Hamilton, Brandi

From: Brown, Christopher
Sent: Friday, December 17, 2010 10:12 AM
To: Michael T. Ryan Ph.D., C.H.P
Cc: Santos, Cayetano
Subject: Spent Fuel Transport Risk Assessment (SFTRA) Overview
Attachments: Summary for ACRS.docx

The attached subject on Part 71 has not been scheduled, but will be soon.

From: Cook, John
Sent: Friday, December 17, 2010 9:55 AM
To: Brown, Christopher
Cc: Pstrak, David; Weaver, Doug
Subject: RE: Research activity regarding a NUREG relating to transportation of SNF

Chris-

Please find SFTRA Overview attached. Call with any questions.

-John

From: Brown, Christopher
Sent: Thursday, December 09, 2010 10:37 AM
To: Cook, John
Cc: Santos, Cayetano; Hackett, Edwin
Subject: Research activity regarding a NUREG relating to transportation of SNF

John,

Thanks for the call this morning. I am glad we are on the same page concerning the NUREG. I look forward to getting a write-up from you on this task. Also, I would be happy to walk you through the ACRS process of presenting before the Radiation Protection Subcommittee for an information briefing.

As we agreed, the Subcommittee should occur in the latter part of 2011. As soon as you decide on a date for the Subcommittee, please let me know so that I can secure a ½ day for SFST.

Dr. Ryan is on Bcc.

Thanks,

Chris

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Spent Fuel Transport Risk Assessment (SFTRA) Overview

NRC has previously studied spent fuel transport impacts in "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes," NUREG-0170, December 1977, in "Shipping Container Response to Severe Highway and Railway Accident Conditions," NUREG/CR-4829, February 1987, and in "Reexamination of Spent Fuel Shipment Risks," NUREG/CR-6672, March 2000. The studies found that spent fuel shipment risks are low, and staff has confidence in these results.

The purpose of SFTRA is to obtain an updated and refined spent fuel shipment risk assessment that considers new or additional factors, and to obtain explanatory materials to enhance NRC's outreach efforts. With regard to new factors, unlike previous assessments, certified (as opposed to representative) package designs are employed in the SFTRA analysis. The assessment was performed primarily by computer analysis, and in part includes the following additional new analyses:

- Analysis of high-fidelity models of 2 rail cask designs (one with and one without an inner spent fuel canister) and 1 truck cask design (without an inner spent fuel canister), their respective impact limiters, and their respective (fuel) contents;
- 3-D thermal analysis of cask and fuel assemblies to improve predictions of spent fuel cask behavior during accidents involving fire.
- Calculation of spent fuel shipment risks (dose estimates and probabilities) under routine and accident conditions using updated transportation accident statistics and an updated transport risk assessment code.

SFTRA is a generic risk assessment, not a facility specific assessment. The assessment has been informed by results of relevant security assessments, but does not evaluate security-related transportation scenarios or impacts.

The SFTRA project plan includes the following milestones: (1) update the analysis of spent fuel transport risk estimates (performed by Sandia National Laboratories) as described above; (2) prepare a draft NUREG report documenting the analysis; (3) conduct an external technical peer review (being performed by Oak Ridge National Laboratory); (4) disposition peer review comments; (5) issue a draft NUREG for public comment; (6) disposition public comments and (7) issue a final NUREG document. The project [currently on milestone (3)] is expected to conclude in the latter half of 2011.