

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

IE Inspection Report No: 50-320/75-14 Docket No: 50-320  
Licensee: Metropolitan Edison Company License No: CPPR-66  
Box 542 Priority: -  
Reading, Pennsylvania 19603 Category: A  
Location: Middletown, Pennsylvania (TMI-2) Safeguards Group: -  
Type of Licensee: PWR 959 MWe (B&W)  
Type of Inspection: Routine - Unannounced  
Dates of Inspection: December 15-18, 1975  
Dates of Previous Inspection: October 20-23, 1975  
Reporting Inspector: *L. Narrow* L. Narrow, Reactor Inspector  
Accompanying Inspectors: *F. Barker* F. Barker, Reactor Inspector  
*A. Finkel* A. Finkel, Reactor Inspector  
Other Accompanying Personnel: none  
Reviewed By: *R. F. Heishman* R. F. Heishman, Section Leader

1/13/76  
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January 13, 1976  
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## SUMMARY OF FINDINGS

### Enforcement Action

#### A. Items of Noncompliance

##### Deficiency

Contrary to 10 CFR 50, Appendix B, Criterion VII:

Documentary evidence of conformance to procurement requirements was incomplete for Spool Piece 2-DH-124 and for Hangers BSH 88 and 89. (Details, Paragraph 2)

#### B. Deviations

None

### Licensee Action on Previously Identified Enforcement Items

The deviation with respect to chloride and nitrate content of grout has been resolved. (Details, Paragraph 3)

### Design Changes

None

### Unusual Occurrences

None

### Other Significant Findings

#### A. Current Findings

1. The following items are unresolved:

- a. Installation of cable tray and conduit hangers in accordance with sketches which have not been approved by engineering. (Details, Paragraph 5)

- b. Lack of procedures to require temperature conditioning of cable prior to cable pulling as recommended by the manufacturer. (Details, Paragraph 6)
  - c. Angular misalignment at joint 128Q between spool piece DH 128 and penetration No. 52 and failure to provide tolerance limits for such misalignment. (Details, Paragraph 7)
  - d. Procedures are not available for control and calibration of crimping tools. (Details, Paragraph 4)
2. The following items are considered to be acceptable:
- a. QC procedures for electrical cables and terminations. (Details, Paragraph 8)
  - b. Training and qualification of QA/QC personnel. (Details, Paragraph 9)
  - c. Observation of cable pulling. (Details, Paragraph 10)
  - d. Conformance of installed piping to drawing and location requirements. (Details, Paragraph 11)
  - e. Observation of welding in progress, completed welds and weld records; Decay Heat and Nuclear Service Water lines. (Details, Paragraph 12)

B. Status of Previously Reported Unresolved Items

The following items have been resolved:

- 1. Audit of vendor documentation. (Details, Paragraph 13)
- 2. Seismic integrity of supports for Control Rod Drive AC Breaker Cabinets. (Details, Paragraph 14)
- 3. Modification of reactor internals handling fixture. (Details, Paragraph 15)

4. Procedure for Qualified Release of nonconforming items. (Details, Paragraph 16)
5. NDE Personnel Qualifications. (Details, Paragraph 17)
6. UT indications on CRD motor tubes. (Details, Paragraph 18)
7. Metal coatings within reactor building. (Details, Paragraph 19)
8. Voids in exterior wall of Fuel Handling building. (Details, Paragraph 20)

#### Exit Interview

An exit interview was held at the site on December 18, 1975.

#### Persons Present

##### General Public Utilities Service Corporation

R. F. Fenti, QA Auditor  
W. T. Gunn, Project Site Manager  
R. W. Heward, Project Manager  
P. A. Levine, QA Auditor  
G. Roshy, QA Engineer  
M. J. Stromberg, Sr. Site Auditor  
R. L. Wayne, QA Manager  
J. E. Wright, Site QA Manager

##### United Engineers and Constructors

G. M. Ahearn, Asst. Project Superintendent  
J. Carrabba, Field Supervisor QC  
V. E. Cichocki, Construction/QC Coordinator Superintendent  
D. C. Lambert, Field Supervisor QC  
K. Merryman, Safety Engineer

##### Burns & Roe

W. P. Dornsife, Asst. Project Engineer  
F. X. Pindar, Jr., Lead QA Engineer

The items discussed are summarized below. In each case, the licensee acknowledged the information.

A. Scope of Inspection

The inspector stated that the inspection was conducted to review installation and QC records of safety-related piping; electrical QC procedures and installation; and the status of outstanding items.

B. Enforcement Items

The inspector stated that lack of complete documentation for spool piece 2-DH-124 and pipe hangers BSH 88 and 89 is considered to be an item of noncompliance. (Details, Paragraph 2)

C. Unresolved Items

The inspector identified the items listed in Part A-1 of Other Significant Findings of the Summary of Findings and stated that these items are unresolved. (Details, Paragraphs 4, 5, 6 and 7)

D. Acceptable Items

The inspector identified the items listed in Part A-2 of Other Significant Findings of the Summary of Findings and stated that these items are considered to be acceptable. (Details, Paragraphs 8, 9, 10, 11 and 12)

E. Previously Reported Items

The inspector identified the items listed under Previously Identified Enforcement Items and Previously Reported Unresolved Items of the Summary of Findings and stated that these items have been resolved. (Details, Paragraphs 3, 13, 14, 15, 16, 17, 18, 19 and 20)

DETAILS

1. Persons Contacted

General Public Utilities Service Corporation

R. F. Fenti, Quality Assurance Auditor  
W. T. Gunn, Site Manager  
N. Hollerbush, QA Engineer  
P. A. Levine, QA Auditor  
D. Perry, QA Engineer  
G. L. Roshy, Quality Assurance Engineer  
M. J. Stomberg, Site Quality Assurance Auditor  
J. E. Wright, Quality Assurance Manager  
J. H. Wright, Resident Civil Engineer

United Engineers and Constructors

S. Abbott, Welding Superintendent  
V. E. Cichocki, Construction/QC Superintendent  
R. Crofton, Welding Engineer  
B. Glick, Welder  
C. W. Hunter, Electrical Supervisor  
M. Mason, QC Engineer  
J. C. Spinak, Lead QA Engineer

Babcock and Wilcox

B. E. Treadway, Project Manager  
R. Kunz, QC Supervisor  
D. Larson, Project Engineer

Conam Inspection, Inc.

P. Rentzell, Site Supervisor  
K. Hobba, Welding Records Coordinator  
J. McKevis, Inspector

2. QC Documentation

The inspector examined the documentation listed below for selected pipe hangers and spool pieces.

a. Spool Piece No. 2-CF-7 (Core Flood System)

- (1) Receiving Inspection Report No. 92 dated January 6, 1973 which had been signed by Receiving Inspection and the Authorized Code Inspector.
- (2) M. W. Kellogg (MWK) Company Drawing No. F-1673 for this part; 14-inch, schedule 160 pipe; A375 Type 304 stainless steel; Heat No. 2193-3.
- (3) Material Test Certification from Curtiss-Wright Corporation providing chemical analysis and physical characteristics and certifying that this part had been hydrostatically tested, heat treated and UT examined with no reportable indications.
- (4) Manufacturers Data Report, Form NP-1 which certified that the design, materials fabrication and inspection comply with the appropriate chapters of USAS B31.7 and which was signed by the Authorized Code Inspector.

Documentation for this item confirmed compliance with the requirements of the FSAR and B&R specification No. 2555-64.

b. Spool Piece No. 2-CF-6

- (1) Receiving Inspection Report No. 150, dated February 19, 1973 signed by UE&C Receiving Inspection and the Authorized Code Inspector.
- (2) MWK Drawing No. F-1672 Rev. 2 which showed this part to have been fabricated of the following pieces:

- (a) 14-inch Seamless Pipe; A-376 Type 304; Heat No. 2193-1.
  - (b) 14-inch elbow; A-403 type 304; Heat No. 120855.
  - (c) 1½-inch 6000 pound half compling; A-182 Type 304; Heat No. CF-6.
  - (d) 6-inch Seamless Pipe; A-312 Type 304; Heat No. 8650361.
- (3) Material Test Certifications for each of the above heats providing chemical analysis, physical characteristics and other test results.
  - (4) Report of RT and PT inspection results for weld joints.
  - (5) Weld History Records.
  - (6) Material certifications for consumable insert, and weld rod.
  - (7) Manufacturers Data Report - Form NP-1 which had been signed by the Authorized Code Inspector.

This documentation confirmed compliance with the requirements of the FSAR and B&R Specification No. 2555-64.

c. Spool Piece 2-DH-125 (Decay Heat)

- (1) Receiving Inspection Report No. 171 dated July 19, 1973 signed by Receiving Inspection and the Authorized Code Inspector.
- (2) MWK Drawing No. F-510 which identified the following pieces:



- (a) 12-inch Seamless Pipe; A-376 Type 304; Heat No. 2200-1.
  - (b) 12-inch Weld ells; A-403 Type WP 304; Heat No. 150261.
  - (c) 12-inch x 12-inch x 8-inch reducing tee; SA 403 type WP 304; Heat No. 150566.
  - (d) 3-inch pipe; A-376 Type 304; Heat No. 06675.
- (3) Material Test Certifications for each of the above heats providing chemical analysis, physical characteristics and other test results.
  - (4) Weld history records and material certifications for consumable inserts and weld rods.
  - (5) Reports of RT and PT inspection results.
  - (6) Manufacturers Data Report - Form NP-1 which had been signed by the Authorized Code Inspector.

This documentation confirms compliance with the requirements of the FSAR and B&R Specification No. 2555-64.

d. Surge Line Assemblies A-80 and A-83

- (1) Assembly Drawings A-80 and A-83 which identified the parts for each of these 10-inch spool pieces including specification and type of material and heat numbers for each.
- (2) Material Test Certifications for each heat providing chemical analysis, physical characteristics and other test results.
- (3) Weld history records and material certifications for consumable inserts and weld rod.

- (4) Manufacturers Data Report - Form NP-1 which certified that the design, materials, fabrication and inspection comply with the appropriate chapters of USAS B31.7 and which was signed by the Authorized Inspector.

Documentation for these items confirm compliance with the FSAR requirements.

e. Spool Piece 2-DH-124

- (1) Receiving Inspection Report No. 135 dated February 14, 1973 signed by Receiving Inspection and the Authorized Code Inspector.
- (2) MWK Drawing No. F-509 identifying the following parts and requirements.
  - (a) 12-inch Seamless Pipe; A-376 Type 304; Heat No. 2200-3.
  - (b) 1½-inch x 3/4-inch x 3-inch Long Lugs; Type 304 stainless steel; Heat No. 610621.
  - (c) The drawing showed the pipe to be bent and established requirements for heat treatment after bending, maximum ovality and vridigage wall thickness measurements.
- (3) Material Test Certifications for the above items.
- (4) Weld history records and material certifications for weld rod.
- (5) Report of PT inspection of welds.
- (6) Manufacturers Data Report - Form NP-1 signed by the Authorized Code Inspector.
- (7) MWK Drawing No. 2551 Rev. 1 which had been issued for recleaning of this spool piece and also provided UT measurements of the outer periphery of the bend.

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The inspector observed that records of post-bending heat treatment, ovality and vidigage measurements were not included with the documentation package. Prior to completion of the inspection, the inspector was furnished a copy of Drawing No. F-509 which showed ovality measurements and stated that an approved heat treatment chart was available at the MWK plant and F-523 showing vidigage measurements and stating that these measurements would be forwarded to B&R for review.

f. Hangers, Nos. BSH 88 and BSH 89 (Building Spray System)

- (1) Receiving Checklist/Inspection Report No. 79380 which had been signed by Receiving Inspection.
- (2) Material Test Certifications which provided chemical and physical data for the material in the 3/8-inch thick x 5-inch x 14-inch lugs which had been attached by MWK to the assembled hangers furnished by Bergen - Patterson.
- (3) A Certification of Compliance from MWK dated March 6, 1975 which states that the pipe assemblies listed on Packing List No. 165-W conforms to the requirements of B&W Specification No. 2555-64.

On the same letter, a Release for Shipment Statement had been supplied by UE&C. This statement referenced the same packing list, states that review and approval of Mill Test Reports related to fabrication of the pipe assemblies has been completed. The inspector requested Packing List No. 165-W or some means identifying the hangers listed on that Packing List. This information was not available.

The QA Engineer later provided a Certification of Compliance from Bergen - Paterson which referenced an MWK purchase order and stated that hanger material furnished under that order is in accordance with the applicable governing codes and job specifications.

Release for construction of spool piece 2-DH-124 and hangers BSH-88 and BSH-89 without complete documentation is considered to be a deficiency with respect to 10 CFR 50, Appendix B, Criterion VII which states, in part:

"...Documentary evidence that material and equipment conform to the procurement requirements shall be available at the nuclear power plant site prior to installation or use of such material and equipment..."

3. Chemical Requirements for Grout

Failure to verify conformance to ASME III, Division 2 for chloride and nitrate content of freshly mixed grout had previously been identified as a Deviation. (Inspection Report 75-08)

The information shown below is for the grout material previously used and still in use for tendon grouting.

a. Admix

The admix used is Sika DP-23-3 (now known as Sikamix 122, Grout Aid). The inspector examined a letter from Mr. Gordon N. Scott, Consultant to B&R stating that this admix has been studied with respect to possible corrosion of the tendons and that there need be no concern about the chemicals in the grout for this application. At the request of the inspector, the licensee telephoned the chief chemist of Sika Chemical Corporation and was informed that this admix contains no chlorides or nitrates.

b. Cement

A general analysis of the cement (Medusa) furnished by the manufacturer shows chloride content to be .003-.103 parts per million (PPM). Test reports of cement samples taken periodically at the site during April - November 1975, show chemical content to be consistent with the general analysis. A Pittsburgh Testing Laboratory report of their analysis of a sample recently taken at the site shows .01 PPM of chlorides and less than .001 PPM of nitrates and sulphides.

c. Water

The licensee stated that water used in the grout is from a treated municipal supply and their routine analyses show negligible amounts of chlorides and nitrates.

This item is resolved.

4. Control of Crimping Tools

The inspector reviewed B&R Specification No. 2555-70, "Electrical Equipment Installation."

Tables 1 and 2 of Paragraph 3.1.1.2.c, Section 16A of Division 16 and Paragraph 3.1.2 of Section 16D define the compression requirements for various sizes of cable and wire. Paragraph 16D requires compliance with the latest addenda of IEEE 336-1971.

Section 4 of IEEE 336-1974 requires that hardware shall be installed in accordance with:

- a. Drawings.
- b. Manufacturers Instructions.
- c. Installation Specifications (In this case B&R Specification 2555-70)

and also that "Care shall be especially exercised in following the provisions of the above documents for operations such as," ... Included in such operations is cable terminations..

Item 4 of Paragraph 5.11 of IEEE 336-1971 establishes the requirements for tightness of connections and fastenings. The licensee was unable to furnish to the inspector any procedures for control, periodic calibration or visual inspection of crimping tools used on cable and wire terminations which would be essential for compliance with the above requirements.

This item is unresolved.

5. Installation of Cable Tray and Conduit Hangers

During inspection of installation of conduit 2 DC 87 for conformance to B&R Drawing No. 3174-1 Rev. 7, the inspector observed white tags on the hangers indicating that the hangers were a temporary installation. Observation of installed cable trays and other conduits showed a large number of temporary hangers to have been installed. Approximately fifty such temporary hangers have been installed on safety-related systems. The QC check-off lists showed that these cable trays and conduits have been released for cable pulling in accordance with approved B&R Drawings. However, hanger installation is in accordance with the sketches prepared by UE&C which have not been reviewed by B&R and which are not shown on the released B&R drawings.

It was noted that the QC check-off lists do indicate that the hanger installation was temporary. Also the inspector noted that a procedure (UE&C ECP/8-2 Rev. 13) had been issued which permits the use of temporary hangers on a limited basis. However, the number of white tags observed on installed hangers indicates that use of temporary hangers is the normal practice rather than an occasional deviation.

GPU site audit report dated December 11, 1975 had identified the same problem and the inspector was informed that a meeting had been scheduled for December 19, 1975 to resolve the apparent contradiction in requirements.

This item is unresolved.

6. Temperature Conditioning of Cables

B&R Specification 2555-70 requires conformance to vendor installation and handling requirements. The cable vendor's instructions for "Movement, storage and installation" of cable states in paragraph C "Move the reel, avoiding impact, to a warm area (70°F, for eighteen (18) to twenty-four (24) hours is probably a good safe temperature) to condition the cable" prior to cable pulling. QC procedures and check-off sheets do not have any requirements for cable conditioning prior to cable pulling.

This item is unresolved.

7. Tolerance-Incident Angle Between Pipe Spools

During the inspection of decay heat pipe line. it was noted that field weld joint DH-128Q between spool piece No. DH 128 and Reactor Building penetration No. 525 was a mitered joint. The inspector asked site QC personnel what the alignment acceptance criteria were for mitered joints. The inspector was referred to the Burns and Roe Specification No. 2555-75, which addresses piping welding, fit-up and other mechanical component installation. Division 15, Section 15D, Paragraph 4.2 states, "Erection of shop fabricated pipe 2½ inches and larger shall be in accordance with the Nuclear Power Piping Code ANSI 31.7 1969." B&R Drawing No. 2077 Revision No. 7 provides details of alignment tolerances, which are in accordance with Figure 1-727-3.1 of ANSI B31.7 1969.

Discussions with site personnel indicated that in numerous instances due to normal fabrication sequences, there was an angle between centerlines of the components at the closure joint. The inspector asked what angular tolerances were considered acceptable and when a Deficiency Report was required to be issued. The inspector was informed that the A/E had not provided specific acceptance criteria for such conditions. The licensee stated he would have the A/E evaluate this matter and provide acceptance criteria for site use. This matter is considered unresolved pending evaluation and issuance of more definitive acceptance criteria for these types of joints.

8. QC Procedures - Electrical Cables and Terminations

The inspector reviewed UE&C procedures as listed below for handling, storage, installation, inspection and testing of electrical wire and cable.

- a. Electrical Construction Procedure (ECP) ECP-3-2 for Receiving, Storing, Handling and Installing Wire and Cable Rev. 10 dated December 1, 1975. This procedure defines the QC requirements for inspection and record keeping during receipt, on site storage, identification and documentation of qualification tests.



This procedure also establishes the requirements for cable handling and installation; inspection of conduit and cable trays; cable identification, color coding, separation and redundancy; and wire-way loading.

- b. TMI TP 250/2 "Testing and Checking of Mechanical and Electrical Equipment" Rev. TCN-3 dated November 6, 1975 which establishes the requirements for testing and terminations of cables.
- c. QC Procedure QC-2-2 Rev. 6 dated May 14, 1975 which provides requirements for inspection of cable identification, color coding, termination and segregation and control of nonconforming materials.
- d. Procedure ECP-5-2, Rev. 10, dated December 1, 1975 "Receiving, Storage, Handling and Installations of Wire and Cable," which establishes the requirements for wire-way separation, size, type of cable, routing and protection including specification of materials for fire barriers and wireway seals.
- e. Procedure ECP-8-2, Rev. 3 dated August 29, 1974 "Quality Surveillance Plan," which defines requirements for inspection control of changes to established specifications.

Except as indicated in paragraphs 5 and 6 above, this item is considered to be acceptable.

9. Training and Qualification of QA/QC Personnel

The inspector reviewed UE&C Procedure QC-29-2, Rev. 3, dated April 18, 1975 "Quality Control Personnel Training and Qualification." This procedure requires that orientation and indoctrination of a new employee be performed, evaluation of the employee's performance be made within 30 days and again within one year. The inspector examined personnel records of three UE&C employees and found that in each case the orientation, indoctrination and performance evaluation had been performed. The inspector also examined audit records of personnel training and qualifications as follows:



- a. GPUSC Audit Report 75-05 dated February 14, 1975 which showed documentation of evaluation of three QC inspectors by a QC Engineering Report.
- b. GPUSC Audit Report 75-24 which documented review of qualifications of two Conam inspectors.
- c. GPUSC Audit Report 75-14 dated April 5, 1975 which reported that qualifications of NDT personnel were current and satisfactory.

This item is considered to be acceptable.

#### 10. Cable Pulling

The inspector witnessed pulling of four safety-related 125V DC supply system cables; cable circuits and conduits are shown below:

- a. Cable Circuits 2DC-88 and 2DC-89 in Conduit 2DC-87.
- b. Cable circuits 2DC-85 and 2DC-86 in conduit 2DC-85.

A calibrated current meter was recording the current of the cable pulling motor. For this pull, the current reading of the motor was required not to exceed 15 amps. The maximum reading on the two pulls witnessed was less than 7 amps. Prior to pulling the cables through the conduit a vacuum was put on the conduit and a micro-fish was pulled through to assure that no burrs were in the conduit. This procedure is in accordance with UE&C Procedure ECP-3-2 for Receiving, Storing, Handling and Installing Wire and Cable, dated December 1, 1975 Rev. 10.

This item is considered to be acceptable.

#### 11. Piping Installation

The inspector visually inspected the main reactor coolant loop pipe line B-44-1 (RC pump 1B/A to the RPV) & the decay heat pipe line from reactor coolant pipe line A-32-1 to the No. 1B decay heat pump. It was found that the pipe lines, were run and connected as described in the FSAR with redundant connections provided as committed in the FSAR. Pipe spools pieces, fittings, and hangers (where complete) were installed in accordance with isometric and layout drawings. The following is a listing of pipes inspected, responsible contractor, and drawings used for the inspection.

a. Line: RC B-44-1 (RC Pump 1B/A to RPV)

Contractor: Babcock and Wilcox

Applicable Drawings: "Location of Field Welds for Reactor Coolant System"

Drawing No. 4467 Rev. 4

Change Notice No. 2832 Rev. 2

Comments: It was observed that the reactor coolant pipe B-44-1 was installed in accordance with the applicable drawings and change notices. Reactor coolant pipe restraint CP-2 was installed and modified in accordance with change notice 2832. B&W Inspection Report documented visual inspection of restraint CP-2 as satisfactory (Inspected 9/12/75). B&W documentation (Field Construction Procedure No. 13) found the installation of B-44-1 acceptable.

b. Line: Decay Heat 12", (Hot Leg of "B" Generator to Second Isolation Valve DH-V2)

Contractor: Babcock and Wilcox

Applicable Drawings: Piping Isometric Drawings 2-8-23, 2-8-24 and 2-8-25.  
Hanger Sketch A-9459-FS-02-HS-DH HH-1  
Figure 9.2-3 of the FSAR

Comments: The 12-inch diameter decay heat removal system piping was installed in accordance with the applicable sketches, drawings and FSAR commitments. Pipe Hangers DHH-102, DHH-104, DHH-105 and DHH-107 were located as shown on the applicable drawings.

c. Line: Decay Heat (DH-V2 through Reactor Containment to Decay Heat Removal Pump DH-P-1B)

Contractor: United Engineers and Constructors

Applicable Drawings: Piping Isometric Drawing 2-8-1, 2-8-2  
and 2-8-3.  
FSAR Figure 9.2-3

Comments: The piping was installed and welded between the termination points outlined. Pipe hanger and support installation was not complete and no attempt was made to verify hanger and support location. All fittings and field welds were installed and visual appearance of the finished field weld surfaces was considered acceptable. Cross connection between the decay heat pumps DH-P-1A and DH-P-1B was provided for redundant operation.

This item is considered to be acceptable.

12. Observation of Field Welding

The inspector witnessed the field welding of three welds in three different systems and examined the as welded final condition and reviewed the supporting documentation for one completed weld. Welding operations observed and records audited indicated that the welding was performed in an acceptable manner.

a. Table of Weld Joints Witnessed and Data Reviewed:

<u>Joint</u>	<u>Observed Conditions</u>
2-DH-171 (Decay Heat) 8" diameter, Nuclear Class I Schedule 160 pipe Butt Weld	Completed weld surface examined. No undercuts or visual discontinuities. Weld transition to valve body meets 3:1 taper specified by ANSI N31.7 - 1969. Reviewed quality records.
2-DH-92C (Decay Heat) 8" diameter, Nuclear Class II Schedule 40 pipe Butt Weld.	Weld joint approximately one-half complete. Observation of the work found the in-process weld appearance acceptable. The craftsman was using the prescribed weld filler material (3/32" ER 316L).

Joint

Observed Condition

2-NS-42 (Nuclear Services  
Closed Cooling Water)  
3" diameter  
Schedule 40  
Butt Weld

The file used for weld bead surface conditioning was marked for stainless steel use in accordance with the site procedures. GTAW procedure was used (UE&C Procedure No. 20 and 8), the inspector verified that the welding amperage, shield gas and purge gas were in accordance with the procedure. Weld History Record Form 7005 was completed commensurate with status of the weld and as required by QC-8-2 Revision 4.

Weld joint flush, welder in process of removing porosity from surface to correct the condition prior to completing the weld. Filler metal 7018 electrode in use, was controlled within the 4 hour time span (issue to use). UE&C weld Procedure No. 1 was in use and was appropriate for base materials being welded.

139-C-6 (Make Up System)  
 $\frac{1}{2}$ " Nuclear Class II  
Schedule 160  
Fillet Weld

Completed surface of first pass of fillet weld. Shielding gas flow and filler metal 3/32" ER 308L acceptable and in accordance with UE&C welding procedure No. 20 and 8. Weld History Record available and commensurate with status of weld.

b. Welder Qualification

Review of UE&C and B&W site records showed that the three welders performing the welds and the two welders who had performed the completed weld were qualified as required by the applicable codes and site procedures. The welders whose qualification records were examined are as follows:

<u>Joint</u>	<u>Welders Symbol</u>	<u>Contractor</u>
2-DH-171	5049 and 3835	B&W
2-DH-92C	5B	UE&C
2-NS-42	23-F	UE&C
139-C-6	20S	UE&C

c. NDE Personnel Qualification

The inspector audited B&W site records documenting the qualification and annual vision checks for the two NDE examiners who had performed tests on joint 2-Dd-171. It was found that the NDE personnel were properly qualified to perform the liquid penetrant and radiographic examination of weld DH-171 (Level II SNT-TC-1A as applicable).

d. Weld Material Certification - Joint DH-171

The inspector audited QC records for one heat of weld filler metal (3/32" E 316; Heat No. 6343B) which was certified by the manufacturer to meet the requirements of AWS A5.4-69. The manufacturer's chemical analysis and physical tests of as deposited metal were reviewed and found to meet the requirements of AWS A5.4-69.

This item is considered to be acceptable.

13. Vendor Documentation

Lack of documentation on site to validate the integrity of certification of acceptance inspection at the vendor facility had been identified as an unresolved item. (Inspection Report 74-06)

The inspector examined a report of a documentation review at the vendor's plants at Barberton and Lancaster, Ohio. Documentation examined pertained to the reactor internals, steam generators, feedwater piping, reactor coolant surge and spray piping and control rod drive motor housings. Documentation included process sheets, weld histories, welder qualification records, welding procedure qualifications, weld inspection records, weld material test reports, NDE personnel qualifications and radiographs. The report concluded that satisfactory evidence of adequate documentation exists to support vendor certification for the equipment.

This item is resolved.

14. Seismic Integrity of CRD AC Breaker Cabinets

By letter dated January 15, 1975 the licensee reported a deficiency in design of the structural supports for the Control Rod Drive AC Breaker Cabinets.

The licensee stated that modification of these supports had been completed and the inspector examined the following documents:

- a. Engineering Change Memo (ECM) No. 278, dated May 27, 1975 which provided details for a revised support pad and attachments for this cabinet.
- b. Concrete placement check out sheet dated October 30, 1975 which was signed off by Field QC on October 31, 1975.
- c. Inspector's concrete check out sheet dated October 31, 1975 which referenced ECM No. 278.
- d. Concrete Status Report dated October 31, 1975.
- e. Reports of placement, batch plant inspection, curing and concrete cylinder tests.

This item is resolved.

15. Reactor Internals Handling Fixture

A requirement for modification of the reactor internals handling fixture had previously been identified. (Inspection Report 75-01)

The licensee stated that modifications to this fixture had been made at the Barberton, Ohio shop of B&W.

The inspector examined B&W Field Change (FC)-41 Rev. 1 dated April 3, 1974 for modification of the Handling Adaptor Pendant and Field Construction Procedure No. 245; Item 4.1.3 which showed that QC had verified satisfactory completion of this work.

FC-41 provides for the modification authorized by B&R Field Change Request No. 29.

This item is resolved.

16. Qualified Release of Nonconforming Items

Lack of an adequate B&W procedure for control of "Qualified Release" of nonconforming items had previously been identified as an unresolved item. (Inspection Report 75-02)

The inspector examined B&W Procedure 9A-107-1/C-6 Rev. 1 which established a procedure for "Qualified Release" of nonconforming items and established a requirement that approval of the Owner/Agent be obtained in writing for release of such items.

This item is resolved.

17. NDE Personnel Qualification

Incomplete information and inconsistencies in eye correction limitations had previously been identified as an unresolved item. (Inspection Report 75-10)



The inspector examined personnel qualification records of NDE personnel particularly with respect to eye correction limitations.

Forms were complete for all personnel and were found to be acceptable.

This item is resolved.

18. UT Indications on CRD Motor Tubes

On August 24, 1975, the licensee reported observations of UT indications on CRD motor tubes during pre-service inspection and stated that a further investigation would be made.

The inspector examined a letter dated December 10, 1975 from Conam Inspection, Incorporated which reported the results of a trip by two Conam Level II inspections at GPU request.

The purpose of the trip was to analyze the UT indications noted during examination of the CRD motor tubes and determine if these indications were actual defect conditions.

As a result of their analysis it was concluded that the indications were due to irregular geometry of the part in some locations and enlarged grain structure in others but were not indications of actual defect conditions.

The report did recommend certain modifications to the in-service inspection procedure which the licensee said would be followed.

This item is resolved.

19. Metal Coatings within Reactor Building

The licensee had reported by letter dated August 26, 1975, defective coating on cable trays within the reactor building. During a previous inspection (Inspection Report 75-13) the inspector had reviewed corrective action which had been completed except for completion of a review of all coatings within the reactor building. The inspector examined:



- a. B&R Specification 2555-85 Amendment No. 6 dated June 25, 1975 "Nuclear Area Cleaning and Coating of all Steel and Equipment."
- b. Field Change No. 2 to Construction Procedure CCP-12-2 which established the requirements for high temperature aluminum paint on certain NSSS equipment.
- c. Inspection Reports No. 3549, 3550, 3559, 3560 and 3561 for cleaning and painting of equipment within the reactor building.
- d. Memo dated December 17, 1975 from QC to QA stating that as of that date QC had inspected the coatings of all items inside the reactor containment requiring coatings and had documented either a satisfactory or unsatisfactory inspection report.

This item is resolved.

20. Voids in Exterior Wall of Fuel Handling Building

By letter dated November 14, 1975, the licensee had reported a void in the south exterior wall of the Fuel Handling Building.

The inspector examined the following documents:

- a. Deviation Report (DR) No. 0522 dated October 16, 1975 which described the deviation and provided for B&R to issue an Engineering Change Memo (ECM) for its repair.
- b. ECM No. 3140 which provides a repair procedure using epoxy in area 1 and an epoxy bonding agent plus concrete in area 2.
- c. Inspection Reports No. S-2903, S-2910 and S-2926 for grouting, chipping, cleaning, and inspection of the work.

The inspection report documented the satisfactory completion of void repairs.

This item is resolved.