

October 26, 2006

FACILITY: ELECTRIC POWER RESEARCH INSTITUTE  
PALO ALTO, CALIFORNIA

SUBJECT: SUMMARY OF OCTOBER 17 AND 18, 2006 MEETING WITH  
ELECTRIC POWER RESEARCH INSTITUTE ON MATERIALS  
ENGINEERING RESEARCH PROGRAMS

On October 17 and 18, 2006, a Category 2 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) staff from the Office of Nuclear Regulatory Research (RES) and representatives of the Electric Power Research Institute (EPRI) at EPRI in Palo Alto, California. The purpose of the meeting was to discuss evaluations of primary system materials degradation mechanisms and associated research programs.

Representatives from the EPRI Materials Reliability Program (MRP) and BWR Vessel and Internals Program (BWRVIP) presented the Materials Degradation Matrix (MDM) and the BWR and PWR Issue Management Tables (IMTs). The MDM is arranged by plant type, component, materials and degradation mechanism, and contains a series of hyperlinks, including footnotes. The MDM is also color-coded in order to identify areas that need further or future research. The IMTs incorporate the information from the MDM and are used as tools for assessing vulnerabilities and priorities for materials degradation research. The output of the IMTs is a PWR and BWR gap analysis and prioritization of future work. EPRI presented the methodology and the results of the gap analysis which may revise current work and define future research. The NRC then presented the majority of the RES programs, with the exception of non-destructive examination and fuels. The NDE programs will be discussed at length at the EPRI NDE center the week of October 23. The EPRI fuels activities have been organized into a separate MDM/IMT structure, which will be reviewed at a future meeting.

An overview of the NRC's Proactive Materials Degradation Assessment (PMDA) was presented. Robin Jones of EPRI was a participant in both the PMDA and MDM efforts, and noted that the information gained from both activities is mostly very consistent. EPRI also presented specific research on corrosion mechanisms, steam generators, water chemistry efforts, and the new plant initiative.

Please direct any inquiries to me at (301) 415-7143, or [adw1@nrc.gov](mailto:adw1@nrc.gov).

Enclosures: 1. Agenda  
2. List of Attendees

At the end of the meeting, EPRI and NRC committed to evaluate the MDM, IMT, and PMDA to identify areas of mutual interest. The NRC and EPRI agreed to meet on a semi-annual basis, with February 2007 proposed for the next meeting. A member of the public was in attendance, and a public meeting feedback form was not received.

Sincerely,

**/RA/ Eric Reichelt for**

Andrea D. Valentin, Branch Chief  
Corrosion and Metallurgy Branch  
Division of Fuels, Engineering and Radiological Research  
Office of Nuclear Regulatory Research

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Office of Nuclear Regulatory Research

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|--------|-------------|---------------------------|------------------------------|-----------------------|
| NAME   | A. Valentin | SUNSI Review (originator) | Div. Secretary Andrea V. For | J. Uhle Andrea V. For |
| DATE   | 10/26 /06   | 10 /26 /06                | 10 /26 /06                   | 10 /26 /06            |

## EPRI-NRC Meeting on Materials Research and Development

### AGENDA

**October 17, 2006**

|           |   |                     |
|-----------|---|---------------------|
| 8:00 a.m. | Welcome and Logistics   | Robin Jones         |
| 8:15      | Meeting Objectives and Review Agenda                                | Robin Jones/J. Uhle |
| 8:30      | Materials Degradation Matrix  | Robin Jones         |
| 9:15      | History Behind Today's BWR IMT                                      | Robin Dyle          |
| 9:45      | BWR IMT Structure/Format  | Robin Dyle          |
| 10:15     | Break   |                     |
| 10:30     | BWR IMT Structure/Format  | Robin Dyle          |
| 11:00     | BWR Gap Prioritization  | Robin Dyle          |
| 11:15     | BWR Gap Results   | Robin Dyle          |
| 12:00     | Lunch   |                     |
| 1 :00     | PWR IMT Structure/Format  | D. Steininger       |
| 1:30      | PWR Gap Prioritization Methodology                                  | D. Steininger       |
| 2:00      | Gap Prioritization Results  | D. Steininger       |
| 2:30      | Coordination with Owners Group, BWRVIP, International Organizations | D. Steininger       |
| 2:45      | NRC Materials Research  | NRC                 |
| 3:15      | Break   |                     |
| 3:30      | NRC Materials Research  | NRC                 |
| 4:30      | NRC PMDA–Introduction   | NRC                 |
| 5:30      | Adjourn   |                     |

**October 18, 2006**

|           |   |                             |
|-----------|---|-----------------------------|
| 8:00 a.m. | Recap of Yesterday's Events                             | Robin Jones                 |
| 8:15      | Continuation of NRC Research                            |                             |
| 10:00     | EPRI MRP Materials Research                             | C. King/MRP<br>Personnel    |
| 11:00     | EPRI Corrosion Research                                 | Raj Pathania                |
| 12:00     | Working Lunch/Steam Generator Research                  | M. Behraves                 |
| 12:45     | Water Chemistry Efforts<br>(Primary and Secondary {SG}) | K. Fruzzetti                |
| 2:00      | BWRVIP Materials Research                               | R.Stark/BWRVIP<br>Personnel |
| 2:45      | New Plant Initiative                                    | Tom Mulford                 |
| 3:15      | Break   |                             |
| 3:30      | Identification of Areas of Mutual<br>Interest           | All                         |
| 4:00      | Conclusions and Action Items                            | All                         |
| 5:00      | Adjourn   |                             |

List of Attendees  
Evaluations of Primary System Materials Degradation Mechanisms and Associated  
Research Programs.  
October 17 and 18, 2006

| NAME              | AFFILIATION         |
|-------------------|---------------------|
| Robin Jones       | EPRI                |
| David Steininger  | EPRI                |
| Randy Stark       | EPRI                |
| David Modeen      | EPRI                |
| Thomas Jordan     | South Texas Project |
| Christine King    | EPRI                |
| Robin Dyle        | Southern Nuclear    |
| Raj Pathania      | EPRI                |
| Mohamad Behravesh | EPRI                |
| Keith Fruzzetti   | EPRI                |
| Tom Mulford       | EPRI                |
| Shannon Chu       | EPRI                |
| Jennifer Uhle     | NRC                 |
| Robert Hardies    | NRC                 |
| Andrea Valentin   | NRC                 |
| William Cullen    | NRC                 |
| Aladar Csontos    | NRC                 |
| Randy Lott        | Westinghouse        |