

NRC/MRP/NEI Meeting
on
CRDM Cracking

April 12, 2001

Agenda

- Oconee Experience
- B&W Plant Design Safety Assessment
- Industry Experience - Under-Insulation Head Inspections
- Generic Safety Assessment Status
- Inspection Planning
- NDE Issues
- Plants with Near-Term Outages
- Future Plans

Industry Experience - Under Insulation Head Visual Inspections

- Plants Inspected (preliminary as of 4/11/01)
 - Oconee 1 - all penetrations each cycle
 - Oconee 2 - all penetrations each cycle
 - Oconee 3 - all penetrations each cycle
 - ANO 1 - all penetrations each cycle
 - Davis Besse - all penetrations each cycle
 - Crystal River 3 - all penetrations each cycle
 - TMI 1 - all penetrations each cycle
 - McGuire 1 - '01 - 11 penetrations
 - North Anna 1 and 2 - all penetrations each cycle
 - SONGS 2 - 10/00 - 24 (30%) CEDM and all 10 ICI penetrations
 - SONGS 3 - 1/01 - 24 (30%) CEDM and all 10 ICI penetrations
 - Farley 1 and 2 - '95 (partial)
 - Cook 1 - '94
- Survey in progress

RPV Head Penetration Generic Safety Assessment

- Circumferential flaw safety assessments submitted in '94
 - Must have primary water in annulus to get circumferential cracking above the weld
 - Only small fraction of cross section required to maintain integrity
- Structural integrity and Code margins have been maintained
- Preliminary safety assessment to be submitted with hot leg cracking assessment
- Effects of recent findings will be incorporated into a final safety assessment after more comprehensive evaluation

Inspection Planning

- Plants already ranked (base metal) in response to GL 97-01
- Under Head Inspections performed and planned based on industry histogram
- Issues raised by recent inspections:
 - Highly ranked sister plants
 - Circumferential flaws
 - Weld/OD cracking
 - Severity of cracking
- Impact on Industry Inspection Program being evaluated
 - Type of inspection
 - Which plants
 - Timing

NDE Issues

- Demonstration program for Inspectors initiated in '93-94
- Focused on ID surface connected base metal flaws (axial and circumferential)
- Lessons learned from recent events:
 - Interpretation of circumferential indications
 - OD and weld inspection techniques are being evaluated
 - Tooling enhancements may be required
 - Visual inspection tooling (remote, etc.)

Plants with Near-Term Outages

- Spring '01
 - Significant number of visual inspections have been performed
 - No structural limits compromised
 - Additional visual inspections are already planned, where practical
 - Visual bare metal inspection very difficult for many units
 - Unplanned outage activities are expensive
 - Time, dose, and cost
 - Continue with MRP guidance for Spring outages
- Fall '01
 - Inspection recommendations will be reissued for fall outages, addressing:
 - availability of improved inspection and repair tooling
 - improvements to existing inspection techniques
 - inspection demonstrations

Future Plans

- Submittal of Preliminary Safety Assessment - About 4/27
- Compile Inspection Experience - About 4/20
- Revision of inspection recommendations for Fall outages - About 6/30
- Final Safety Assessment - About 6/30
- Long Term Inspection and Evaluation Guidelines being developed
- Continued communication and meeting as needed