

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/87-05  
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, Benton County, Washington

Inspection Conducted: March 9-13, 1987

Inspector: M. Cillis 3/27/87  
M. Cillis, Senior Radiation Specialist Date Signed

Approved by: G. P. Yuhas 3/30/87  
G. P. Yuhas, Chief, Facilities Date Signed  
Radiological Protection Section

Summary:

Inspection on March 9-13, 1987 (Report No. 50-397/87-05)

Areas Inspected: Routine unannounced inspection by a regionally based inspector of liquids and liquid waste, water chemistry control and chemical analysis, ALARA program, occupational exposures during extended outages, gaseous waste systems, including followup on IE Information Notices, Licensee Event Reports and open items; and a tour of the licensee's facility. Inspection modules 30703, 79701, 83728, 83729, 84723, 84724, 90713, and 92701 were performed.

Results: In the seven areas inspected, no violations or deviations were identified.



## DETAILS

### 1. Persons Contacted

- \*C. Powers, Plant Manager
- \*J. Baker, Assistant Plant Manager
- \*R. Graybeal, Health Physics/Chemistry Manager
- \*D. Larson, Manager of Radiological Programs and Instrument Control
- \*L. Morrison, Chemistry Supervisor
  - D. Bennett, Radiochemist
  - A. Davis, Radiochemist
  - L. Bradford, Health Physics Supervisor
  - J. M. Graziani, Nuclear Safety Assurance Engineer
  - J. Allen, Assistant Health Physics Supervisor
  - V. Shockley, Health Physics/Radiochemistry Support Supervisor
- \*M. Bartlett, Plant QA Supervisor
  - D. J. Pisarcik, Senior Health Physicist
  - D. Rinehart, Training Supervisor
  - L. Sharp, Principal Nuclear Engineer
- \*R. Dodds, NRC, Senior Resident Inspector

\*Denotes those present at the exit interview on March 13, 1987.

In addition, the inspector met with other members of the licensee's staff.

### 2. Followup Items

An examination was conducted for the purpose of determining the status of corrective actions taken by the licensee in resolving previous inspection findings, Licensee Event Reports (LERs) and Information Notices (INs). The examination disclosed the following:

#### a. Followup Items

(Closed) Followup Item 86-38-01 - This item identified that procedures established for calibrating Nuclear Measurement Corporation (NMC) constant air monitors did not provide instructions for calibrating the unit's flow rate measurement devices as recommended by Regulatory Guide 8.25, Calibration Error Limits of Air Sampling Instruments for Total Volume of Air Sampled.

An examination of this item disclosed that Plant Procedures Manual (PPM) - 10.24.172, "Preventative Maintenance Calibration Test - NMC Air Radiation Monitor, Model AM-2B," was revised. The revision of PPM 10.24.172 provided the necessary instructions for assuring the calibration of the NMC's flowrate measurement devices are calibrated in conjunction with the isotopic calibration. This matter is closed (86-38-01).



b. Information Notices

(Closed) Information Notices (IN 86-43, IN 86-46, IN 86-90, IN 86-103, IN 86-107, IN 87-03, and IN 87-07) - Region V Inspection Reports 50-397/86-10 and 50-397/86-38 identified that improvements in timely IN evaluations were needed. The status of nine INs were examined during the inspection.

Licensee evaluations of seven INs were completed and evaluations for the remaining two were in progress. The inspector concluded that the licensee's evaluations of IN 86-43, IN 86-46, IN 86-90, IN 86-103, IN 86-107, IN 87-03, and IN 87-07 were consistent with the recommendations identified in the respective INs.

The inspector commended the licensee's staff for the timeliness in which the INs were evaluated.

IN 86-43, IN 86-46, IN 86-90, IN 86-103, IN 86-107, IN 87-03, and IN 87-07 are closed.

c. Licensee Event Reports

(Closed) LER 86-44-L0 - This LER identified that on December 22, 1986, liquid radwaste effluent was discharged with the liquid effluent radiation monitor inoperable and only one predischage batch sample obtained and analyzed. WNP-2 Technical Specifications (TS) require that two independent samples of the batch be analyzed in accordance with Sections 4.11.1.1 and 4.11.1.2. The radiation monitor was inoperable because the sample pump was not started as required by plant procedures. No adverse safety significance was associated with the event as the discharge effluent was within permissible levels.

The inspector verified that the corrective actions described in the LER had been implemented. The corrective action included the counseling of Utility Equipment Operators and a revision was made to the surveillance procedure to include signoff steps for starting and stopping the monitor's sample pump. This matter is closed (86-44-L0).

d. Unresolved Items

(Open) Unresolved Item 85-20-04 - Inspection Report 50-397/85-20 identified that the reactor building post LOCA sample (NUREG 0737, Item II.F.1.2) line was heat traced for freeze protection to only 50° F and that no plateout factors were applied to the iodine sample result.

WNP-2 letter, G02-85-347, dated June 25, 1985, provided the Supply System's position with respect to the NRC's observation reported in Inspection Report 50-397/85-20. The letter concluded that the currently installed iodine sampling capability for reactor building effluents was consistent with the Supply System design basis and met

the requirements of NUREG 0588, NUREG 0737, and Regulatory Guide 1.97.

Subsequent discussions and correspondence on this matter between Region V and NRR to evaluate the position taken by WNP-2 were conducted between June 1985 and February 1986. NRR also did not concur with the position taken by WNP-2. NRR concluded that WNP-2 must show that their system provided representative sampling as required by NUREG 0737, Item II.F.1.2.

A Region V letter dated April 14, 1986, reaffirmed the position taken at the onset as described in Inspection Report 50-397/85-20 and also the position taken by NRR. The letter stated that the NRC would review WNP-2's evaluation of the POST LOCA sampling system, using the criteria prescribed in Regulatory Guide 1.97, Revision 3, Table 2, Footnote 12, to close the unresolved item.

Discussions were held with the licensee's staff to determine the status of this item.

The staff informed the inspector that they have received some recent correspondence on this matter from Science Applications International Corporation (SAIC). The letters dated December 5, 1986, and February 23, 1987, disclosed that SAIC is in the process of attempting to organize a utility funded study of radioactivity losses in effluent sample lines. The December 5, 1986 letter advised utility companies that installation of heat tracing to reduce deposition of iodine in an existing line is expensive and should be undertaken only if there is a sound experimental basis. The letter concluded at the present time that basis does not exist. The December 5, 1986 letter went on to state that discussions between SAIC and the NRC(NRR) indicated that:

"If the proposed scope of the SAIC program is deemed acceptable after review by NRR and if the program is begun soon, NRR will:

- ° Recommend to the Regions that participation in the program will constitute an effort toward evaluating their sample systems for representative sampling, and
- ° Use the results of the study to develop criteria for sample-line and sample evaluations."

A letter from NRR dated February 4, 1987, concerning SAIC proposed program to organize utility companies stated that the NRC staff is interested in seeing a systematic investigation conducted and that such a program could eliminate the need for measurements at each individual plant. The NRR letter further stated that if the SAIC proposal was submitted by a utility group, it would be formally reviewed by the NRC staff provided the proposal was revised to reflect the enclosed comments identified in the letter.

The licensee's staff informed the inspector that they were in the process of preparing a response to Region V's letter dated April 14,

1986. The letter was in draft form and is expected to be submitted to Region V within the next two to four weeks. The inspector was informed that the letter was expected to reaffirm the licensee's earlier position on this matter. The staff cited the SAIC letters as a basis for their position. The staff added that a position on this matter, would probably not be determined until the results of the SAIC jointly funded program has been decided or completed if it is accepted by the NRC.

The inspector informed the licensee to submit their response to the April 14, 1986 letter as soon as possible. This item remains unresolved (85-20-04).

(Closed) Unresolved Item 86-14-02 - Inspection Report 50-397/86-14 identified that personnel extremity doses as measured by Thermoluminescent Dosimeters (TLDs) were not consistent with the dose measured from whole body TLDs, in that the extremity doses were lower than what was measured by the whole body TLD. Inspection Report 50-397/86-14 also identified that unused extremity TLDs provide a "background" reading along with batches of used TLDs gave unusually high background readings, up to 91 mrem for a period of less than one month since annealing.

An evaluation of the above concern was performed by the licensee's Radiological Programs and Instrument Calibration staff. The evaluation, documented in WNP-2 interoffice memorandum dated March 12, 1987, was reviewed by the inspector.

The licensee's evaluation determined that the major cause for the discrepancy in the TLD readings was found to be randomly inadequate contact with, and heating of the TLD material by the manual reader used for extremity dosimetry. The cause for the unusual backgrounds was ascertained to be that the majority of the background reading (70%) was due to ultraviolet light. A third potential contributing cause for the observations was attributed to the manner in which the TLDs were used.

The licensee's corrective actions with respect to this item was as follows:

- ° A new TLD reader, Teledyne Model 7300 was obtained under a lease agreement to replace the Model 8300 unit. The new reader was thoroughly tested. Its response was much more repeatable on successive exposures and consistency between TLDs in the test lot was greatly improved. Procedures are currently being revised to integrate the new reader into routine TLD laboratory operations and to incorporate the lessons learned in the test program.
- ° New extremity TLD cases have been purchased to provide ultraviolet light protection.
- ° Other improvements included guidance for Health Physics (HP) Technicians in the use of extremity TLDs, replacement of aging

TLD materials, and improvement for acceptance testing and processing of extremity TLDs.

The licensee also verified that none of the anomalies observed in Inspection Report 50-397/86-14 resulted in exposures that were in excess of 10 CFR Part 20.101(a), "Radiation Dose Standards for Individuals in Restricted Areas" limits. This matter is closed (86-14-02).

### 3. Occupational Exposures During Extended Outages

An examination was conducted to determine the adequacy of the licensee's occupational radiation program that is to be implemented during the extended refueling outage which is expected to start in mid-April 1987. Areas examined were:

- Planning and preparation
- Training and qualification of new personnel
- Maintaining occupational exposures ALARA

Plans and preparations for increasing the permanent HP staff with contractor personnel were underway at the time of this inspection.

Discussions with the Assistant Health Physics (HP) Supervisor disclosed that plans were underway to augment the permanent HP staff of 18 HP Technicians, two foremen and two supervisors with the following:

- a. Approximately 11 Technicians from the WNP-2 Chemistry group. The HP experience level of selected chemistry technicians vary. The licensee stated that work assignments for these individuals would be commensurate with their HP experience level.
- b. Arrangement to acquire the services of 40 Senior HP and 16 Junior HP Technicians from Applied Radiological Controls was in progress at the time of the inspection. The technician selection process and pre-job testing and training program for the selected technicians appeared to be consistent with the recommendations of the Institute of Nuclear Power Operations (INPO) prescribed in INPO 82-007 guidelines and with ANSI/ANS-3.1-1978, "Standard for Selection and Training of Personnel for Nuclear Power Plants."
- c. Supervisory control over contract technicians will be provided by the licensee's staff of ANSI/ANS-3.1 qualified HP technicians.

Other preparations in progress were as follows:

- General Employee Training (GET) and Respiratory Protection Training of the outage work force was in progress. Most of the training was being provided at two Union Halls located in the town of Kennewick, Washington. The inspector witnessed the GET and respiratory protection training that was conducted at the IBEW Local 77 Federal Credit Union hall on March 12-13, 1987. The content of the training

was consistent with 10 CFR Part 19.12, "Instructions to Workers," 10 CFR Part 20.103(c) and NUREG 0041, "Manual of Respiratory Protection Against Airborne Radioactive Materials." The quality of the training was good.

- Refresher GET is normally provided at the licensee's Plant Support Facility. The inspector participated in a GET class that was provided on March 11, 1987. The content of this training was consistent with 10 CFR Part 19.12 and the quality of the training was good.
- Major revisions were made in the licensee's ALARA program. The revisions were made in response to concerns raised in Region V Inspection Report 50-397/86-14 and from recommendations made by INPO.

The inspector reviewed the proposed revisions made in the licensee's ALARA procedures listed below:

<u>Procedure</u>	<u>Title</u>
PPM 1.1.6	Plant ALARA Committee
PPM 1.1.11	ALARA Program Description
PPM 11.2.1.2	ALARA Program Implementation
PPM 11.2.2.1	Apparent Reduction Potential (ARP)
PPM 11.2.2.6	ALARA Outage Planning
PPM 11.2.8.1	Radiation Work Permit
PPM 11.2.2.8	ALARA Engineering Analyses
PPM 11.2.2.9	Estimation of Achievability Index

The licensee's Plant Operations Committee (POC) was scheduled to review the proposed changes during the week of March 16, 1987.

The inspector concluded that the procedures will more clearly define the licensee's ALARA program and they appear to address the concerns addressed in Inspection Report 50-397/86-14. Additional planning included:

- The licensee's dosimetry group was planning to have four full-time clerks available to process dosimetry records during the major portion of the outage.
- The radiation protection staff was in the process of supplementing its normal supply of HP equipment required to support the outage.
- Preparations were being made to assure that radiation detection instruments required to support the outage were in good working order and would be in current calibration for the duration of the outage.

The licensee's implementation of their occupational radiation protection program during extended outages will be examined sometime during the outage.

No violations or deviations were identified.

4. Maintaining Occupational Exposures ALARA

a. Scope

An examination was conducted in preparation for the refueling outage to determine whether the licensee is making a reasonable effort to ensure that occupational radiation exposures are maintained as low as is reasonably achievable (ALARA).

b. ALARA Program Changes

Changes in the licensee's ALARA policies and procedures were discussed in Paragraph 3 of this report. The inspector concluded that the changes described in Paragraph 3 should strengthen the licensee's ALARA program. The implementation of these changes will be verified by the inspector during the refueling outage scheduled for mid-April through June 1987.

c. ALARA Awareness

General Employee Training program and ALARA implementing procedures prescribed the licensee's ALARA training program. The training program was designed to inform all workers of their responsibilities for maintaining occupational exposures ALARA. The level of training provided to the staff is commensurate with the individuals' responsibilities. Work practices observed during this inspection were consistent with the ALARA concept.

d. ALARA Goals

ALARA job planning reviews and preparations for the upcoming refueling outage were in progress during the inspection. This area will be examined by the inspector in further detail during the outage.

No violations or deviations were identified.

5. Liquids and Liquid Wastes/Gaseous Waste Program

This part of the inspection is a continuation of the licensee's liquids and liquid waste and gaseous waste program examinations that were started during the previous inspection (see Region V Inspection Report 50-397/86-38). Areas examined during this inspection are as follows:

- ° Compliance with TS, Section 6.8.4(c), "Post Accident Sampling";
- ° Compliance with TS, Section 3.11.1.1, "Liquid Effluent Concentration";
- ° Review of the licensee's Semiannual Effluent Report for the 2nd half of 1986; and

- Compliance with TS, Section 3.11.2.1, "Gaseous Effluent Dose Rate."

The inspection included a review of applicable implementing procedures, completed surveillance records, training records and discussions with the licensee's staff. The results of the examination are as follows:

a. Post-Accident Sampling System (PASS) Program

The licensee's PASS program is described in PPM 1.11.6, "Post Accident Sample System Program." The inspector concluded that the licensee maintained a PASS program that is consistent with TS, Section 6.8.4(c) and with PPM 1.11.6. The program included the following provisions:

- Training of personnel;
- Procedures for sampling and analysis; and
- Provisions for maintenance of sampling and analysis equipment.

The training program includes classroom instructions and on-the-job training. The on-the-job training has been formalized. Records of the classroom and on-the-job training were well documented. Refresher training for all operators is provided on a six-month cycle. Currently, there are six fully qualified operators. The licensee was in the process of qualifying three additional operators. The training program included periodic drills which are used to test the operators and assured the capability to obtain and analyze reactor coolant, radioactive iodines, and particulates under accident conditions is maintained.

A review of completed surveillance procedures PPM 7.4.0.5.51, "PSR Valve Operability and PASS Operability," revealed that PASS sampling and analysis were performed quarterly. The results of the quarterly surveillances were compared to the results obtained from the licensee's normal sampling system. The results from PASS and the normal sampling system appeared to compare favorably with one another.

b. Liquid and Gaseous Effluent Concentrations

Selected procedures and records for assuring compliance with the Liquid and Gaseous Effluent sampling program prescribed in TS, Tables 4.11-1 and 4.11-2 were reviewed. The following procedures were reviewed:

<u>Procedure</u>	<u>Title</u>
PPM 12.11.1	Radiological Effluent Monitoring - Gaseous and Liquid
PPM 7.1.3	HP/Chemistry Weekly Iodine, Particulate and Tritium Results



PPM 7.4.11.1	Liquid Release Dose Calculations
PPM 7.4.11.1.1.1	Determination of Radioactivity in Radioactive Liquid Wastes
PPM 7.4.11.1.1.2	Post Release Analysis from Batch Releases - Monthly
PPM 7.4.11.1.1.3	Post Release Analysis from Batch Releases - Quarterly

The review disclosed:

- (1) The licensee maintains an active quarterly chemistry cross-check program with Analytics, Incorporated. The results of the cross-check program appeared to compare favorably with one another. All anomalies are evaluated by the licensee's staff.
- (2) The data for liquid releases conducted between July 1986 and December 31, 1986, were consistent with that reported in the licensee's Semiannual Effluent Report dated February 17, 1987.
- (3) Anomalies with the results of concentrations of gross alpha reported in the licensee's monthly discharge composite analysis were observed. Gross alpha results recorded in surveillance procedure PPM 7.4.11.1.1.2 were as follows:

<u>Involved Dates</u>	<u>Results in Microcuries per Milliliters (<math>\mu\text{Ci/ml}</math>)</u>
7/1/85 - 7/31/85	$\leq 1.83\text{E-}9$
8/1/85 - 8/31/85	$\leq 1.19\text{E-}9$
10/1/85 - 11/30/85	$\leq 2.12\text{E-}9$
3/16/86 - 3/29/86	$\leq 3.68\text{E-}7$
4/1/86 - 4/30/86	$\leq 1.055\text{E-}6$
6/1/86 - 6/30/86	$\leq 1.015\text{E-}7$
12/1/86 - 12/31/86	$\leq 6.697\text{E-}10$

The acceptance criteria prescribed in PPM states: "This test is acceptable when the conditions of WNP-2 Technical Specifications Section 3.11.1.1 are met." The acceptance criteria does not identify the gross alpha concentration limit.

Additionally, similar observations were made with the quarterly composites for Iron (Fe) 55 recorded in surveillance procedure PPM 7.4.11.1.1.3. Fe-55 results reported were as follows:

<u>Involved Dates</u>	<u>Results Observed in <math>\mu\text{Ci/ml}</math></u>
4/1/85 - 6/30/85	$\leq 4.959\text{E-}8$
7/1/85 - 9/30/85	$\leq 5.023\text{E-}9$



9/1/85 - 12/31/85	≤ 4.69E-7
1/1/86 - 3/31/86	≤ 3.41E-8
4/1/86 - 6/30/86	≤ 2.92E-8
10/1/86 - 12/31/86	≤ 1.10E-7

The acceptance criteria prescribed in PPM 7.4.11.1.1.3 is identical to the criteria prescribed in PPM 7.4.11.1.1.2 for the gross alpha monthly composite analysis.

Identical observations were made with the results of the weekly gross alpha analysis of particulate air sampling program for the primary containment purge, main plant ventilation, Turbine Building ventilation and Radwaste Building ventilation systems as reported in surveillance procedure PPM 7.1.3. Results reported were as follows:

<u>Involved Dates</u>	<u>Results Observed in <math>\mu\text{Ci}/\text{Filter}</math></u>
12/14/86 - 12/21/86	≤ 2.21E-14 to ≤ 4.41E-16
1/4/87 - 1/11/87	≤ 2.26E-5 to ≤ 5.53E-7
1/11/87 - 1/18/87	≤ 2.29E-6 to ≤ 1.60E-7

Procedure PPM 7.1.3 does not provide an "acceptance criteria."

The results reported in PPM 7.4.11.1.1.2, PPM 7.4.11.1.1.3, and PPM 7.1.3 had been reviewed by the plant's chemistry staff. No comments were identified as a result of these reviews.

The observations were discussed with the licensee's staff during the inspection. The inspector asked the staff:

- ° To define the "acceptance criteria" concentration limits for the gross alpha and Iron (Fe) 55 analysis provided in PPM 7.4.11.1.1.2, PPM 7.4.11.1.1.3, and PPM 7.1.3.
- ° Why wasn't an "acceptance criteria" included in PPM 7.1.3?
- ° Do Chemistry Technicians performing the analysis know the concentration limits established by the "acceptance criterion?"
- ° At what concentration levels are evaluations initiated?
- ° Do the Chemistry Technicians analyzing samples know when to notify plant management of abnormal conditions based on sample results and when a TS or an "acceptance criteria" limit is in jeopardy or is exceeded?
- ° Does supervision understand when the sample results may be abnormal and warrants that management be notified?

- ° Why was there a wide variance in the results?

With respect to the last question, the licensee's staff informed the inspector that a review of the data indicated calculational errors were made in some cases and that the internal reviews failed to detect the errors. The errors which were determined to be on the conservative side, consisted of using the wrong volumes and/or units. The licensee's staff and inspector verified that no TS limit had been exceeded.

The licensee's staff members were not able to provide immediate answers to the remaining questions. The staff did acknowledge the inspector's concerns stating that an evaluation of their radioactive liquid and gaseous effluent monitoring program implementing procedures would be conducted in response to the inspector's questions. The staff added that appropriate records will be revised to provide the corrected values.

The above observations were brought to the licensee's attention at the exit interview. The inspector informed the licensee that their actions to resolve the inspector's concerns would be examined during a subsequent inspection (87-05-01).

c. Semiannual Radioactive Effluent Release Report

A review of Region V Inspection Report 50-397/86-35 and licensee Semiannual Radioactive Effluent Release Reports for the period of July 1985 through June 30, 1986 was performed for the purpose of determining consistency with "footnote" (f) of TS, Table 4.11-2. Footnote (f) states: "Other gamma peaks that are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semiannual Radioactive Effluent Release Report pursuant to Specification 6.9.1.11."

The review of Inspection Report disclosed that results obtained for the steam jet air ejector gas sample (SJAE) splits showed virtually all of the activity measured was due to N-13. The Inspection Report goes on to explain that the most dominant activity in the split SJAE sample was the 511 Kev annihilation radiation peak and because of contributions from a number of different sources, this peak is not usually used for quantifying activity. The report adds that a number of activation product radionuclides require examination of the 511 Kev peak for their quantification. Both N-13 ( $T_{1/2} = 9.97$  minutes) and F-18 ( $T_{1/2} = 110$  minutes) were positron emitters with essentially no gamma mode of decay other than the 511 Kev line. The decay of the split SJAE sample discussed in the Inspection Report was observed to provide a half-life of about 10 minutes.

The review of the licensee's Semiannual Radioactive Effluent Release Reports for the 2nd half of 1985 and 1st half of 1986 disclosed that no reference was made with respect to N-13.

Subsequent in-office discussions were held with the licensee's staff to determine why the N-13 information was not included in the



semiannual reports. The licensee's staff stated that this subject had been previously discussed with several NRC inspectors. The staff added that it was their understanding that it would not be necessary to report it because it was felt that there was no significant impact on the site boundary doses due to the short half-life of 9.97 minutes for N-13.

The inspector informed the licensee Footnote (f) of TS does not provide any exceptions and that it should be reported. The licensee agreed to report it in the next semiannual report.

Section 3.0 of the July 1, 1986 - December 31, 1986 Semiannual Effluent Report dated February 24, 1987, included the required data. The report concluded that the annual site whole body dose resulting from what were considered to be very conservative estimates of N-13 releases from the Turbine Building and Reactor Building were 0.43 mrem and 0.00093 mrem, respectively. The values were refined during this inspection to 0.116 mrem and  $6.5E-7$  mrem, respectively.

The inspector reaffirmed that the licensee will continue to evaluate N-13 releases and report their finding in a manner that is consistent with TS, Table 4.11-2, Footnote (f).

No violations or deviations were identified.

## 6. Water Chemistry and Chemical Analysis

The inspector reviewed licensee's audits, surveillances, selected procedures, results of laboratory analysis, held discussions with licensee representatives and conducted a tour of the chemistry laboratory to determine compliance with TS requirements to control the chemical quality of the plant.

### a. Water Chemistry Control Program

The licensee's water chemistry control program is defined in PPM 1.13.1, "Chemical Process Management and Control." The program receives the constant attention and support from WNP-2 management.

The licensee had adopted the BWR's owner group water chemistry control program.

As a minimum, the program includes the following considerations:

- ° Chemical Surveillance and Control
- ° Laboratory Quality Assurance
- ° Chemistry Laboratory Analytical Control
- ° Potable Water Quality Assurance
- ° A training and qualification program for Chemistry Technicians

- A multi-point calibration program for measurement systems like atomic absorption, spectrophotometry and ion chromatography.
- Use of standard stock solutions that are used for quality control and calibration.
- Provisions to preclude cross-contamination of glassware.

The chemical quality of the plant secondary and primary system is monitored closely and is routinely discussed at daily management meetings.

- b. Split Samples - The program includes split samples that are supplied by a laboratory with analytical results returned to the vendor for comparison of results. Each of the chemistry staff participate in the intercomparison program.
- c. Audits/Surveillances - A total of 13 surveillances and two audits of the licensee's water chemistry program were conducted between 1985 and 1986. The inspector was impressed with the depth and quality of licensee's audits and surveillances.

Based on the examination, the inspector concluded that the licensee was effectively implementing the water chemistry control program. This observation was discussed at the exit interview.

No violations or deviations were identified.

#### 7. Tour

The inspector made several tours to the Turbine, Radwaste and Reactor Buildings. The following observations were made:

- The licensee's labeling and posting practices were in compliance with 10 CFR Part 20.203.
- Portable radiation monitoring equipment observed were in current calibration.
- Housekeeping in the areas toured was much improved over that observed from previous inspections.
- Personnel work practices observed were consistent with the ALARA concept and as prescribed on applicable licensee Radiation Work Permits.

The above observations were discussed at the exit interview.

No violations or deviations were identified.



8. Unresolved Item

An unresolved item is one about which more information is required in order to ascertain whether it is an acceptable item, violation, or a deviation. One unresolved is discussed paragraph 2.d. of this report.

9. Exit Interview

The inspector met with the individuals denoted in paragraph 1 at the conclusion of the inspection on March 13, 1987. The scope and findings of the inspection were summarized. The licensee was informed that no violations or deviation had been identified.

The findings described in paragraph 5(b) were discussed at the exit interview. The licensee acknowledged the inspector's findings. The licensee stated that immediate action will be taken to resolve the inspector's findings.

