

DETAILS

1. Persons Contacted

a. Southern California Edison Company (SCE)

*P. A. Croy, Site QA/QC Supervisor
*H. B. Ray, Manager, Quality Assurance
W. F. Rossfeld, QA Engineer

b. Bechtel Power Corporation (Bechtel)

*J. R. Caldwell, Project QA Supervisor
T. Peterson, Nuclear Field Engineer
C. Smith, Supervisor, Nuclear Field Engineering
D. Shuck, BRCS Coordinator
R. Koogle, Welding Field Engineer
*J. E. Geiger, Project Field QA Supervisor
K. Ellingwood, Nuclear Field Engineer

c. Combustion Engineering (CE)

S. Salwach, Site Representative

*Attendees at exit interview.

2. Action on Previous Inspection Findings

The inspector examined corrective action or disposition of the following unresolved or open items:

a. (Closed) Open Item (50-361/77-01 and 77-04): Potential for Sea Water Contamination of Primary System Components.

For corrosion protection during shipping, the fabricator filled the steam generator with nitrogen gas to provide an inert environment. Because the steam generators had arrived with no nitrogen pressure on three of the four sides, the question of possible sea water intrusion during ocean barge shipment had been raised by the NRC. The generators were provided with a regulated flow of nitrogen to maintain the inert atmosphere during shipping, however. Also, it was reported that barge shipment had weathered a heavy storm. The licensee took swipe samples from internal

surfaces as well as samples from small moisture pools found in the steam generators and performed chemical analyses of these samples. None of the test results indicated sea water contamination of internal surfaces.

Visual inspections of the internals were performed by site personnel from SCE, Bechtel and CE; CE will make a further visual examination of the internals of the two steam generators and pressurizer in early 1979 using factory (Chattanooga) personnel. This additional visual inspection is being performed because:

- (1) Some soot like material was observed on a few tubes of the north steam generator of Unit 2.
- (2) A flashlight needs to be recovered that was dropped into the south steam generator of Unit 2.
- (3) A further effort to locate lost tube guides will be made although the problem was dispositioned to "accept as is." Ref. 50.55(e) report from SCE dated Dec. 30, 1976, forwarding CE Report CENC 1378 of Dec. 10, 1976.

The inspector found that the actions taken or planned are satisfactory and had no further questions.

- b. (Closed) Open Item (50-361/77-10): Constructor did not appear to have a sufficiently definitive procedure for review of subcontractor's procedures when contract was let by site procurement organization.

This item arose when the inspector found that the rigging subcontractor was working from annotated procedures. At that time, it was ascertained that the procedures had been adequately reviewed by the constructor but that a definitive system for such review did not exist. (Normally, such reviews are handled through the constructor's engineering offices in Norwalk.)

Subsequently, the WPP/QCI System at Bechtel provided for satisfactory controls, including controls over on-the-spot changes, to rigging methods. No control was provided for similar procedures in the event other contracts are let in the future for work on safety related equipment. Since rigging controls were now established and, since few, if any, similar contracts are anticipated, the inspector had no further questions at this time.

- c. (Open) Open 50.55(e) Item (50-361/77-09): Revised maximum LOCA flooding level in containment.

In a final report dated November 24, 1977, the licensee discussed air ducts and valve operators to be relocated as a result of the revised maximum LOCA flooding level.

The inspector, in examining the area of concern for valve relocation, found that much electrical equipment remains to be installed in the area. Consequently, this item will be examined further during a subsequent inspection.

3. Reactor Internals Installation-Procedures, Observations and Records

a. Procedures

The installation of reactor internals was controlled by Construction Inspection Data Reports (CIDRs) developed by Bechtel. These documents were reviewed and the inspector verified that the CIDRs had been accepted by the nuclear steam system supplier.

The CIDRs represented the top procedure document for the specific activity since no WPP/QCI had been developed which related to core internals installation (see exit interview). Selected items in the NSSS requirements document (CEND 1061) were sampled for inclusion in the Bechtel CIDRs. Of the six items sampled, adequate provisions for implementation were contained in the procedures.

Procedures had been developed so that only one entrapment procedure was involved. This procedure (still to be accomplished) involved a 12-14 hour measurement of alignment between core support plate and fuel element alignment (hold-down) plate. The internal fit of the reactor head is to be measured by access through the hot leg and does not involve entrapment.

Procedures appeared to adequately provide for the installation of those structures described in Section 3.9.5.1 of the FSAR. The installation of surveillance specimen capsules is not planned until after hot functional test and this work is not included in the current set of procedures.

b. Observations

The inspector observed measurement work underway, finished flexure weld of core barrel to lower support plate, cleanliness and cleanliness zone controls and storage conditions.

Personnel directing the work possessed experience in the activity.

The inspector discussed the methods for review of data by CE Windsor Engineering and studied methods for use of dummy alignment key, measurement for core barrel snubber shims and fit of reactor head. Problems with meeting a levelness criteria of 0.005 inches/foot when raising or lowering components had been traced to the crane hook bearings. The hook for Unit 2 had to be rebuilt by the manufacturer, PACECO, and similar rebuilding will be required for the Unit 3 polar crane hook.

The use of load cells for controlling crane lifting weights within 5 % of required forces was verified.

It was reported that as a result of problems at another CE facility, the interference fit for the core barrel to the alignment key will be increased above the presently specified 2 1/2 mil value. The actual change had not been received onsite.

No items of noncompliance or deviations were found, nor did the inspector find any indication that the rotation of the internals 180°, with respect to the reactor vessel, had resulted in any significant problems.

c. Records

Existing measurement records for core barrel to core stops, upper internals flange to vessel flange and shroud verticality were examined. Records of the flexure weld and shroud dowel seal welds were examined along with completed ASME N-5 forms. Qualifications of welders were verified.

QA audit and surveillance reports by SCE and Bechtel of vessel internals installation activities were examined.

No items of noncompliance or deviations were identified.

4. Exit Interview

At the conclusion of the inspection, the inspector discussed his findings with L. D. Hamlin, H. B. Ray and others as noted in Paragraph 1, above. He stated that the absence of a WPP/QCI for core internals work seemed inconsistent with normal practices although he had found that the work appeared to be adequately controlled. The licensee noted that the specific, noncontinuous nature of the activity appeared to lend itself to the use of the CIDR only, but said the matter would be examined before core internals work on Unit 3.