

POOR ORIGINAL

This summary would have been nice in the NUREG MRA (9/17)

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MEMORANDUM FOR: L. C. Shao, Acting Assistant Director
for Engineering Programs
Division of Operating Reactors

FROM: V. S. Noonan, Chief
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SUBJECT: SUMMARY OF ADDITIONAL GUIDELINES/REQUIREMENTS PRESENTED
IN NUREG-0313, REV. 1 AS COMPARED WITH NUREG-0313 (GENERIC
TASK NO. A-42)

Per your request, attached is a brief summary of the major additional guide-
lines or requirements presented in the proposed NUREG-0313, Rev. 1, "Technical
Report on Material Selection and Processing Guidelines for BWR Coolant Pressure
Boundary Piping" as compared with the original NUREG-0313.

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Attachment: As stated

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SUMMARY OF ADDITIONAL GUIDELINES/REQUIREMENTS
PRESENTED IN NUREG-0313, REV. 1 AS COMPARED
WITH NUREG-0313

1. Selection of Materials

- . Acceptable corrosion resistant materials for piping, safe ends, and thermal sleeves are clearly specified in Rev. 1, which contains the following materials:
 - . Ferritic steels.
 - . L-grade and Nuclear Grade SS.
 - . Type CF-3 Cast SS.
 - . Type 308 L SS weld metal (5% minimum ferrite).
 - . Regular grade SS in the solution-annealed condition.
- . Acceptable corrosion resistant materials for piping and safe ends in NUREG 0313 are:
 - . SS with $<0.035\%$ carbon (L-grade SS belong to this group)
 - . SS with $\geq 0.035\%$ carbon in the solution-annealed condition (Regular grade SS belong to this group).

2. Testing of Materials

Practices A and E of ASTM A-262 are required for all newly installed regular grade SS. These two practices are included in Reg. Guide 1.44. However, MUREG 0313 does not clearly state that Reg. Guide 1.44 is a requirement.

3. Service Sensitive Lines

Clearly stated in Rev. 1 that all service sensitive lines were and will be designated by NRC. Examples of service sensitive lines include the following additional systems:

- . Recirculation riser lines.
- . Recirculation inlet lines with crevices formed by thermal sleeve attachment.

4. Leak Detection Requirements

Plant shutdown should be initiated if the specified limits are exceeded within a period of 24 hours or less instead of the 4 hours or less period required in NUREG-0313. However, for sump level monitoring systems, the level is still monitored at 4 hours intervals or less.

5. Augmented Inservice Inspection Requirements

- . Augmented ISI of nonconforming ASME Code Class 2 pressure boundary piping including those in the ECC, RHR, and CHR systems has been added in Rev. 1.

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- . ISI of all internal attachments to safe ends that are not through-wall welds but are welded to or form part of the pressure boundary is required. This ISI is not currently required by the ASME Code.
 - . Augmented ISI of nonconforming, service sensitive (creviced) safe ends has been added in Rev. 1.
 - . ISI sampling plans for Code Class 1 & 2 piping has been updated to comply with the most recent NRC position.
 - . The ineffectiveness of the current Code UT procedures in detecting and evaluating the IGSCC in SS piping is mentioned and the use of the currently available improved UT techniques in ISI is required in Rev. 1.
6. Implementation of Material Selection, Testing, and Processing Guidelines
- . For plants under review, but for which a CP has not been issued, all lines (Class 1 & 2) should conform to the guidelines stated in Rev. 1 instead of only limiting to all Class 1 service sensitive lines as specified in NUREG-0313.

7. General Recommendations

In addition to (1) minimizing the stagnant or low flow coolant pressure boundary piping and (2) reducing the oxygen content of the primary coolant identified in NUREG-0313, eight other items that require further consideration are recommended in Rev. 1. These items, that are expected to lead to means of limiting the extent of IGSCC and improving the chance of detecting such IGSCC, were recommended by PCSG in NUREG-0531.