

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-508/82-19

Docket No. 50-508 License No. CPPR-154 Safeguards Group _____

Licensee: Washington Public Power Supply System

P. O. Box 1223

Elma, Washington 98541

Facility Name: WNP-3

Inspection at: Construction Site

Inspection conducted: October 1 - 31, 1982

Inspectors: *R. T. Dods* 11/12/82
W. G. Albert, Senior Resident Inspector Date Signed

Date Signed

Approved by: *R. T. Dods* 11/12/82
R. T. Dods, Chief Date Signed
Reactor Projects Section No. 1

Summary:

Inspection During the Period of October 1-31, 1982 (Report No. 50-508/82-19)

Areas Inspected: Routine unannounced inspection by the resident inspector of construction activities. Principal areas inspected included: (1) containment erection; (2) other safety-related structures; (3) heat treatment of other safety-related piping; (4) care and maintenance of installed equipment; (5) installation of reactor internals; and (6) records for safety-related piping. The inspection involved 69 inspection hours onsite by one NRC inspector.

Results: No items of noncompliance were found in five of the areas examined. One item of noncompliance was found in the area of safety-related structures.

DETAILS

1. Persons Contacted

The inspector interviewed various engineering, management, inspection, and construction personnel of the organizations listed below. Key personnel, including those who attended the exit interview, are identified below:

a. Washington Public Power Supply System (Licensee or Supply System)

- *R. S. Leddick, Program Director, WNP-3/5
- D. E. Dobson, Project Manager, WNP-3/5
- T. Beers, Project Quality Engineer
- N. F. Plais, Senior Project Quality Engineer
- D. R. Coody, Project Quality Engineer
- L. J. Garvin, Manager, Quality Performance and Measurements (Corporate)
- R. B. Glasscock, Quality Assurance Director (Corporate)
- N. C. Kaufman, Startup Manager
- D. C. Koski, Project Civil Engineer
- R. P. Krolicki, Principal Quality Assurance Engineer
- R. D. Madden, Lead Quality Assurance Engineer
- *J. A. Puzauskas, Quality Assurance Engineering Supervisor
- E. Stauffer, Startup Quality Assurance Engineer
- *E. L. Stephens, Senior Project Quality Engineer
- C. H. Tewksbury, Quality Surveillance Supervisor
- *O. E. Trapp, Project Quality Assurance Manager
- J. A. Vanni, Project Quality Engineer

b. Ebasco Services, Inc. (Ebasco)

- B. H. Bray, Resident Engineer, Electrical
- *T. E. Cottrell, Manager, Resident Engineering
- A. M. Cutrona, Quality Program Site Manager
- D. W. Cutting, Welding Engineer
- *M. R. Harris, Project Quality Engineer
- G. R. McKibbin, Nondestructive Examination Specialist, Level III
- D. Mooney, Quality Assurance Records Supervisor

c. Combustion Engineering (CE)

- W. Douglas, Nuclear Site Manager
- C. Nelson, CE-Avery Site Representative
- W. Pratt, Site Representative
- A. Tuzes, Project Manager (Corporate)
- E. Shenk, Installation Manager
- M. Uffelman, Millwright Foreman, CE-Avery

- d. Fischbach and Moore (FM)
 - D. Dishaw, Foreman
- e. Morrison-Knudsen/ESI/Lord (Joint Venture)
 - E. Kuhn, Quality Assurance Records Supervisor
 - J. Sowers, Project Quality Director
- f. Morrison-Knudsen (MK)
 - D. Summers, Quality Assurance Manager
 - R. Jurbala, Quality Control Manager
- g. Chicago Bridge & Iron (CB&I)
 - O. Wiel, Quality Assurance Welding Supervisor
- h. Hartford Insurance Company
 - N. Strasser, Authorized Nuclear Inspector (for CB&I)
- i. Peter Kiewit & Sons (PKS)
 - P. Langille, Welding Engineering Supervisor

*Denotes those in attendance at exit interview on October 21, 1982.

2. Independent Inspection and Tours

Daily tours of some portions of the Unit 3 construction site were normally conducted by the resident inspector during each on-site work day.

No inspection of Unit 5 was done during this report period.

No items of noncompliance were identified.

3. Project Construction Status - Unit 3

- a. At the end of the report period, project site construction had reached 64 percent completion.
- b. During the month of October 1982, work began on installation of core internals, welding of the containment dome was started and the "left-in-place" form work dome for the shield building was completed and lifted into place. Installation started on pipe whip supports for the main steam lines inside containment and inside the reactor auxiliary building. Condensate and refueling water storage tanks were placed and foundation work for the dry cooling towers commenced.

- c. On October 18, 1982, an independent group of 18 Supply System people under the guidance of the Institute of Nuclear Power Operations (INPO) started a two-week audit of site construction programs.

4. Containment

Following the placement of the containment dome on September 26, 1982, considerable work has been required to provide the necessary tolerance between the dome section and the hip course to which it must be welded. Maintenance of 3/16" tolerance across the weld joint has required the use of numerous heavy temporary attachments. These have often been welded at intervals of about a foot around the 408-foot circumference of the dome near the weld line. Such attachments are normally removed using carbon arc cutting of the attaching fillet welds. The procedure for such removal is specified in CB&I document CUP-1-R3. This procedure does not permit the use of oxyacetylene cutting for this removal. Contrary to this, the resident inspector noted four instances where serious gouges had occurred in the plates due to the use of oxyacetylene torches. Follow-up revealed that the Licensee had also noted the discrepant condition and had proceeded with corrective action, therefore no finding of noncompliance appeared warranted. The follow-up of this item will be examined in the course of routine NRC inspections.

The initial welding of the containment dome to the hip course was examined for fitup, root passes, finish welds, weld rod control and nondestructive examination. No items of noncompliance or deviations from ASME Section III MC were noted.

5. Safety-Related Structures

During the month, the resident inspector examined work being done on the assembly of the left-in-place formwork dome (LIP Dome). This structure will provide the form for shield building dome concrete to finish the shield building. Following the placement of concrete, the LIP Dome will be lowered and left in place between the shield building and containment for the life of the plant. Although essentially a bolted structure, the LIP Dome requires a welded tension ring. During fabrication of the ring, an MK welding inspector approached the NRC with an allegation that the weld procedure had not been properly qualified since the project change proposal permitting use of the procedure relied on the AWS D 1.1 code to establish that the procedure was qualified. However, the AWS code did not define the joint in question as a joint to which AWS prequalified procedures apply.

The resident inspector examined the circumstances of the allegation, met with principals involved, and concluded that the allegation was substantiated. The licensee and Ebasco directed the qualification of the procedure. This was successfully performed by MK under the supervision of corporate office personnel.

In examining the documentation supporting the original use of a welding procedure which had not been qualified, the inspector found that the review and approval cycle had bypassed the Ebasco quality assurance organization. This was contrary to the specific requirements of the Ebasco procedure controlling the processing of such changes (PSP-RE-2-36). This procedure states in section 5.1.23: "Block 23 - Site QA designee signature for QF PCPs affecting safety-related (nuclear) specifications/drawing notes is required as defined below: (a) Applicable regulatory, code and design requirements." Ebasco Specification 884-WC-80 specifically directs the qualification of weld procedures. Any change from this specification should have received quality assurance review and approval. The absence of such review and approval is considered an item of noncompliance.

6. Care and Maintenance of Installed Equipment

During routine tours, on October 7, 1982, the resident inspector observed that electrical penetration terminal boxes were not properly protected; that required heat was not always provided; or that necessary inert gas pressurization was low or nonexistent. One or more of these conditions existed for the majority of the boxes in a sample of 27 boxes examined. On follow-up, the inspector found that Ebasco quality control surveillance personnel had found essentially the same conditions on August 19, 1982, and had directed a Quality Finding Report to the 224-contractor for corrective action. The contractor had responded on September 2 that necessary corrective action had been taken. A follow-up audit by Ebasco three days prior to the NRC inspector's observations had found inadequate corrective action.

In discussions with management at the exit interview, the inspector noted that the observation again pointed out the need for management attention in the quality surveillance area; specifically:

- a. Corrective action was slow and obviously ineffective.
- b. The surveillance findings were being improperly handled.
- c. The contractors quality control/assurance organization should have been involved in the verification of corrective action.
- d. There is a need for Supply System involvement in the resolution of such problems.

In a related matter, the inspector observed that condensate transfer pumps were being improperly protected from water because protective covers were severely damaged. The matter was referred to the licensee.

The matters discussed above were not considered items of noncompliance but were considered to be examples of the NRC's continuing concern with the effectiveness of surveillance activity and the need for more involvement of the licensee in quality problems.

7. Installation of Reactor Internals

Initial examination of work by C. E. Avery and review of controlling procedures did not disclose any significant questions or items of noncompliance.

8. Other Safety-Related Piping

Postweld heat treatment by Peter Kiewit & Sons (PKS) was examined by observations in the field. The work complied with PKS Procedure PKS-WI-705 and, for the work underway, met the applicable code requirements for soaking temperatures, ramp, and time. Code B 31.1 governed for welds 3-5 FW 22-075 FW 4 and 3-5 FW 12-038 FW 1, in this instance.

No items of noncompliance were disclosed.

9. Records for Safety-Related Piping

The inspector examined the work package for header 8B of the core spray system. To the extent sampled, the records appeared to have been properly assembled and ready for turnover as part of system acceptance.

The inspector expressed a concern at the exit interview regarding the length of time involved in assembling and reviewing such packages.

No items of noncompliance were identified.

10. Primary Loop Pumps

During the month, the licensee reported that they had been notified by Combustion Engineering of a problem that developed during the testing of System 80 pumps at C-E Avery in Newington, NH. The problem was the failure of bolts for the large keys between the diffusers and pump casing. The matter was reported as an item potentially reportable under 10 CFR 50.55(e). Resolution of the problem, which would be applicable to the Palo Verde units, had not been determined.

11. Exit Interview

Due to the absence of the resident NRC inspector during the last week of the reporting period, the matters in this report were discussed with Supply System management on October 21, 1982.