

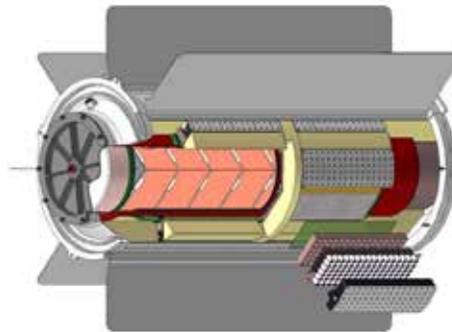
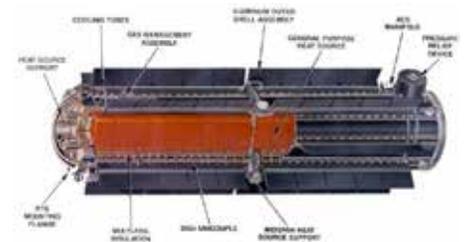
# Space Launch Accident Safety Analysis

Sandia National Laboratories is the lead DOE laboratory responsible for development of a Safety Analysis Report (SAR) for all space launches that carry Plutonium. The focus of this program is the consequence assessment of all prescribed accidents that could result during a launch; on the pad, immediately after lift-off, and sub-orbital. This work is analytic and uses computer simulations and analyses to provide realistic estimates of dose consequence from potential release of plutonium resulting from a launch accident.

## Vision

To enhance the nation's security and prosperity through sustainable, transformative approaches to our most challenging energy, climate, and infrastructure problems.

The computational, physics, and engineering capability spans multiple physics phenomenologies, engineering disciplines, and brings to bear massively parallel processing computational power to solve very complex problems that result in realistic estimates of potential consequences resulting from these types of postulated accidents. The SAR that is developed must go through rigorous external review before it goes to the National Security Council for approval prior to launch. This process provides a realistic level of risk associated with each specific space launch.



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The methodologies developed and used at SNL for this work can apply to other types of applications that require consequence assessments resulting from severe accidents or sabotage events on facilities containing nuclear or radioactive materials. The methodologies have been validated and verified and the process has a level of QA rigor that it requisite for the problem being solved.