

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-546/83-10(DPRP); 50-547/83-10(DPRP)

Docket Nos. 50-546; 50-547

License Nos. CPPR-170; CPPR-171

Licensee: Public Service Indiana
Post Office Box 190
New Washington, IN 47162

Facility Name: Marble Hill Nuclear Generating Station, Units 1 and 2

Inspection At: Marble Hill Site, Jefferson County, IN

Inspection Conducted: May 16 - June 30, 1983

Inspector: *P.R. Pelha for*
J. F. Schapker

7/27/83

Approved By: *J. E. Konklin*
J. E. Konklin, Chief
Reactor Projects Section 1A

7/27/83

Inspection Summary

Inspection during the period of May 16 - June 30, 1983 (Report Nos. 50-546/83-10(DPRP); 50-547/83-10(DPRP))

Areas Inspected: Routine, unannounced inspection by the resident inspector of allegations of improper fabrication/installation of HVAC, allegations of inadequate qualifications concerning an electrical estimator, safety related piping and components work activities, and electrical work activities. This inspection involved a total of 168 inspector-hours on site by one NRC inspector, including 16 inspector-hours on site during off-shifts.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Persons Contacted

Public Service Indiana (PSI)

- S. Shields, Senior Vice President Nuclear Division
- B. Petro, Vice President - Nuclear Projects
- J. Bott, Nuclear Regulation and Affairs Manager
- C. Togni, Civil Engineering Manager
- *C. Beckham, Quality Engineering Manager
- J. Parks, Civil Quality Engineering Manager
- F. Carchedi, Quality Engineering Superintendent
- D. Jolliffe, Communications Manager
- R. Sallee, Quality Engineering Superintendent
- M. Mensing, Electrical Resident Engineer
- J. Thomas, Construction Manager
- *S. Quinn, Project Engineering Manager
- *J. Davenport, Quality Engineering Manager
- *D. Kruer, Licensing Supervisor

Commonwealth Lord Joint Venture (CLJV)

- E. Scott, Vice President
- K. Pendergrass, QA Director
- J. Hughes, QA Audit Surveillance Supervisor
- B. Alvord, Training Manager

Cherne Contracting Corporation (CCC)

- D. King, QA Manager

Westinghouse Electric Corporation

- C. Markham, Site Manager
- B. York, Welding Engineer
- D. Williams, Mechanical Engineer

U.S. Nuclear Regulatory Commission (NRC)

- C. C. Norelius, Director, DPRP
- R. C. Knop, Chief, Projects Branch 1
- R. S. Love, Reactor Inspector
- D. E. Keating, Reactor Inspector
- R. L. Cilimberg, Reactor Inspector
- *J. F. Norton, Reactor Inspector

*Denotes those present at the exit meeting.

The inspector also contacted and interviewed other licensee and contractor personnel.

2. Allegations of Improper Fabrication/Installation of HVAC

Allegations regarding welding on HVAC were received on February 11, 1983 by Region III. The alleged requested anonymity. The allegations were as follows: (a, b, and c apply to the cooling coils for the containment fan coolers.)

- (a) The sheets of metal are not being prepared well enough for installation and welding. The sheets are sandblasted and painted in the laydown area, then wire brushed in the containment.

This allegation was found to be true, but with no quality or safety significance. Preparation of the sheet metal as alleged is factual. However, observations by the inspector found the sheet metal prepared adequately before welding. Preparation by wire brushing in containment is an acceptable method of cleaning prior to welding.

- (b) The sheets are hung and tack welded in place, then the edges are ground to accommodate the welding. In some cases too much grinding is being done.

This allegation was not substantiated.

No evidence of excessive grinding could be found. The inspector inspected several installed "sheets" for indications of improper fitups of the steel plates. It is common practice to grind metal plate edges to accommodate fit ups, this is to assure proper fit up for welding. The alleged did not give specific location or identification of the areas where alleged grinding was excessive.

- (c) While the NRC was in the area looking at the work, the alleged's supervisor (named) told him to keep his mouth shut and not to talk to the NRC.

The inspector interviewed the named supervisor who denied ever making a statement as alleged. He emphasized that it is company policy to encourage openness when approached by the NRC, which applies to all the contractor's employees. In addition the licensee has posted throughout the facility "whistle blowing posters." These posters encourage employees to report any questionable or unsafe work practices or materials being used on the job site. Included on the poster are the phone numbers of the NRC resident inspector and the Region III NRC office.

- (d) Two or three welds in the auxiliary building which are supposed to be full penetration were welded out-of-specification because there were no welders available who were qualified to do full penetration welds. One of those welds is on level 383' near the down stairway on the north end of the building (auxiliary building or containment). The weld is on a 6x6 I beam which is 6 to 7 feet long and is overhead behind some cable trays.

This allegation was not substantiated. The inspector located the referenced I beam as described in the allegation on the 383' level of the auxiliary building (Pullman hanger #335). Review of the drawing requirements (Dwg M-1311-08-45-29 Rev. A) specifies fillet welds, not full penetration welds as alleged. The inspector noted that the date of the drawing was February 9, 1983, and therefore may have not been available to the alleger at the time of his concern. The inspector requested the drawing or specification in effect previous to this drawing. The architect engineer, Sargent and Lundy (S&L), drawing M1261-Revision D, sheet 6, detail S-1, also specifies a fillet weld. No full penetration welds have been specified in the installation of HVAC to date at Marble Hill.

3. Allegation of Inadequate Qualifications Concerning Electrical Estimator

On May 20, 1983, the resident inspector received a call from a concerned citizen who expressed concern about the educational requirements of a Lead Electrical Estimator. He named a individual who worked at Marble Hill and had recently taken a high school GED test in Louisville, KY. He was concerned about this since the person had talked about being a Lead Electrical Estimator at Marble Hill. The alleger requested anonymity.

The inspector reviewed the job description for electrical estimators for the licensee and determined that the person in question does not perform any engineering, quality or other safety-related duties. The electrical estimator's primary function is to review and evaluate estimates and change order estimates and prepare cost and quantity estimates as required. This function has no effect on the safety of the plant. The purpose of the position is cost related only and therefore does not come under 10 CFR 50 Appendix B. The licensee was informed of the expressed concern in this area.

4. Review of Electrical Work Activities

Reference: Confirmatory Action Letter, February 2, 1983. As part of the electrical stop work recovery program, Public Service Indiana (PSI) committed to various actions to strengthen their quality assurance program at Marble Hill. During this reporting period the resident inspector, assisted by the Region III project inspector (see Report No.83-08), reviewed the commitments and verified PSI and Commonwealth-Lord actions in the area of electrical cable tray and exposed conduit hanger installation. The following observations were made:

- a. The inspector observed work in progress in the cable spreading room on hangers identified as H36 to drawing E-0-3062-H036, Revision A, including verification of material identification in accordance with Commonwealth-Lord Procedure CW9-C9, Revision 6, titled Material Control, verification of weld material control, the welder's qualifications and the weld procedure. The applicable weld procedure is CWP-C8A, Revision 5. Weld Material Control was verified to the issue point, rod shack station 2, in accordance with Procedure CWP-C8C, Revision 4. The inspector also reviewed calibration

records for the weld rod holding ovens, and the weld rod issue records at weld rod issue stations 2 and 3 in the auxiliary building. The inspector also observed fabrication of Hanger Number E-1-3061-H118 to drawing E-1-3061-H118, Revision B, in the Commonwealth-Lord fabrication shop. Structural material marking, weld material control, and the welder's qualification were verified to the requirements of the procedures. The work processes were controlled by electrical installation travelers as required by QWP-C42, Revision 5.

- b. The inspector performed spot check inspections of ongoing welding activities in the fabrication and installation of cable tray hangers on a weekly basis. These observations were performed to assure adequate quality control and adherence to procedural and weld standard requirements. The inspector observed (32) completed welds for compliance with requirements stipulated in Commonwealth-Lord procedure QCP-C20, Revision 7.
- c. The inspector reviewed the electrical contractor's newly issued and revised procedures, periodically evaluated training classes in progress, and reviewed PSI audit and surveillance reports applicable to the stop work recovery program.

The inspector reviewed the following procedures:

QWP-C8, Revision 0, Installation and Inspection of Electrical Equipment

QWP-C4, Revision 0, Installation and Inspection of the Cable Pan System

CWP-C8C, Revision 4, Weld Filler Material Control

The inspector suggested to the licensee that the following items be clarified within the referenced procedures.

- a. QWP-C8, in paragraph 4.3.4, requires that equipment be inspected for various attributes prior to release to the field; among these requirements is a statement that the equipment be "reasonably clean". This statement is ambiguous.
- b. In paragraph 4.6.3.3 of QWP-C8 the application of torque seal for concrete expansion anchors is not required, as it is for other bolt type anchors. In addition, the procedure states, in paragraph 4.6.4.4 and 4.7.2, that torque seal shall not be used in the containment building; no substitute for torque seal is stipulated. This comment also applies to Procedure QNP-C4, Revision 0, Paragraph 4.7.4.

- c. CWP-C8C, Revision 4, Weld Filler Material Control, does not require low hydrogen electrodes which were issued to the field for less than four (4) hours to be returned to a holding oven for any length of time prior to re-issue. The crib attendants informed the inspector that the returned rods are stored in holding ovens and not issued till the next shift, however, this is not controlled by procedure. Those rods exposed for more than four (4) hours are required to be re-dried per the procedure.

Except as noted, the procedures appear to be adequate. PSI is taking action to correct the procedures in accordance with the above comments. This is considered to be an unresolved item, to be reviewed in a future inspection (50-546/83-10-01; 50-547/83-10-01).

5. Safety Related Piping Work Activities

The inspector observed inprocess fit-up, welding and nondestructive examination (NDE) activities involving reactor coolant piping (RCP). Areas inspected included:

- a. Handling and fit up of Ht. #21161-2, 31" diameter elbow to Mk. IRC01BB steam generator. Liquid penetrant examination (LPT) of the weld preparations was done in accordance with Cherne Contracting Corporation (CCC) Procedure 14.1, Revision 8, by a Level II LPT inspector qualified to SNT-TC-1A requirements. The RIII inspector verified that the fitup and LPT were done in accordance with the applicable drawing and procedure requirements, and that the activities were appropriately documented.
- b. Observations of welding activities in progress on RCP girth welds identified as IRCA 2000 and IRCA 20103. The welds were verified to be in compliance with applicable code and procedural requirements; including these for weld identification and location, use of specified and approved weld procedures and weld material, qualification of the welders for the position and thickness being welded; removal and repair of weld defects per code specification requirements, welding electrical characteristics, preheat and interpass temperatures, and weld sequence and joint restraint.

The inspector also reviewed the applicable weld procedure, 808BC21-4.20 CT, Revision 2, for compliance to applicable code and regulatory requirements.

Within the areas inspected no violations or deviations were observed.

6. Safety Related Components Work Activities

- a. The inspector toured safety related equipment storage areas for the Unit 2 Nuclear Steam Supply Systems (NSSS) equipment. Observations were made of the of reactor vessel, the four steam generators and the pressurizer. Identification, protective coatings, end caps,

preservatives, and inert gas blanket were inspected. In addition, work activities were in progress on the reactor vessel and steam generator mounting pads were observed. Honing of the reactor vessel pads for flatness and smoothing of the bearing surface were observed, and the steam generators mounting pads were inspected for helicoil thread and pad condition. The work was documented on process sheets and directed by the NSS supplier and licensee engineering.

- b. The inspector observed receipt inspection, handling and moving of diesel generator 2DG01KA. Receipt inspection revealed no shipping or handling damage. Receiving inspection checklists, PRI-008, Revision 0, titled "Preliminary Visual Inspection-Shipping Damage-ANSI N45.2.2-1972" and PRI-104, Revision 2, "Diesel Engine-Generator Sets", were utilized by PSI receiving inspection. Purchase order 2095-89-Q and S&L Y Specification 2742 were applicable. The inspector reviewed the above checklists for adequacy of inspection requirements to assure received equipment meets the equipment specification and applicable drawing requirements. The inspector also inspected the equipment for proper identification, and for handling or shipping damage. The PRI-104, Revision 2, checklist has not been completed due to ongoing review of vendor documentation and documentation from PSI source inspection by PSI Quality Assurance engineering. These items will be reviewed in a future inspection (50-546/83-10-02; 50-547/83-10-02).
- c. The inspector observed in progress work involving installation of the Unit 1 reactor vessel lower internals. NISCO Procedure ES4004-23, Revision A, was used. Cleanliness and housekeeping were maintained in accordance with NISCO Procedure 67, Revision 4. Installation was supervised and monitored by the NSSS supplier representatives. The inspector observed the handling and bolting in place of in-core instrument guide tubes, and the verification and recording of material serial numbers as installed, including those for bolting material. Subsequent torquing of bolts and securing welds will be monitored as work progresses in a future inspection (50-546/83-10-03).
- d. The inspector observed work activities to repair linear indications on the safe ends of the steam generators reactor coolant loop nozzles. This item was reported per 10 CFR 50.55(e) on March 21, 1983, and was subsequently retracted by the licensee on April 20, 1983 (546/83-04-EE). All of the indications were removed by grinding and were reinspected by liquid penetrant examination. No weld repairs were necessary as the depth of defects were less than 3/16" maximum. The inspector will review the NSSS supplier's radiographs of the safe end to nozzle weld in a future inspection. Although the indications in the inconel band were corrected without major repair the inspector questioned the licensee's action of withdrawing the 50.55(e) report, and the possibility that this item should be reported under 10 CFR Part 21 requirements. The review of the radiographs and the reportability question are designated as an unresolved item (50-546/83-10-04).

7. Regional Review

Region III management personnel, C. E. Norelius and R. C. Knop toured the Marble Hill site on June 10, 1983, and met with the President and Senior Vice President, Nuclear Division, of Public Service Indiana (PSI) to discuss ongoing activities at the site. Topics discussed included:

1. The need for continued vigilance for keeping quality uppermost in site activities.
2. The need for thorough review to ensure that concerns of quality control inspectors are being addressed.
3. The indication that there should have been earlier detection by PSI of the problems involved in the recent electrical stop work.
4. Recent changes in the PSI Quality Assurance organization.

8. Exit Interview

The inspector met with the licensee representatives denoted in Paragraph 1 and summarized the scope and findings of the inspection activities.