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

REGION III

Report Nos. 50-440/80-15; 50-441/80-14

Docket Nos. 50-440; 50-441 License No. CPPR-148; CPPR-149

Licensee: Cleveland Electric Illuminating Company
P. O. Box 5000
Cleveland, OH 44101

Facility Name: Perry Nuclear Plant Project, Units 1 and 2

Inspection At: Perry Site, Perry, OH

Inspection Conducted: August 19-22, 1980

Inspector: D H Danielson for C. M. Erb 9/10/80

Approved By: D H Danielson D. H. Danielson, Chief 9/10/80
Engineering Support Section 2

Inspection Summary

Inspection on August 19-22, 1980 (Report No. 50-440/80-14; 50-441/80-13). Areas Inspected: Record review of recirculating pipe welds; reactor pressure vessel setting record review; observation of anchor bolts and sole plate for the pressure vessels; record review of safety related equipment. The inspection involved a total of 30 onsite hours by one NRC inspector.

Results: Of the four areas inspected, no apparent items of noncompliance or deviations were identified in three areas; one apparent item of noncompliance was identified in one area (infraction - lack of housekeeping control in the area of the reactor pressure vessel sole plate, paragraph 3b).

DETAILS

Persons Contacted

Principal Licensee Personnel

*W. J. Kacer, General Supervising Engineer, CQS
*P. P. Martin, General Supervising Engineer, PQS
*B. L. Barkley, General Supervising Engineer, Nuclear Design Section
*G. Groscup, Manager, Nuclear Engineering Department
*J. Kline, General Supervising Engineer, Construction
*T. J. Arney, Program Manager, GAI
*P. L. Gibson, Supervisor, CQC
*R. L. Vondrasek, Supervisor, CQE
A. Bolesic, Warehouse Supervisor

Other Personnel

R. Williams, Lead Mechanical Engineer, QE, GAI
E. Volden, Supervisor NDE, Peabody
R. Pietzak, Asst. Supervisor, QC, G.E.I.&S.E.
W. Lindberg, Supervisor, QC, G.E.I.&S.E.
W. Zimmerman, Inspector, Hartford Steam Boiler & Insurance
H. Reppert, Engineer, Gilbert Associates
J. L. Miller, Site Manager, General Electric

NRC Personnel

J. Hughes, Resident Inspector, RIII
C. M. Erb, Reactor Inspector, RIII

*Denotes those present at the exit interview.

Functional or Program Areas Inspected

1. NDE Results on Certain Safety Related Welds - Unit 1

   a. General Electric I.& S.E. have the contract for installing the NSSS piping in Units 1 and 2. Radiographic film for Weld No. B33-1-B7, a 24" recirculation pipe weld to valve No. F060B, was examined. This weld was about 50% complete and X-rays had been made for the root (consisting of a fused insert and 2 additional hot passes) and each additional weld layer. The radiograph was of good quality, and the weld was acceptable. Weld No. B33-1-A11, a weld in the same system, was examined at the root pass level. This radiograph was also acceptable and the weld met ASME requirements.

      These welds were radiographed by Peabody and interpreted by a Peabody Level III inspector.

The required NDE for these welds involves Penetrant Test and Radiography for the root and final weld.

b. Observation of welding operations by the Pullman Company on weld No. 30 in RHR line E12 was observed. This weld to a 24" Borg Warner valve S/N81170 was to procedure IT-1 and the material was P-1. The top portion was being ground to ISI requirements while the overhead part of weld required more layers for completion.

The resident inspector had noted that the opening was over 1 inch wide and would require much more weave by the welder than allowed by the general welding procedure. The grinder and another welder, when questioned, did not seem to be aware of the prohibition on weave over 5 times the weld rod diameter.

The resident inspector stated that he felt the maximum weave should be held as specified. At the exit meeting, the resident stated that the licensee should assure that all welders understand the procedure requirements including maximum weave.

No items of noncompliance or deviations were identified.

2. Setting of the Reactor Pressure Vessel - Unit 1

Both pressure vessels were built by Chicago Bridge and Iron Nuclear (CBIN). The setting was performed by Newport News Industrial Corporation (NNIC). The Unit 1 vessel was assigned National Board No. 15 and was delivered on PQC 768 from General Electric Company. These vessels are different from previously built shop vessels in that many of the internals such as jet pumps were already installed.

Levelness readings and alignment readings made by NNIC and witnessed by Garrett and Associates were part of the setting records. No. 1240-NC-1006 is the NNIC installation procedure for the reactor pressure vessel anchor studs. These studs, which are 3" in diameter, were preloaded using a tensioner in a certain sequence. Complete results on initial stretch and relaxation are in the setting records.

No items of noncompliance or deviations were identified.

3. Records and Observation of Reactor Vessel Attachment to Sole Plate Unit 1

a. The QC records for the holddown studs, nuts, and washers were examined. The studs were procured to SA 540, Grade B24, Class 3. The material was AISI 4340 modified, quenched and tempered to a BHN of 293-350. The material was purchased to ASME Section III, Subsection NF requirements. All results for fracture toughness and physical properties were given and were acceptable.

The nuts were purchased to SA 194, Gr 7, which also required an oil quench and temper. The material was AISI 4140 and Ultrasonic and Charpy tests were made as required by ASME Section III, Subsection NF.

The washers were procured to SA325 and were made from oil quenched and tempered AISI 1045 steel. The requirement here was a hardness of RC 38-45, which was met.

b. Observation of the sole plate area and anchor bolts for Unit 2 revealed an unacceptable condition. Water was present to varying degrees in the cubicles formed by gussets in the sole plate. The water in some cases was almost overflowing and it appeared that many of the bottom end anchor studs with nuts would be submerged in water. Additionally, boards which covered the sole plate water area were loaded with dirt and welding flux. Two unused electrodes were found with most of the flux stripped off. This is an infraction identified in Appendix A. (441/80-13-01).

4. Safety Related Equipment Record Review and Observation of Activities

Standby Liquid Control Equipment for Unit 1 was stored in the warehouse. Storage tank S/N 1004, identification C41A001 and test tank A002 were supplied by Boeing Engineering & Construction Division to ASME Section III 1974 Edition, Summer 1974 Addenda, Code Case 1682. Form N-6 was furnished and the item is Class 2. The pumps were furnished by Union Pump Company and had the NV stamp with certificate of design and shop inspection. The explosive valves were built by Conax Corporation and are NPV-1. These valves were 7" O.D. x 1-1/2" tube size and were built to ASME Section III, 1971 Edition, Winter 1972 Addenda, and are Class 1.

No items of noncompliance or deviations were identified.

Exit Interview

The inspector met with the site representatives (denoted in the Persons Contacted paragraph) at the conclusion of the inspection. The inspector summarized the scope and findings of the inspection, which was acknowledged by the licensee.