

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

Author: Mr. G. Ryan Faith  
Space Foundation, United States, grfaith@spacefoundation.org

SAFETY AND HUMAN SPACEFLIGHT: A COMPARISON OF VARIOUS APPROACHES TO  
ESTABLISHING SAFETY REQUIREMENTS

**Abstract**

The expansion of interest in human spaceflight, both commercial and civil, has occurred on a global scale, but a global consensus on spaceflight safety does not appear likely in the near future. Although human spaceflight has significant innate risks, the framework for determining what constitutes acceptable risk and methods of addressing that risk are constantly evolving. In recent years, the emergence of both FAA suborbital tourism regulations and NASA requirements for commercial crew flights to the International Space Station have brought discussions about safety and standards to the fore. However, these and other approaches to establishing requirements for human spaceflight safety have come from very different engineering and regulatory traditions. While it is apparent that these different categories of human spaceflight will converge, there is no cohesive way to evaluate differing approaches to defining human spaceflight safety requirements. This paper compares and contrasts the various approaches addressing to safety for human spaceflight, particularly those developed by NASA and the FAA. The goal of this research is to inform discussion about the philosophical and conceptual foundations of human spaceflight safety regulations and advance current debate about safety for human spaceflight. Ultimately, such a discussion will help advance development of a global consensus and set of standards regarding human spaceflight safety.