

11/2/03

### Vulnerability Analyses for Spent Fuel Storage Systems and Transportation Packages

Key Message:

- NRC, in conjunction with Sandia National Laboratories (SNL), is performing vulnerability analyses (VAs) for spent fuel storage systems, spent fuel transportation packages and radioactive material transportation packages.

Background/Context:

- Assessments are being performed in accordance with the top to bottom review of NRC licensed activities described in Chairman's memo dated September 28, 2001.

Accomplishments:

- VAs for Airline Crashes - SNL has modeled a large airplane impacting into one design for a spent fuel storage system and a spent fuel transportation package. Given limited data from which to model the structural response of a large airplane, some conservative assumptions were made in the analytic model. To-date the majority of the bounding analyses show that couple of the bounding cases have shown that of the storage cask. These impact scenarios, for which, impact orientations have been reexamined. Realistic analyses are currently being performed impacts have been modeled and those computer models are currently being run at SNL for impact angles that have a higher probability of occurrence.

Ex 2

Commission Direction:

- DEDO Guidance from Commission meeting on December 4, 2002 - Staff will respond to the guidance in the form a Commission paper to discuss the staff's plans for future vulnerability analyses.

Pending Actions:

- Development of Action Plan (with RES, NRR and rest of NMSS) incorporating guidance from the Commission meeting on December 4, 2002.
- Completion of VAs that are in progress (aircraft and
- Initiate and complete VAs for additional threats (i.e.)

Ex 2

Stakeholders and their Interests:

- Licensees and Certificate Holders - All mitigative measures must be evaluated to determine their effectiveness and potential cost as they relate to potential damage (deaths, both acute and latent) and cleanup cost.

Portions Ex 2

Elm