

Development and Use of a Bulk Tritium Shipping Package

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A radioactive shipping package for transporting tritium has been developed for use by the National Nuclear Safety Administration as a replacement for the DOE Model UC-609, a tritium package developed and used by the DOE and NRC since the early 1970s. This paper presents the major design features and highlights the improvements made over its predecessor by incorporating new engineered materials and implementing improved testing, handling, and maintenance capabilities, while improving manufacturability. A discussion will be provided demonstrating how the BTSP complies with the regulatory safety requirements of the Nuclear Regulatory Commission and the Canadian Nuclear Safety Commission. The paper further summarizes the results of testing to 10 CFR 71 Normal Conditions of Transport and Hypothetical Accident Conditions events. Planned and possible future missions for this packaging will be addressed.