U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/86-10

Docket No. 50-397

License No. NPF-21

Licensee: Washington Public Power Supply System
P. O. Box 968
Richland, Washington 99352

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Inspection at: WNP-2 Site, Benton County, Washington

Inspection Conducted: March 24-28, 1986

Inspectors: GP Yuhas for — 4/18/86
M. Cillis, Radiation Specialist — Date Signed

GP Yuhas for — 4/18/86
J. F. Moore, Radiation Specialist — Date Signed

Approved by: GP Yuhas — 4/18/86
G. P. Yuhas — Date Signed
Facilities Radiological Protection Section

Summary:

Inspection on March 24-28, 1986 (Report No. 50-397/86-10)

Areas Inspected: Routine unannounced inspection by regionally based inspectors of radiation protection activities during refueling outage conditions; licensee actions taken on IE Information Notices (IN's); tours of the licensee's facility; and an in office review of the licensee's July 1st to December 30, 1985 Semiannual effluent report. Inspection procedures 83729, 83723, and 90713 were performed.

Results: Of the four areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

*C. Powers, Plant Manager
*R. Graybeal, Health Physics/Chemistry Manager
*D. Feldman, Plant Quality Assurance Manager
*G. Bouchey, Director, Support Services
*G. Oldfield, Program Health Physicist
*A. Hosler, Nuclear Safety Assurance Group Manager
L. Berry, Health Physics Supervisor
L. Bradford, Assistant Health Physics Supervisor
M. Valdez, Health Physics Foreman
V. Shockley, Health Physics/Radiochemistry Support
M. Detrick, Health Physics Technician
D. Rinehart, Training Supervisor
S. Rejneik, Training Specialist
J. Allen, Health Physicist
L. Morrison, Chemistry Supervisor
L. Mayne, Assistant Chemistry Supervisor
B. DaValle, Nuclear Safety Assurance Group Engineer
C. Mix, Instrumentation and Controls Foreman

*Denotes those present at the exit interview on March 28, 1986.

2. Preparations for the Refueling Outage

a). General

The licensee's preparations for an extended refueling outage were examined. The outage was scheduled to start on March 31, 1986 and is expected to be completed by the end of June 1986. The following areas were examined:

- Health Physics (HP) Organization
- Selection of Contract HP Personnel
- Contract HP Technician Training
- General Employee Training
- Job Planning and Scheduling Activities

b). Organization

The licensee's HP organization established for the outage was examined. Reassignments of permanent staff had been made to support the outage and three contract firms were retained to supply 58 temporary HP technicians. The significant changes are as follows:

- Management overview of outage activities was increased with the assignment of senior HP personnel from the licensee's staff into key positions to coordinate and supervise the activities performed by the contract HP staff.

- Four licensee chemistry technicians with HP qualifications had been temporarily assigned as senior HP technicians and seven licensee chemistry technicians have been assigned junior HP technician duties during the outage.

- Two HP engineers had been assigned as ALARA coordinators for jobs with planned dose rates/exposures exceeding 100 milli Roentgen/hr or one man-rem. Jobs with lesser exposures are given an ALARA review by an HP technician.

- Three contract senior HP technicians have been asked to act as liaisons between the contractors and the licensee. No supervisory responsibilities were assigned to contract HP staff.

No violations or deviations were identified.

c). Selection and Staffing of Contract HP Technicians

The following criteria were established by the licensee for determining the qualifications of senior HP Technicians:

- Senior HP Technicians: Must meet the qualifications recommended by American National Standards Institute (ANSI)/ANS-3.1-1978, "Selection and Training of Nuclear Power Plant Personnel."

  - Must pass a physical examination

  - Must pass an entrance examination

  - Certification to wear respiratory equipment

  - Must pass a final examination on site specific procedures

Based on discussions with the licensee's staff and a review of contract HP technicians resumes the following observations are noted:

- It appeared that the selection process for acquiring the services of contract HP Technicians began late. Only six contract technicians were on board three days prior to the start of the outage. There was no assurance that the balance of the technicians would be recruited and trained in time to support the outage. The licensee's staff stated that the selection process began in mid February 1986.

- The selection process did not include any interviews of the incoming contract HP Technicians.

- The late start in the selection process limited the time for technicians to become familiar with the licensee's staff and with the plant prior to the outage.

- The review of the HP Technicians resumes performed by the inspector disclosed minor errors that were not identified by the licensee's review process. The errors did not have any affect on the selections made by the licensee's staff. The errors that were missed were brought to the licensee's attention for future reference.

- The number of contract HP Technicians selected appeared marginal for supporting the work package scheduled for the outage.

The above observations were brought to the attention of the licensee's staff during the inspection and at the exit interview. The licensee's staff stated that the inspectors observations would be factored into the preparations and planning made for accomplishing future repair and refueling outages.

No violations or deviations were identified.

d). Contract HP Personnel Training

The inspectors reviewed the licensee's Test Administrator Manual - Acceptance Examination for Contract Senior HP Technicians. This test evaluates the technicians knowledge of HP theory in a satisfactory manner. Nine contract personnel had been tested and six were able to achieve the 70% passing score required in order to continue to three days of plant specific HP procedures training.

The inspectors reviewed the final examination on HP procedures for senior HP technicians by evaluating the Test Administrator Manual for HP Procedures. This test incorporates a sufficient degree of difficulty in the final examination to ensure the competence of the tested individual in site procedures.

Additional training received by junior and senior HP technicians consisted of the 4½ hour GET course, respirator training, a security orientation and a Quality Assurance/Quality Control orientation. The junior technicians were also required to complete a two hour dosimetry training course.

No violations or deviations were identified.

e). General Employee's Training (GET) Program

The licensee's GET program for assuring compliance with 10 CFR Part 19.12, "Instructions to Workers" was examined. The examination included a review of the licensee's GET manual of 1986 and discussions with the licensee's staff. The NRC inspectors also participated in the GET program.

The licensee's standard GET program is a two day classroom course. All workers are required to requalify on an annual basis. The licensee has developed a GET requalification course. The GET

requalification course has been condensed to approximately four hours.

In order to take the shorter course, an individual must first score a minimum of 70% on an initial 10 question examination before he is authorized to attend the training. The worker then must obtain a minimum of 70% on a 40 question final examination that is given at the end of the short course. Failure in either case requires the individual to attend the two day standard GET course.

The licensee has developed two formats for conducting the short GET program. They are as follows:

- A four and one-half hour classroom course
- A two hour self administered computer based training course

The latter course was implemented during the week of March 23, 1986. The inspectors attended the computer based course. The program implements a computer, a keyboard, a video disc player, a color monitor, and a speaker system.

The two and four hour courses are condensed versions of the standard two day course. The licensee plans to expand the use of the computer course. It will be used for providing refresher training. The inspectors concluded that the computer course was excellent and has potential for improving the GET program.

The GET course includes a description of the licensee's emergency signals and actions. The number of emergency alarms an individual must be prepared to respond to consists of more alarm modes (e.g. eight) than one would expect an employee to remember, especially a contract employee who may visit several plants each year. This observation was brought to the licensee's attention at the exit interview. The Plant Manager stated that the inspectors' observations were valid concerns and would be evaluated by the licensee's staff for resolution.

The inspectors also observed video tape presentations that were related to the licensee's Security and Quality Assurance Programs.

The inspectors noted that the licensee's refresher GET program included a discussion of Regulatory Guide (R.G.) 8.13, "Instruction Concerning Prenatal Radiation Exposure" and R.G. 8.29, "Instructions Concerning Risks from Occupational Radiation Exposure."

The inspectors concluded that the licensee's refresher GET was consistent with 10 CFR Part 19.12.

No violations or deviations were identified.

f). Outage Work Schedule

The inspectors examined the scope of the work package scheduled for the outage. Work activities having significant radiological control implications during the outage are as follows:

- Inservice Inspection (ISI)
- Recirculation pump repairs
- Heat exchanger diaphram repairs
- Turbine sandblasting
- Refueling activities
- Control rod drive repairs
- Traversing Incore Probe (TIP) explosive valve repairs
- Miscellaneous RHR repairs
- Snubber inspections/repairs

Implementation of ALARA and other radiological control considerations for accomplishing the above work will be examined during a subsequent inspection.

No violations or deviations were identified.

3. Review of Licensee Reports

An in-office review of the WNP-2 Semiannual Effluent Report dated February 20, 1986 was conducted. The following observations will be discussed with the licensee's staff during a subsequent inspection.

a). In Table 3-4, it was noted that for Iodine effluent releases, the value for uCi/sec for the 3rd quarter and 4th quarter was the same, yet the % of Tech. Spec. limit was different. Also, the release of tritium showed an anomalous result. The uCi/sec release rate during the 4th quarter was 2.5 times greater than the 3rd quarter, however the % of Tech Spec limit showed the 3rd quarter greater than the 4th quarter.

b). It appeared that on page 27, doses to "Members of the Public" at the visitors center were greater than the doses to "Members of the Public" at the 1.2 miles site boundary and Taylor Flats as indicated on page 5 of the report. Consequently this location (i.e. the Visitors Center) should have been included in Table 6-4, Summary of Doses.

c). Section 3.0, page 5, stated that doses were determined at two special locations, one of which was the Site Boundary for the sector with the "maximum X/Q value". It would have been reasonable to

include this X/Q value in the report since it could have been used to calculate the dose rate for the sector using the data in Table 3-4.

d). On page 5, the maximum organ dose to a "Member of the Public" for the 3rd quarter was given as 1.2×10^{-2} mrem. However, this value was not compatible with the dose values given to a "Member of the Public" as shown on page 27.

As noted above these matters were brought to the licensee's attention and will be discussed with licensee representatives during a subsequent inspection (open 50-397/86-10-01).

No violations or deviations were identified.

4. Followup on Information Notices

The inspectors verified that the licensee had received and reviewed Information Notices (INs) 83-21, 84-34, 84-40, 84-56, 84-94, 85-43, 85-46, 85-48, 85-52, 85-60, 85-63, 85-81 and 85-87.

Licensee evaluations of the IN's were performed in accordance with procedure 1.10.4, "External Operating Experience Review," which requires tracking and documentation of NRC Inspection and Enforcement (IE) Bulletins, Circulars and IN's. The inspectors' examination of the implementation of this program by the licensee's Nuclear Safety Assurance Group disclosed that the Operating Experience Review system was not effective in resolving delinquent responses to IN's 83-33, 83-52, 85-06, 85-34 and 85-92. The inspectors discussed with the licensee the need for handling Information Notices in a more timely manner. The value of an IN for preventing similar incidents was discussed with the licensee. The licensee committed to complete the evaluation of the outstanding IN's by May 1, 1986.

No violations or deviations were identified.

5. Facility Tours

The inspectors toured the Turbine Generator building, Radwaste building, Control Room and Reactor building on March 26, and 28, 1986. Independent radiation measurements were performed by the inspectors with a Keithley Model 36100 X-ray/gamma radiation survey instrument, serial number 11108 due for calibration on 9/4/86. The radiation surveys were made to confirm that the licensee's posting and labeling practices were consistent with the regulatory requirements prescribed in 10 CFR Part 20.203, "Caution Signs, Labels, Signals and Controls." Tours of the protected area, Diesel Generator Building, Technical Support Center and Plant Support Facility were also conducted.

The following observations were made during the tours:

a). The inspectors observed many overlapping high radiation areas is close proximity to each other inside the drywell. Workers standing by at a high radiation area job site could not easily identify low

background areas if needed in order to minimize their exposure. The inspectors informed the licensee that the identification and posting of cold (low background) areas in the drywell would alert the workers to use good ALARA practices. The licensee's staff agreed to evaluate the inspector's observations.

b). The quality of housekeeping was in need of attention. The inspectors observed dust and debris in some locked and confined areas. A few cotton and rubber gloves were seen lying on the floor and unattended tools were seen on top of equipment near work areas.

c). The radiation levels in the Traversing Incore Probe (TIP) room appear to be increasing and the inspectors questioned the adequacy of the temporary shielding maze placed at the entrance.

d). Procedure 11.2.7.1, "Area Posting," requires that radiation areas be posted at dose rate levels of 2.5 mrem/hr or less. The inspectors found one area in the radwaste building at the 437' level at the entrance to a miscellaneous tank room with dose rates of 3 mrem/hr. This area is a controlled area where pocket ionization chamber and thermoluminescent dosimetry is required. The licensee immediately corrected the posting and reevaluated the instrument originally used in the posting the area. This was the only underposted area among the many appraised by the inspectors.

e). Two Area Radiation Monitors (ARMs) in the Residual Heat Removal pump rooms were found in alarm mode, indicated by amber revolving lights. The alarms were not valid based on surveys performed by the licensee and the inspectors. Discussions with licensee personnel disclosed that the alarms were the result of down scale failure. The inspectors observed that the licensee should tag or repair these ARMs in a timely manner.

f). The controlled area survey boards fixed to the wall at the primary access control point were bland and hard to extract information from because one color was used for every type of data. The use of color coding as a more effective way of displaying the information was discussed with the licensee.

g). The controlled area Instrument and Control crib contained tools with no color coding to prevent their inadvertent transfer to outside the controlled area.

h). The inspectors verified that the licensee's posting practices were consistent with 10 CFR Part 19.11, "Posting of Notices to Workers."

The above items were discussed in detail at the exit interview. The Plant Manager stated that the items were valid and appropriate licensee action would be taken to resolve them.

No violations or deviations were identified.

6. Exit Interview

At the conclusion of the inspection the inspectors met with the individuals denoted in report section 1. The scope and finding of the inspection were discussed at that time. The inspectors informed the licensee that no violations or deviations were identified.