U.S. NUCLEAR REGULATORY COMMISSION OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. <u>50-334/79-08</u>	
Docket No. 50-334	
License No. DPR-66 Priority Cate	egory <u>C</u>
Licensee: Duquesne Light Company	
435 Sixth Avenue	
Pittsburgh, Pennsylvania 15219	
Facility Name: Beaver Valley 1	
Inspection at: Shippingport, Pennsylvania	
Inspection conducted: July 16-18 and 23-26, 1979	
Inspectors: U.F. Handue	Sery 13, 1979.
W. F. Sanders, Reactor Inspector	r date signed
	date signed
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Approved by: 1. 9 Juico	9/17/79
L. E. Tripp, Chief, Engineering Support Section No 1, RC&ES Branch	date signed

Inspection Summary:

Inspection on July 16-18 and 23-26, 1979 (Report No. 50-334/79-08) Areas Inspected: Announced inspection of Quality Control activities related to the nondestructive testing and repairs made to the feedwater piping on the three steam generators. The inspection involved 42 inspector-hours on site by one regional based NRC inspector.

Results: For the one area inspected, two items of noncompliance were identified. These items are categorized as Deficiencies, Details, Paragraphs 8-9.

Region I Form 12 (Rev. April 77)

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DETAILS

1. Persons Contacted

Duquesne Light Company

*F. Arnold, Construction Specialist
*R. Burski, Senior Engineer
*J. Carey, Technical Assistant
R. Coupland, Director of Quality Control, Unit 2
*A. D'Amico, Superintendent of Nuclear Services
*J. Fletcher, Construction Engineer
*R. Hansen, Quality Control Engineer
*A. Mazukna, Quality Control Supervisor
*A. Mosso, Quality Assurance
*R. Swiderski, Superintendent of Construction
*H. Williams, Chief Engineer
*P. Valenti, Engineer

Stone and Webster Engineering Corporation

- W. Diehl, Examiner, NDE Level III
- S. Carter, Examiner, NDE Level III

Schneider Incorporated

M. Wentz, Project Manager

*denotes those present at the exit interview.

2. "B" Feedwater Line Outside of Containment NDE

An inspection was made of the NDE inspections performed and the subsequent results related to the B feedwater line inside of the main steam valve room outside of containment. The 7 welds were examined by Radiography and Dye penetrant techniques to determine if the character of the welds had changed as a result of the feedwater pipe vibration events described in previous reports. The radiography was performed on 16" schedule 80 pipe with a wall thickness of .843, using Kodak "M" Film and a No. 17 penetrameter with the required essential hole size of 4T. The inspector noted that three of the welds were field welded and four were shop welded. The radiographs were reviewed for the welds identified on Sketch 16" WFPD-B-601 line, dated November 15, 1976.

Weld No. 1 - Field Weld, 1st weld outside containment, 2T hole in Penetrameter Visable.

Weld No. 2 - Field Weld, 2nd weld outside containment, pipe to outlet side of Motor Operated Valve. MOV 156B. 2T hole in penetrameter visable.

Weld No. 3 - Field Weld, 3rd weld outside of containment, pipe to inlet side of Motor Operated Valve. MOV 156B. 2T hole in penetrameter visable.

Weld No. 4 - Shop Fabricated Weld, pipe to elbow, 2T hole in penetrameter visable.

Weld No. 5 - Shop Fabricated Weld, pipe to elbow, 2T hole in penetrameter visable.

Weld No. 6 - Shop Fabricated Weld, pipe to elbow, 2T hole in penetrameter visable.

Weld No. 7 - Shop Fabricated Weld, pipe to elbow, 2T hole in penetrameter visable.

In addition to the Radiography, a dye penetrant examination was performed on the welds. A review of these records were performed on the welds. A review of these records were made and noted that the inspection reports described two discontinuties found on the pipe base metal adjacent to weld No. 4. These were removed by grinding with a resultant cavity depth of .059. The Engineering Evaluation was based on the remaining thickness at the bottom of the cavity to be within .673 min. wall thickness and was acceptable to ANSI B31.1, 1967 Edition, Paragraph 104.1, "Pressure design of Components."

The inspection did not reveal any items of noncompliance.

3. Feedwater Piping Welds Inside Containment

Radiography of feedwater line welds inside of containment, required by IE by Bulletin 79-13, were completed and reviewed by a comparison of the original film taken during construction and the recent film. As reported in the Licensee Bulletin Response, 12 welds out of a total of 54 welds were found to have visual indications on the current radiographs that necessitated further evaluation. The inspector noted that the current radiographs were of higher quality and exhibited better definition than the originals. This was attributed to the following factors:

	Film and Relative Speed	Penetrameter Hole Size
Original Radiographs	Kodak AA-204 Film Speed	Min .062 2T
	Dupont 55-100 Film Speed	
Current Radiographs	Kodak M-60 Film Speed	Min .035 2T

An inspection of the original and current radiographs were made to determine if the indications in the 13 welds were induced by service conditions of the feedwater system or whether the indications were now more visable due to the increase in radiographic quality. Both the original and the current film displayed specific and distinguishable features which permit an evaluation for possible changes in the integrity of the welds as might be expected from service conditions. The conclusions were then made that the indications were present during construction and that the increased quality achieved in the current radiography permitted an inspection with better definition. The licensee responded to the problem by a decision to repair all of the (13) welds to the present inspection criteria.

The review of the radiographs was performed and the subsequent charaterization of the indications was accomplished by the following personnel:

Duquesne Light Company - QA-NDE Examiner - Level III Duquesne Light Company - Station 1-QC-NDE Examiner - Level III Duquesne Light Company - Station 2-QC-NDE Examiner - Level III Stone and Webster Engineering Corporation - NDE Examiner - Level III Stone and Webster Engineering Corporation - NDE Examiner - Level III

The inspector reviewed the original and current radiographs for the (13) welds. No items of noncompliance were identified.

4. Records Review

a. The following records were reviewed:

Inspection records for **the** following hydraulic snubbers on the feedwater lines inside containment were examined:

- -- WFPD-202 Test Report No. 9
- -- WFPD-204 Test Report No. 12
- -- WFPD-205 Test Report No. 42
- -- WFPD-208 Test Report No. 13
- -- WFPD-212 Test Report No. 10
- -- WFPD-212A Test Report No. 11

This sample size was taken from a group total of 14. No items of noncompliance were identified.

b. Walkdown Inspection of Feedwater Lines

The inspector examined the record of a walkdown inspection of the feedwater lines from the steam generators to the containment penetrations. The inspector noted that the reason for the inspection was to insure that the pipe supports and snubbers have been functioning as designed and that there were no visable signs of additional stresses. This inspection was made to comply with Paragraph 1.c of IE Bulletin No. 79-13.

No items of noncompliance were identified.

5. Review of Procedures

- a. Feedwater Piping Repair Cutting, Procedure R.
- b. Feedwater Piping Sketch CS-1, Attachment 3.1.
- c. Support Requirements, Attachment 3.2.
- d. Support Requirements, Attachment 3.3.
- e. Support Requirements, Stm Gen 1C, Attachment 3.4.
- f. Support Requirements, Stm Gen 1A, Attachment 3.5.
- g. Support Requirements, Stm Gen 1B, Attachment 3.8.
- h. Weld Edge Preparation Requirements, Attachment 3.9.
- i. Schneider Inc. Weld Procedure Techinque Sheet SPBV 407C, Revision 0.
- j. Schneider Inc. Weld Procedure Technique Sheet SPBV 115A, Revision O.
- k. Schneider Inc. Weld Procedure Qualification Tests PQR #798128, Consumable Insert.
- 1. Modification Work Procedure.
- m. QA/QC Requirement Checklist.
- n. Material and Weld Joint Control Traveler. 1377 350 No items of noncompliance were identified.

Replacement Feedwater Nozzle Welds

A review of the radiographs for the 3 feedwater nozzle welds was made. These welds were made with a EB insert in the weld root which joined the feedwater nozzle to the elbow. These welds were made with the initial 3 weld passes CTAW and the remainder SMAW.

The radiographs demonstrated the required Quality, Density, Penetrameter outline and essential hole size and no rejectable defects were noted. The film for the following welds were reviewed prior to post weld heat treatment:

No. 15 - A Loop - Nozzle Weld to Elbow. No. 14.- A Loop - Elbow to Elbow. No. 14 - B Loop - Nozzle Weld to Elbow No. 13 - B.Loop - Elbow to Elbow No. 16 - C Loop - Nozzle to Elbow

The Elbow to Elbow weld on C loop had not been completed at this time.

No items of noncompliance were identified.

7. Personnel Qualifications

The inspector audited the qualification records for (4) of the NDE personnel. The records listed the level of certification for the specific NDE technique, education, summary of experience, test results. The physical examination records were current.

No items of noncompliance were identified.

8. Equipment Calibrations

An inspection was made of the calibration of equipment that was used for the heat treatment of the feedwater nozzle welds. The inspector noted that the heat recorders and controllers had calibration records given in absolute values of 500° to 1800° without values given for accuracy. Information was not available to show traceability of reference or transfer standards to the National Bureau of Standards or if other standards were used, the documentation for the basis of the standard. Since the heat treatment and the calibration of equipment was performed by sub-contract, the evaluation of the contractor for the approved Vendor list was requested. The inspector was informed that the contractor was approved for the Unit 2 plant under construction but had not been evaluated and approved for Unit 1.

The calibration of equipment is considered to be a deficiency.

9. Heat Treatment Non-Conformance

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An inspection of the heat treatment activities for the welds in the RC-E-1A line of the feedwater line revealed an inspection report, "NSQC General Quality Control Inspections Report" which described a violation of the heat treat temperature. The report stated that a temperature of 1160°F was reached for 15 to 20 minutes before the required temperature was brought into the range of 1125+ - 25°F. The violation of heat treat temperature

was not evaluated and resolved as required by the following licensee procedures:

NSQC 15.1 - Control of Non-Conforming Material Components, and Parts

NSQC 15.2 - Initiation of a Non-Conformance and Corrective Action Report

NSQC 16.1 - Corrective Action

This item is considered a deficiency.

10. Exit Interview

At the conclusion of the inspection on July 26, 1979, a meeting was held at the site with representatives of the licensee. Attendees at this meeting included personnel whose names are indicated in Faragraph 1. The inspector summarized the results of the inspection as described in this report.