

Tracking Number: 2010-02-13 (SOC-02)
Operational Model for Commercial Space Vehicles

NASA Advisory Council Recommendation:

The Council recommends that NASA develop an operational model for commercial space vehicles that will enable NASA flight resources and crews to be committed to commercial space systems.

Major Reasons for the Recommendation:

As Space Operations Mission Directorate support of ISS operations moves from “government owned and operated” space operations, to “privately owned and leased” space operations, there will be major changes. These changes involve not only the obvious new hardware, software, documents, and procedures, but new risks, new relationships, a new business model, and a new culture. The model should address basic systems requirements, such as failure tolerance, NASA Program Management, NASA Engineering, Ground Operations, Flight Operations, Flight Crew involvement in development, certification requirements (what is required to commit NASA resources, pilots and passengers to the flight system), certification buyoff (how will NASA verify certification requirements), roles and responsibilities of NASA and the system developer, for ground operations, flight operations, and flight crew operations, and the role of company and government pilots/astronauts. The operational model should be drawn up initially for the cargo mission. An operational plan for the crew mission should follow.

NASA Response:

NASA concurs with this recommendation. The ISS Program, along with the Office of Safety and Mission Assurance, the Astronaut Office, the JSC Mission Operations Directorate, and the Launch Services Program, have developed plans and procedures for all aspects of commercial cargo transportation services from the ISS design requirements for safety and fault tolerance, to preflight planning, training, testing and simulations, ground cargo handling, ISS proximity operations and berthing, on-orbit crew handling of cargo, and planning for contingencies involving off-nominal scenarios. The ISS Program would like to offer a briefing to the NAC’s Space Operations Committee to fully present all aspects of commercial cargo integration into the ISS Program, including a discussion of safety and crew interaction planning. Additionally, the Agency is working the broader topic of commercial crew transportation. The outcome from this activity will be made available to both the Space Operations Committee and the Commercial Space Committee.