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STANDARDS, STANDARDS EVERYWHERE! ASSESSING CURRENT INITIATIVES FOR HUMAN SPACEFLIGHT STANDARDS AND THEIR POTENTIAL EFFECT ON FUTURE REGULATIONS

Abstract

One of the critical questions facing the human spaceflight industry is how its activities will be regulated during the infancy of the industry. It is generally agreed that regulation is necessary to address safety risks to crew, passengers and third parties. However, there is also a concern that governmental agencies may over-regulate the industry in a manner that could create unnecessary administrative burdens and interfere with technological innovation. In fact, the growth of regulation over the human spaceflight industry has been quite slow. Although the United States enacted the *Human Space Flight Requirements for Crew and Space Flight Participants* in 2006, a moratorium on design and operations requirements was imposed until 2012 (later extended to 2015). Other countries have yet to issue regulations specifically addressing the human spaceflight industry. But while formal regulation is evolving slowly, multiple initiatives have been undertaken to develop voluntary operational and design standards that would establish best practices for the industry. Most notably, in 2013 the FAA issued *Draft Established Practices for Human Space Flight Occupant Safety* that will likely lay the groundwork for future regulations. NASA and ESA each have highly evolved standards for human spaceflight as well – and the NASA standards are currently being applied to those private companies that will be providing crew delivery services to the ISS. Non-governmental organizations are also developing operational and design standards, including the Commercial Spaceflight Federation, the International Standards Organization, and the IAASS. Multiple questions arise from this situation. Do these standard-setting processes have sufficient participation from industry to render the resulting standards legitimate? Do some standards rely excessively on legacy government program practices at the expense of innovative future practices? Could voluntary adherence to safety standards forestall excessive government regulation? Of course, the ultimate question is whether these standards will have a beneficial influence on the success of the human spaceflight industry. These questions and others will be examined in the course of this paper.