

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-528/88-05, 50-529/88-05 and 50-530/88-05

Docket Nos. 50-528, 50-529 and 50-530

License Nos. NPF-41, NPF-51 and NPF-74

Licensee: Arizona Nuclear Power Project
P. O. Box 52034
Phoenix, Arizona 85072-2034

Facility Name: Palo Verde Nuclear Generating Station - Units 1, 2 and 3

Inspection at: Palo Verde Site - Wintersburg, Arizona

Inspection Conducted: February 1-5, 1988

Inspected by: *H. S. North* 2/26/88
H. S. North, Senior Radiation Specialist Date Signed
G. R. Cicotte 2/29/88
G. R. Cicotte, Radiation Specialist Date Signed
Approved by: *G. P. Yuhas* 2/26/88
G. P. Yuhas, Chief Date Signed
Facilities Radiological Protection Section

Summary:

Inspection during the period of February 1-5, 1988 (Report Nos. 50-528/88-05, 50-529/88-05 and 50-530/88-05)

Areas Inspected: Routine unannounced inspection of licensee action on previous inspection findings, onsite followup of reports of nonroutine events, Unit-3 Radiation Protection-Startup and Radwaste-Startup, inoffice review of reports of nonroutine events and plant tours. Inspection procedures 30703, 92701, 92700, 83521, 84521 and 90712 were addressed.

Results: In the 6 areas addressed no violations or deviations were identified.



DETAILS

1. Persons Contacted

- *J. Allen, Unit 1 Plant Manager
- *R. Butler, Director Standards and Technical Support
- *W. Ide, Unit 2 Plant Manager
- *L. Brown, Manager Radiation Protection and Chemistry
- *W. Doyle, Unit 2 Radiation Protection Manager
- *J. Mann, Supervisor Radiation Protection Standards
- *R. Rouse, Senior Engineer, Compliance
- *J. Scott, Unit 3 Chemistry Manager
- *R. Selman, Acting Manager, Central Radiation Protection
- *W. Sneed, Unit 3 Radiation Protection Manager
- *L. Souza, Manager Quality Audits and Monitoring

(*) Denotes individuals attending the exit interview on February 5, 1988.

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

2. Followup (92701) (Closed) 50-528/86-28-02

This matter concerns the Radiological Record and Access Control System (RRACS). This computer based system had been received and installed in Unit 1 and the dosimetry office. Installation was underway in Unit 2 at the time of the inspection. The field units consisted of a keyboard and video screen which communicated with the central computer by telephone lines. The system was brought on line by installation of records of 1987 annual and 1988 first quarter exposures to date. The system provides a relational data base, screen formats (e.g. REP) that mimic hard copy forms presently in use, worker training and qualification (e.g. respirator) status as well as dosimetry data. The system is intended to track multiple dosimeter usage and data (e.g. skin, eye, neutron, MPC exposures). Record storage was on two 465 megabyte hard discs with weekly disc-to-disc backup and daily live time disc-to-tape backup of daily journal files. In the event of hard disc data loss the original records could be recreated from the backup hard discs, tape journal files and live time discs.

At the time of the inspection the system was in 90 day validation and verification (V and V) program during which the previous hard copy records system continued in use. Administrative control procedures are to be developed and training performed during the V and V period. Although the Unit 1 radiation protection technicians had not been formally trained on this system, which was described as not particularly user friendly, within one week of installation the Unit 1 staff was using the system without apparent difficulty. With respect to the dosimetry-RRACS interface the NVLAP accredited TLD dosimetry program including the data processing system was not modified. The RRACS takes data in the form supplied by the dosimetry group. It appears that the



licensee in concert with their contractor has developed a flexible, workable records and access control system. This matter is closed.

(Open) 50-529/01-28-87

This matter concerned the apparent migration of noble gases from the lower levels of the auxiliary building to the 140 foot elevation. (See Inspection Report 50-529/87-19). Discussion with licensee staff established that a tracer gas study in Unit 3 under varying ventilation conditions (e.g. with 2 and 5 chemical fume hoods operating on the 140 foot elevation, with the 100 foot elevation isolated and with the normal auxiliary building ventilation and fuel handling building emergency ventilation systems operating) had been completed. Data collected during the study was being used in a computer analysis of the ventilation system. Two portions of the evaluation were being performed by two different contractors. Final reports from both contractors were expected shortly. The licensee's staff expected to submit a report to ANPP management within one month following receipt of the contractor's reports.

Licensee staff reported that the study of gas migration identified some 114 pipe penetrations which would require the installation of seals in walls and floors. Only five of the total appeared to be penetrations which should have been sealed during construction. The staff also noted that the development and installation of spring loaded plastic drain seal inserts appeared to have had a significant impact on the gas migration problem. This matter remains open pending review of the licensee staff's report of recommendations to management.

(Open) 50-528, 529/88-03-01 and 50-530/88-03-02

These matters are related to the stellite wear ring/surfaces on the reactor coolant pumps. Discussion with the licensee staff established that the stellite was applied using a plasma spray technique since the impeller casting was not suitable for weld application. Because of problems experienced with the Unit 1 impellers the licensee was exploring use of other material as a replacement for the stellite. Test work was being done by a local contractor. Two options were being examined, either a plasma arc sputter application or a shrink fit ring of Nitronix-60, a non cobalt alloy hardfacing material. The licensee expressed hope that an acceptable solution would be identified in time to modify Unit 2 impellers during the upcoming refueling outage. The licensee's progress in replacing the stellite will be reviewed during future inspections. This matter will remain open.

(Closed) 50-530/88-03-01

This matter concerns the high radiation source identified in the letdown filter line during surveys performed for Unit 3 startup. The licensee's staff had completed onsite multichannel analysis of the emitted radiation. The nuclides identified included Co-58, Co-60, Sb-124 and Fe-59. Measurements with an extendable probe, high range, GM survey instrument placed in various geometries indicated the hot spot was due to a small discrete particle rather than a distributed source. The staff

noted that the particular location was historically the first hot spot identified in each unit after startup. Based on an estimate it appeared that Co-60 was the principal contributor by a factor of 5 or 6. This matter is closed.

No violations or deviations were identified.

3. Onsite Followup of Written Reports of Nonroutine Events (92700) (Closed) 50-528 and 529/86-23-L0 and 86-23-L1 (Licensee LER Nos. 1-86-023-00 and 1-86-023-01) - This matter concerned the inability of the Unit 1 and 2 Post Accident Sampling System (PASS) containment atmosphere sampling pumps to perform properly at postulated containment post accident pressure and temperature. As a result of pump performance testing by licensee contractors it was determined the pumps could not operate against a discharge head of 30 psig with a suction head of 10 psig. Root cause examination determined the deficiency was due to incomplete understanding of the operating limitations of the selected pumps. Corrective action was the installation of a pressure reducing valve in the pump suction line. Pump performance was tested at a simulated containment pressure of 30 psig and temperatures up to 250°F. Satisfactory operation was confirmed.

Inoperability of the pumps under postulated accident conditions was identified on February 11, 1986. An approved preplanned alternate sampling program became effective and was implemented on February 18, 1986, within the 7 day action statement requirement.

As a result of the unidentified pump problem the licensee was in nonconformance with Technical Specification 3.3.3.1 from August 19, 1985 until February 18, 1986. During this period the pump did not fail to perform its intended function, not having been called upon to sample under conditions of elevated containment pressure and temperature.

As a result of this event the licensee took the following corrective action, for all three units. ANPP Instruction No. 7I414.01.07, Rev. 1, dated September 11, 1986, Title: "Exchange of Design Information Across External Interfaces," was implemented. The instruction, designed to prevent recurrence, directs that written confirmation of design specifications be prepared when such specifications are discussed with vendors prior to design work. This matter is closed.

(Closed) 50-529/87-16-L0 (Licensee LER No. 2-87-016-00)

This matter concerned the reported release of the contents of the Chemical Waste Neutralizer Tank to the onsite evaporation pond, without the lower limit of detectability (LLD) of 5 E-7 $\mu\text{Ci/ml}$ for principal gamma emitters having been satisfied in accordance with TS 3.11.1.1. The LLD was 9 E-7 for Mo-99, which has a 67 hour half-life. The sample LLD was erroneously identified as appropriate and was not reanalyzed. The error was discovered two days later during the Chemistry Supervisor's review, after the sample had been discarded. The licensee briefed Chemistry Department personnel on the need for adequate review and approval. No other examples were identified. This matter is closed.



(Closed) 50-528/87-21-LO (Licensee LER No. 1-87-021-00)

This matter concerned momentary loss of power during an electrical storm on July 28, 1987, which caused control room ventilation intake noble gas monitor RU-29 to reset to the default alarm/trip setpoint. On July 29, 1987, a voltage spike resulted in a Control Room Essential Features Actuation Signal (CREFAS). The licensee's investigation revealed that the spike caused the reset alarm setpoints in the Radiation Monitoring System (RMS) to actuate the CREFAS. The default alarm/trip setpoint was approximately one decade below the normal setpoint. The licensee reprogrammed the monitors' computer memory to correct default values. Reprogramming was completed in December 1987. This matter is closed.

(Closed) 50-529/87-21-LO (Licensee LER No. 87-021-00 and Special Report) Unit 2 - Post Accident Sampling System (PASS) Isolation

The licensee submitted a timely LER 87-021-00 (87-21-LO) which incorporated a Special Report pursuant to Technical Specifications 3.3.3.1 Action 28 part 2. and 6.9.2. by cover letter dated December 29, 1987. The report noted that the PASS had been declared inoperable on December 2, 1987, following the discovery, by a chemistry technician, of an improper valve line-up when the routine monthly PASS surveillance 74ST-2SS04 "PASS Functional Test" could not be performed. The licensee commenced an investigation, the substance of which was the basis for the LER and Special Report.

The inspectors examined the following documents:

- Licensee Event and Special Report for Unit 2, 87-021-00 (87-21-LO);
- Work Order No. 00247468;
- Unit 2 TSCCR (Technical Specification Component Condition Report) Record No. 2-87-590;
- ANPP Special Plant Event Evaluation Report #02-87-018, "PASS Incorrectly Declared Operable" dated February 4, 1988;
- Written statement by the Chemistry Technician who removed the clearance tags from the PASS on November 9, 1987, dated December 3, 1987;
- Written statement by the Chemistry Technician who found one clearance tag on the PASS and restored the valve alignment on December 1, 1987 (dated December 2, 1987);
- Memorandum to Unit 2 Managers from W. E. Ide, Unit 2 Plant Manager, Subject: Restoration of Equipment, dated December 3, 1987;
- Operating Department Guideline (ODG) No. 17, Revision 8

° Procedures:

- 30AC-9ZZ01, "Work Control," Rev. 1
- 40AC-9ZZ15, "Station Tagging and Clearance," PCN No. 02, in effect on December 1, 1987
- 40AC-9ZZ15, "Station Tagging and Clearance," PCN No. 03, in effect on December 18, 1987
- 73AC-0ZZ15, "Plant Change Package," Rev. 4
- 74PR-9ZZ02, "Post Accident Sampling System Program," Rev. 3
- 74CH-9XC39, "Preplanned Alternate Sampling," Rev. 1
- 74CH-9ZZ47, "Core Damage Assessment," Rev. 1
- EPIP-27, "Post Accident Sampling and Analysis," Rev. 5

- ° In addition the inspectors interviewed the Assistant Shift Supervisor (A/SS) and the two Chemistry Technicians involved in the event.

Work under Work Order No. 00247468, requiring installation of two check valves in the Unit 2 PASS, commenced on November 7, 1987. Technical Specification Component Condition Report (TSCCR) #2-87-590, was issued dated November 7, 1987, reporting that the PASS was inoperable due to isolation under Clearance No. 87-1306. The TSCCR noted that the PASS was required to be returned to operable status within 7 days or that the Preplanned Alternate Sampling Plan must be initiated and the report to the Commission required by T.S. 3.3.3.1 Action 28 must be satisfied. One check valve was installed on November 7, 1987, however the second check valve was not installed because the proper valve was not available. Work was discontinued and on November 9, 1987, Clearance No. 87-1306 was cancelled.

The Assistant Shift Supervisor (A/SS) authorized a Chemistry Technician (CT), a qualified PASS operator authorized to perform valve alignments, to pull the clearance tags. The A/SS could not recall whether specific instructions were given to the CT concerning realignment of the PASS upon clearance tag removal. The CT recalled that no specific instructions regarding PASS realignment were given. ODG 17 requires a valve alignment list to be issued along with removal of clearance tags. On November 9, 1987, ODG 17 was not applicable to the Chemistry Department and no alignment list was provided.

The CT removed the clearance tags, not changing any valve position in accordance with U.S. Navy practice (the technician was an 8 year veteran with about 1½ years ANPP experience). Interviews with the CT's established that no convention with respect to restoration of equipment had been established for the Chemistry Department under the new licensee organization. The CT returned the valve clearance form with all tags signed off and with all but one tag to the A/SS. The A/SS did not question the missing tag since the failure to return tags was not uncommon due to occasional radiological contamination of tags.

The A/SS and the Shift Technical Advisor questioned the system engineer concerning the need for a system test prior to clearing the TSCCR and declaring the system operable. The system engineer concluded that retest was not required since the installed check valve was in a vent line and



he assumed the mechanics had checked valve orientation prior to installation. The Work Order did not, in fact, provide specific guidance to the mechanics to verify valve orientation. The TSCCR was subsequently cleared on November 9, 1987, and the system declared operable at 1220.

On the morning of December 1, 1987, a CT began routine monthly PASS Surveillance Test 74ST-2SS04 and was unable to obtain samples. The CT found that one clearance tag remained on a nitrogen bottle which identified Clearance No. 87-1306. The CT checked with the Control Room and found that Clearance No. 87-1306 had been cleared on November 9, 1987. The CT realigned the system using the valve alignment check list contained in procedure 740P-2SS02 "Operation of the PASS."

The Unit Chemistry Supervisor was not informed that the PASS had been unavailable due to valve misalignment until the afternoon of December 1, 1987. The Control Room was not informed of the valve alignment problem until the morning of December 2, 1987, when a Potentially Reportable Occurrence (PRO) No. 2-87-150 was initiated. As an initial corrective action on December 2, 1987, a night order and memo to all Unit 2 managers was issued specifying that tagged components under the control of departments other than operations have restoration lineups performed in accordance with ODG 17 prior to considering the system operable.

On December 4, 1987, the Work Order was amended to reflect the partially completed nature of the work and TSCCR 2-87-626 was initiated to require a system test prior to declaring the PASS operable. The PASS was subsequently declared operable on December 6, 1987.

Technical Specification 3.3.3.1 requires that, "...monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE...." Action b. requires that, "...with the number of channels OPERABLE one less than the Minimum Channels Operable, take the ACTION shown in Table 3.3-6." Table 3.3-6 Item 3. Post Accident Sampling System specifies the minimum number of channels operable to be 1 (one) and identifies Action 28. Action 28 requires that with less than one operable PASS, return the PASS to operable status within 7 days, or:

- "1. Initiate the Preplanned Alternate Sampling Program of Specification 6.16 to monitor the appropriate parameter(s).
2. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 30 days following the event...."

(Note: The Technical Specification for Unit 2, Docket No. 50-529 does not contain a Specification 6.16. That Specification appears only in the Unit 1, Docket No. 50-528, Technical Specifications. The licensee is taking actions to correct this situation).

With respect to Action 28 Item 1 above, licensee procedure 74CH-9XC39, "Preplanned Alternate Sampling," Rev. 1, effective August 1, 1986, specifies in part 2.0, "Discussion," subpart 2.1, "This procedure is primarily intended for use pursuant to Technical Specification 3.3.3.1, Action 28, part 1." Further, procedure 74PR-9ZZ02, "Post Accident Sampling System Program," effective October 2, 1987, updated on November

6, 1987, states under, "3.0 Definitions and Abbreviations", Item 3.5, "Pre-Planned Alternate Sampling Program - When PASS capability is required but not available." Section 8.0, "Preplanned Alternate Sampling," specifies the objectives, precautions, limitations and instructions and further in 8.6, "Contingencies," provides alternatives if the "Nuclear Sampling System (is) not usable for Post Accident Sampling." Procedure 74CH-9ZZ47, "Core Damage Assessment," Rev. 0, effective April 9, 1985, addresses not only the use of PASS but also core damage assessment based on hydrogen production, core exit thermocouple readings and utilization of containment radiation monitor readings.

Based on the existence of the above procedures, which contain specific guidance with respect to implementation of the preplanned alternate sampling plan in the event that PASS is unavailable, and the existence of alternate methods of core damage assessment, it appears that the licensee met the intent of the requirement for initiation of the preplanned alternate sampling program of Action 28 without additional specific action. Further, the licensee's LER and Special Report were timely.

Procedure 40AC-9ZZ15, "Station Tagging and Clearance," Rev. 1; in effect on November 9, 1987, states in part in section 5.4, "PVNGS Clearance Release,":

- "5.4.4 The Responsible Supervisor assigns authorized personnel to remove all the tags and directs the restoration of equipment.
- 5.4.5 The assigned personnel removes each tag and initials, dates, and records the time in the "Removed By" column on the Tag Assignment Sheet(s), returns all tags and Tag Assignment Sheet(s) to Responsible Supervisor.
- 5.4.6 The equipment shall be inspected by the Responsible Supervisor or his authorized representative prior to placing the system in service."

With respect to these matters it appeared that:

- (5.4.4) The Responsible Supervisor failed to direct restoration of equipment;
- (5.4.5) The assigned personnel failed to remove each tag; and
- (5.4.6) The Responsible Supervisor failed to inspect the equipment prior to placing the system in service.



Technical Specification 6.8.1 requires that written procedures shall be established, implemented and maintained. Based on the above it appears that procedure 40AC-9ZZ15, "Station Tagging and Clearance," was not fully implemented. 10 CFR Part 2, Appendix C, section V, Enforcement Actions, item G, "Exercise of Discretion" states:

"Because the NRC wants to encourage and support licensee initiative for self-identification and correction of problems, NRC will not generally issue a notice of violation for a violation that meets all of the following tests:

- a. It was identified by the licensee;
- b. It fits in Severity Level IV or V;
- c. It was reported; if required;
- d. It was or will be corrected, including measures to prevent recurrence, within a reasonable time; and
- 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."

Based on the results of the inspection and an examination of the licensee's investigation and report of the event, it was found that:

1. The failures were identified by the licensee and documented;
2. A failure to follow procedures pursuant to Technical Specification 6.8.1 would normally be categorized as a Severity Level IV or V;
3. The event and substance of the above were summarized in the licensee's timely LER and Special Report;
4. The licensee took prompt action to correct the violations (e.g. valve alignment restoration and system operability December 6, 1987, ODG 17, requiring use of valve alignment lists, was extended to all Unit 2 Departments on December 3, 1987, and equivalent measures were promptly adopted at Units 1 and 3); and
5. No similar violation for which corrective action could reasonably have prevented the violation was identified.

While it is clear that procedure 40AC-9ZZ15, "Station Tagging and Clearance," was not fully implemented, based on the licensee's actions as noted with respect to 10 CFR Part 2, Appendix C, section V.A, no Notice of Violation is proposed. The inspector had no further questions with respect to this matter.

(Closed) 50-530/87-01-X0 (Licensee Special Report 3-SR-87-001). This matter refers to the reported out-of-service condition of monitor RU-144, the high range noble gas plant vent monitor, for more than 72 hours. Plant Change Package (PCP) 85-03-SQ-041-00 was conducted, the daily surveillance 75ST-9ZZ87 performed, and the monitor was restored to service. This matter is closed.

(Closed) 50-529/87-14-X0 (Licensee Special Report 2-SR-87-014). This matter refers to the out-of-service condition of monitor RU-144, the High Range Plant Vent Noble Gas monitor, for more than 72 hours. When the surveillance quarterly test 36ST-9ZZ04 was performed, the communication board was found to have failed due to mechanical damage from metal washers. The licensee conducted an evaluation and replaced the washers with a non-conducting material. Root Cause of Failure (RCF) report #87-SQ-019 and Engineering Evaluation Report (EER) 87-SQ-029 addressed the replacement of these components in other monitors. Most had been replaced during routine surveillances at the time of the inspection. This matter is closed.

(Open) 50-529/87-22-X0 (Licensee Special Report 2-SR-87-022) This matter concerned a Unit 2 gaseous effluent release. The inspector examined the licensee's record, PRO #2-87-0118 and portions of the August 28, 1987, Control Room Log Unit II, Unit Log Unit No. Two, Radiation Protection Log Unit 2, and statements by the Radwaste Control Room Lead (dated August 29, 1987), Relief Shift Lead Technician (dated August 31, 1987), Shift Supervisor (dated August 28, 1987) and a Radwaste Technician (dated August 29, 1987). In addition licensee calculations of site boundary dose rates, alarm response work sheets and Emergency Plan Implementing Procedure (EPIP)-02 "Emergency Classification" were reviewed.

On August 28, 1987, the licensee declared an unusual event in response to a Plant Vent Monitor (RU-143) indicated release of $7.79 \text{ E-4 } \mu\text{Ci/cc}$ which was in excess of the $6.62 \text{ E-4 } \mu\text{Ci/cc}$ limit specified in emergency procedure EPIP-02, at approximately 1715 MST. The event was approximately coincident in time with the venting of the gaseous waste surge tank and waste gas decay tank (WGDT) "B" in preparation for maintenance on the WGDT "B" relief valve. Review of the licensee's post event evaluation supported the licensee's conclusion that Technical Specification exposure limits were not exceeded. Discussion with licensee staff established that the licensee's Special Investigation #2-87-15 of the event had not been completed at the time of the inspection. This matter will remain open pending completion of that investigation.

(Closed) 50-529/87-27-X0 (Licensee Special Report 2-SR-87-027) This matter refers to the reported out-of-service condition of monitors RU-143/144, the low/high range noble gas plant vent monitors, for more than 72 hours, due to a failed detector and an isolated ground. A chassis-to-signal ground jumper was installed on this and other similar monitors, under Temporary Modification Request (TMR) 2-87-SQ-027. This matter is closed.

4. Unit 3 - Radiation Protection - Startup (83521)

See Inspection Report 50-530/88-03. The licensee's Test Results Review Group (TRRG) had evaluated the survey and test data for all phases of power ascension and 100% full power. The TRRG had determined that no changes to the facility would be necessary, and that the shield design acceptance criteria had been met. No defects were observed by the licensee.



Since the licensee's actual fuel defect was several orders of magnitude lower than the design 1% fuel defect, the TRRG had recommended re-survey at full power of Radiation Zone 1 areas (including the Control Room) should the fuel defect increase significantly relative to the design fuel defect. This matter will be examined during a subsequent inspection (50-530/88-05-01).

No violations or deviations were identified.

5. Unit 3 Radwaste - Startup (84521)

See Inspection Report 50-530/88-03.

a. The following documents and procedures were examined:

36ST-9SQ01, "Radiation Monitoring Monthly Functional Test Procedure"
 36ST-9SQ04, "Radiation Monitoring Quarterly Functional Test"
 36ST-9SQ05, "Radiation Monitoring Calibration Test for Baseline
 Process Monitors"
 36ST-9SQ07, "Radiation Monitoring Calibration Test for New Scope
 Process Monitors"
 43ST-3ZZ34, "Radiation Monitoring System Surveillance Modes 1-4
 Logs"
 43ST-3ZZ35, "Radiation Monitoring System Surveillance Modes 5-6
 Logs"
 75ST-9ZZ03, "Radioactive Gaseous Effluents and RMS Surveillance"
 75ST-9ZZ07, "Effluent Monitoring System Daily Surveillance Testing"
 75ST-9ZZ08, "Effluent Monitor Monthly Source Check"
 Chemistry and Radiochemistry Data Sheets for December 1, 1987
 through January 31, 1988.

b. Chemical and Radiochemical Tests

The licensee's higher than normal levels of silicates, sulphates, and sodium had been reduced. Cleanup and demineralization systems appeared to be operating as designed. A buildup of suspended corrosion/erosion products, however, had already been detected (see report section 2), though no visible suspended solids had been observed by chemistry personnel, and Co-60 activity remained at about $1 \text{ E-4 } \mu\text{Ci/ml}$. The licensee's testing was consistent with that of the two previous units, with Technical Specifications (TS) and with Regulatory Guide 1.68. Gross Iodine was determined to be in the range of $2 \text{ E-4 } \mu\text{Ci/ml}$, and 100/E-bar was about 101.

c. Technical Specifications

A review of chemistry and radiochemistry sample data revealed no out-of-specification chemistry, activity or effluents relative to the TS. Samples were obtained and analyzed at the frequency specified in the TS.

d. Effluent Monitor Intercomparisons

The licensee had completed an evaluation of the startup test data. Activity levels remained too low for an intercomparison of effluent monitor readings. The letdown monitor, RU-204, was determined by the licensee to have a detector chamber of approximately 2 cm diameter, and was being modified under Work Request (WR) #302125 to install a chamber of approximately .64 cm diameter. The licensee expected this change, along with the appropriate efficiency determination, to solve an alarm/alert condition on the gross counts channels due to spikes at about 1836 KeV, and to alleviate the disparity with sample data. The licensee's TRRG had determined that reperformance of the testing will be evaluated when sufficient radioactivity becomes available.

e. Waste Systems

A review of pre-operational testing conducted by the licensee in August and September 1987 revealed that liquid and gaseous radwaste systems were in accordance with the design, but a design error, common to all three units, resulted in difficulty in maintaining stable operation due to the buildup of non-condensable gases in the evaporator. A modification to replace the vent condenser was being performed in Unit 2 (site modification 2-SM-LR-007), and, if effective, was to be scheduled for incorporation at Unit 3. The licensee currently contracts out solidification of concentrated and mixed hazard liquid wastes. The licensee stated that the installed solid radwaste system had not been used to process radioactive wastes.

f. Non-Radioactive Waste Streams

Radiochemical analytical data for the Steam Generator Blowdown Demineralizers, both Steam Generators, the Condensate Polishers, the Chemical Waste Neutralizer Tank (CWNT), and the Condenser Area and Turbine Building Sumps, for varying stages in the power ascension phase, and during full power operation, were examined. The licensee does not sample the Retention Basin (RTB) prior to discharge to the on-site evaporation pond, as the liquid is sampled from the CWNT prior to discharge to the RTB, in accordance with TS 3/4.11.1. The Final Safety Analysis Report (FSAR) describes liquid processing systems. No unmonitored liquid release paths were observed.

No violations or deviations were identified.

6. In-Office Review of Written Reports of Nonroutine Events (90712)

Licensee Event Reports (LER) and Special Reports (SR) related to radiation protection and chemistry matters were reviewed. It was

verified that reporting requirements had been satisfied, causes identified and that appropriate corrective actions had been initiated or completed. These reviews were completed without onsite followup.

	<u>LER</u>	<u>SR</u>
Unit 1 50-528/	86-005-01 (86-05-L1)	1-SR-85-035 (85-35-X0)
	86-003 (86-03-L0)	
	86-007-00 (86-07-L0)	1-SR-87-029 (87-29-X0)
	86-013-00 (86-13-L0)	
	86-032-00 (86-32-L0)	
	86-038-00 (86-38-L0)	
	86-040-00 (86-40-L0)	
	86-041-00 (86-41-L0)	
	87-028-00 (87-28-L0)	
Unit 2 50-529/	87-016-00 (87-16-L0)	2-SR-86-008 (86-08-X0)
	88-001-00 (88-01-L0)	2-SR-87-012 (87-12-X0)
		2-SR-87-015 (87-15-X0)
		2-SR-87-018 (87-18-X0)
Unit 3 50-530/		3-SR-87-005 (87-05-X0)
		3-SR-87-009 (87-09-X0)

No violations or deviations were identified.

7. Plant Tours

Unit 1 and 2 auxiliary buildings and the Unit 1 containment were toured. Confirmatory surveys were performed using an ion chamber survey instrument NRC #22906 due for calibration February 5, 1988.

No violations or deviations were identified.

8. Exit Interview

The scope and findings of the inspection were discussed with the individuals denoted in report section 1 on February 5, 1988. With respect to Unit 2 Licensee Event Report No. 87-21 and Special Report (report section 3) concerning inoperability of PASS from November 9 to December 2, 1987, as a result of valve misalignments, the licensee was informed that it appeared that a Notice of Violation would be issued for failure to meet the requirements of TS 3.3.3.1 in that Action 28 of Table 3.3-6 had not been satisfied. Further the licensee was informed that it appeared that a Notice of Violation would address failure to fully implement certain aspects of 40AC-9ZZ15 "Station Tagging and Clearance," as required by TS 6.8, "Procedures and Programs". The licensee was, however, informed that concerns identified would be carefully examined in the Regional Office. As a result of that further consideration the conclusion identified in the report was reached.

