



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

May 23, 2000

MEMORANDUM TO: Susan F. Shankman, Deputy Director  
Licensing and Inspection Directorate  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

FROM: Francis I. Young, Acting Chief  
Transportation and Storage Safety  
and Inspection Section  
Licensing and Inspection Directorate  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: PEER AND STAFF REVIEW OF NUREG/CR-6672, "REEXAMINATION  
OF SPENT FUEL SHIPMENT RISK ESTIMATES"

*Christen Kelly for*

This memorandum provides a summary of peer and staff review, and continuing activities, related to NUREG/CR-6672.

Sandia National Laboratories (SNL) recently completed a study for the Spent Fuel Project Office (SFPO) on the risks of transporting spent fuel within the United States. SNL documented the study results in a Contractor Report published by the Nuclear Regulatory Commission (NRC) as NUREG/CR-6672, "Reexamination of Spent Fuel Shipment Risk Estimates," March 2000. The study reexamined, on a generic basis, the risks associated with the transport of spent fuel by truck and rail from commercial power plants to potential interim storage and disposal sites.

SFPO contracted with Lawrence Livermore National Laboratory (LLNL) to conduct a peer review of a draft of SNL's report. LLNL provided comments to SFPO by letter from L.E. Fischer to P.L. Eng, "Memo report on final Draft Report, 'Reexamination of NUREG-0170 Spent Fuel Shipment Risk Estimates'" dated December 15, 1999, (Attachment 1). Basically, LLNL found that certain analyses could be improved, descriptions could be clarified, and in some cases, alternative analytical approaches could be used. SFPO staff also conducted a review of the SNL report. SNL revised the report in response to staff and LLNL comments by modifying analyses or by adding or revising text to make SNL's approach and results more clear. In certain cases, staff agreed with SNL that LLNL comment did not warrant a change in the subject report. In part based on the LLNL comments, SNL identified a number of topics for further evaluation.

Subsequently, SFPO requested a review of the LLNL comments and a revised draft of NUREG/CR-6672 by a transportation risk assessment consultant. The comments from this

review were provided by letter from R.E. Luna to J. Cook, "Analysis of 12/15/99 Memo Report to Ms. Patricia Eng, USNRC Spent Fuel Project Office (NTSS00-24/LEF)" dated January 19, 2000 (Attachment 2). The consultant noted that LLNL raised some good questions, that portions of the report could be clarified, and that most of the comments could be addressed by revising the draft document. The consultant also assisted SNL in making final clarifying revisions to the report. By monthly letter status report, SNL provided a summary table which describes how SNL resolved the LLNL comments in preparing the final version of NUREG/CR-6672 (Attachment 3).

Two additional efforts related to NUREG/CR-6672 are underway. SFPO initiated the "Package Performance Study (PPS)," in the fall of 1999 as a follow-on effort to the Reexamination Study. The PPS will investigate the response of spent fuel transport packages when subjected to severe accidents that are beyond the hypothetical accident conditions described in NRC regulations, 10 CFR Part 71. Topics identified by SNL for further evaluation will also be reviewed for possible inclusion in the PPS. SFPO will hold public meetings to invite stakeholder comment on the scope of the PPS. These meetings will also provide an opportunity for comment on NUREG/CR-6672, and those comments will be considered in developing the PPS.

Lastly, as noted in the LLNL comments, NUREG/CR-6672 is written for a technically sophisticated audience. SNL and SFPO staff are currently working on a "plain language" brochure to complement the report. Publication of this brochure is scheduled for summer 2000.

Attachments:

1. LLNL ltr dtd 12/15/99
2. R.E. Luna ltr dtd 01/19/00
3. SNL ltr dtd 03/13/00