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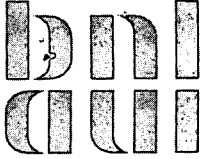
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SUBJECT: Forwards insp rept on 870915-18 w/comments in draft format
 in order accommodate inclusion of author comments & findings
 into final audit team rept.

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Department of Nuclear Energy

September 30, 1987

Dr. B. D. Liaw
Engineering Branch
Office of Special Projects
TVA Project
U. S. Nuclear Regulatory Commission
Mail Stop EWW 325
Washington, DC 20555

Dear Dr. Liaw:

During the period September 15-18, 1987, I participated as a member of a USNRC Inspection Team at TVA Bellefonte Nuclear Power Station.

The purpose of this inspection was to:

- review TVA WP Phase II in process reinspection results/data,
- witness TVA WP Phase II in process reinspections,
- perform independent field evaluation of reported visual and non-destructive examination of rejected pipe welds, and
- provide independent evaluation of inspection personnel through field observations of inspection technique, procedure adherence and interviews.

Audit participation was provided as outlined in FIN A-4001.

The attached inspection report with comments is being sent in draft format in order to accommodate inclusion of my comments and findings into the Final Audit Team Report being drafted by the Inspection Team Leader, Mr. Glen Walton.

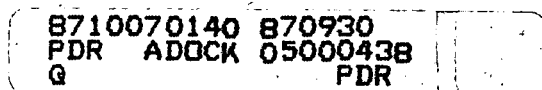
Very truly yours,

M. H. Schuster
Nuclear Waste and Materials
Technology Division

/amc

Enclosure

pc: C. Czajkowski
G. Georgiev
R. Herman
D. Smith
G. Walton



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DRAFT INSPECTION REPORT

INSPECTION TOPIC: NRC Welding Team Inspection, TVA Welding Reinspection Plan, Bellefonte Nuclear Power Station

Date: September 15-18, 1987

Inspection Report No.:

Objective:

Review TVA Weld Project (WP) Phase II reinspection plan in process reinspections.

Inspection Tasks:

1. Review TVA WP Phase II in process reinspecton results/data.
2. Witness TVA WP Phase II in process reinspections.
3. Perform independent field evaluation of reported visual and non-destructive examination of rejected pipe welds.
4. Provided independent evaluation of inspection personnel through field observations of inspection technique, procedure adherence and interviews.

Documents Reviewed:

- Bellefonte Nuclear Plant Welding Project Reinspection Plan Phase 2, Part 2.
- Bellefonte Mechanical Weld Reinspeciton Weld and Data List (Modified since August 17-21, 1987 NRC Team Inspection).
- Nondestructive Examination Procedures N-PT-1, N-MT-1 and N-VT-3.
- Bellefonte Nuclear Plant Weld Project Log (Conditions identified outside scope of reinspection plan).

Personnel Contacted:

C. Hatmaker	K. Caldwell
R. Montgomery	S. Varnon
D. Allen	J. Smith
R. Baxendale	R. Horton

Sample Selection:

Piping: All rejected mechanical piping welds identified by TVA personnel were selected for field evaluation and reinspection document review.

Containment Liner: All rejected containment liner welds identified by TVA personnel were selected for field evaluation and reinspection document review.

Weld Reinspection Status: Reinspections started September 10, 1987 - Work schedule 10 hours per day 7 day work week.

Piping Mechanical:

Total piping mechanical welds selected for reinspection	500
Piping mechanical welds visual examination and NDE completed	155
Piping mechanical welds visual examination and NDE completed under evaluation (non-conformance outside weld inspection zone)	04
Piping mechanical welds visual examination rejects	14
Piping mechanical welds MT/PT examination rejects	4
Piping mechanical welds rejected -- Total	18

Containment Liner:

Total containment liner welds selected for reinspection	51
Containment liner welds examination complete	51
Containment liner welds visual examination rejects	4
Shear lug/attachment welds -- No reinspections completed at this time.	

Weld Reject Data:

Piping Mechanical

Weld Identification

Reject Description

2-VE-01629	Insufficient Reinforcement
2-VE-01676	Surface Porosity
2-VE-01864B	Lack of Fusion
2-VE-01920	Insufficient Reinforcement
2-VE-01985	Surface Porosity
1-NV-01327	Insufficient Reinforcement
2-VE-363	Undersized Weld
2-VE-00575A	Undercut and Arc Strike
2-VE-00278	Overlap
2-VE-02090	Insufficient Reinforcement and MT Indication
2-VE-02080	Arc Strike
2-VE-02147	Insufficient Reinforcement and MT Indication
1-NV-01752	Lack of Fusion
1-NV-1747	PT Indication
1-KC-01122D	Arc Strike
2-VE-01039	Porosity
1-NV-00437S1	PT Indication
2-VE-00959A	Overlap & Lack of Fusion

Containment Liner Welds

2-R6-4226	Excessive Reinforcement
2-R6-4231	Excessive Reinforcement
2-R6-3613	Excessive Reinforcement
2-R6-3855	Excessive Reinforcement

Document Review Comments:

- Document control procedures/document flow requirements and tracking within the Bellefonte NPS Weld Project Group need to be formalized. Reinspection document flow within the WP Group, site personnel and Knoxville Engineering needs improvement.
- Current document and disposition flow for a WP reinspection plan weld reject would flow from inspection to weld project for review to Knoxville Engineering. At this point, Knoxville Engineering will review the deficiency against the original installation inspection criteria (includes NCR's, etc.). Knoxville Engineering would then decide if original documentation provides a disposition for the deficiency. A C.A.Q.R. will be generated if original installation requirements cannot be satisfied. The C.A.Q.R. will then be dispositioned. My concern is the weld project reinspection effort is an independent group, review and disposition may not be timely, meanwhile site personnel could be testing systems, N-5 turn-overs, etc. without knowledge of these potential system rejects. The WP reinspection group does not provide site personnel with the reject data until a C.A.Q.R. has been generated. There also is no formal transmittal of reinspection data to Knoxville.
- There is no Level III review of NDE results. This review could provide early evaluation as to the acceptability of the reported discontinuities.
- Certification for non-destructive inspection materials was not available for review. These records are stored in Knoxville.
- Per cognizant personnel, no cradle to present document review is planned for welds selected for reinspection. TVA plans to use the results of the Bechtel audit, NCR's, etc. as the basis for no additional document review.

Field Survey Comments:

- TVA Inspection Personnel appeared to be well trained in the WP reinspection procedures.
- Inspectors observed are providing conservative inspection results.
- Additional surface preparation with Level III supervision/evaluation within acceptable ASME III guidelines should be considered by TVA.

General Comments:

In general, the Bellefonte Nuclear Power Station Weld Project in process weld reinspections, reinspection plan and personnel qualifications with exceptions given was acceptable. TVA personnel interviewed provided a positive attitude to the weld reinspection program. Personnel exhibited adequate experience and the training required to meet the TVA WP reinspection plan requirements.