U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-508/87-02

Docket No. 50-508

Construction Permit No. CPPR-154

Licensee: Washington Public Power Supply System (WPPSS)
P. O. Box 1223
Elma, Washington 98541

Facility Name: Washington Nuclear Project 3

Inspection Conducted: February 2-5, 1987

Inspector: A. D. Toth — 2-23-87
A. D. Toth, Project Inspector — Date Signed

Approved By: Robert A. Pate for — 2/23/87
S. A. Richards, Chief — Date Signed
Engineering Section

Summary:

Inspection on February 2-5, 1987 (Report No. 50-508/87-02)

Areas Inspected: Routine unannounced inspection by a regionally based inspector, of the implementation of the plant preservation program implementation. Inspection procedures 30703, 92701, and 92050 were considered for inspection guidance.

Results: In the areas inspected, relative to the preservation program, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Washington Public Power Supply System

*P. D. Olson, WNP-3 Program Director
*C. E. Love, WNP-3 Project Resources Manager
*D. R. Coody, WNP-3 Project Quality Assurance Manager
*A. G. Carlyle, WNP-3 Quality Assurance Engineer
*M. M. Monopoli, WNP-3 Plant Manager
*E. A. Stauffer, WNP-3 Plant QA/QC Manager
*L. J. Garvin, Readiness Reviews Program Manager (Construction QA Manager)
*R. L. Knawa, Construction Assurance Program Manager
L. A. Hill, Maintenance Manager
*N. F. Blais, WNP-3 CAP Concrete Module QA Engineer
M. D. DeBoard, Maintenance Coordinator
W. Kooy, Project Engineer (Site Corrosion Engineer Coordinator)

EBASCO

*R. M. Taylor, WNP-3 Project General Manager
J. Hayes, Warehouse Supervisor
*H. Torturgal, WNP-3 Civil Lead Engineer (ESSE)
*R. E. Niemi, WNP-3 Resident Civil Engineer
*P. L. Pitman, WNP-3 Quality Program Site Manager (Acting)

Adams Associates (WNP-3 Owners Group Agent)

*J. A. Adams, Site Representative

Washington State Energy Facility Site Evaluation Council (EFSEC)

*M. Mills, Compliance Manager

Department of Energy - Bonneville Power Administration (DOE-BPA)

*D. Smithgeter, Project Representative

*Designates persons in attendance at exit meeting 8:00 - 9:30 A.M. February 5, 1987.

2. Project Status

The current plant staff of 67 includes 30 persons in the maintenance department. In addition to preservation, preventive maintenance and repair activities, this group has been engaged in transfer of power girds from temporary construction sources to the installed permanent plant systems. Preparations are in progress to transfer some maintenance responsibilities from the construction manager organization (EBASCO) to the WPPSS plant maintenance organization. Supply System and EBASCO efforts are in progress to consolidate and simplify maintenance

scheduling, record keeping and work performance, and to evaluate (and reduce) preventive maintenance frequencies.

Readiness review activities are continuing on the concrete Construction Assurance Program and the Civil Engineering Assurance Program. On February 9, 1987 the licensee advised that the Structural Steel Construction Assurance Program module will not be initiated in 1987 and the Readiness Review Program will terminate July 1987.

3. Equipment Storage

The inspector observed the storage conditions of equipment in most of the on-site warehouses holding material and equipment for WNP-3. These facilities and associated equipment preventive maintenance were currently administered by EBASCO, the construction management organization. Each warehouse was locked with appropriate access control. Storage areas were orderly and clean, with items readily accessible for inspection and preventive/preservation maintenance. Items governed by and maintained by the preventive maintenance (PM) program, were tagged for easy recognition. Dessicant indicators in various components were noted as being within acceptable range. The warehouses were dry and warm (it was raining the day of the inspection) and no roof leaks or other evidence of water intrusion were evident. Storage conditions were exceptional. Several items were selected during the tour for subsequent review of preventive maintenance records. The inspector also observed access control at the permanent plant facility gate and interviewed two security guards regarding practices for access to the plant.

No violations nor deviations were identified.

4. Preventive Maintenance Program

The preventive maintenance program was discussed by the licensee in attachments to letters to NRC dated May 24, June 28, and August 16, 1985. The program was accepted by NRC letter dated September 18, 1985. The program, Preservation of Assets Preventive Maintenance Program, WMC-051 Revision 2, defined the details of the preventive maintenance program for extended construction delay.

The inspector found that the Project QA Manager was unaware that WCM-051 had been submitted as a commitment to NRC; further inquiry also showed that WCM-051 had been revised since that submittal and approved by the WNP-3 Program Director on December 15, 1986. The licensee acknowledged the revision and committed to formally submit the revision to NRC. The inspector noted that the revisions included extending intervals between some inspections, addition of lubricants/preservatives only when test samples indicate a need, deletion of some shaft rotations (but in some cases jacking the shaft to unload the bearings) and other matters of little apparent significance.

The inspector found that neither the Project QA Manager nor the site corrosion study coordinator considered that 10 CFR 50 Appendix B encompassed the special corrosion monitoring program which was described in WCM-051. Accordingly, these key personnel did not consider it

significant that the corrosion engineer quarterly reports were unavailable on-site for the third quarter of 1984 and the second and third quarters of 1986, nor that detailed corrosion coupon data was unavailable on-site. At the exit meeting the licensee management acknowledged the applicability of quality assurance controls to the corrosion monitoring program, and committed to re-evaluate the program features relative to applicability of specific criteria of 10 CFR 50 Appendix B.

The quarterly reports of the corrosion engineer identified various discrepancies which appeared to generally have been addressed over time. However, corrective actions were often delayed, apparently due to limited resources, and lack of a formal followup system for such findings (e.g., the March 1985 quarterly report complained of the fourth mention of water collecting at concrete block-outs and associated corrosion of rebar and embeds). This weakness in corrective action was identified by the licensee after NRC questioned followup on observed local corrosion in May 1986 (NRC open item 86-06-01). As a result, the new revision 3 of WCM-051 incorporates a requirement for formal tracking of such discrepancies identified by the corrosion engineer, and the licensee plans increased QA involvement in this area. At the time of this inspection, the corrosion engineer had not yet completed development of the tracking system and his audit of prior quarterly reports to identify any unresolved issues. The licensee action on these matters will be considered during future inspections and review of the pending WCM-051 submittal. Followup Item (87-02-01).

Monthly Work Activity Reports indicate that outstanding maintenance work requests have numbered at slightly above 270 during December 1986 and January 1987, with approximately one new item opened for each one resolved. Licensee actions to transfer EBASCO warehouse activities to the existing staff of the Supply System WNP-3 maintenance department can potentially impact the timeliness of completing backlogs and future identified maintenance and preventive maintenance actions. The management of this aspect will be considered during future inspections. Followup Item (87-02-02).

5. Preventive Maintenance Program Procedures

Plant maintenance department procedures and EBASCO preventive maintenance procedures have been developed by the licensee to prescribe maintenance requirements both for equipment installed in the plant and equipment stored in warehouses. In addition administrative controls involving repetitive future administrative actions have been incorporated into the computerized scheduled maintenance system. This system issues reminders of scheduled actions due, including audits to assure that there are no outstanding "calibration due dates" for equipment, audits to assure that all current instrument/equipment inventory is included in the Calibration Program, audits of jumpers and lifted leads, walkdown inspections of plant facilities by the relief shift supervisor, monthly technical review of QC exception report file, semi-annual safety inspection of plant facilities, quarterly housekeeping inspections of electrical equipment by supervisors, and other such matters.

The inspector examined EBASCO procedure ESP-5.02S3 Revision 1 (Preventive Maintenance), Supply System procedure 10.100.18 Revision 8 (Maintenance Consumables) and the general procedures manual for preventive maintenance. Procedure 10.100.18 identified specific lubricants to be used for specific components. Individual items on the procedure supported a conclusion that the licensee had communicated with vendors or otherwise assessed the suitability of individual lubricant applications relative to vendor recommendations, e.g., NSSS prohibitions on the use of certain vapor phase corrosion inhibitors were incorporated into the procedure.

6. Preventive Maintenance Records

The inspector examined the list of in-plant items covered by the WPPSS preventive maintenance (PM) program and the computer system used for assuring that PM was accomplished at the specified intervals. The computer identifies due dates and dates of the last three completions of each required PM task. The inspector examined the computer data and the supporting signed records (maintained in an appropriate controlled records vault) for the following items and PM tasks:

a. 3-SI-MTR-1A Low Pressure Safety Injection Pump Motor Oil Sampling; Oil Addition; Megger; Shaft Rotation

b. 3-CC-PP-2B Component Cooling Water Pump Vapor Inhibitor (corrosion) Checks and Addition

c. 3-AF-PP-1A Auxiliary Feedwater Pump Vapor Inhibitor; External Visual; Shaft Rotation

d. 3-CC-MTR-2A Component Cooling Water Pump Motor Megger

e. 3-RC-RV-1 Reactor Vessel Columns Corrosion Check

For two of the five components, some of the records were not available in the file: Monthly external visual inspection records for February through May 1984 (for item c, above), and Annual megger test record for 1985 (item a, above). However, subsequent records for these items were present and indicated acceptable inspection/test results. The omissions were not individually significant but indicated a minor weakness in the records accumulation and/or retention controls in the area of PM. The responsible supervisors and management acknowledged that records difficulties had been experienced and identified during the demobilization activities and preparation for extended construction delay in 1983-1984, and that corrective actions had been taken. The inspector found no evidence that recent records were deficient, and noted that current efforts to consolidate plans and records promised to reduce the probability of such discrepancies, if only due to the reduction in the total numbers of individual separate documents to be handled.

The inspector examined the preventive maintenance specification for one safety related limitorque valve operator (Maintenance Record SMB3, item 168-1598-01).

This record included preparation by an EBASCO engineer as required by WNP-3 procedures, and required/specified preventive maintenance work was included in the computer Scheduled Maintenance System.

No violations or deviations were identified.

7. Audits and Surveillances

The inspector examined the compilation of various quality assurance and surveillance reports relating to the preventive maintenance program for the period of January 1984 through January 1987. These reports reflected activities of the Supply System corporate auditors, Supply System Project Quality Assurance surveillance engineers, and the Ebasco site quality assurance surveillance staff. The most recent audit, Number 86-368, had previously been reviewed in detail by an NRC inspector (NRC inspection reports 86-10 and 86-11), who observed the audit to be a thorough review and assessment but involving little inspection of hardware. The QA surveillance reports examined during the current inspections demonstrated equipment specific records reviews and hardware inspections. The findings appeared complete, with a log maintained to assure timely followup of identified concerns.

No violations or deviations were identified by the inspector.

8. Miscellanceous Observations - Jacked Motor Shafts

For some large rotating machinery, shafts have been jacked to lift the load off of the bearing, in lieu of periodic shaft rotation. An example involved lifting the shaft 20-30 mils. The shaft is supported in this position, in some cases (reportedly) on wood block members. Potential stress relaxation could result in undetected reloading of the bearings. There is no monitoring provided to assure that this has not occurred over long periods. The maintenance supervisor stated that this situation will be reviewed and a periodic check or support redesign implemented if bearing re-loading appears possible for individual support configurations.

No violations or deviations were identified.

9. Licensee Action On Previously Identified NRC Inspection Findings

a. (82-04-01, Open) Violation - Failure to install containment structural attachments in accordance with specified quality requirements.

The Supply System corrective actions for this item were described in letters to NRC dated May 21, 1982, August 23, 1982, December 2, 1982 and June 8, 1983.

Quality assurance records at the site indicate that weld inspection and repair, obtaining of material certifications, and specifications reviews were completed as indicated in the correspondence to NRC.

The December 2 letter identified various structures that the Supply System proposed to downgrade to quality class G, in order to accept

completed installations. The June 8, 1983 letter noted the Supply System intent to submit this proposal to NRC via an amendment to the FSAR (Table 3.2-1 and associated footnotes). The submittal was deferred due to shutdown of the project and the June 8 letter noted that a submittal date could not be established.

The inspector examined a Supply System internal document (SAR Change Notice No. 730 dated February 2, 1986) which records the proposed change. This change had been submitted to NRC as Amendment No. 6 (March 1986) but has not been reviewed and accepted by NRC.

This item remains open pending completion of the review by NRC in accordance with NRC review policies.

This item will be considered by NRC during review of the CAP module for Structural Steel or Containment.

b. (82-20-02, Open) Violation - Failure to perform or process calculations (PCP No. 2464) in accordance with procedures.

The Supply System corrective actions for this item were described in letters to NRC dated January 7, 1983, June 7, 1983 and December 22, 1983. The December letter stated that review of PCPs (Project Change Proposals) would be completed by April 13, 1984.

The inspector examined quality assurance department files which showed that the reviews had been conducted; the conclusion of the review was documented by EBASCO site engineering memo WPPS-ESSE-PE-220 dated April 13, 1984.

The EBASCO results of the PCP reviews (as far as they went) stated that no new noncompliances were found, but new explanation sheets and additional calculations were added to the records to aid in understanding of the PCP approval process.

However, a Quality Assurance Surveillance Report (No. WNP-C-84-32 dated April 3, 1984) stated that the auditor found that the engineering review started with volume 31 (PCP No. 6187 dated February 12, 1982) and that justification/authorization was required for not reviewing volumes 1 through 30. This audit finding had been dismissed by the EBASCO QA Manager notation that the aforementioned April 13, 1984 memo satisfies the corrective action.

This item remains open pending evaluation of volumes 1-30.

c. (86-06-01, Closed) - Corrosion of valve bonnet fasteners at the refueling water storage tank. This item appeared to not be addressed by a nonconformance report. The licensee investigation showed that the observed fasteners were not safety related nor appropriate to application of the nonconformance report system. However, consideration of this item led to improvements in procedure WCM-051 regarding followup on items identified during quarterly inspections by the corrosion engineer (see paragraph 4, above).

10. Management Meeting

The inspector summarized the results of this inspection at an on-site exit meeting on February 5, 1987. Attendees at the meeting were as noted (*) in paragrpah 1 of this report. No significant issues were identified. The following matters were discussed:

a. With respect to the instances of unavailable individual preventive maintenance records and known problems with records of the 1984 period, the inspector recommended inclusion in the files a summary of the earlier audit and corrective action and conclusion, for the information of future auditors. Licensee staff indicated that they would consider the benefits of such action.

b. The licensee stated that the revised WCM-051 will be submitted for NRC review.

c. The licensee stated that the corrosion monitoring program will be evaluated relative to applicability and implementation of quality assurance criteria.

d. The licensee stated that increased quality assurance involvement will be evaluated for corrective actions for quarterly corrosion inspection findings.

e. The inspector stated that he was impressed with warehouse storage conditions, extent of quality assurance and management attention to housekeeping and preventive maintenance, and responsiveness to quality assurance findings. He stated that records indicated a substantial contribution in this area by the various quality assurance functions.