

SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
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NASA'S COMMERCIAL CREW PROGRAM SHARED ACCOUNTABILITY MODEL

Abstract

The objective of this paper is to define and describe the shared accountability model for crew safety developed for NASA's Commercial Crew Program.

The Commercial Crew Program is designed to facilitate the development of a safe, reliable, and cost effective human space transportation to low-Earth orbit and the International Space Station. It uses a unique development model – a public-private partnership – where both the government and the private sector share in the technical, financial, and schedule risks associated with development.

Traditionally, the NASA approach to develop and certify human spaceflight systems for flight was to provide complete oversight of the Design, Development, Testing, and Evaluation (DDTE) phases. NASA would develop detailed requirements, make all design decisions, and subsequently own the spacecraft hardware. In this model, NASA had ultimate responsibility and accountability with respect to the safety of the human space transportation system.

With the acquisition strategy implemented by the Commercial Crew Program, the government will neither own the human space transportation system design, hardware, and software, nor assume operation of the system. CCP will rely more on the commercial partners to perform the detailed tasks of certification. CCP is implementing a risk-based engagement approach with reduced NASA involvement to substantiate the commercial partners' assertion of certification.

This approach requires a unique model for system certification, which NASA calls a "shared accountability model". Under this model, the commercial partners are responsible for the DDTE, which supports their assertion of meeting NASA's requirements. NASA in turn is responsible for approving the system compliance with CCP's human spaceflight requirements thru evaluation of the commercial partners' evidence.

While simple in concept, this is a complex and iterative process that requires considerable effort on the part of both NASA and the commercial partners. This paper will describe in detail the process used for human spaceflight certification used by the Commercial Crew Program and identify the distinct roles and responsibilities of government and industry associated with the shared accountability model.