June 27, 2005

MEMORANDUM TO: Cathy Haney, Program Director
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

FROM: Joseph L. Birmingham, Project Manager **/RA/**
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

SUBJECT: SUMMARY OF JUNE 14, 2005 MEETING WITH NUCLEAR ENERGY INSTITUTE AND MATERIALS RELIABILITY PROGRAM ON REACTOR VESSEL INTERNALS

On June 15, 2005, Nuclear Regulatory Commission (NRC) staff met with representatives of the Nuclear Energy Institute, the Electrical Power Research Institute (EPRI) Materials Reliability Program (MRP) and industry in a public meeting at NRC headquarters in Rockville, Maryland. At this meeting, industry discussed its activities on testing and assessment of reactor vessel internals and also its schedule for future activities. NRC and the Reactor Internals Issue Task Group (RI-ITG) last met on October 23, 2003. A list of meeting attendees is provided in Attachment 1 of this memorandum. Slides used for the presentation at this meeting are in Attachment 2 (ADAMS Accession No. ML05170058).

The RI-ITG objective is to develop technically sound and cost effective aging management inspection and evaluation guidelines for pressurized water reactor (PWR) internal components. The approach of the RI-ITG is to:

- screen, categorize and rank internal components based on degradation

- perform functionality analysis (including consequence of failures)

- continue hot cell testing and integrate data to reflect material degradation properties and component performance

- define safe and effective aging management in-service inspection, mitigation, and repair/replacement decision process

- integrate results to develop aging management inspection, flaw tolerance evaluation, and functionality analysis guidelines - I&E Guidelines.

The RI-ITG presented information on hot cell testing, program material sources, BOR-60 specimen testing results, and analysis of O-ring specimen stress calculations. The RI-ITG noted that the BOR-60 specimens provide insights on aging because of the higher flux received. The types of aging were categorized based on both thermal and flux exposure.

The RI-ITG outlined its process for determining component functionality noting that this process helped categorize components for testing, identified interactions among components, and

better demonstrated component performance under degraded conditions. Functionality equates roughly to structural integrity. The RI-ITG provided additional details of its process for functionality evaluation and component analysis and gave its evaluation of the baffle former bolts found to be cracking in the early 1990s.

The RI-ITG provided a schedule of future tasks and milestones and noted that certain activities were needed in support of license renewal activities.

In summary, the RI-ITG stated that reactor internals material degradation mechanisms have been studied extensively, that data obtained from testing and to be obtained from ongoing testing will support development of irradiated material models and degradation thresholds as a function of material, fluence, temperature, and stress. The irradiated material models and degradation thresholds will support:

- the development of screening criteria and flaw tolerance technical basis,
- the evaluation of component functionality
- the disposition of inspection findings
- and the development of I&E guidelines for aging management.

Throughout the presentation, the NRC staff asked questions about the material testing, the process for determining functionality, the availability of data and reports, and the applicability of the information in support of plant license renewal programs. Industry answered the staff's questions in detail and agreed to look at the possibility of submitting completed reports to the staff for information purposes. The staff agreed that the meeting had been beneficial in furthering the staff's understanding of the RI-ITG's activities and that the I&E guidelines would be beneficial for future license renewal activities.

The RI-ITG and the staff discussed a time for the next meeting and agreed to try to meet the last quarter of 2005.

With the RI-ITG presentation completed, the staff asked for public comments and the meeting was adjourned.

Project No. 689
Attachments: As stated
cc: Via internet email

Jim Riley, Sr. Project Mgr.
Nuclear Energy Institute
internet:jhr@nei.org

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DATE	06/ 27 /2005	06/ 21 /2005	06/27/2005

OFFICIAL RECORD COPY

List of Attendees for June 14, 2005
Meeting on Reactor Vessel Internals

NAME	ORGANIZATION
Mathew Mitchell	NRC/NRR/EMCB
James Medoff	NRC/NRR/EMCB
Joe Birmingham	NRC/DRIP/RPRP
Bill Cullen	NRC/RES/MEB
Kaihwa Hsu	NRC/DRIP/RLEP
Andrea Lee	NRC/RES/MEB
Cayetano Santos	NRC/ACRS
H.T. Tang	EPRI
Cheryl Boggess	Westinghouse
Jim Riley	NEI
Charles Griffin	Progress Energy
Glenn Gardner	Dominion
Brian Kemp	NMC
Al Butcavage	Westinghouse
Mike Schoppman	Framatome ANP
Deann Raleigh*	LIS, Scientech

*via telecon

Distribution: Mtg w/NEI MRP&EPRI on RV Internals 6/14/05
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