



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

840730

Docket No. 50-458

APPLICANT: Gulf States Utilities Company (GSU)
FACILITY: River Bend Station
SUBJECT: SUMMARY OF MEETING CONCERNING THE PRESERVICE/INSERVICE
INSPECTION PROGRAMS

The meeting was held in Bethesda, Maryland on May 1, 1984. The enclosure includes a meeting summary and participant list.

Two topics of discussion at the meeting were the recording level for ultrasonic indications in piping welds susceptible to Intergranular Stress Corrosion Cracking (IGSCC) and the examination of the inner radius region of the reactor vessel feedwater inlet nozzles. The Applicant requested written staff positions concerning these issues since the Applicant's current plans for the inspections are different from the practices at other utilities.

Recording of Ultrasonic Indications in Piping Systems Susceptible to IGSCC

The Applicant has removed the "service sensitive" piping systems and installed replacement piping with "conforming" materials based on NUREG-313, Revision 1. Stress improvement procedures such as IHSI are not planned. Therefore, the Applicant intends to perform the preservice ultrasonic testing (UT) using Section XI procedures and report UT indications at the 50% DAC level based on notch calibration standards for establishing the sensitivity.

The staff position is that the Applicant should record ultrasonic indications at the 20% DAC level in austenitic stainless steel piping systems that are potentially susceptible to IGSCC. The basis for this conclusion is the staff anticipates that inservice inspections for the detection of IGSCC will be required at a higher ultrasonic sensitivity level than currently required by Section XI of the Code. Inservice examinations performed with augmented UT procedures, such as required by Generic Letter 84-11, probably would identify a significant number of inherent geometric and metallurgical reflectors that would not be reported using a 50% DAC criterion. The preservice examination should provide a relevant baseline to minimize the evaluation of innocuous reflectors in radiation environments during inservice inspections.

Examinations of the Reactor Vessel Feedwater Inlet Nozzles

The Applicant performed the preservice inspection of the reactor vessel in the 1978-1979 time frame and considers this activity to be completed. This examination did not include UT and surface examination of the inner radius of the feedwater inlet nozzles. The triple-sleeve feedwater spargers have not been installed. The Applicant has not finalized arrangements to use a full-scale mockup to qualify his UT procedure.

NUREG-619 was published and transmitted to Applicants and Licensees for implementation to resolve Generic Activity A-10. The staff position is that the Applicant should perform the liquid penetrant and ultrasonic examinations described in NUREG-619, paragraph 4.3.2.5 "Preservice Inspections at BWRs Undergoing Operating License Review."

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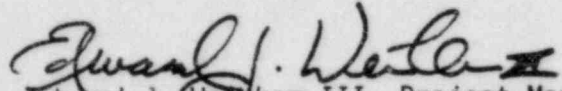
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NUREG-619 was published and transmitted to Applicants and Licensees for implementation to resolve Generic Activity A-10. The staff position is that the Applicant should perform the liquid penetrant and ultrasonic examinations described in NUREG-619, paragraph 4.3.2.5 "Preservice Inspections at BWRs Undergoing Operating License Review."



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SUMMARY
RIVER BEND PSI PLAN MEETING
May 1, 1984
NRC Phillips Building

The meeting opened at 1 p.m. and was attended as shown in Attachment 1. Attachments 2 and 3, Agenda & Discussion Items, were used to guide the meeting.

Prior to covering the agenda, the applicant was advised that a report will be released (draft NUREG-1061) covering recommendations of the Piping Crack Study Group that could impact the PSI. This report will recommend that stress improvement processing such Induction Heating Stress Improvement (IHSI) be performed even for "conforming" material. Since this is different from guidance in NUREG-0313, Revision 1, the utility should review their plans after NUREG-1061 is published for comment. If the utility decides to apply IHSI, the preservice examinations should be performed following the IHSI considering the guidance in Generic Letter 84-11.

The following action items resulted from the meeting:

- A. The applicant plans to have a complete PSI plan submitted by October 1, 1984.
- B. The applicant should make a formal request to use the W-83 Addenda for selection of methods and the sample for preservice examination of Class 2 piping welds.
- C. The applicant should provide a summary covering an evaluation of the reactor vessel examinations.
- D. The applicant will review his current plans to record ultrasonic indications at the 50% DAC level in systems susceptible to IGSCC. The staff will advise the applicant of any requirements to record indications during the PSI at the 20% DAC level.

- E. The staff will review NUREG-619 and advise the applicant of any special examination recommendations for the feedwater nozzles.
- F. The applicant should describe any specific plans regarding procedure and personnel qualification for UT of service-sensitive piping.

The objectives of the NRC review of the PSI program are to assure that the sample of welds and components selected for examination meet ASME Code and 10 CFR 50 requirements and that the ultrasonic procedures are effective. The relief requests are valuable for assessing the limitations to future generic augmented ISI requirements that may result from inservice degradation. The UT procedures for piping and bolting were requested for information.

The applicant stated that Class 1 examination were just starting and that the PSI plan would be completed and submitted for staff review by October 1984. The applicant stated no sampling was being used for Class 1 welds; all welds including 100 percent of seam welds will be examined. Rockwell will perform the automated examinations, which is now limited to the reactor vessel. EBASCO will perform the majority of the manual nondestructive examinations under contract to Rockwell. The applicant is preparing the PSI program using a unique computer program that generates detailed color graphic examination isometric drawings. Currently, the PSI and ISI programs are in one document. Since different ASME Code requirements may be applicable, the applicant should clearly distinguish the ISI plan. For the PSI review, details of individual support examinations or a complete listing of all Class 3 welds are not required for the visual inspection program. The snubber tests required by the Technical Specifications are not part of the MTEB review.

The PSI on the reactor vessel was done in 1978-1979 timeframe at the Chicago Bridge and Iron shop by Rockwell using calibration blocks made from nozzle dropouts. The applicant considers the examination essentially complete and agreed to submit an evaluation of the reactor vessel examination results as compared with Regulatory Guide 1.150. Rockwell will qualify an automated UT technique for nozzle inner radius examinations specifically for the feedwater nozzles. However, arrangements to use a full-scale mockup have not been finalized. The goal is to eliminate the inside surface examination from the ISI program that may be required by NUREG-619. The applicant does not plan to perform additional examinations when the triple-sleeve feedwater spargers are installed. The staff suggested that both a surface examination and an ultrasonic examination be performed prior to installation of the spargers. The reactor vessel studs were examined with ultrasonics from both ends based on Article 5 of Section V and dye penetrant on the outside diameter. These studs have a center bore hole. The inservice inspection of the reactor vessel shell welds will be performed with temporary tracks that can be moved around the vessel.

In systems covered by NUREG-313, Revision 1, the installed 304 stainless steel piping was cut out and replaced with "conforming" material; i.e., grades 304L, 316L or 316K. Stress improvement, such as IHSI, was not performed and is not planned. The applicant will review NUREG-1061 when it is available and make a decision on appropriate action, if any. The preservice ultrasonic examination of piping system welds will be performed based on Section XI, Appendix III requirements including calibration on notches and recording levels. The staff requested a copy of the UT procedure for information. The containment penetrations at River Bend are of an integrally forged flued head design.

The PSI requirements for component supports was discussed. Since subsection IWF of Section XI does not apply for the PSI, the program for the examination of supports will include the supports of components subject to examination. The applicant will be performing the preservice examinations of supports after fuel loading and initial criticality as typical with other BWRs.

Attachment 1
Riverbend PSI Plan Meeting
May 1, 1984

ATTENDEES
Riverbend PSI Plan Meeting
May 1, 1984

<u>Name</u>	<u>Affiliation</u>
Jim Blakley	GSU, Engineer (ISI)
C. Y. Cheng	NRC/MTEB
J. F. Cook	EG&G Idaho, Inc.
Arthur E. Goldman	GSU, Site Engineer/RB
M. R. Hum	NRC/MTEB
Donald G. Mason	Rockwell, Program Manager, Nuclear Servicing
Oscar de Miranda	GSU, Q.A. Engineer
Ted G. Parker	Rockwell, Project Manager (ISI)
John E. Price	GSU, Licensing
E. J. Weinkam III	NRC/DL

AGENDA FOR RIVERBEND/NRC MEETING

April 1984

Topics of Discussion:

1. Objectives of Review.
2. Overview of Schedule and Status of PSI.
3. Review of Proposed PSI Plan.
4. Examination Sampling Criteria and Exemptions Based on IWB-1220 and IWC-1220.
5. Reactor Vessel Examination - Calibration Blocks, Procedures, Results, Areas that are Impractical to Examine, Regulatory Guide 1.150, and Examination for Near Surface Defects with Respect to Gating.
6. Nozzle Examinations.
7. Piping System Examinations - Procedures, Examination Coverage, Practice with One-Side Access, Practice with Limitations to Examinations, and Results.
8. UT of Bolts and Studs.
9. Relief Requests.
10. NRC Questions and Discussions.

DISCUSSION ITEMS FROM RIVERBEND
PSI PLAN REVIEW

2.0 SUMMARY

Page 2, bottom of page:

- o Qualification of procedures and equipment for detecting IGSCC per I&E bulletin 83-02.
- o Qualification of personnel for above.
- o Applicability of 'demonstrated' procedures to ISI or both PSI and ISI.

3.0 APPLICABLE DOCUMENTS

Page 5, 3.3(b):

- o Specific Code Cases to be applied.
- o Code Case N-335 for piping examination.
- o Code Case N-375-1 for UT of bolts and studs.

Page 6, note (1):

- o Sampling plan for RHR and ECCS piping relative to the 74 Code with S-75 Addenda or pending Code Case.

4.0 QUALITY ASSURANCE

Page 8, paragraph a:

- o Relative to NDE procedures and calibration blocks, specific deviations and methods of 'demonstrating equivalence'.

5.0 INSPECTION INTERVALS

Page 10, last sentence:

It is stated that no examination shall be performed that requires drainage of the reactor vessel or removal of the core solely for the purpose of accomplishing the examination. The applicability of this statement to the ISI plans for the reactor vessel will be discussed.

6.0 PRESERVICE EXAMINATION

Page 11, third paragraph:

- o PSI for vessels shall be performed after system pressure test.

Page 11, next to last paragraph: (Reference Reg Guide 1.150)

- o Actual shop examination practices relative to Reg Guide 1.150 recommendations.

Page 12, last paragraph:

- o 'Checkout' for ISI and calibration and qualification of nozzle scans.

11.0 EXAMINATION METHODS AND PROCEDURES

Page 24, 11.1.3 - Volumetric Examination:

- o Specific areas that may receive RT in lieu of UT.

Page 24, last paragraph:

- o 'Similar' or 'compatible' methods of data acquisition and the applicability.

Page 25, 11.2:

- o Schedule for submission of procedures.

12.0 CALIBRATION BLOCKS

Page 27:

- o 'Same' acoustic properties relative to same 'P-group' and the methods to check acoustic properties.

APPENDIX B - DRAWINGS AND TABLES

- o Color coding and method of determining examination points on drawings.
- o Indication of exempted lines, components on computer-generated tables.

DISCUSSION ITEMS FROM REVIEW OF RIVERBEND

RESPONSE TO QUESTION 250.1

- o 100% DAC sizing.
- o Demonstration of procedures for detection of maximum size flaws.
- o Qualification relative to I&E bulletin 83-02.