

April 21, 2006

MEMORANDUM TO: Eileen M. McKenna, Chief  
Financial, Policy and Rulemaking Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

FROM: Joseph L. Birmingham, Project Manager **/RA/**  
Financial, Policy and Rulemaking Branch  
Division of Policy and Rulemaking  
Office of Nuclear Reactor Regulation

SUBJECT: SUMMARY OF FEBRUARY 22, 2006 PUBLIC MEETING ON MATERIAL  
DEGRADATION MANAGEMENT

On February 22, 2006, senior management and staff of the Nuclear Regulatory Commission (NRC) 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 presented a review of recent and ongoing MRP activities, the details of a reorganization of the MRP accomplished in late 2005, and discussed plans for existing and future material degradation projects. A list of meeting attendees is provided in Enclosure 1 of this memorandum. The industry slide presentation for this meeting is in Enclosure 2 (ADAMS Accession No. ML060580050).

The MRP was formed in the late 1990s to proactively address reactor coolant system (RCS) material condition issues. Currently, the MRP addresses material degradation issues for RCS pressure retaining vessels (except steam generators), piping and pipe components, and reactor pressure vessel (RPV) internals for pressurized water reactors. The MRP activities include resolving existing and emerging materials issues, developing methodologies to manage materials issues, and identifying inspection and evaluation guidance. The MRP coordinates its activities with other industry material issues groups such as the Boiling Water Reactor Vessel Internals Program, the Fuel Reliability Program, and the Steam Generator Management Program. The MRP also coordinates with the American Society of Mechanical Engineers (ASME) and the industry owners groups.

The MRP discussed its recent reorganization with NRC management identifying the various issue task groups and the responsible chairpersons for each. MRP then gave an overview of the roles and responsibilities of each group. NRC management asked about the purpose of the new Technical Advisory Group (TAG). MRP explained that it was chaired by a MRP Issues and Integration Group Vice Chair and had one core member from each utility. The TAG is responsible for distributing MRP information to appropriate personnel in each core member's parent company, providing comments on MRP products, and presenting and sharing utility experience reports on materials issues.

The MRP discussed the various ongoing MRP activities including maintaining the Degradation Matrix and Issue Management Tables, completing activities for RPV head penetrations, RPV bottom mounted nozzles, boric acid corrosion, Alloy 600 Management Plan, degradation of

dissimilar metal butt welds, Thermal Fatigue Management Plan, Pressurized Thermal Shock Plan, RPV Integrity Plan, and RPV Internals Plan.

During the presentation of the MRP activities, NRC management asked questions on the interaction of those programs with the NRC. NRC management asked a question regarding the MRP's understanding of assuring RCS boundary integrity. The MRP representative responded that the intent was to have high assurance that the RCS will not leak but recognized that it is not possible to provide an absolute guarantee of no leakage. Therefore, it is necessary to implement technologies to address degradation mechanisms and to detect degradation in order to maintain the risk of leakage at an acceptably low level. Regarding dissimilar metal butt welds, MRP discussed the use of preventive or mitigative strategies such as preemptive weld overlays. NRC stressed that the goal must remain to prevent RCS leakage as required by regulations. This issue will be the subject of further discussion by the MRP and NRC staff. Details of the various MRP programs for leakage management are provided in Enclosure 2.

The MRP identified key issues for 2006 including implementation of MRP-139 on primary system piping butt weld inspection and evaluation guideline for PWR Alloy 82/182 welds, completing the PWR Issue Management Table, nondestructive examination qualification (NDE) program for MRP inspection activities, and supporting the NRC rulemaking for revised pressurized thermal shock (10 CFR 50.61). Other issues discussed by the MRP included increasing regulatory confidence in the MRP organization.

During the discussion of its programs, MRP agreed to: look into providing a chart of scheduled MRP products for NRC use, look into resolving the proprietary status of MRP-139 so that the information can be used by ASME in developing a code case, check on information on weld overlay for cast stainless steel, inform NRC of planned actions to address unidentified RCS leakage that is less than the technical specifications limit of 1 gallon-per-minute, and inform NRC as to the portions of the RPV internals program that would require NRC Safety Evaluations (SEs) to allow NRC to schedule resources.

At the end of the meeting, the NRC asked for public comments. Mr. Daniel Horner, of McGraw Hill, asked what was the annual budget for the MRP. NEI indicated the budget was about \$50 million annually. Having concluded the agenda, the meeting was adjourned.

Project No. 689

Enclosures: As stated

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NAME	JBirmingham	TSullivan	TChan	EMcKenna
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**List of Attendees for February 22, 2006  
Meeting of EPRI MRP and NRC Senior Management**

<b><u>NAME</u></b>	<b><u>ORGANIZATION</u></b>
Jim Dyer	NRC/NRR
Brian Sheron	NRC/NRR
Jack Grobe	NRC/NRR/DCI
Bill Bateman	NRC/NRR/DCI
Terence Chan	NRC/NRR/DCI
Kim Gruss	NRC/NRR/DCI
Ted Sullivan	NRC/NRR/DCI
Cayetano Santos	NRC/ACRS
Jay Collins	NRC/NRR/DCI
Joe Muscara	NRC/RES
Jennifer Uhle	NRC/RES/DET
Mathew Mitchell	NRC/NRR/DCI
Joe Birmingham	NRC/NRR/DPR
Joe Golla	NRC/NRR/DPR
Christine King	EPRI
Dave Steininger	EPRI
Greg Selby	EPRI
Mohammed Behravesh	EPRI
Jim Riley	NEI
Alex Marion	NEI
Michael Coyle	NEI
Jeff Gasser	Southern Nuclear
Mike Robinson	Duke Power
Leslie Hartz	Dominion
Jeff Sharkey	NRC/OCM
William Sims	Entergy
Dennis Weakland	First Energy
Bob Hardies	NRC/NRR/DCI
Kevin Ennis	ASME
Ken Balkey	ASME/Westinghouse
Don Grissett	Southern Nuclear
Rick Mullins	Southern Nuclear
Nancy Chapman	Serch/Bechtel
Daniel Horner	McGraw Hill

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