

**Meeting to Discuss
Spent Fuel Transportation Risk Assessment Project**

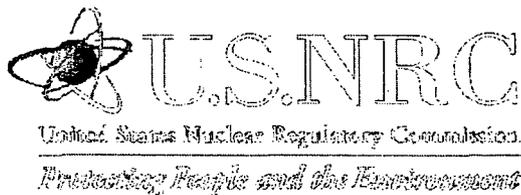
**July 23, 2009
9:00 am -10:00 am
EBB 1-B-13**

Purpose - to discuss the SNL project, including project overview, technical/policy issues, status, and schedule.

Outcome - an appreciation/understanding of what the project expects to accomplish, how the information will be used, who it will benefit, and the overall project milestones.

*Informed + aligned
on path forward for
review as publication
of project report (NUREG)*

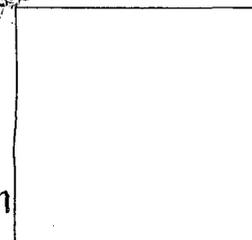
Process - discussion of the slides and attendee participation/involvement.



Spent Fuel Transportation Risk Assessment at SNL Overview

- ^{-Product} What is it (outcome)?
 - A NUREG that analyzes the risks of transporting SNF, including risks from routine transportation and transportation accidents. The risks from very severe, extra-regulatory accidents are also analyzed. Canistered fuel transportation is considered. The document revisits and finalizes NUREG/CR-6672. A draft of the NUREG will be reviewed by staff, then externally peer-reviewed and reviewed by the public.
- Why is it being done? *several factors (No external mandate)*
 - Background: role, mission, issues & considerations
 - NRC's safety & outreach responsibilities
 - Potential shipments *diminished factor? Y.M. generic 1987*
 - Continuing review [FEIS (NUREG-0170), "Modal Study" (NUREG/CR-4829), "Reexamination..." (NUREG/CR-6672)] *2000*
 - Safety not at issue - *Part II provides safety.*
 - Purpose: how will it be used?
 - Solicit and respond to public comment ** No recent study published for comment; review NUREG, not NUREG/C*
 - Refine explanation of level of safety in spent fuel transportation *NRC E-Brochure*
 - Answer NUREG/CR-6672 and PPS-related questions *e.g., 3-D thermal analyses; no "representative" packages*
 - Provide updated benchmark for environmental assessments *new power reactor applications*
 - Objective? *technical:*
 - Further quantify consequences and probabilities of severe accidents; *Hopefully leading to greater public understanding & acceptance of SNF shipments*
- How is it being done (methodology)? *similar to 6672 - only so many ways*
 - Draft NUREG: Computer modeling and analysis, *[supplemented with experimental thermal calorimeter tests to benchmark CAFE test]*
 - Final NUREG: Revised Draft NUREG based on response to staff, peer review and public comments
- What might it say (results preview)? *No words written*
 - Part I Comparison
 - Previous studies indicated...
 - This study estimates that... *provided similar analyses*
 - Progressive reduction in estimated risk as analytical fidelity increases *(accidents)*
 - Part II Conclusions based on findings
 - Lowers previous (already low) estimates of risk
 - Reconfirms NRC's finding that SNF transport risks are acceptably low *-0170*
 - Apparently no releases from SNF shipments with inner welded canister *New - no expectation of release*
 - Release of material during SNF shipment is, say, *eff* less than a 1 in 10,000,000 event
- Who is it for?
 - Public, media, industry, States, NRC and other federal agencies
 - Any interested party - our goal to make results accessible regardless of technical sophistication*

more info?
?'s





United States Nuclear Regulatory Commission

Protecting People and the Environment

Project Status and Schedule

Draft NUREG Report (MD 3.7/NUREG-0650) Graded structure/content (if permitted)

Communication
Necessity
"Upgrades" from 6672 in NUREG

- Public summary [All public] *Not executive*
- Main body text [states, general science public, science media]
- Appendices [industry, other Federal Agencies] *more appendices, but shorter, simpler main section*
- Electronic and printed versions (latter to include NRC (visualization) Brochure on CD, along with color graphics and movies)

Technical (SNL – Doug Ammerman, Carlos Lopez, Ruth Weiner) "A"-team, Aoki NUREG

- New rail event trees and updated truck event trees *Chris, Bob, distribute input variables - C, CI content in fuel, TI*
- RADTRAN 6: includes elevated releases, improved uncertainty analysis, loss-of-shielding (and economic analyses) *not/voice*
- Structural and thermal analyses of accidents involving licensed casks (HI STORM and NAC), including both canistered and uncanistered fuel *AR 400, Bob E. STE*
- Source term includes rod-to-cask model, contribution of fuel pellet rim to releases *Bob E. STE*
- More precise structural and thermal analyses providing better estimate of release fractions *> 10⁶ elements*
- Updated population data *consequence*
- Updated traffic accident data for both truck and rail *corrected truck rates*

Policy/Sensitive

- Continued public apprehension, *inhalance* disapproval of SNF shipments by certain states/NGOs ** No technical answer to objection data on policy*
- Support or supplant, NUREG-0170?
- Retain or curtail comparisons with previous studies? Estimated LCFs (collective dose) or Unit Risk Factors? *Both does UR factors*
- Parallel or sequential Peer/Public reviews? *contractor concern over 4 passes, Peer group to review SNL responses to public comments?*

Programmatic

- Completion of analyses
- Sandia report writing clarity *6672 complete, but difficult*

Next scheduled SFST interactions:

- Pre-meeting with management (9/16/09); Presentation to the staff (9/17/09 a.m.); Post-meeting with key reviewers (9/17/09 p.m.) *3018 9-11 No text avail, left staff's w/ counterparts*

Key milestone plan

- | | |
|---|--|
| - Visualization Brochure nearly complete | First draft NUREG to NRC 12/18/09 (6672) |
| - Thermal analysis of casks 10/31/2009 write-up | NRC comments to SNL 2/12/2010 |
| - Source term estimation 10/2/2009 | Peer review (ORNL) 3/8 – 7/20/2010 |
| - Structural analysis of casks 10/22/2009 | Publish Draft & Public comment 9/1 – 11/2/2010 |
| - Consequence analysis 11/13/2009 | Final draft NUREG to NRC 1/11/2011 |

Status?
TRD: Identify reviewers

Chris / Jorge
Liz
Cowan

Bob

