

January 6, 2004

MEMORANDUM TO: Stephen Dembek, Chief, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

FROM: Alan Wang, Project Manager, Section 2/**RA**/  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF MEETING HELD ON DECEMBER 10, 2003, WITH THE  
BOILING WATER REACTOR OWNERS GROUP EXECUTIVES

On December 10, 2003, the NRC staff held a public meeting with the Boiling Water Reactor Owners Group (BWROG) at the NRC Headquarters in Rockville, Maryland. The purpose of the meeting was to exchange information and to provide a forum for discussion of topics related to NRC and BWROG activities. The attachment lists the meeting participants. The meeting slides are available in ADAMS under accession number ML033520072.

In his opening remarks, Mr. Ken Putnam (Chairman of the Executive Committee for the BWROG) introduced himself and Mr. Joe Conen, as the new Chairman and Vice Chairman of the BWROG. He thanked the staff for the opportunity for the BWROG to discuss some of the more pertinent issues concerning boiling water reactors (BWRs). Brian Sheron, Associate Director for Project Licensing and Technical Analysis, discussed in general terms the status of several Commission activities of interest to the BWROG. He noted that, in the past, these meetings have been useful for the prioritizing of staff resources.

The BWROG representatives and the NRC staff provided presentations in the following areas:

- Status of various Technical Specification Task Force (TSTF) items affecting BWRs
- Risk-informed technical specifications (TSs)
- Reactor stability/detect and suppress
- Risk-informed 10 CFR Part 50 – Option 3
- Steam dryer integrity
- Use of standby liquid control in alternate source term applications
- Generic Safety Issue (GSI) 80 – pipe break effects on control rod drive (CRD) hydraulic line

- GSI 193 – emergency core cooling system (ECCS) pump gas entrainment
- GSI 189 – Station Blackout Hydrogen Igniter Operability

#### Status of Various TSTFs Affecting BWRs

The staff provided the status of the various TSTFs affecting BWRs. In particular, the BWROG was interested in how the minimum critical power ratio (MCPR) relocation effort was proceeding. The staff noted we are discussing this with the NRC's Office of the General Counsel (OGC). OGC has not been amenable to removing this limit from the TS. The staff is trying to develop language similar to pressurized water reactors (PWRs), for removing this limit. The staff hopes to have a final proposal by the end of January 2004. The staff agreed that we would try to move up in priority the review of NEDO-3309, "Bank Position Withdraw System Control Rod Insertion Process," to support Spring 2004 outages.

#### Risk-Informed Technical Specifications

The staff provided the status of various risk-informed TSs. The BWROG had no comments on the status.

#### Reactor Stability

The BWROG reaffirmed to the staff that they were no longer going to pursue a new reactor core stability limit. Because of the difficulty in developing a new safety limit, the BWROG has decided that the best solution is to develop plant-specific DIVOM curves. Mr. Putnam noted that the BWROG sent two letters to the NRC on September 30, 2003. These letters were: (1) a closeout letter for the Part 21 notification, and (2) a letter sent to all BWRs with recommendations for the resolution of the stability issue. He stated that the letter to the BWRs proposed that the utilities respond individually to the NRC within 90 days. Mr. Wermiel noted that we have not received any responses as of yet. Susquehanna, as part of a previous TS request has proposed a resolution and a schedule that the staff is reviewing. Mr. Wermiel asked the BWROG if a status of the BWR responses could be provided. The BWROG stated they would attempt to poll their members regarding this issue.

The BWROG stated that the staff had rejected extending the oscillation power range monitor (ORPM) TS Limiting Condition for Operation (LCO) beyond 120 days. They noted that for software problems it would not be unusual to exceed 120 days to resolve the issue. The staff stated we would need to discuss this with the individual reviewers to understand why.

#### Risk-Informed 10 CFR Part 50 - Option 3

On November 25, 2003, the staff had a teleconference with the BWROG. The staff informed the BWROG that a review of a generic probabilistic risk assessment (PRA) model and results cannot replace the review of plant-specific PRA analyses and results as part of exemption request reviews. The use of a generic PRA in the topical report can demonstrate methods that can be endorsed for application to plant-specific PRAs, and can provide results that illustrate potential risk impacts of the proposals. A change in risk analysis based on a plant-specific PRA with sufficient technical quality is, however, required to develop results that can be compared to

the guidelines in Regulatory Guide (RG) 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and RG 1.177, "An Approach for Plant-Specific, Risk-Informed Decisionmaking: Technical Specifications," and, as appropriate, support a finding that authorizes or denies individual requests. The staff suggested that the first plant to submit an exemption request could be a good candidate for a pilot application of Draft Guide 1122, "An Approach for Determining the Technical Adequacy of Probabilistic Risk Assessment Results for Risk-Informed Activities." The BWROG felt that if a generic approach cannot be used, that most plants would balk at doing plant-specific analyses. The BWROG inquired if the staff would review the topical report and see if the PRA arguments made could potentially be used generically. The staff agreed that the BWROG should submit the topical report for review.

#### Steam Dryer Integrity

The BWROG had met with the NRC on November 5, 2003, to discuss this issue. The BWROG stated that no new information had been developed since then. The BWROG noted that extended power uprates (EPUs) have been implemented at 11 BWRs. They agree that the EPUs provide challenges to the steam dryers as well as other flow-induced vibration issues. The staff agreed that the BWRVIP (BWR Vessel and Internals Program) is the correct organization to address this issue. The staff is concerned that other components appeared to have failed due to increased vibration due to EPUs. The staff is working on an information notice. The staff is concerned whether the EPU analyses were rigorous enough for the EPUs and therefore, are the current analyses sufficient to justify operation at EPU levels. The staff noted that we are concerned that non-safety related failures could lead to safety-related failures. The staff felt that industry needs to develop a program that includes analyses, testing and inspection to ensure that the impact of the EPUs is bounded by current plant design. The staff inquired whether a program to implement the EPUs gradually had been considered. A gradual increase would allow a licensee to observe the plant for the effects of the EPU on excessive vibration of components and increased flow loads. The BWROG noted that it is looking to develop guidance for implementing EPUs. The staff notes another EPU related failure at another plant would cause the staff to rethink the efficacy of the EPUs. The staff agrees that steam dryers and other components have failed in the past, but its concern now is the EPUs exacerbating these failures.

#### Use of Standby Liquid Control in Alternate Source Term Applications and GSIs

The NRC staff provided a status of the use of standby liquid control in alternate source term applications and GSIs 80, 193 and 189. The BWROG provided the staff its insights and comments on these issues. They wanted to keep an open dialogue on these issues and the development of their resolutions. They wanted to know how and if they can be more proactive in the development of the resolution for these issues.

At the conclusion of the meeting, Mr. Putnam thanked the NRC staff for the opportunity to brief the staff on the status of the BWROG efforts and receive feedback. Mr. Sheron stated these meetings are useful to the staff and encourages the BWROG to periodically meet with the staff.

As a result of the meeting, the BWROG or NRC staff has agreed to provide the following:

1. The NRC will provide the BWROG with the status relocation of the MCPR effort by the end of January 2004.
2. The BWROG will poll its members for the status of the responses to its September 30, 2003, letter for proposed actions to close out the stability issue.
3. The staff will inform the BWROG of the status regarding a change to the OPRM TS to allow an indefinite LCO time when an alternative is available.
4. The BWROG will submit the licensing topical report for the loss-of-coolant accident/loss-of-offsite power (LOCA/LOOP) separation.
5. The BWROG will provide a tabulation of industry experience regarding EPU's.
6. The staff agreed to have a meeting to discuss GSI 189 and its resolution.

The BWROG suggested March 4, 2004, for the next meeting if warranted.

Project No. 691

Attachment: Meeting Attendees

cc w/att: See next page

1. The NRC will provide the BWROG with the status relocation of the MCPR effort by the end of January 2004.
2. The BWROG will poll its members for the status of the responses to its September 30, 2003, letter for proposed actions to close out the stability issue.
3. The staff will inform the BWROG of the status regarding a change to the OPRM TS to allow an indefinite LCO time when an alternative is available.
4. The BWROG will submit the licensing topical report for the loss-of-coolant accident/loss-of-offsite power (LOCA/LOOP) separation.
5. The BWROG will provide a tabulation of industry experience regarding EPU's.
6. The staff agreed to have a meeting to discuss GSI 189 and its resolution.

The BWROG suggested March 4, 2004, for the next meeting if warranted.

Project No. 691

Attachment: Meeting Attendees

cc w/att: See next page

DISTRIBUTION:

PUBLIC

PDIV-2 Reading

RidsNrrAdpt (BSheron)

RidsNrrDlpm (TMarsh/ELeeds)

RidsNrrDlpmPdiv (HBerkow)

RidsNrrPMAWang

RidsNrrLAEPeyton

RidsOgcRp

RidsAcrsAcnwMailCenter

MRubin

JWermiel

WReckley

TBoyce

SDinsmore

RDennig

MJohnson

DTerao

TScarborough

RBarrett

REmrit

Meeting Notice: ML033230307

**ACCESSION NUMBER: ML040090076**

NRC-001

OFFICE	PDIV-2/PM	PDIV-2/LA	PDIV-2/SC
NAME	AWang	EPeyton	SDembek
DATE	1/5/04	12/30/03	1/5/04

DOCUMENT NAME: C:\ORPCheckout\FileNET\ML040090076.wpd

OFFICIAL RECORD COPY

ATTENDANCE LIST

MEETING WITH THE BOILING WATER REACTOR OWNERS GROUP

DECEMBER 10, 2003

**BOILING WATER REACTOR OWNERS GROUP**

K. Putnam (Chairman)  
J. Conen (Vice Chairman)  
L. Summer (Executive Committee)  
J. Meister (Executive Committee)  
M. Reddemann (Executive Committee)

**GE NUCLEAR ENERGY**

G. Watford  
T. Green  
T. Hurst  
J. Kenny

**OTHER**

T. Abney (TVA/Browns Ferry)  
T. Silko (Vermont Yankee)  
A. Wyche (Search Bechtel)  
J. Butler (NEI)  
D. Ralieggh (LIS, Scientech)

**NRC**

B. Sheron  
T. Marsh  
A. Wang  
M. Rubin  
E. Leeds  
S. Dembek  
H. Berkow  
J. Wermiel  
W. Reckley  
T. Boyce  
S. Dinsmore  
B. Dennig  
M. Johnson  
D. Terao  
T. Scarborough  
R. Barrett  
R. Emrit

cc:

Mr. Joseph E. Conen  
Vice Chairman, BWR Owners Group  
DTE Energy – Fermi 2  
200 TAC  
6400 N. Dixie Highway  
Newport, MI 48166

Mr. J. A. Gray, Jr.  
Regulatory Response Group Chairman  
BWR Owners Group  
Entergy Nuclear Northeast  
440 Hamilton Avenue Mail Stop 12C  
White Plains, NY 10601-5029

Mr. H. Lewis Sumner  
Southern Nuclear Company  
40 Inverness Center Parkway  
P.O. Box 1295  
Birmingham, AL 35242

Mr. Carl D. Terry  
Vice President, Nuclear Engineering  
Nine Mile Point - Station  
OPS Building/2nd Floor  
P.O. Box 63  
Lycoming, NY 13093

Mr. Thomas G. Hurst  
GE Nuclear Energy  
M/C 782  
175 Curtner Avenue  
San Jose, CA 95125

Mr. Thomas A. Green  
GE Nuclear Energy  
M/C 782  
175 Curtner Avenue  
San Jose, CA 95125

Mr. James Meister  
Exelon  
Cornerstone II at Cantera  
4300 Winfield Road  
Warrenville, IL 60555

Mr. William A. Eaton  
ENTERGY  
Grand Gulf Nuclear Station  
P.O. Box 756  
Port Gibson, MS 39150

Mr. Mark Reddeman  
Vice President Engineering  
Point Beach Nuclear Plant  
6610 Nuclear Road  
Two Rivers, WI 54241

Mr. Richard Libra  
DTE Energy  
Fermi 2  
M/C 280 OBA  
6400 North Dixie Highway  
Newport, MI 48166

Mr. James F. Klapproth  
GE Nuclear Energy  
M/C 706  
175 Curtner Avenue  
San Jose, CA 95125

Mr. Kenneth Putnam, Chairman  
BWR Owners Group  
Nuclear Management Company  
Duane Arnold Energy Center  
3277 DAEC Road  
Palo, IA 52324