December 3, 2009

Mr. James H. Riley, Director
Engineering
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RE: NUCLEAR ENERGY INSTITUTE TOPICAL REPORT 94-01, REVISION 2-A SUPPLEMENT 1, "INDUSTRY GUIDELINE FOR IMPLEMENTING THE PERFORMANCE-BASED OPTION OF 10 CFR PART 50, APPENDIX J" (TAC NO. ME2164)

Dear Mr. Riley:

By letter dated September 2, 2009, the Nuclear Energy Institute (NEI) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report (TR) 94-01, Revision 2-A Supplement 1, "Industry Guideline For Implementing The Performance-Based Option Of 10 CFR Part 50, Appendix J." Upon review of the information provided, the NRC staff has determined that additional information is needed to complete the review. On November 24, 2009, Julie Keys, Senior Project Manager, and I agreed that the NRC staff will receive your response to the enclosed Request for Additional Information (RAI) questions by January 29, 2009. If you have any questions regarding the enclosed RAI questions, please contact me at 301-415-3610.

Sincerely,

/RA/

Tanya M. Mensah, Senior Project Manager
Special Projects Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 689

Enclosure: RAI questions

cc w/encl: See next page

Mr. James H. Riley, Director
Engineering
Nuclear Energy Institute
Suite 400
1776 I Street, NW
Washington, DC 20006-3708

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION RE: NUCLEAR ENERGY INSTITUTE TOPICAL REPORT 94-01, REVISION 2-A SUPPLEMENT 1, "INDUSTRY GUIDELINE FOR IMPLEMENTING THE PERFORMANCE-BASED OPTION OF 10 CFR PART 50, APPENDIX J" (TAC NO. ME2164)

Dear Mr. Riley:

By letter dated September 2, 2009, the Nuclear Energy Institute (NEI) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report (TR) 94-01, Revision 2-A Supplement 1, "Industry Guideline For Implementing The Performance-Based Option Of 10 CFR Part 50, Appendix J." Upon review of the information provided, the NRC staff has determined that additional information is needed to complete the review. On November 24, 2009, Julie Keys, Senior Project Manager, and I agreed that the NRC staff will receive your response to the enclosed Request for Additional Information (RAI) questions by January 29, 2009. If you have any questions regarding the enclosed RAI questions, please contact me at 301-415-3610.

Sincerely,

/RA/

Tanya M. Mensah, Senior Project Manager
Special Projects Branch
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Project No. 689

Enclosure: RAI questions

cc w/encl: See next page

DISTRIBUTION:

PUBLIC			
PSPB Reading File	RidsNrrDpr	RidsNrrDprPspb	RidsNrrLADBaxley
RidsAcrsAcnwMailCenter	RidsNrrPMTMensah	RidsOgcMailCenter	RidsNrrDssScvb
RidsNRRDeEmcb	SRosenberg (Hardcopy)	NKaripineni	

ADAMS ACCESSION NO.:ML093340541 **NRR-106**

OFFICE	PSPB/PM	PSPB/LA	PSPB/BC
NAME	TMensah	DBaxley (CHawes for)	SRosenberg
DATE	12/3/09	12/3/09	12/3/09

OFFICIAL RECORD COPY

cc:

Mr. Anthony Pietrangelo, Senior Vice President & Chief Nuclear Officer
Nuclear Generation
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006-3708
arp@nei.org

Mr. Jack Roe, Director
Security
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006-3708
jwr@nei.org

Mr. Charles B. Brinkman
Washington Operations
ABB-Combustion Engineering, Inc.
12300 Twinbrook Parkway, Suite 330
Rockville, MD 20852
brinkmcb@westinghouse.com

Mr. James Gresham, Manager
Regulatory Compliance and Plant Licensing
Westinghouse Electric Company
P.O. Box 355
Pittsburgh, PA 15230-0355
greshaja@westinghouse.com

Ms. Barbara Lewis
Assistant Editor
Platts, Principal Editorial Office
1200 G St., N.W., Suite 1100
Washington, DC 20005
Barbara_lewis@platts.com

Mr. Alexander Marion, Vice President Nuclear Operations
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006-3708
am@nei.org

Mr. John Butler, Director
Operations Support
Nuclear Energy Institute
1776 I Street, NW, Suite 400
Washington, DC 20006-3708
jcb@nei.org

Dennis Buschbaum
PWROG Chairman
Comanche Peak Steam Electric Station
6322 North Farm to Marked Rd 56
Mail Code E15
Glen Rose, TX 76043
Dennis.Buschbaum@luminant.com

REQUEST FOR ADDITIONAL INFORMATION

BY THE OFFICE OF NUCLEAR REACTOR REGULATION

TOPICAL REPORT 94-01, REVISION 2-A SUPPLEMENT 1, "INDUSTRY GUIDELINE

FOR IMPLEMENTING THE PERFORMANCE-BASED OPTION OF 10 CFR PART 50,

APPENDIX J"

NUCLEAR ENERGY INSTITUTE

PROJECT NO. 689

By letter dated September 2, 2009, the Nuclear Energy Institute (NEI) submitted for U.S. Nuclear Regulatory Commission (NRC) staff review Topical Report (TR) 94-01, Revision 2-A Supplement 1, "Industry Guideline For Implementing The Performance-Based Option Of 10 CFR Part 50, Appendix J." Based on the review of TR 94-01, Revision 2-A Supplement 1, the NRC staff is requesting additional information, as described below, to complete the review.

In the letter dated September 2, 2009, the NEI identified a concern with the grace period for testing the Type C components as described in NEI TR 94-01, Revision 2-A. In this letter, the NEI requested that the NRC staff approve a return to the original wording contained in the previous version of NEI TR 94-01.

This request in itself is administratively acceptable to the NRC staff. However, based on several conference calls held with the NEI, the NRC staff has noted a difference in understanding between the NEI and NRC staff as to the intent and use of the grace period contained in the original wording. The NRC staff's position in this regard is contained in the following documents, excerpts of which are quoted below:

- Regulatory Position C.1 in Regulatory Guide 1.163 "Performance-Based Contained Leak-Test Program:

  "Section 11.3.2, "Programmatic Controls," of NEI 94-01 provides guidance for licensee selection of an extended interval greater than 60 months or 3 refueling cycles for a Type B or Type C tested component. Because of uncertainties (particularly unquantified leakage rates for test failures, repetitive/common mode failures, and aging effects) in historical Type C component performance data, and because of the indeterminate time period of three refueling cycles and insufficient precision of programmatic controls described in Section 11.3.2 to address these uncertainties, the guidance provided in Section 11.3.2 for selecting extended test intervals greater than 60 months for Type C tested components is not presently endorsed by the Nuclear Regulatory Commission (NRC) staff. Further, the interval for Type C tests for main steam and feedwater isolation valves in Boiling Water Reactors (BWR), and containment purge and vent valves in Pressurized Water Reactor (PWR) and BWRs, should be limited to 30 months as

ENCLOSURE

specified in Section 3.3.4 of ANSI/ANS-56.8-1994, with consideration given to operating experience and safety significance."

- Final rule published in the "Federal Register/Vol. 60, No. 186/Tuesday, September 26, 1995/Rules and Regulations" (60FR49495) regarding the risk-informed regulation based on the performance history of components (containment, penetrations, valves) as a means to justify an increase in the interval for Type A, B, and C tests:

  "Type B & Type C Test Interval (1) Allow local leakage-rate test (LLRTs) intervals to be established based on the performance history of each component; (2) the performance criterion for the tests will continue to be the allowable leakage rate (La); (3) Specific performance factors for establishing extended test intervals (up to 10 years for Type B components, and 5 years for Type C components) are contained in the regulatory guide and industry guideline. In the regulatory guide, the NRC has taken exception to the NEI guideline allowing the extension of Type C test intervals up to 10 years, and limits such extension to 5 years."

  "In establishing the 5-year test interval for LLRTs, the NRC has designed a cautious, evolutionary approach as data are compiled to minimize the uncertainty now believed to exist with respect to LLRT data. The NRC's judgment, based on risk assessment and deterministic analysis, continues to be that the limited data base on unquantified leakages and common mode repetitive failures introduces significant uncertainties into the probabilistic risk analysis. The NRC will be open to submittals from licensees as more performance-based data are developed. The extension of LLRT test interval to 5 years is a prudent first step. By allowing a 25 percent margin in testing frequency requirements, the NRC has provided the flexibility to accommodate longer fuel cycles."

Based on the above, the NRC staff's view is that tests are not supposed to be scheduled automatically using the interval plus grace period to routinely stretch the interval to the next refueling outage after the sixty months (5 years) allowed interval. The NEI appears to be interpreting that the grace period is a permanent interval extension to allow plants on a 24-month cycle to test every third refuel outage. The NRC staff disagrees with this interpretation. As stated clearly in the *Federal Register*, the NRC is open to submittals from licensees as more performance-based data is available.

In the letter dated September 2, 2009, the NEI provided performance-based data which the NRC staff believes is inadequate to conclude that Type C component performance has improved or sustained. This letter states that based on past NEI and Appendix J Owners Group surveys, the penetration leakages did not result in violation of combined penetration leakage limit of $0.6L_a$. The NRC staff disagrees in that being within the leakage limit of $0.6L_a$ does not necessarily indicate that Type C leakage performance of the valves has improved or maintained, when compared to their performance before and during the early stages of Option B implementation.

- Please submit such data coupled with a technical basis to justify your request.
- Also, provide a discussion on the net benefits to the industry based on risk impact and reduced testing.