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

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THE DEVELOPMENT OF A FRAMEWORK TO CAPTURE A BODY OF KNOWLEDGE (BOK) FOR COMMERCIAL SPACEPORT PRACTICES

Abstract

Research Problem: Spaceport activities have been under study for over a dozen years by governments and industry. While the FAA issues a license for a launch site that covers safety of the launch operation, other safety activities are left to the spaceport to manage. Non-launch activities, that may be conducted at US and International Spaceports include operating a combined air and spaceport, safety at commercial spaceport events, civil law enforcement and site security, fire-fighting, construction safety, etc. While efforts such as the Advanced Spaceport Technologies Working Group (2003) gathered information on the safety and operation of government spaceports operating the U.S. Space Shuttle, there has been no collection of information for commercial spaceport practices which could be of use at U.S. and international spaceports. Information that has been researched and assembled includes combined airfield safety and launch operations (which may be conducted at a joint air and spaceport), site security, emergency response activities, ground and flight safety, ITAR requirements and international coordination among spaceports.

Methodology: The team developed a listing of commercial spaceport activities and a taxonomy to structure that information. A draft of this taxonomy was provided to all current spaceport managers and the Army Range Commanders Council for review and comment to refine and improve the categorization. Once the taxonomy, the Framework for Spaceport Operations, had been created, the investigators began the collection of documents that could be used by commercial spaceports to establish their own procedures, standards and regulations. When there were limited numbers of documents available, appropriate aviation documents or federal standards were included as an aid. The team worked with members of the New Mexico State University Library to organize the documents within a document management system (DMS).

Results: The Development of a Framework to Capture a BOK for Commercial Spaceport Practices, accessible on the web through the NMSU Library Digital Collections (http://contentdm.nmsu.edu:2011/cdm/) is a major tool to increase spaceport safety and reduce the duplication of implementing spaceport operational activities. The BOK is organized according to the Framework, which has ten categories (major areas) and over 125 subcategories to enable a better understanding of the activities and responsibilities of

a commercial spaceport. This information will be of interest to spaceport developers, operators, finance and insurers.