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MRP Inspection ITG Report

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PDI/NRC Meeting

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MRP Inspection ITG
Overview

- Proposed Draft Rulemaking
- Qualification Programs
- PWR Internals
- MRP Activities

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Proposed Draft Rulemaking SC XI and N-729-1

- NRC issued Proposed Rule ~ 4/2007
  - Adopts 2004 Edition of SC III & SC XI
  - Code case N-729-1: Accepts with 5 conditions (CRDM)
    - Does not allow SC V, Art. 14 Low rigor
    - Conditions related to flaw locations and unreasonable sizing accuracies
  - Revised Program Description for CRDMs to include MRP comments to NRC conditions (1015140)
    - Probably won't require new CRDM/CEDM mockups
    - Implement in September 2009

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MRP Comments to Rulemaking Summarized

- Do not increase inspection frequency for Alloy 690 heads
  - Based on recent crack growth work
  - MRP has technical basis for CC frequency
- NRC shouldn't add conditions to consensus document
- Surface examinations should not be required for J-groove welds due to safety, cost and dose – Allow Leak path assessment
- 95% exam coverage is adequate
- Qualify procedures to Article 14, Intermediate rigor and delete conditions
  - MRP proposed alternatives to conditions
  - Alternatives allow use of existing CRDM mockups

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Proposed Draft Rulemaking
Revised PTS Rule

- Overall a beneficial revision
  - Allows all plants to run for 60-80 years
  - Uses probabilistic analysis to reduce uncertainties and conservatisms
- If plant exceeds existing PTS screening criteria can voluntarily use new criteria and methodology
  - Requires recalculation of PTS screening criteria using new formula that adds P and Mn and new neutron fluence term
  - Requires reanalysis of App VIII RPV exam results but determine flaw density using all indications regardless of size for inner 3/8 T
  - Performed similar reanalysis for BV using RG 1.150 UT and flaw density increased from ~ 100 to 150 and was still acceptable
- Comments due Dec 17 and MRP is developing comments

The "Proposed PTS Rule" is available on the NRC's Web site by entering ML072750659 at this address: http://adamswebsearch.nrc.gov/dologin.htm

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NDE Qualification Programs

- CRDMs
  - Program Description and protocol to be published (1015140)
  - Grandfathering mockups and previous demonstrations now
  - Leak Path demonstration
  - Scheduled to have procedure and personnel quals in place by 9/2009
- BMNs
  - MRP's Assessment ITG developing I&E guide- VT & UT
  - Fabricating 3-loop mockup

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PWR Internals

- Inspection issues
  - I&E guidelines will be drafted by 12/2007 & final by 12/2008
    - Mostly VT-3 and some VT-1 inspections
    - UT of bolting likely: Baffle - Former & Core Barrel likely
  - Inspection Standard will be drafted by 3/2008 & final by 12/2008
    - Similar to BWRVIP-03
    - Component NDE requirements and justifications
  - May be implemented in 20010 for License Renewal or Power Up-rate
- Bolting
  - Completed Core Barrel demonstrations using Duke Energy spare bolting
  - Also including Baffle-Former bolting into Inspection Standard

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2009 Priorities Inspection ITG

Half also funded by NDEPGSC, TI & BWRVIP in 2007-8

Final Ranking		Average Priority
1	CRDM Quals	H
2	Improve leak path assessment techniques	H
3	Upper Head NDE technique development	H
4	CRDM ECT/surface exam mockups	M
5	Filmless RT	M
6	Profilometry/surface examinations	M
7	Baffle bolts	M
8	PWR Vessel Internals course	L
9	New Plant construction	L
10	Bolt stress relaxation	L
11	NDE for SCC of Stainless Steel	L

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Major MRP Activities

- Completed finite element analysis to allow 9 plants to complete smaller diameter DM butt weld examinations in 2008.
- Completing draft of vessel Internals I&E Guideline
- Developing an I&E Guideline for BMNs
  - Draft contains 4 inspection options
    - Three are VTs – combination of BMV, VT-2 & walk-down
    - One for volumetric with VTs
- Issued revision to Thermal Fatigue inspection report
  - Requires UT training
  - MRP-146

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Questions ?

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MRP Comments to Rulemaking

Summarized Qualification Comments

- Increase flexibility for sizes and orientation for flaws
- Allow TJs and modeling to change essential variables
- Use .125” RMS for depth and .375” RMS for length sizing
- Current mockups don’t meet conditions
- Allow qualified Leak Path Assessment instead of surface examination of J-groove welds
- Use TJs to adopt qualified procedures to other head penetrations

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