U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/88-33

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

Inspection at: WNP-2, Benton County, Washington

Inspection Conducted: September 6-9, 1988

Inspectors: _____ 10/3/88
G. R. Cicotte, Radiation Specialist — Date Signed

Approved by: _____ 10/4/88
H. S. North, Acting Chief — Date Signed
Facilities Radiological Protection Section

Summary:

Inspection during period of September 6-9, 1988 (Report No. 50-397/88-33)

Areas Inspected: Routine, unannounced inspection by a regionally based inspector of organization and management controls, followup, gaseous waste, and tours of the facility. Inspection procedures 30703, 83722, 92701, 84724, and 83726 were addressed.

Results: Of the four areas addressed, no violations were identified in three areas. In one area, a violation of Technical Specification 3.3.7.12 was identified, regarding failure to sample the main plant vent for radioactivity (see paragraph 4). Additionally, it was noted that housekeeping procedures do not appear to address material condition of the primary containment during plant operation (see paragraph 5). Overall, the licensee's programs appeared capable of meeting the safety objectives.

DETAILS

1. Persons Contacted

C. M. Powers, Plant Manager
*J. W. Baker, Assistant Plant Manager
*J. D. Arbuckle, Plant Compliance Engineer
*L. Bradford, Health Physics Supervisor
*T. A. Brun, Plant Quality Assurance Engineer
A. I. Davis, Senior Radiochemist
*R. G. Graybeal, Health Physics/Chemistry Manager
*A. G. Hosler, Licensing Manager
*R. L. Koenigs, Technical Manager
*D. A. Larson, Radiological Programs/Instrument Calibration Manager
*C. H. McGilton, Manager Operational Assurance and Programs
S. L. McKay, Operations Manager
J. D. Mills, Senior Health Physicist
D. A. Pisarcik, ALARA Supervisor
*V. E. Shockley, Health Physics Support Supervisor

Contractors

*W. E. Milbrot, Engineer, Bonneville Power Authority

In addition to the individuals identified above, the inspectors met and held discussions with other members of the licensee's staff and personnel.

*Denotes those present at the exit interview held on September 9, 1988.

2. Organization and Management Controls

A. Organization

The following procedures were reviewed and aspects thereof discussed with licensee personnel:

Procedure (PPM)	Revision	Date
1.1.1, Management Organization	3	3-2-87
1.1.2, Plant Organization	6	3-23-87
1.1.3, Plant Responsibilities	10	3-23-88
1.1.6, Plant ALARA Committee	3	3-31-87

The licensee had made several recent management assignments, including a new ALARA Supervisor, a new Manager of the Nuclear Safety Assurance Group (NSAG), a new Plant Technical Manager, and a new Assistant Maintenance Manager. The above noted individuals appeared to meet the qualification requirements of ANSI/ANS 3.1, Selection, Qualification, and Training of Personnel for Nuclear Power Plants, with respect to radiological safety responsibilities.

Those individuals with whom responsibilities were discussed were observed to be aware of their responsibilities.

B. Staffing

Several of the licensee's Health Physics (HP) staff stated that the HP department was understaffed relative to the unplanned outage then in progress. The inspector noted that almost all the HP technicians had worked the maximum overtime hours allowed by the licensee's procedures, during the outage which had occurred due to valve leakage exceeding the Technical Specification (TS) limit. Although some delays were experienced as a result of technician assignments, no examples of failure to provide adequate HP surveillance were observed. The licensee normally hires and trains contractor Health Physics Technicians (HPT) during extended outages.

C. Health Physics/Chemistry Manager (HP/CM)

The qualifications of the HP/CM were observed to be consistent with ANSI/ANS 3.1. Licensee procedures (such as in paragraph 2.A, above) address the HP/CM's responsibility and authority to carry out the Health Physics and Chemistry Programs. See also Inspection Report 50-397/88-26, paragraph 5. The organization appeared capable of meeting their safety objectives.

Other aspects of the licensee's organization and management controls will be examined in a subsequent inspection.

No violations or deviations were identified.

3. Followup

50-397/88-22-03 (Open) Strip chart recorder operation on ARM-RR-600, for Area Radiation Monitors (ARMs), was observed (see Inspection Report 50-397/88-22). The three ink colors had again begun to merge such that banks of ARMs were difficult to distinguish. This matter will remain open for review of pending maintenance/modifications (50-397/88-22-03 Open).

50-397/88-22-06 (Closed) This matter concerns an observed tendency by plant personnel to leave radiological postings down after removal for access. The licensee had proceduralized a requirement that all personnel accept responsibility for replacing postings after exiting or entering a posted area. One instance of workers leaving the posting down for a radiation area was observed. This was immediately corrected by the individual responsible when it was brought to their attention. Since the incidence of such posting removals had declined significantly, this matter is considered closed (50-397/88-22-06 Closed).

50-397/85-20-04 (Unresolved) This matter refers to evaluation of iodine plateout in plant effluent sampling lines under accident conditions. The licensee had issued a Request For Proposal (RFP) to a contractor who had previously done some preliminary work on the issue. The RFP encompassed testing which would require outage conditions. The licensee stated they

expected to do the work during the 1989 refueling outage. The licensee further stated that computational studies of iodine behavior within the sample lines and equipment would await an evaluation of the test data. This matter will remain open pending the licensee's test results (50-397/85-20-04 Unresolved).

An unresolved item is one about which more information is required in order to determine if it is an acceptable item, a deviation, or a violation.

Inspection Report 50-397/88-26, paragraph 6, discussed the licensee's respiratory protection training. During the inspection, the General Employee Training (GET) Supervisor discussed a concern expressed by the inspector in regard to special training for self-contained breathing apparati (SCBA). The discussion resulted in the conclusion that the footnote of 10 CFR 20 Appendix A, referred to in the report, was applicable for a type of SCBA not used by the licensee, and that the licensee's training meets the minimum requirements of 10 CFR 20.103(c).

No violations or deviations were identified.

4. Gaseous Waste Systems

On September 7, 1988, at approximately 6:11 P.M. PDT, the Reactor Building (RB) exhaust ventilation fan, REA-FN-1B, failed and normal RB ventilation was secured. The Standby Gas Treatment System (SGTS) was started at 6:19 P.M., PDT on September 7, 1988, in order to partially restore ventilation flow. Discussion with the licensee revealed the following:

- The licensee identified a failure to initiate alternate sampling within four hours in accordance with Technical Specifications (TS) 3.3.7.12, and stopped the unmonitored release at 4:48 A.M., PDT on September 8, 1988.

- The licensee restored normal RB ventilation and sampling after making repairs at approximately 5:00 A.M., PDT on September 8, 1988.

TS 3.3.7.12 states, in part:

"3.3.7.12 The radioactive gaseous effluent monitoring instrumentation channels shown in Table 3.3.7.12-1 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specification 3.11.2.1 are not exceeded. The alarm/trip setpoint of these channels shall be determined in accordance with the methodology and parameters described in the ODCM.

APPLICABILITY: As shown in Table 3.3.7.12-1.

ACTION:"

"b. With less than the minimum number of radioactive gaseous effluent monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3.7.12-1."

"TABLE 3.3.7.12-1

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABILITY	ACTION..."
"3. Main Plant Vent Release Monitor..." .			
"b. Iodine Sampler	1	*	112
c. Particulate Sampler	1	*	112
d. Effluent System Flow Rate Monitor	1	*	113
e. Sampler Flow Rate Monitor	1	*	113"

"TABLE NOTATIONS"

"*At all times."

"ACTION 112 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that within 4 hours after the channel has been declared inoperable samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.

ACTION 113 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that the flow rate is estimated at least once per 4 hours."

The Senior Resident Inspector's (SRI) discussion with the on shift operations personnel revealed that the chemistry department, which is responsible for obtaining effluent samples and for maintaining the auxiliary sampling equipment as called for by ACTION 112 of TS 3.3.7.12, was not specifically informed that the main plant release monitor, REA-SR-37, was inoperable. The specific operator involved stated to the SRI that he had missed the procedural step to declare REA-SR-37 inoperable. Licensee procedure PPM 2.10.1, Reactor Building HVAC, Revision 8, dated 6-17-88, states in part:

"2.10.1.4 Limitations..."

"...E. If Reactor Building ventilation is lost and SGT is supplying Reactor Building ventilation, declare REA-SR-37 INOP (too low flow), Technical Specification 3.3.7.12."

PPM 4.10.1.1, Reactor Building Ventilation Failure, Revision 5, dated 8-2-88, states in part:

"4.10.1.1.4 Subsequent Operator Action..."

"...C. Declare REA-SR-37 INOP. (Not enough flow through the sample rack with only SGT running.)"

Through discussion with the Senior Radiochemist (SRC), and review of previous revisions of PPMs 2.10.1 and 4.10.1.1, it was determined that REA-SR-37 becomes inoperable with only SGTS flow while in automatic flow control. The automatic function is designed to meet the requirement to know the sample/effluent flow ratio, as delineated in TS Table 4.11-2, table notation "e.", by holding the ratio constant. The automatic function becomes less accurate at lower flow rates, such as 10,000 CFM, and apparently does not function at a flow of 4,000 CFM, which is the maximum SGTS flow. As a result of the occurrence, the SRC had submitted a Technical Evaluation Request (TER) for evaluation of a proposed modification that would hold sample flow rate constant below a specified effluent flow rate. The ratio would then have to be calculated for each period in which the effluent flow varied, but would remain operable at low effluent flow rates. Further review revealed that the procedures had been revised as corrective action for Non-Conformance Report (NCR) #288-153, dated 5-7-88. During testing of RB normal ventilation on May 7, 1988, the licensee secured the ventilation fans and started SGT to maintain ventilation. In this instance also, the Chemistry Department was not informed that REA-SR-37 was inoperable, and main plant vent release continued for approximately six hours without continuous sampling with the auxiliary equipment. The licensee stated that the procedural change had been intended to prevent recurrence. Although in both events, the noble gas low/intermediate range monitoring channels were also inoperable, the time limitation of eight hours to obtain a grab sample was not exceeded. The high range noble gas monitor is situated in the effluent stream and was thus not affected, and very large releases could have been detected.

The May 7, 1988, event was not reported in the January to June 1988 Semi-Annual Effluent Report (SAER), dated August 10, 1988. It was, however, reported in an addendum dated August 26, 1988, within the 60 day time limit for the SAER. Also, in the July to December 1987 SAER, the licensee reported that on August 11, 1987, action 112 of TS Table 3.3.7.12-1 for the Radwaste Building (RWB) was not met, in that the sample rack was removed from service for maintenance, the auxiliary rack was not used, and an unmonitored release continued for seven hours.

In accordance with 10 CFR 2 Appendix C, Part V, Enforcement Actions, Subpart G, Exercise of Discretion, notices of violation are not normally issued for licensee-identified violations meeting certain criteria. However, criterion "e." thereof reads:

"e. It was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation."

As the corrective action for the May 7, 1988, event did not appear to be effective in preventing the September 7, 1988, event, which appears to be a violation of TS 3.3.7.12 (50-397/88-33-01).

No other violations or deviations were identified.

5. Facility Tours

Tours of the RWB, RB, and Turbine Building (TB) were conducted. Independent radiation surveys were performed with an NRC ion chamber survey instrument model RO-2, Serial No. 009154, calibrated 8-12-88 and due for calibration 11-12-88.

The licensee stated that during power level increase above 20% to 30%, the HPTs replace certain radiation area postings in the TB with high radiation area postings in anticipation of dose rate changes as power increases. One sign, on a locked door on a stair landing leading to the reactor feedwater heater bay, appeared to have been missed. A survey of the area to which the door lead, however, revealed that dose rates had not yet resulted in an actual high radiation area outside posted areas. At 40% power, readings at 18" from several components were approximately 95 mr/hr on both the NRC and licensee instruments.

Housekeeping, with the exception of the matter discussed below exhibited evidence of continued attention (see Inspection Report 50-397/88-28 paragraph 5). Some areas which had remained contaminated for long periods had been decontaminated, and the licensee was in the process of repainting several pump rooms in the RB.

Personnel actions at the Primary Containment ("Drywell") (D/W) control point were observed. Three individuals just exiting the D/W touched their faces, glasses, or other exposed parts while undressing. The HPT was informed, and counseled the workers. None appeared to be contaminated when performing whole body frisks. One appeared to be suffering from heat stress, and was treated by accepted methods. The worker appeared to improve slightly, but the Safety Department was informed and the worker was evacuated on a stretcher. The licensee later stated that the worker had suffered a mild heart attack. Licensee briefings and measures to control heat stress, such as ice vests, heat stress stay times, and careful observation by HPTs and safety personnel appeared appropriate to the level of hazard present. The HP Supervisor later stated to the inspector that the individual who had experienced the heart attack had been briefed, had been specifically counseled by his supervisor that his entry was inadvisable, and had objected to being prevented from making the entry on the basis that it would be age discrimination should he be so prevented.

The licensee had removed the flashing yellow lights from the east and west valve galleries of the 467' elevation RWB, without removing the scaffolding from above the locking gate (east) or installing the anti-tamper device (west) as discussed in Inspection Report 50-397/88-28, and as committed to by the licensee as corrective action for a violation of TS 6.12. A survey conducted jointly by the licensee and the inspector determined that dose rates in the east valve gallery did not exceed 1000 mr/hr at 18" from the source. Although a similar survey in the west valve gallery revealed a dose rate of 1200 mr/hr at 18" from the source on both the licensee and NRC instruments, the inspector determined upon entering the room that the lock was not of the same type as in the east valve gallery, and was of a design such that it appeared to adequately prevent unauthorized entry (the lock could not be operated from either

side without a key). The HPT accompanying the inspector and the HP Supervisor had not previously been aware of the type of lock used.

The matter described above was discussed with the HP Supervisor, who stated that the scaffolding would be removed as soon as possible and that in spite of the non-tamper nature of the lock on the west valve gallery, a non-tamper screen would still be installed.

Licensee procedure PPM 1.11.3, Health Physics Program, Revision 4, dated 4-4-88, provides authority to HPTs to stop work or otherwise direct the activities of others under their surveillance. During a walkdown inspection by the licensee, performed to confirm material condition of the primary containment and to verify repairs to reactor coolant boundaries, it was observed that the Shift Support Supervisor (SSS) did not quickly respond to requests by the HPT assigned as escort in the high radiation area. Several times the HPT requested that he and another individual pass through or quickly exit very high radiation fields. The HPT repeated one such request three times before the SSS complied. Efforts to work expeditiously appeared to be affected by a lack of familiarity by the SSS and operator with the location of some of the components being inspected.

The inspector expressed concern to the Shift Manager (SM) that personnel appeared to be unresponsive to HP requests during work involving very high radiation dose rates. The SM stated that the matter would be discussed with the SSS.

During the walkdown of the D/W noted above, on September 6, 1988, the inspector and a resident inspector had accompanied licensee personnel. The reactor was at approximately 3% power in order to maintain temperature and pressure consistent with the normal operating condition of the components which were repaired during the outage. Access controls and HPT coverage were observed to be consistent with licensee procedures. While in the D/W, the inspector observed that some equipment and materials remained in the D/W, apparently left over from the outage work. The material was brought to the attention of the SM after the inspectors exited the D/W.

Subsequent to that D/W inspection, the licensee shut down the reactor and performed minor corrective maintenance in the D/W, then started the reactor and conducted a subsequent 3% power (1000 psi reactor pressure) entry and walkdown. The inspector again accompanied the licensee, and noted that most of the material previously observed had remained in the D/W. As the HP, the operator, and the inspector were about to exit the 548' elevation of the D/W, the inspector asked the operator if the material visible on that elevation was allowed to remain in the D/W during operation of the reactor. He stated that it was not, and the following material was removed:

2 pieces of 3/4" rope approximately 25' long
1 piece tangled bailing wire
1 desk telephone with approximately 100' of cable
1 piece of U-channel bracket, approximately 2" x 2" x 14"

1 extension light, bagged in yellow polyethylene plastic
2 small plastic bottles (empty)
2 small plastic bags containing debris

Additionally, a string of waterproof lights had been observed at the handrail near the 2A2 recirculation pump motor. This light string appeared capable of withstanding D/W conditions during operation, and was attached to the handrail with plastic tie-wrap type looms. This was not removed prior to reactor power operation..

The matter was discussed with the licensee. The licensee stated at the exit interview that they were aware of no specific analysis of material left in the D/W during operation, with respect to internal missile hazards, downcomer restriction, or equipment impairment. The Final Safety Analysis Report (FSAR) does not address the situation of unsecured material being left in the D/W. Given the small volume of material, and based on discussion with the Region V Reactor Projects Section Chief, it was later determined that the safety significance from the above noted hazards would not be great. Licensee procedure PPM 1.3.19, Housekeeping, Revision 9, dated 5-29-87, does not address specific areas as to responsibility. It states that responsibilities are divided among work groups based on normal occupancy. The D/W is not a normally occupied area during operation. No other licensee procedures appeared to address the issue. The resident inspectors will continue to conduct routine inspection of this area.

Surveys of material exiting the Radiologically Controlled Area (RCA) were observed. Examples of equipment being briefly surveyed were observed. The extent of each survey appeared to be dependent primarily upon the amount of material to be surveyed, i.e., more material received less surveying per item. This was discussed with lead HPTs on shift at the time of the observations, who then issued instructions to be more thorough.

With the exception of the matter discussed in paragraph 3, radiological postings were observed to be in compliance with 10 CFR 20.203, Caution signs, labels, signals and controls. The licensee's program appeared capable of meeting the safety objectives.

No violations or deviations were identified.

6. Exit Interview

The inspector met with those individuals denoted in paragraph 1 at the conclusion of the inspection on September 9, 1988. The scope and findings of the inspection were summarized. The licensee acknowledged the apparent violation discussed in paragraph 4, above. The licensee was informed that the unsecured material in the primary containment during operation was considered to be an unresolved item. Subsequent post-inspection review resolved the matter as noted in paragraph 5, above.