

U. S. NUCLEAR REGULATORY COMMISSION
REGION V

Report No. 50-508/90-02

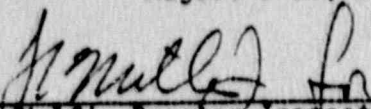
Docket No. 50-508

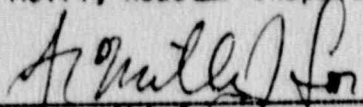
Construction Permit No. CPPR-154

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

Facility Name: Washington Nuclear Project No. 3 (WNP-3)

Inspection conducted: August 6-20, 1990

Inspector:  9/12/90
J. F. Melfi, Reactor Inspector Date Signed

Approved By:  9/12/90
F. R. Huey, Chief Date Signed
Engineering Section

Inspection Summary:

Inspection on August 6-20, 1990 (Report No. 50-508/90-02)

Areas Inspected: A routine inspection of Quality Assurance activities associated with the implementation of the plant preservation program during the extended construction delay was performed. Inspection procedures 92050 and 30703 were used during this inspection.

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

DETAILS

1. Persons Contacted

a. Washington Public Power Supply System (WPPSS)

- *C. Butros, WNP-3 Site Manager
- J. Perreault, Engineering/Technical Manager
- J. Cooper, Business Manager
- M. Deboard, Program Support
- L. Garvin, Programs and Audit Manager
- L. Hill, Preservation Manager
- *T. J. Houchins, Quality Assurance Manager, WNP-1
- *R. Marzano, Security and Safety Manager

b. EBASCO

- B. J. Crow, Administrative Manager
- *R. M. Taylor, Project General Manager
- *C. G. Reid, Project Engineering Manager
- *W. K. Drinkard, Assistant Quality Assurance Manager
- J. E. Hayes, Warehouse Supervisor

*Denotes those attending the exit meeting on August 8, 1990.

2. Plant Status

The plant is currently in a construction delay status, and is considered by the licensee to be 76% complete. As a basis for this completion status, the licensee calculated the amount of man hours worked on individual jobs during construction. The licensee then calculated the number of man hours earned (versus man hours expended) from various construction activities to account for efficiencies during plant construction. The licensee also knows the amount of man hours expected to complete the job, and the percentage complete can then be determined. The breakdown in man hours expended is shown below (in million man hours).

<u>Construction Activity</u>	<u>Actual Man Hours</u>	<u>Man Hours Left</u>	<u>Man Hours Total</u>	<u>Per Cent Complete</u>
Civil	10.285	1.810	12.095	85.0
Electrical	1.912	1.792	3.704	51.6
Mechanical	3.663	1.927	5.590	65.5
HVAC	.656	.270	.926	70.8
Specialties	.239	.576	.814	29.4
Totals	16.755	6.375	23.129	72.4

As noted above, the difference in the percentage complete total is that the licensee uses man hours earned to estimate that they are 76% complete.

During the inspection, the inspector was informed that the licensee was considering a means to increase the effective power of the grid in the surrounding area for certain loading conditions (i.e. winter). The effective power on the grid is maximized when the voltage and current are in phase. The main grid in the area has the current and the voltage out of phase. The licensee is evaluating if the main generator can be used as a synchronous condenser, bringing the voltage and current more into phase for the surrounding grid. The main generator would use some of the current off the main grid, and the generator would then bring the voltage and current more into phase. The licensee estimates that they might get an additional 300 megavolt amperes reactive (MVARs) by using the main generator.

The means that were being considered to upgrade grid voltage were to make some of the currently installed equipment functional. This equipment could include the main generator, parts of the lube oil system to the main generator, one of the emergency diesel generators and the support equipment (e.g. air start, fuel oil system) for that diesel generator. The licensee would use one of the diesel generators to bring the main generator up to speed, the diesel generator would be shut down, and then the main generator would be operated off the main grid current.

The inspector was told that the licensee would contact the NRC on their plans when these plans were finalized.

3. Preventative Maintenance Program

The preventative maintenance program for the extended construction delay is described in WMC-051 entitled, "Preservation of Assets Preventative Maintenance Program," Revision 5, dated April 2, 1990. The inspector reviewed the changes made to this program since the previously reviewed Revision 4. There were changes in the program statement and several of the appendices. The changes are as follows:

a. Program Statement

The program statement changes were generally administrative in nature and provided more detail than Revision 4. While the contents of Revision 4 were substantially the same in Revision 5, some changes were noted. These changes included:

- o Any reference for the preservation program to end has been deleted so that preservation efforts can be carried on indefinitely.
- o Four environmental categories for storage were added. The four categories are noted to be similar to the standard (ANSI 4.5.2.2-1978) in the following ways:

<u>Category</u>	<u>ANSI (4.5.2.2-1978)</u>	<u>Location</u>
I	Level A	Inside Reactor and Auxiliary Building

II	Level B	Inside heated bldgs & Turbine Building
III	Level C	Unheated outside buildings
IV	Level D	Outdoor storage

The licensee was also allowing for changes in their program that may differ from manufacturers' recommendations based on a documented engineering evaluation.

The changes to Revision 5 appear to meet or exceed the requirements of the previous Revision 4.

b. Appendix A, "Preventative Maintenance Requirement by Equipment Type"

Appendix A was revised to Revision 4 on April 24, 1990. The new revision has been substantially changed from Revision 3 to operate on maintenance requirements based on the environmental category (added in the program statement). The changes are based on the licensee's experience with the preservation program. The licensee describes a reduction in the number of inspections for Category I and II areas. The increase in the time interval for Category I and II areas is based upon the absence of any significant corrosion in these areas. The licensee is also modifying their corrosion walkdown program to evaluate certain components (e.g., tanks, dry cooling tower heat exchangers). The changes were made based on the licensee's engineering judgement. The inspector reviewed the new Revision 4 and did not identify any detrimental changes from its previous Revision 3.

c. Appendix B, "Structural Material Corrosion Monitoring Program (CMP)"

No changes from the previous inspection.

d. Appendix C, "Hygrothermograph Plant Monitoring"

No changes from the previous inspection.

e. Appendix D, "Electrical and Electronic Components"

No changes from the previous inspection.

4. Equipment Storage

Various levels in the reactor building were observed by the inspector for proper storage of equipment. The reactor building is considered to be equivalent to an ANSI N45.2.2 level B storage area. Items receiving special attention were:

a. 335 Foot Level

High Pressure Safety Injection Pumps 2A, 2B and 2C, Containment Spray Pump 1B.

b. 362 Foot Level

Auxiliary Feedwater Pumps 1A and 1B

c. 392 Foot Level

Control Manifold for Nitrogen Purge in Pressurizer and Reactor Vessel,

No evidence of water was observed in any of the areas. The cleanliness, preservation, and protection of equipment, including housekeeping, were satisfactory. There was no evidence of rodents found, however, the inspector did find some evidence of spiders in several of the storage buildings. The temperature and humidity were being monitored by the hygrothermographs and were noted to be within the acceptable range.

The inspector also inspected several of the storage tanks that are located outdoors. These tanks were both trains of the Diesel Fuel Oil (DFO) storage and both Refueling Water Storage Tanks (RWST). The inspector also looked at the Condensate Storage Tank (CST). The outside of the tanks appeared acceptable and within the preservation program guide lines. The inspector also observed the semiannual inspection of the A train Diesel Fuel Oil Storage Tank. The tank was sealed previously to avoid moisture intrusion into the tank. The inside of the tank had some rusting where water had intruded. The inspector was informed that the rusting was minor and that the leakage was due to a poor seal for the manway into the tank. The inspector was informed that the seal around the manway would be upgraded to preclude further corrosion.

The warehouses with safety-related equipment were also toured to assess the conditions of storage. There was no evidence of rodents found by the inspector. The warehouses were clean and the equipment observed was adequately protected. The storage conditions in the warehouses were found to be acceptable.

No violations or deviations were identified.

5. Preventative Maintenance Records

The licensee maintains a computerized Scheduled Maintenance System (SMS) which lists items which are scheduled to have maintenance performed on them. The SMS lists the dates that the maintenance of these items was last performed, the frequency, and the due dates for the next scheduled maintenance. The inspector reviewed the records for the equipment observed in the plant. The records in the Quality Assurance (QA) vault were reviewed by the inspector to confirm that the scheduled preventative maintenance was performed on the following items:

a. Carbon Steel Tanks

CST, 3-AF-TR-1 Inspect External and Internal
 DFO Storage Tank, Train A (3-EG-TK-1A) Inspect External and Internal
 DFO Storage Tank, Train B (3-EG-TK-1B) Inspect External and Internal

b. Stainless Steel Tanks

RWST, Train A, (3-CH-TK-1A)	Inspect External and Internal
RWST, Train B, (3-CH-TK-1B)	Inspect External and Internal

c. Diesel Generator 1B and Subcomponents

Diesel Engine (3-DG-ENG-1B)	Inspect External and Internal
Diesel Generator	Polarization test and staggering
Diesel Turbos	External Inspection
Air Compressors	Inspect External and Junction Box

d. Containment Spray Pump A	Rotate Shaft and Inspect Internal
Containment Spray Pump B	Rotate Shaft and Inspect Internal

e. AFW Pump 1A	Inspect Internal, External, Instrument Box, Rotate Shaft
AFW Pump 1B	Inspect Internal, External, Instrument Box, Rotate Shaft

f. Charging Pump 2A	Inspect External, Rotate Shaft, Draw 0.1 Sample
Charging Pump 2B	Inspect External, Rotate Shaft, Draw 0.1 Sample
Charging Pump 2C	Inspect External, Rotate Shaft, Draw 0.1 Sample

The documentation verifying that the above tasks were performed was contained in the SMS Task Cards in the QA vault. At the time of the inspection, the SMS list did not show any safety-related items overdue. All of the above items had the required preventative maintenance tasks performed as scheduled.

No violations or deviations were identified.

6. Corrosion Monitoring Program

As noted in paragraph 3, the Structural Steel Corrosion Monitoring Program (CMP) is described in Appendix B of WMC-051. To monitor the corrosion rate, corrosion coupons (of similar composition) are placed on test racks located in the field and in the buildings to provide information on material changes due to the environment. The corrosion coupons are described in Appendix B including the coupon's materials, size, and identification. During the walkdown in containment, the inspector observed corrosion coupons in containment at various locations. The carbon steel coupons did not show any significant degradation and still appeared shiny, indicating a non-corrosive environment. The reactor vessel was under a nitrogen purge, and the containment appeared clean.

No violations or deviations were identified.

7. Site Access Control

The inspector discussed the access control program with the security manager. The station manager stated that there were very few problems with site access. The inspector noted that the site security procedures

appeared to be adhered to, and that the materials and equipment appeared to be adequately controlled. The site area boundary fence also appeared to be intact, and the security force adequately staffed.

No violations or deviations were identified.

8. Quality Assurance (QA) Activities

a. QA Organization

At the time of the inspection, the licensee did not have a QA manager, due to the recent death of the QA manager. The position of QA manager was being filled temporarily by the assistant QA manager. The QA manager from WNP-1 is also assuming some of the duties of the WNP-3 QA manager.

b. Audits and Surveillances

The licensee conducts two audits annually of the plant organization, one conducted by the WPPSS organization, and the other by EBASCO. The inspector reviewed the last two EBASCO audits (December 1988 and 1989), and the June 1990 audit performed by the WPPSS organization. The inspector did not review the June 1989 audit by the WPPSS organization. The audits reviewed had an adequate scope, and the findings of the audits were tracked by the licensee. The licensee did initiate corrective actions based upon the audit findings.

The licensee also conducts surveillances for ongoing activities. Some of the recent findings made by the licensee involved: 1) the adequacy of dunnage for some outdoor storage, and 2) a tracking program to assure personnel training. The licensee did initiate corrective actions based upon surveillance findings.

No violations or deviations were identified.

9. Exit Meeting

On August 8, 1990, an exit meeting was held with the licensee representatives identified in paragraph 1. The inspector informed the licensee that he would perform in-office reviews of various program materials and document those reviews in the report. The inspector also summarized the inspection scope and findings to that point. The licensee representatives acknowledged the inspector's findings.