

## NASA Authorization Act of 2013

On June 19, 2013, the House Science, Space and Technology Subcommittee on Space held a hearing to review a discussion draft of the National Aeronautics and Space Administration (NASA) Authorization Act of 2013. The hearing focused on the future of human spaceflight, NASA's role in STEM education, and how to best prioritize funding for key NASA programs.

In his opening remarks, Subcommittee Chairman Steven Palazzo (R-MS) provided an overview of the draft legislation. He emphasized the legislation's focus on funding "core programs" such as the Space Launch System (SLS), Orion crew capsule, International Space Station (ISS), James Webb Space Telescope, and Commercial Crew Program. Additionally, the legislation prohibits NASA from implementing certain requests in the President's FY 2014 Budget, which includes an Asteroid Retrieval Mission and a restructuring of science, technology, engineering, and mathematics (STEM) education that would eliminate most of NASA's involvement in education and outreach.

Eddie Bernice Johnson (D-TX), Ranking Member of the full committee, and Donna Edwards (D-MD) expressed concern that draft bill provides insufficient funding, including cuts of about one-third to NASA's Earth Science program. "It doesn't contain funding commensurate with the tasks NASA has been asked to undertake—in fact, it gives NASA *additional* unfunded mandates while maintaining deep sequestration cuts over the life of the bill," Johnson stated.

Witness testimony from Dr. Steven W. Squyres, Professor of Astronomy at Cornell University, and A. Thomas Young, Former Executive Vice President of Lockheed Martin Corporation, also highlighted the lack of funding and the worrisome cuts to NASA's Earth Science program. Squyres and Young additionally emphasized that Congress and the Administration should focus on providing high-level goals, while the details of project implementation should be left to NASA experts.

Representatives queried the panel about the future of human spaceflight, the President's proposed restructuring of STEM education, and the draft legislation's proposed changes to NASA's Space Technology program.

Several committee members raised questions about which intermediate milestones would provide the best foundation for sending humans to Mars. Edwards asked the panel whether establishing a lunar outpost was a necessary intermediate, and Joseph Kennedy (D-MA) questioned whether an Asteroid Retrieval Mission could be beneficial. Squyres and Young responded that neither a lunar outpost nor an asteroid retrieval mission was a necessary prerequisite for sending humans to Mars. The panelists applauded the draft legislation for requiring NASA to develop a roadmap to Mars, but emphasized that the roadmap should be developed by NASA rather than dictated by Congress.

Palazzo and Mo Brooks (R-AL) raised questions about the funding level for the Space Launch System. Brooks referred to letters he had received from former NASA administrator Mike Griffin and from another former NASA employee stating that the SLS would require \$1.8 billion, rather than the \$1.45 billion authorized in the draft legislation. Young stated that Congress could get an independent cost estimate to determine the required funding level, but emphasized that Congress needed to provide sufficient funding to enable NASA to meet its goals. Dana Rohrabacher (R-CA) suggested that the SLS project was a monetary drain on NASA and should be canceled; however, Squyres cautioned that the SLS or a similar large vessel would be required to send humans to Mars.

International partnerships and partnerships with commercial spaceflight companies were discussed as options to reduce the cost of human spaceflight. Rohrabacher stated his belief that companies such as SpaceX could put humans into space at less expense than NASA could. Marc Veasey (D-TX) asked the panelists to discuss the importance of building on the successful ISS collaboration during future human space exploration. Squyres and Young agreed that NASA should consider cost-sharing with international partners, and Squyres recommended that any international partners be included during the development of a roadmap to Mars.

Kennedy questioned the panelists about the draft legislation's proposed restructuring of NASA's Space Technology program. The Act would shift much of the responsibility for exploration-related technology development to the Human Exploration and Operations Mission Directorate. Squyres and Young worried that under budgetary pressure the mission directorate would use technology funds to solve immediate problems rather than developing innovative technology for the future. They recommended that some funding be maintained in a separate technology organization, and Young added that a strong oversight process would help to keep the technology relevant to NASA's broader goals.

Squyres, Young, and Suzanne Bonamici (D-OR) expressed concern about the President's proposal to diminish NASA's role in STEM education and outreach and applauded the draft legislation for preventing NASA from moving forward with the restructuring. "NASA's space missions are unique within the federal government, both in their technical audacity and in their capacity to educate and inspire," Squyres stated. "I believe that dismantling NASA's education and outreach efforts would deal a serious blow to our

nation's scientific and technical literacy."

Opening statements and witness testimony, as well as a video archive of the entire hearing, is available from the committee website.

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