



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

February 14, 2000

MEMORANDUM TO: Susan F. Shankman, Deputy Director  
Licensing and Inspection Directorate  
Spent Fuel Project Office, NMSS

FROM: Robert Temps, Safety Inspector *for Temps*  
Transportation and Storage Safety  
and Inspection Section  
Licensing and Inspection Directorate  
Spent Fuel Project Office, NMSS

SUBJECT: SUMMARY OF PUBLIC MEETING WITH THE NUCLEAR  
ENERGY INSTITUTE AND ELECTRIC POWER RESEARCH  
INSTITUTE

On January 14, 2000, a public meeting was held between the U.S. Nuclear Regulatory Commission (NRC), the Nuclear Energy Institute (NEI) and the Electric Power Research Institute (EPRI) to discuss three spent fuel storage technical issues and NEI's prioritization process issues as described in its January 6, 2000, letter to NRC. Enclosure 1 is a list of attendees. Enclosure 2 is a copy of the agenda. Enclosure 3 is a copy of the January 6, 2000, NEI letter.

William Brach, Division Director of NRC's Spent Fuel Project Office (SFPO), provided opening remarks. He discussed the public workshop on generic issues that was held on December 17, 1999, and stated that this meeting's purpose was to follow-up on the workshop and establish the framework for addressing the issues identified. In opening remarks, NEI stated its desire to have issues defined and detailed, with a matrix developed to resolve the issues, and to define the resources needed to address the issues.

The first technical issue discussed involved high burnup fuel. Wayne Hodges, Deputy Director, Technical Review Directorate, lead NRC's opening remarks with a discussion of clad creep and embrittlement, the need to maintain retrievability of the spent fuel, and the need to define a desirable means of achieving this goal. Mr. Farouk Eltawila, NRC's Office of Research (RES), provided information about ongoing research, testing of high burnup fuel from the Limerick facility, and the need for assistance in obtaining appropriate high burnup fuel from other utilities for additional testing and data development.

SFPO technical staff identified a number of data needs to support better understanding of the cladding phenomena, including oxide thickness, hydride concentration, creep behavior, hydride blisters, and affects of annealing.

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Albert Machiels, of EPRI, described an approach for addressing the high burnup issue and then defining the required data (existing and new) to support resolution. It was agreed that EPRI would develop a "white paper" describing the framework for addressing high burnup fuel and identifying the data needed to support it. The white paper, expected to be developed in about a month, would be discussed at future meetings between the staff and NEI/EPRI and result in eventual update to the SFPO interim staff guidance.

The second technical issue discussed was burnup credit in the criticality safety analyses of spent fuel in transport and storage casks. Mr. Eltawila provided an update of an Oak Ridge National Laboratory (ORNL) report on burnup credit and stated that the report should be available on NRC's website by the end of January. Mr. Hodges asked NEI/EPRI to consider whether burnup credit for boiling water reactor (BWR) fuel should be added to the priority issues list. Although no BWR facilities have requested burnup credit, the issue was mentioned at the December 17 workshop.

An extensive technical discussion followed regarding the consideration of burnable poison rod assemblies (BPRAs) and credit for fission product absorbers. NRC requested that NEI check with industry and provide feedback on the need for inclusion of fission product absorbers in criticality analyses so that NRC can determine if further resources need to be expended in this area. At the end of the discussion, it was agreed that further meetings would be held between NRC and NEI on burnup credit.

The third technical issue involved NRC presenting an update on seismic issues as they relate to independent spent fuel storage installations (ISFSIs).

The last topic of discussion was NEI's January 6 letter describing NEI's proposed industry prioritization process. Alan Nelson (NEI) discussed the development process and how it was based on the outcome of an executive panel from the December 17, 1999, public workshop. At that workshop, NRC had requested that NEI take the issues identified by the executive panel and place them into tiers (i.e., prioritize each issue).

Mr. Brach stated that NEI's letter provided the requested information but the NRC staff was not prepared to discuss the proposed prioritization scheme. After the staff reviews NEI's proposed process, a follow-up meeting with NEI will be scheduled.

Closing comments were provided by Mr. Brach and the meeting adjourned at 12:00 p.m.

No proprietary information was disseminated or presented at this meeting. No regulatory decisions were requested or made.

Please contact me if you wish to further discuss these issues.

- Attachments: 1. Attendance List  
 2. Meeting Agenda  
 3. NEI Letter dated January 6, 2000

**DISTRIBUTION:**

NRC File Center      Public      SFPO r/f      NMSS r/f      WBrach      WHodges  
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| OFC:  | SFPO   |  | SFPO     |  | SFPO    |  |  |  |  |  |
| NAME: | RTemps |  | VTharpe* |  | PEng*   |  |  |  |  |  |
| DATE: | 2/4/00 |  | 2/8/00   |  | 2/14/00 |  |  |  |  |  |

**Attachment 1**  
**Attendance List**

**SIGN IN SHEET FOR JANUARY 14, 2000, MEETING BETWEEN NRC AND NEI/EPRI**

| <b>NAME</b>        | <b>AFFILIATION</b> |
|--------------------|--------------------|
| Rob Temps          | NRC/ SFPO          |
| Paul Plante        | Maine Yankee       |
| Albert Machiels    | EPRI               |
| Patricia Eng       | NRC/SFPO           |
| Bill Brach         | NRC/SFPO           |
| Wayne Hodges       | NRC/SFPO           |
| Eric Leeds         | NRC/SFPO           |
| Farouk Eltawila    | NRC/RES            |
| Donald E. Carlson  | NRC/SFPO           |
| Kim Gruss          | NRC/SFPO           |
| Carl Withee        | NRC/SFPO           |
| Roger M. Kenneally | NRC/RES            |
| K.C. Leu           | NRC/SFPO           |
| Mahendra J. Shah   | NRC/SFPO           |
| Leslie Collins     | ABB CENP           |
| Earl Easton        | NRC/SFPO           |
| Elaine Keegan      | NRC/SFPO           |
| Sheena Whaley      | NRC/SFPO           |
| Sarah Colpo        | NRC/SFPO           |

**SIGN IN SHEET FOR JANUARY 14, 2000, MEETING BETWEEN NRC AND NEI/EPRI**

| NAME               | AFFILIATION                            |
|--------------------|--|
| Chris Brown        | NRC/SFPO                               |
| H.F. Conrad        | NRC/SFPO                               |
| Jack Guttman       | NRC/SFPO                               |
| James Young        | Scientech                              |
| Perry Robinson     | Stone & Webster                        |
| Paul Bernis        | Stone & Webster (Maine Yankee Project) |
| Bill Lee           | NAC International                      |
| Geoff Quinn        | Bechtel                                |
| Andrew J. Murphy   | NRC/RES                                |
| Colin Jones        | BNFL                                   |
| Lynnette Hendricks | NEI                                    |
| Alan Nelson        | NEI                                    |
| Bill Lake          | US DOE                                 |
| William Alberque   | Numark/BN                              |
| William McConaghy  | NAC International                      |
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**Attachment 2**  
**Meeting Agenda**

**AGENDA FOR 01/14/2000 MEETING BETWEEN NRC AND NEI/EPRI**

**0900 - 0915 Introduction and opening remarks: Bill Brach (NRC) and Lynette Hendricks (NEI)**

**0915 - 1115 Key Discussion Topics/Lead**

- High Burnup Fuel Considerations: Kim Gruss (NRC)
- Burnup Credit: Don Carlson and Carl Withee (NRC)
- Seismic Considerations: K.C. Leu and Mahendra Shah (NRC)
- Industry Prioritization Process: NEI

**1115 - 1130 Meeting Wrap-up and Adjourn**

**Attachment 3**  
**NEI Letter**