

SPACE OPERATIONS SYMPOSIUM (B6)
Training Relevant for Operations, including Human Spaceflight (3)

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TRAINING CONSIDERATIONS FOR COMMERCIAL SPACE FLIGHT OPERATIONS

Abstract

Commercial Space Flight Operations (CSFO) will eventually provide transportation of crew and passengers to and from low earth orbit, sub-orbital trajectories, or possibly even destinations beyond low earth orbit. The International Space Station (ISS) is an orbiting laboratory that will serve as one travel destination and is the subject of intense focus, discussion and efforts for several emerging commercial companies. Whatever the mode of flight, sub-orbital, orbital, or long duration, effective training is critical for the safety of both crew members and passengers. For flights to the ISS, several types of operational models are being considered. The training requirements for crew members and passengers will be a function of the type of operational model. For example, one operational model being considered provides a transportation vehicle designed and built commercially but operated by NASA, for transportation to and from the ISS. This model is often referred to as the 'rental' model. In this concept, NASA will be responsible for maintaining flight crew competencies for all phases of spaceflight. An alternative model involves using commercial company members as the primary flight crew, and to transport NASA astronauts to and from the ISS primarily as passengers. This is referred to as the 'taxi' model. Training requirements will vary in terms of depth, breadth, and content depending on if it is intended for the crew or passengers. The training requirements will also vary depending on the operational model and the various flight phases. There exists a wide variety of training considerations for commercial flight operations. These training considerations will need to be addressed as we move forward into the commercial space flight era. This paper proposes several training concepts, with the intent to highlight specific needs and challenges specific to commercial space flight.