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SYMPOSIUM ON COMMERCIAL SPACEFLIGHT SAFETY ISSUES (D6)
Commercial Space Flight Safety and Emerging Issues (1)

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FAA SAFETY APPROVALS IN COMMERCIAL SPACE TRANSPORTATION

Abstract

A regulatory tool used by the United States called a safety approval may be considered for use internationally to promote safety, promote the commercial space transportation industry, achieve greater interoperability, and streamline license applications. In the United States, the Federal Aviation Administration's Office of Commercial Space Transportation (FAA/AST) licenses, regulates, and promotes U.S. commercial space transportation including launch and reentry operations and the operation of spaceports. A safety approval can be issued by the FAA for a particular safety element of: a launch vehicle, a reentry vehicle, a safety system, process, service, or any identified component thereof, and qualified and trained personnel performing a process or function related to licensed launch activities. The FAA determines that use of a safety element will not jeopardize public health and safety, or safety of property, when used or employed within a defined envelope, parameter, or situation. A safety approval is voluntary. It does not provide any authority to conduct activities for which an FAA commercial space transportation license is required. One of the primary advantages of a safety approval is that launch and reentry vehicle operators can use an approved safety element without having to go through a re-examination of the element's fitness and suitability for a proposed launch or reentry operation as part of a license application process. This also allows a company or organization to develop an element independently as a potential business product and obtain a government stamp of approval. From a business perspective, an FAA Safety Approval can aid in the marketing of a unique space product that might traditionally be seen as an ordinary component or process in the larger scheme of a government space program. It can also spur innovation by creating a path for alternative approaches and enable a second tier supplier or service new industry growth opportunities in commercial space transportation. From an international perspective, adopting a safety approval regulation similar to the FAA's may increase interoperability with U.S. vehicles including spaceports operations. There are seven active FAA safety approvals in the U.S. in areas such as training for crew and spaceflight participants and technician credentialing. This paper will provide an overview of the FAA's safety approval regulation and its potential advantages, details of the FAA guide to apply for a safety approval, and examples of existing safety approvals.