellation Program, saying that the Augustine committee gave it “only glancing attention ...even referring to it in the past tense in their summary report.” Her concerns were echoed by other Committee members who felt that going back and considering options that did not include the

Constellation Program would throw away the resources and efforts put into its development over the last four years.

Chairman Gordon summed up what would be the underlying issue for many of the members' concerns in saying that good policy requires a "compelling reason" to undergo significant change. In his [opening statement](#) Ranking Member Hall (R-TX) also stressed the value of the consensus reached to approve the current plans, saying that approval of the 2005 and 2008 NASA Authorization Acts "reflect broad, bipartisan, bicameral support...any Administration should carefully consider how difficult that level of consensus is, and how difficult it could be to reestablish." Mr. Augustine confirmed that the program was being adequately managed and that, besides the budget constraints, the current technical challenges are surmountable: "the existing program, with adequate funds, is executable." He stressed that offering the other options was not meant to recommend Constellation's cancellation and that continuing Constellation with increased funding is one of the options provided in the report (option 3).

Dr. Griffin said that cancelling Constellation would be "simply wrong" and suggested that consideration of other exploration strategies need not rule out utilizing Constellation capabilities, since their use for missions not included in the VSE was part of its design: "Once Ares V becomes available but prior to human lunar return, Orion could be used for some of the 'Flexible Path' options cited by the Commission."

### **Budgetary Constraints**

Another principal theme of the hearing was the consensus conveyed between the Committee and the witnesses on the budgetary constraints NASA faces to achieve its current programs and develop new ones. In his remarks, Mr. Augustine reiterated his committee's finding that under the current budget profile, NASA will be unable to carry out its existing goals and embark on an exploration program beyond low Earth orbit (LEO). The Augustine committee report said that a \$3 billion annual increase for NASA for the next 5 years, followed by inflationary increases of 2.4% per year thereafter, is the minimum requirement to achieve a goal of sending humans beyond LEO. In their statements, several House Science and Technology Committee members agreed with this assessment. Chairman Gordon went so far as to joke that they had no need of an independent blue-ribbon panel to tell them that, they already knew it. Responding to a question by Representative Eddie-Bernice Johnson (D-TX), Mr. Augustine explained that even a \$1.5 billion add-on to the NASA budget would not allow the United States to conduct a human exploration program beyond LEO. It would, however, support scientific utilization of the International Space Station (ISS), rebuild the technology program at NASA that has "atrophied a great deal over the years" and basically fund a strong science and technology program, according to Mr. Augustine.

Not all the members agreed that funding should be added to the NASA budget, however. Banter among some of the committee members over which party was responsible for budget deficits and which had balanced the budget during the 1990s nevertheless indicated that most believe that the NASA budget should be increased to enable human exploration beyond LEO. Representative Baird (D-WA) for example

argued against budget increases that would be paid for by future generations and asked Mr. Augustine if he would support rescinding tax cuts in order to pay for the program. Mr. Augustine replied with a smile that the question was “beyond my pay grade.”

### ***Role of the Commercial Sector in Human Space Flight***

The extent to which the government could or should rely on the private sector to take crew and cargo to LEO was also the subject of considerable discussion. Congressman Brad Miller (D-NC) was the first to bring this point forward, arguing for caution against excessive reliance on contractual employees. Mr. Augustine said that it is a mistake to assume that things should be done exclusively by either the commercial or the public sector. He stressed that letting the commercial sector take over transport to LEO would allow NASA to focus on exploration and on the innovation of future technologies. The concept that policy should be directed on the hope that there is such a robust sector on which to rely on was further questioned by several members and restated by Dr. Griffin, who said that in his view, to continue operation of the ISS and have it depend on that availability “is not risky, it is irresponsible”.

### ***Extending the Shuttle Beyond Its Remaining Six Flights***

One issue that carried over during the whole hearing was the question of whether the Space Shuttle can be safely extended beyond its current flight manifest of six remaining flights. Mr. Augustine first repeated that the recertification and extension of the Shuttle at a safe flight rate – one or two flights per year, at a cost of \$2.5 billion a year – would be the only option to close the projected 7-year “gap” between when the Shuttle will be terminated and the new Ares/Orion system is anticipated to be available according to the Augustine committee. Extending the shuttle beyond six more flights is not an option supported by NASA’s Aerospace Safety Advisory Panel (ASAP), which was created by law in 1967 following the deaths of three astronauts in the Apollo 204 fire. During the second panel of the hearing, Vice Admiral Dyer, chairman of ASAP, expressly stated the ASAP’s strongly held opposition of any extension beyond the six remaining flights, saying that “ASAP does not support extending the shuttle beyond the current manifest.” Adm. Dyer also expressed caution on the reliance on commercial transports, stating that in the case of the Commercial Orbital Transportation Services (COTS) project, the safety requirements were not necessarily equivalent to the Human-Rating Requirements set for NASA’s systems, and that should be a topic of discussion between NASA officials and potential commercial providers.

### ***Waiting for the Final Report***

While there appears to have been near-unanimous consent among the House Science and Technology Committee members who were present that the Constellation Program should be preserved, and that NASA funding needs to be increased, other issues remain unclear. There will be continued discussion after the Augustine committee issues its final report and the Obama Administration makes its decisions based on it.