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Congressional Hearing Notes
The International Space Station: Lessons from the Soyuz Rocket Failure
and Return to Flight
House Committee on Science, Space and Technology
Subcommittee on Space and Aeronautics
October 12, 2011

On October 12, 2011, the subcommittee on Space and Aeronautics of the House Committee on Science, Space and Technology held a hearing to discuss the impact on operations of the International Space Station (ISS) of the failure of Russia's Soyuz rocket on August 24, 2011 when it was attempting to send a Progress cargo spacecraft to the ISS. The Soyuz rocket is used for many purposes, including launching crews into space aboard spacecraft also named Soyuz. The Soyuz spacecraft also serve as lifeboats for the ISS. Thus, operations of the ISS are critically dependent on Soyuz rockets and spacecraft, all the more so since the termination of the U.S. space shuttle program this year. The following summary of the hearing appears as an article on SpacePolicyOnline.com on October 12 under the title "NASA Confident of Russian Launch Failure Analysis; Wants Another INKSNA Waiver."

Bill Gerstenmaier, NASA's Associate Administrator for Human Exploration and Operations, told a House subcommittee today that he is confident of the failure analysis conducted by Russian experts of the Progress launch failure last month. He also revealed that the agency wants Congress to grant another waiver from the restrictions on paying Russia for International Space Station (ISS)-related activities contained in the Iran-North Korea-Syria Nonproliferation Act (INKSNA).

The hearing before the Space and Aeronautics subcommittee of the House Science, Space and Technology Committee focused on the impact on ISS operations and lessons learned from the Russian Progress launch failure in August. Russia's space agency, Roscosmos, determined that a clogged fuel line caused the third stage of the Soyuz U rocket to malfunction, dooming the Progress spacecraft that was carrying cargo to the ISS. Similarities between that version of the Soyuz rocket and the one used to launch crews to ISS delayed the next planned launch of ISS crewmembers. The current schedule calls for crew flights to resume in mid-November.

Many of the questions posed by subcommittee members concerned the level of insight that NASA had to the accident investigation and whether NASA and its safety advisory

panels are comfortable with Russia's analysis, conclusions, and plans for moving forward. In addition to Gerstenmaier, witnesses were Tom Stafford and Joe Dyer. Stafford chairs NASA's ISS Advisory Committee. Dyer chairs NASA's Aerospace Safety Advisory Panel (ASAP). All three expressed confidence in Russia's investigation and conclusions.

Several members linked the questions about how transparent the Russians have been with their investigations to what NASA expects from commercial companies when they begin launching cargo and crews to the ISS.

Rep. Sandy Adams (R-FL) asked about a report in Aviation Week and Space Technology that the commercial cargo flights have fallen behind schedule. Gerstenmaier replied that the commercial companies are having "normal transients" as they develop their systems. He cited Orbital's delays in building its launch site at Wallops Flight Facility and the Taurus II engine fire during testing this summer, and software problems being experienced by SpaceX. He stressed that these are typical of development activities and that is why NASA was so anxious to launch the final shuttle mission, STS-135, to take supplies to the ISS to assure there would be no concerns if the cargo flights were delayed well into next year. The STS-135 crew attended the hearing.

As for commercial crew, subcommittee chairman Steve Palazzo (R-MS) stated that subcommittee staff were told by NASA last week that the first mission would be in 2017, not 2015-2016 as Gerstenmaier stated in his testimony. Palazzo wanted to know why there was a discrepancy. Gerstenmaier said that it is dependent on what assumptions are made with regard to how much money NASA will have to facilitate those efforts.

NASA must rely on Russia to take crews to and from the ISS, and for ISS "lifeboat" services, until the commercial crew option is available. NASA recently negotiated a new contract with Russia for ISS crew support services that expires in 2016. To sign that agreement, and previous ISS-related agreements with Russia, NASA needed a congressional waiver from INKNSA. The law is intended to restrain Russia from proliferating certain technologies to Iran, Syria and North Korea. Originally passed as the Iran Nonproliferation Act in 2000, one section prohibits the U.S. Government from paying Russia in connection with the ISS program unless the President certifies that Russia is not proliferating those technologies.

In practice, NASA has required Russian services to support crews on the ISS. The White House has not been willing to make the necessary certification, meaning that Congress must pass waivers to the Act. It did so [first in 2005](#) and again in [2008](#). In the 2008 waiver, NASA did not request permission to purchase additional cargo services from Russia on the premise that U.S. commercial cargo services would be available by 2011, when the 2005 waiver expired. NASA needs the commercial cargo

companies to succeed. The only other options are Europe's ATV or Japan's HTV, but those are launched only about once per year.

By 2008, with the end of the space shuttle program looming and no U.S. replacement expected until at least 2014, NASA knew that it would need to purchase more Russian crew services using the Soyuz spacecraft. Congress agreed to extend the waiver for Soyuz flights until 2016.

NASA's commercial crew effort is focused on those services becoming available by then, but at today's hearing, Gerstenmaier revealed that NASA wants another INKSNA waiver anyway. He did not state that the agency is worried the commercial crew systems will not be operating by 2016, saying only that even if NASA does not need crew services, there would be other ISS-related services that would be needed. He did not specify what they are. He said that NASA would need Congress to act on a waiver request by late 2012 or early 2013. That will allow about three years to negotiate a new contract with Russia.

- [Opening statement by Space and Aeronautics Subcommittee Chairman Rep. Steve Palazzo \(R-MS\)](#)
- [Opening statement by Space and Aeronautics Subcommittee acting Ranking Member Rep. Jerry Costello \(D-IL\)](#)
- [Written statement of Mr. William Gerstenmaier, NASA](#)
- [Written statement of Lt. Gen. Thomas Stafford \(USAF, Ret.\), NASA ISS Advisory Committee](#)
- [Written statement of Vice Adm. Joseph Dyer \(USN, Ret\), NASA Aerospace Safety Advisory Committee](#)
- [Webcast of hearing](#)