

January 21, 2004

MEMORANDUM TO: Larry W. Camper, Deputy Director  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

FROM: Meraj Rahimi, Project Manager /RA/  
Licensing Section  
Spent Fuel Project Office  
Office of Nuclear Material Safety  
and Safeguards

SUBJECT: SUMMARY OF JANUARY 15, 2004, MEETING WITH TRANSNUCLEAR  
and NUCLEAR MANAGEMENT ON TN-40 PACKAGE (DOCKET NO.  
71-9313, TAC NO. L23687)

On January 15, 2004, representatives of the Nuclear Regulatory Commission (NRC), Transnuclear Inc. (TN), and Nuclear Management Company (NMC) held a pre-application meeting to discuss the possibility of certifying for transportation the TN-40 casks which are currently licensed only for storage at the Prairie Island nuclear power plant. The discussion at the meeting was focused on the proposed approaches by TN for qualifying the TN-40 casks for transport with respect to transportation criticality requirements.

Currently, there are 17 TN-40 casks loaded and placed on the pad at the Prairie Island facility. There is a plan to load an additional 12 casks. The casks do not meet existing NRC technical guidance standards with regard to criticality control for transportation packages. TN proposed the use of burnup credit or moderator exclusion in qualifying the TN-40 casks for transportation.

A representative from NMC provided the historical legal requirements by the state legislatures and the public utilities commission of the State of Minnesota with respect to the Prairie Island dry storage facility. The State of Minnesota requires that NMC replace the TN-40 storage-only casks with transportable storage casks once they become available. The NMC representative indicated that it is NMC's desire to make the TN-40 casks transportable in order to avoid the increased radiation exposure, which would be the result of increased fuel movements, and the significant costs associated with the replacement of the TN-40 casks.

Then, the TN representatives provided the background information on the TN-40 dry storage cask design followed by the proposed options for qualifying TN-40 casks to meet the transportation criticality requirements, a general discussion on the design of impact limiters and transport trailer/skid, and analyses similar to that for TN-68 in order to address the brittle fracture issue. The main part of the discussion centered around the two options of burnup credit and moderator exclusion proposed by TN for satisfying the transportation criticality requirements. TN presented their initial assessment of the spent fuel assemblies in the 29 TN-40 casks with respect to qualification for burnup credit. Based on the characteristics of the spent fuel assemblies in the existing 17 storage casks and the characteristics of the spent fuel which are planned to be loaded in the next 12 casks, using the actinides and fission products, TN projects over 77% of the spent fuel assemblies would be qualified for transport under

burnup credit. TN also discussed briefly the various design options with respect to satisfying requirements for moderator exclusion under 10 CFR Part 71. 55(c).

At the end of the meeting, the staff indicated to TN that burnup credit may be the more viable option to pursue at this time provided the supporting data can accompany the submittal and spent fuel burnup verification measurements are performed for the 12 casks which will be loaded in the future. No regulatory decisions were made at the meeting. Future meetings will be held subsequent to the applicant's assessment of their needs.

An attendance list is included as Attachment 1. Attachment 2 includes the handouts provided at the meeting.

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Attachments: 1. Attendance List  
2. Meeting Handout

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Transnuclear, Inc. and the Nuclear Regulatory Commission Meeting

ATTENDANCE LIST

<u>Name</u>	<u>Affiliation</u>
Larry Camper	NRC/SFPO
Meraj Rahimi	NRC/SFPO
Gordon Bjorkman	NRC/SFPO
John Monninger	NRC/SFPO
Nancy Ozgood	NRC/SFPO
Bob Tripathi	NRC/SFPO
Adelaide Giantelli	NRC/SFPO
Mary Jane Ross-Lee	NRC/SFPO
Carl Withee	NRC/SFPO
David Tang	NRC/SFPO
Antonio Dias	NRC/SFPO
Kim Hardin	NRC/SFPO
Jorge Solis	NRC/SFPO
Mike Mason	Transnuclear
Alan Hanson	Transnuclear
S. Lee Samson	Nuclear Management Co.
Tim Morrison	Nuclear Management Co.
Mark McKeown	Nuclear Management Co.
Michael Wadley	Nuclear Management Co.
Terry Pickens	Nuclear Management Co.
Suzanne Leblang	Nuclear Management Co.
Bill Teer	JAI Corporation
James Hopf	BNFL Fuel Solutions
Ian Hunter	Cogema
Eileen Supko	Energy Resources Int.
Andrea Jenneta	Fuel Cycle Week publication
Carlyn Green	Washington Nuclear Corp.
Maureen Conley	Platts/McGraw Hill