

ISG-21

Use of Computational Modeling Software

Christopher Bajwa
Spent Fuel Project Office

Overview

- Introduction
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Introduction

- Analyzing the performance of casks and other radioactive material packages has become a greater challenge due to higher heat loads and structural integrity requirements related to storage and transport.
- Due to impracticalities in physical testing including cost and data extraction, applicants have been using Computation Modeling Software (CMS) in support of licensing actions.
- This ISG provides guidance to staff on what information to look for when reviewing a submittal including CMS analyses.

Regulatory Basis

- 10 CFR 72.24 defines the technical information to be contained in an application for spent fuel storage (site specific license).
- 10 CFR 72.230, subparts (a) and (b), and 72.236 subparts (a), (b), (d), (e), (f), (g), and (l) define the design requirements that provide the regulatory basis for spent fuel storage cask submittals and the specific requirements to be satisfied for spent fuel storage cask design approval and fabrication (Certificate of Compliance).
- 10 CFR 71.31(a)(2) and (b) define the technical information that provide the regulatory basis for this ISG to be contained in an application for radioactive material packaging and transportation.
- 10 CFR 71.35(a) provides the regulatory basis for this ISG which defines the requirements for the content of an application and provides reference to the applicable Sections (subparts E and F of 10 CFR Part 71).

Technical Review Guidance

- Computational Modeling Software Application
- Computer Model Development
- Justification of Bounding Conditions/Scenario for Model Analysis
- Description of Boundary Conditions and Assumptions

Technical Review Guidance

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- Documentation of Material Properties
- Description of Model Assembly
- Loads and Time Steps
- Sensitivity Studies
- Results of the Analysis