

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

REGION III

Report No. 50-461/80-25

Docket No. 50-461

License No. CPPR-137

Licensee: Illinois Power Company
500 South 27th Street
Decatur, IL 62525

Facility Name: Clinton Power Station, Unit 1

Inspection At: Clinton Site, De Witt, IL

Inspection Conducted: November 19-21, 1980

Inspector: *C. M. Erb*
C. M. Erb

12/12/80

Approved By: *D. H. Danielson*
D. H. Danielson, Chief
Engineering Support Section 2

12/12/80

Inspection Summary

Inspection on November 19-21, 1980 (Report No. 50-461/80-25)

Areas Inspected: Installation procedures for CRD housings and insert withdraw lines; documentation for safety related structural steel; containment dome lifting and attaching procedures; observation of fit-up for primary coolant inlet piping. This inspection involved 19 inspector-hours on site by one NRC inspector.

Results: No apparent items of noncompliance or deviations were identified.

DETAILS

Persons Contacted

Principal Licensee Employees

- *G. M. Brashear, Manager of Clinton Site
- *R. J. Caulfield, Director of Construction
- *J. F. Hampton, Supervisor, Construction QA
- *D. E. Korneman, Mechanical Supervisor
- *J. Spencer, Supervisor, Field Engineering
- *E. Connon, Assistant Director Construction
- R. Folck, Structural QA
- *L. Dozier, Assistant Director Construction
- R. Backen, Quality Assurance

Other Personnel

- *J. L. Dempster, Site Manager, General Electric Co. (GL)
- *S. G. Hall, QC Equipment Install., GE
- *C. S. Guarneri, QC Supervisor, Reactor Controls Inc. (RCI)
- *W. J. Harrington, Project Manager, Baldwin Associates (BA)
- *T. Selva, Manager QC Tech Services, BA
- *J. W. Smart, Manager QA, BA
- R. E. Campbell, Quality Assurance Engineer, Nuclear Services Co. (NSC)
- *H. Smither, Assistant Project Manager, BA
- W. Hermann, Field Engineer, BA
- *L. A. Gelbert, Manager QA, BA
- C. Zalewski, QC Inspector, BA
- *J. E. Findley, Project Engineer, BA
- C. Wall, Supervisor, QA, Chicago Bridge & Iron (CBI)

*Denotes those present at the exit interview.

Functional or Program Areas Inspected

1. Installation Procedures for CRD Housings and Withdraw Lines

All 145 housings except four have been welded into the reactor vessel. These housings have an Inconel center portion with stainless welded to both ends. The groove weld made inside the reactor vessel utilizes an Inconel filler. PT is performed on the weld prep prior to start of welding to procedure No. PE-1, Revision 0. A ultrasonic "C" scan to procedure No. UE-4, Revision 1, is performed on the finished weld, together with a final Penetrant Test.

The 45 in-core housings have been welded in similar to the CRD housing. Drawing No. 762E660 is used for both in-core and CRD housings. The ANI from Hartford Steam Boiler was involved in this welding.

The 3/4" and 1" withdrawn and insert stainless tubing lines are welded to the CRD housing flange using procedure No. WS-381. This weld is made using an automatic T.I.G. machine without filler since an integral internal lip in the flange is fused to the tube. A Penetrant Test is made on the finished weld.

The qualification welds are made on a mock up and a cut section of the weld must exhibit a minimum leak path 2/3 the tube wall thickness. Ten such acceptable welds must be made for procedure qualification and six for welder qualification.

No items of noncompliance or deviations were identified.

2. Safety Related Structural Steel Record Review

QA documentation on structural steel for the Control Building was examined. All bolted joints had been inspected and released.

The structural steel between the dry well and the biologic shield was observed and the practices examined. BA Technical Service inspect the welds made in these structures while BA QA inspect the bolting operations.

The beams are procured from Bristol Steel to Specification A572-75 Cr 50. Skidmore equipment is used to calibrate the torque wrenches and the Skidmores are in turn calibrated yearly against NBS standards. Erection check off to procedure No. BAP 3.1.3 is used with the average of three Skidmore results used as the torque figure. The inspection wrench is calibrated weekly to procedure No. QC-114.

Changes to a beam or to its attachment require that a Field Change Request (FCR) be processed. The FCR Nos.'s that have been approved are listed on the applicable drawing and this is the extent of the update on the drawing. The intent is that no revised as-built drawing will be issued for such structural situations or in the area of concrete rebar reinforcement.

3. Containment Dome Installation Activities

Preparations for the containment dome lift were observed. The dome portion less the top cover plus fixturing weighs about 270,000 pounds. It was lifted by the Manitowoc 4600 and BA Instruction No. M-001, Revision 5 was used. The proposed Thursday morning lift was called off because the wind velocity was 15 miles per hour and up. A test lift had been accomplished two days prior to the lift.

CBI QA visually inspected cable and Magnetic Particle examined, using a YS yoke, the attachment welds on the dome and the lifting devices. The AC magnaflux units were tested for 10 pound lift capacity before use.

The skin of the dome is 1/4" thick where the weld attachment is to be made. The weld procedure specifications are No. E6010/74-2653/54, Revision 1, and No. E7018/74-2653/54. Qualification of the welders is

done and then the first 10 feet of production weld for each position is radiographed 100%. For each additional 50 feet of weld not less than 12" is radiographed. The weld prep is a square butt and the root is ground before welding the other side. Magnetic Particle examination is performed on both final surfaces and a Vacuum Box Test is also performed on the finished weld. The roof material is SA516, Grade 60, and the stiffener material is ASTM-A36-70a. The Code requirement is ASME Section III, 1971 Edition thru Summer 1973 Addenda.

No items of noncompliance or deviations were identified.

4. Observation of Primary Coolant Pipe Welding

Fitup on the 10" O.D. x .485" wall inlet recirculation piping welds was observed. Weld procedure No. GE-88-2BS is used for these welds, which utilize a Grinnell type 308L consumable insert. The welds are given an information RT on the root and final weld to procedure No. RTC 1/1. U.S. Testing Company performs the NDE on these welds. Spacer blocks are used to hold the joint and two windows are left so that a second person can watch the fusing from the inside. A single Argon purge is used for both the bottom and top welds.

No items of noncompliances or deviations were identified.

Exit Interview

The inspector and the resident inspector met with licensee personnel (denoted in the Persons Contacted paragraph) at the conclusion of the inspection on November 21, 1980. The inspectors summarized the scope and findings of the inspection, which were acknowledged by the licensee.