U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/85-11

Docket No. 50-397 License No. NPF-21

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

Facility Name: WNP-2

Inspection at: WNP-2, Benton County, Washington

Inspection conducted: April 15-26, 1985

Inspectors:

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Talbert Young Jr. for — 5-28-85
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C. I. Sherman, Radiation Specialist — Date Signed

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Reactor Projects Section 3

Summary:

Inspection during the period of April 15-26, 1985 (Report No. 50-397/85-11)

Areas Inspected: A special, unannounced team inspection of maintenance, measuring and test equipment (M&TE), surveillance testing, quality assurance activities, onsite/offsite committee activities, employee training, health physics waste programs, plant procedures, design changes and modifications, and vendor field and technical manual change notices.

The team's approach was to direct 60 percent of its effort on administrative controls associated with the emergency DGs, the HPSI and RHR systems and the implementation and adherence of those controls in the following areas: M&TE Calibration Program; Maintenance Program; Surveillance Program; Vendor Field Change Notices; and Design Changes and Modifications. The other 40 percent of the team's effort was on administrative controls in the following important areas: onsite/offsite committee activities; quality assurance audits (onsite and offsite); licensed/non-licensed operator training; plant operations; health physics solid waste program; health physics liquids and liquids waste program; and health physics gaseous waste system.

The team's strategy used for this inspection required the selection of a sample of WNP-2 administrative controls associated with four important safety-related systems (HPSI, RHR, Emergency DGs, and Station Batteries) of the plant for vigorous examination. The sample was representative of all management controls, testing, methodology and documentation of all safey-related administrative controls at the WNP-2 Nuclear Power Plant.

The inspection involved 622 hours by eight NRC inspectors.

Results: Of the areas inspected, four violations of NRC requirements were identified. The major weaknesses identified were, (1) controls for the M&TE program were not being implemented; (2) there was a lack of management oversight of the onsite QA surveillance program; (3) decisions were made to deviate from the letter of the technical specifications; (4) storage retrievability and identification of Class 1 battery records were inadequate.

DETAILS

1. Persons Contacted

+J. Shannon, Deputy Managing Director
+J. Martin, Power Generations Director
+R. Glasscock, Director, Licensing and Assurance
+*C. Powers, Plant Manager
+*J. Baker, Assistant Plant Manager
+*J. Peters, Administration Manager
+G. Bouchey, Director, Support Services
+*M. Monopoli, Manager, Operational Assurance Programs
+R. Stickney, Manager, Technical Training
+L. Harrold, Assistant Director, Technical Generation Engineering
+J. Burn, Director, Technology
+C. McGilton, Manager, Nuclear Safety Assurance Group
+R. Corcoran, Operations Manager
+P. Powell, Manager, Plant Licensing
+D. Koenigs, Electrical Engineer
+K. Cowan, Technical Manager
+W. Chin, Bonneville Power Administration Representative
+J. Parry, Senior Health Physics
+M. Etchamendy, Manager, Corporate Contracts
+V. Shockley, Support Supervisor, Health Physics/Chemistry
+B. Fitch, Washington State Energy Facility Site Evaluator Counsel
+B. Twitty, Secreatry to Corporate Nuclear Safety Review Board
E. Debattista, Quality Assurance Engineer
+J. Harmon, I&C Supervisor
O. Dodson, Standards Laboratory Supervisor
R. Barbee, Plant Engineer Supervisor
V. Behl, M&TE Tool Crib Storekeeper
T. Wyrick, Plant Engineer
H. Hansen, Foreman, Health Physics and Chemistry Laboratory
W. Davison, Electric System Supervisor, Plant Engineering
R. Lemon, Electrical Engineer
D. Kidder, Mechanical System Supervisor, Plant Engineering
A. Warren, Engineer
L. Dodson, Materials Engineer
T. Eldhart, Maintenance Engineer
+D. Feldman, Plant Quality Assurance Manager
M. Bartlett, Quality Control Supervisor
W. Jensen, Administrative Specialist
R. Patrick, Administrative Supervisor
F. Walton, Principal Maintenance Engineer
T. Houchins, Manager, Audits
A. Ogletree, Manager of Training Development
A. Gorlick, Training Specialist
J. Johnson, Supervisor of Crafts
J. Wyrick, Senior Training Engineer
J. Little, Planning Scheduling Supervisor
D. Anderson, Mechanical Supervisor
J. Massey, Electrical Supervisor
A. Kugler, Technical Manager, Generation Engineering

C. Foley, Manager Alternate, Engineering Administration, Generation Engineering
N. Porter, Electrical/Instrumentation Manager, Generation Engineering
G. Kozlik, Shift Manager (SRO)
M. Mann, Control Room Supervisor (SRO)
F. Frisch, Operations Engineer
M. Wuerstefeld, Reactor Engineering Supervisor
J. Parry, Principle Health Phyhsicist, Radiological Programs
+R. Greybeal, Health Physics/Chemistry Manager
R. Schockley, Health Physics/Chemistry Support Supervisor
D. Carson, Manager, Radiological Programs
A. Davis, Senior Radiochemist
R. Hintz, Senior Health Physicist
L. Mayne, Radiochemist
J. Thomas, Chemical Process Engineer
F. Walton, Principle Maintenance Engineer
R. Conseriere, Shift Manager
W. Schaeffer, Shift Manager
D. Ottley, Radiological Services Supervisor
D. Beecher, Chemistry Foreman
D. Kerlee, Principal Engineer/Lead Auditor

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

*Denotes those individuals attending the exit interview on April 19, 1985.

+Denotes those individuals attending the exit interview on April 26, 1985.

2. Onsite/Offsite/ Committee Activities

The purpose of this portion of the inspection was to verify that the onsite and the offsite safety review committees or their equivalents have been established and are functioning in conformance with Technical Specification requirements and commitments in the application.

a. Nuclear Safety Assurance Group (NSAG)

The NSAG is responsible for performing independent review of plant activities including maintenance, modifications, operational problems, operational analysis and to aid in the establishment of programmatic requirements for plant activities. For this inspection the following documents were reviewed:

- Administrative Procedures on NSAG Activities
- Functional Manual for Nuclear Operation
- NSAG Manual
- Fact Sheets on Each NSAG Member
- NSAG Monthly Reports (October 1984 through March 1985)
- NSAG Assessment of Training Practices on Changes (Procedures, Modifications and LERs)
- NSAG Assessment of Logkeeping Practices
- Audit No. 84-301 QA Audit of NSAG

The NSAG is composed of five degreed, full time, dedicated engineers located at the WNP-2 site. Internal reports (NCRs, Scrams and LERs etc.) and external reports (NRC, INPO, GE etc.) are reviewed by NSAG or screened by the NSAG Manager. These reports are assigned an identification number and tracked by the computerized Action Tracking System. Corrective actions, if required, are entered into the Plant Tracking Log (PTL). Plant significant events are being investigated and reported on by the NSAG. A review of two of these reports, "NSAG Assessments of Training Practices on Changes and Logkeeping" revealed that the reports are very well written. The investigations appear to be comprehensive, with a well defined problem, a complete description of the event causing the problem and detailed recommendations for corrective actions.

The inspectors found no full policy statement at the corporate level on NSAG and no engineers at the corporate home office serving on NSAG.

b. Plant Operations Committee (POC)

The POC is the onsite review-group required by Technical Specification (TS) 6.5.1. POC guidance and responsibilities are contained in Administrative Procedure 1.1.5, and the TS. The plant administrative manager is the permanent secretary to the POC and maintains all of POC records. The minutes of all meeting held since January 1, 1985 (12 meetings), were examined by the inspectors. The committee is very active and appears to be meeting all of its responsibilities.

c. Corporate Nuclear Safety Review Board (CNSRB)

The CNSRB is the offsite review group required by TS 6.5.2. The CNSRB guidance and responsibilities are contained in the Functional Manual for Nuclear Operation, Procedure NOS-6 (Corporate Policy Statement), CNSRB Instruction No. 3 and the TS. The inspector examined the minutes of all meetings held since January 1, 1984 (four scheduled meetings to meet the TS requirements and several special meetings), to determine if the CNSRB was meeting all of its responsibilities.

The wording of CNSRB Instruction No. 3 reads as follows:

> "The CNSRB shall review:
>
> The safety evaluations for (a) changes to procedures, equipment or systems and (b) tests or experiments completed under the provision of 10 CFR 50.59 to verify that such actions did not constitute an unreviewed safety question."

(1) Procedure Changes: Members are sent listings of procedure changes and deviations normally in the form of POC minutes. If any member desires additional information and/or meeting discussion, it will be arranged by the Executive Secretary. The Executive Secretary will review the changes and deviations for unreviewed safety questions under the criteria of 10 CFR 50.59 and document this review.

(2) Modifications: Members are provided for review as to unreviewed safety questions cover sheets and safety evaluation sheets for changes to systems or equipment (modifications). The Executive Secretary will arrange for presentations at meetings on any modification requested by any member. He will document his review as by the criteria of 10 CFR 50.59.

(3) Tests and Experiments: A summary and safety evaluation report will be sent to members for their review as to unreviewed safety questions, except for tests associated with the startup program and operability tests subsequent to repair or modification of a system or equipment. All tests and experiments will be open for discussion at meetings and any deemed significant by any member will be discussed utilizing a technical presentation. The Executive Secretary will document his review as being under the criteria of 10 CFR 50.59."

As the instructions reveal, the full committee is not reviewing all of the required documents but is making sure that an independent review is being made. With this exception the inspectors determined that the CNSRB is meeting all of its required responsibilities.

Two violations were identified in this area (85-11-01/02).

3. Containment Integrity Verification (397/85-12-02) Closed

The radiation levels in the reactor water cleanup (RWCU) vault was determined to be from 60 to 200 mr so that the area above the vault should not be considered a high radiation area. At least the radiation levels should not be considered too high for an operator to go into for 5 or 10 minutes to verify that the valves were closed without prior approval by the Plant Operations Committee and the Plant Manager. Proposed TS changes were submitted on April 25, 1985, to except the subject valves from the general surveillance requirement. This item is closed.

One violation was identified in this area (85-11-03).

4. Measuring and Test Equipment (M&TE)

a. Program Review

The quality assurance program for the Control of Measuring and Test Equipment (M&TE) is described in Section 12 of the WPPSS Operational Quality Assurance Program Description Manual and Section 6.5 of Nuclear Operation Standard (NOS) No. 4 in the WPPSS Functional Manual for Nuclear Operation. The inspector reviewed the following procedures in order to determine whether the licensee had established a program consistent with commitments.

(1) WPPSS Plant Procedures Manual (PPM)

- Administrative Procedure No. 1.5.4 Rev. 5, "Control of Measuring and Test Equipment - Transfer Standards"
- Maintenance Administrative Procedure No. 10.1.5 Rev. 6, "Scheduled Maintenance System"

(2) WPPSS Standards Laboratory Instructions (SLI)

- SLI 2-2 Rev. 5, "Master Inventory Record"
- SLI 2-3 Rev. 2, "Recall Master Files"
- SLI 2-6 Rev. 1, "Initial Inspection and Calibration"
- SLI 2-10 Rev. 2, "Labeling (Applying Calibration Stickers)"
- SLI 2-12 Rev. 1, "Out of Tolerance Reporting"
- SLI 2-21 Rev. 0, "Records Management"

In addition to the above procedures, the inspector also reviewed individual procedures pertaining to the calibration of crimpers, Class 1 pressure gauges, colorimeters, hydrometers, and others. The inspector also discussed the program with supervisors responsible for the various requirements of the procedures.

Calibration is accomplished through three methods at the WNP-2 site.

- M&TE is sent offsite to a Standards Laboratory which is located in the Plant Support Center. Most of the M&TE is calibrated at the lab itself but some items are sent to evaluated suppliers to be calibrated. In either case the M&TE is checked and/or calibrated before return to the plant by the Standards Laboratory. Operation of the Standards Laboratory is governed by Standards Lab Instructions (SLI).
- M&TE such as torque wrenches, calipers, micrometers, and dial indicators are calibrated onsite by plant personnel. The

calibration is controlled by PPM 1.5.4, "Control of M&TE", and performed in accordance with the appendices to that procedure.

- M&TE such as hydrometers, crimpers, pressure gauges, and others are calibrated by Chemistry Lab and Instrumentation and Control (I&C) personnel in accordance with procedures in the Plant Procedures Manual. These calibrations and their frequencies are controlled by PPM 10.1.5, "Scheduled Maintenance System."

The inspector concluded that the licensee's QA program for M&TE has provisions that include:

- assignment of responsibilities to assure calibration and control of M&TE,
- criteria and responsibility for assignment of calibration frequency,
- requirements for labeling M&TE with the latest calibration status and due date,
- an equipment inventory matrix which includes all M&TE used on safety-related systems,
- a system to assure that new M&TE are added to the inventory matrix and calibrated prior to being placed in service,
- a system to assure that M&TE are recalled and calibrated before the calibration period has expired,
- controls to preclude inadvertent use of M&TE for which the calibration period has expired,
- controls assuring the acceptability of items previously tested or measured using out-of-calibration M&TE and evaluation of the cause of out-of-calibration status, and
- requirements that calibrations be performed in accordance with procedures, manufacturer's specifications, or written instructions.

The program appears to be adequate to ensure that M&TE calibrated and controlled in accordance with requirements.

b. Implementation

The inspector reviewed M&TE records to assure that equipment usage was properly documented; calibration records were being maintained; and the calibration and usage programs were being controlled in accordance with procedures. The inspector also discussed procedural requirements for the control of M&TE with personnel responsible for the implementation of the requirements and maintenance of the records; including:

- storage of M&TE and records
- check-out procedures (Test Equipment Log)
- daily usage records
- standards laboratory records and reports
- in-plant calibration and records, and
- out-of-calibration analyses (Deficiency Reports)

The inspector reviewed plant QA surveillance reports and corporate QA audits to determine the types of problems that the licensee had experienced and what the corrective actions were. The inspector also discussed the findings of these reports with cognizant QA personnel.

The inspector performed visual inspections of M&TE in use throughout the plant to assure that calibrated equipment was being used. These inspections included M&TE:

- stored in the tool crib
- used in the Standards Laboratory
- used in the Health Physics and Chemistry Laboratory
- used in the various Maintenance Shops, and
- in use in various other areas of the plant

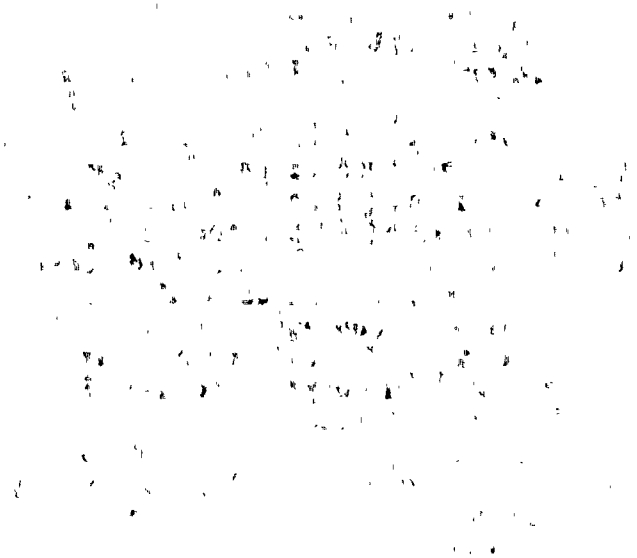
No cases of non-calibrated equipment being used were identified.

Control of M&TE is defined by Administrative Procedure 1.5.4, "Control of Measuring and Test Equipment - Transfer Standards." This procedures sets forth the requirements and responsibilities for control of the usage, storage, records, and calibration of M&TE.

A tool crib has been established for the storage of all M&TE. This tool crib is controlled by a storekeeper who distributes and collects M&TE as it is needed by plant personnel. A Test Equipment Log and a calibration record is maintained in the tool crib files for each piece of M&TE to establish equipment status. The Test Equipment Log must be filled out each time a piece of M&TE is checked out of the tool crib. M&TE must subsequently be checked in on the Test Equipment Log upon return to the tool crib. Daily Usage Records are used to keep an account of the work performed with a piece of M&TE. A Daily Usage Record is filled out each time a piece of M&TE is used to perform a procedure, test, or work request. These records are collected and reviewed by Plant Engineering for use of out-of-calibration M&TE and to perform analyses on data in the event an out-of-calibration condition is identified.

From the review of records, visual inspections, and personnel discussions, the inspector found the following in relation to the control of M&TE that are contrary to the requirements outlined in PPM 1.5.4.

- While inspecting contaminated M&TE stored on the 525 level of the Radwaste Building, the inspector noticed the following overdue-for-calibration test guages being stored together with calibrated equipment:



EQ No.	Calibration Due Date
32048	1/29/85
C002390	8/20/84
C002414	4/12/85
C004247	3/07/85
C004271	4/07/85

AP 1.5.4 Section 6.E.2 states, "A quarantine locker shall be used for all test equipment removed from service or awaiting calibration." A quarantine locker has been established in the tool crib and is being used in accordance with this requirement. However, the Radwaste Building storage area has no quarantine locker and equipment storage is commingled. It is possible that overdue-for-calibration equipment could be used to perform tests.

- While reviewing the overdue-for-calibration report, which is compiled and distributed by the Standards Laboratory, and associated M&TE records, the inspector noted that the following equipment, which were not checked out on the Test Equipment Logs, were missing from the tool crib.

Honeywell Visicorder Plug-ins		PTC Thermometers	
EQ No.	Cal Due Date	EQ No.	Cal Due Date
C001795	11/24/83	35210	2/17/85
41153	5/01/84	35212	2/17/85
C001801	5/01/84	35215	2/17/85
C001803	5/01/84	40359	2/17/85
41156	11/10/84	40360	2/17/85
39260	11/24/84	40851	2/17/85
C001796	11/24/84	41166	2/17/85
C001799	11/24/84	41168	2/17/85
C001802	11/24/84		
C001808	11/24/84		
C001809	11/24/84		
C001811	11/24/84		

None of the items listed above could be located in the plant. Plant personnel believe the Visicorder plug-ins to have been shipped back to the vendor with the visicorder frame. They also believe the PTC Thermometers to be stolen. AP 1.5.4 Section G.E.1 states, "When not checked out, M&TE shall be maintained under controlled storage conditions." The fact that equipment is missing and cannot be found raises doubt as to the adequacy of the control of the storage area (tool crib).

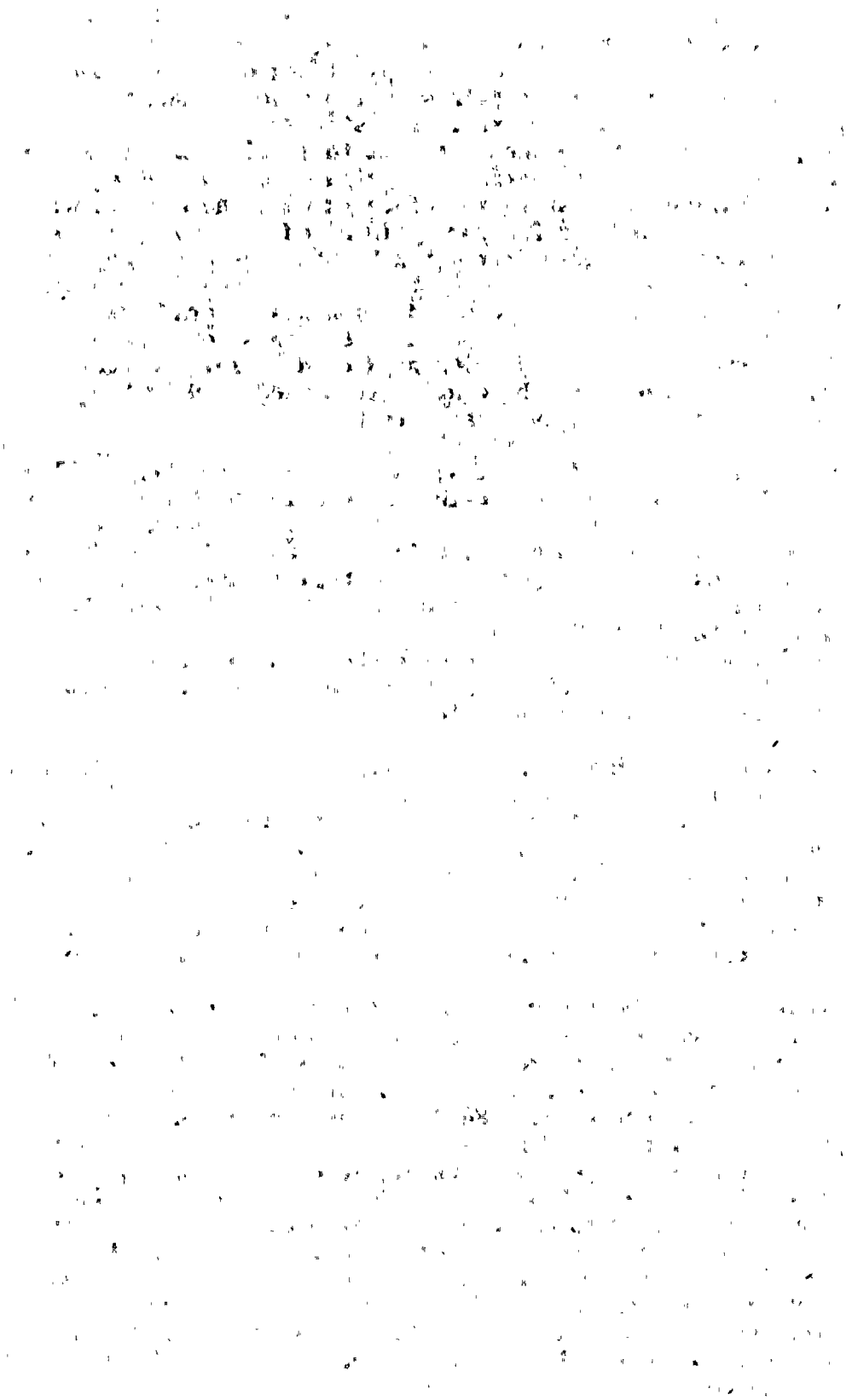
- During the course of the inspection, the inspector noted specific instances of deficient M&TE control in the use of IRD 820 Vibration Monitors. Monitor No. 38131 was signed in on the Test Equipment Log in the tool crib on March 13, 1985, and has not been signed out since. This monitor was subsequently sent to the Standards Lab for calibration and returned to the

mechanical shop on April 14, 1985, without documentation to prove its calibration date. Whereupon it was pressed into service again without a Test Equipment Log or Daily Usage Records being maintained. These actions were taken by personnel other than the tool crib storekeeper who has the responsibility for shipments to the tool crib for calibration. Monitor No. 40928 is continuously signed out to the control room. During the last period of check-out, the monitor was sent to the Standards Lab for calibration. On April 19, 1985, the monitor was returned from the Standards Lab to the mechanical shop where it was put into use. One Foreman stated to the inspector that no documentation was returned with the instrument and that the mechanical shop does not maintain a Test Equipment Log or Daily Usage Records. This monitor is signed out, stored in the control room, and used by the operating crew for surveillance testing.

AP 1.5.4 Section 6.E.3 states, "A Test Equipment Log shall be provided at the M&TE tool cribs for use in checking out or in M&TE." Section 6.F.1 states, "A M&TE Daily Usage Record shall be provided at the M&TE tool cribs with each piece of M&TE as it is checked out for personnel to complete during usage each day. When an individual will no longer need the M&TE (NOT TO EXCEED FIVE CALENDAR DAYS) or at the end of each day, the completed record is returned with the M&TE to its storage site." Without a Test Equipment Log and Daily Usage Records, there is no record of where the instruments were used.

The problems with Test Equipment Logs and Daily Usage Records were not limited to the previously mentioned cases. In at least 31 other cases there were no Test Equipment Log entries for instances when Daily Usage Records were completed (i.e., equipment was used without being checked out). In twelve other cases there were no Daily Usage Records on file for equipment that was checked out on Test Equipment Logs (i.e., equipment was checked out and possibly used without a record of the use).

Problems with the control of M&TE and records were identified in four Plant QA Surveillance Reports over the past nine months. Surveillance Report No. 2-85-018 identified 27 cases where Daily Usage Records were inadequately completed. Surveillance Report No. 2-84-269 identified an instance where a piece of M&TE was used by various personnel during issuance to only one of those personnel (i.e., incomplete Test Equipment Log). Surveillance Report No. 2-84-227 identified twelve instances where M&TE was used without either a Test Equipment Log Entry or Daily Usage Records. Surveillance Report No. 2-84-187 identified thirteen instances where Test Equipment Logs and Daily Usage Records were not completed properly. The corrective action taken in all four cases was to give training sessions to personnel. In one instance (No. 2-84-227), AP 1.54 was revised for clarification (Rev. 5).



From the review of the above mentioned onsite QA surveillance reports, it is clear that management had previous knowledge of the M&TE programmatic breakdown. But, due to the lack of proper management oversite of the surveillances and the corrective actions performed because of their findings, the breakdown was not recognized.

The inspector concluded that M&TE is not being controlled in accordance with the approved procedure (PPM 1.54). Even though no instances were found of equipment being used while out-of-calibration, the lack of control could eventually lead to this occurrence. The Test Equipment Logs and Daily Usage Records are the basis for implementing storage and usage controls for M&TE. Likewise, they provide the basis for the Plant Engineering Reviews for out-of-calibration conditions. Continuing inconsistencies and inaccurate records could lead to incorrect analyses and result in equipment being used while out-of-calibration.

One violation was identified in this area (85-11-04).

5. Surveillances

The licensee's surveillance programs for the station batteries, emergency diesel generators, RHR system and HPCS system were examined; by examining the following surveillance procedures and comparing them with appropriate section of the plant technical specification as identified below:

Station Batteries

7.4.8.2.1.20	Weekly Battery Testing (for eight batteries)
7.4.8.2.1.21	Quarterly Battery Testing (24V batteries)
7.4.8.2.1.22	Quarterly Battery Testing (125V Div. 1/2 batteries)
7.4.8.2.1.23	Quarterly Battery Testing (125V Div. 3 battery)
7.4.8.2.1.24	Quarterly Battery Testing (250V battery)
7.4.8.2.1.12	Eighteen Month Battery Testing (E-BO-1A)
7.4.8.2.1.16	Eighteen Month Battery Testing (E-B1-1)

Plant Technical Specification section 3/4-8, Electrical Power Systems.

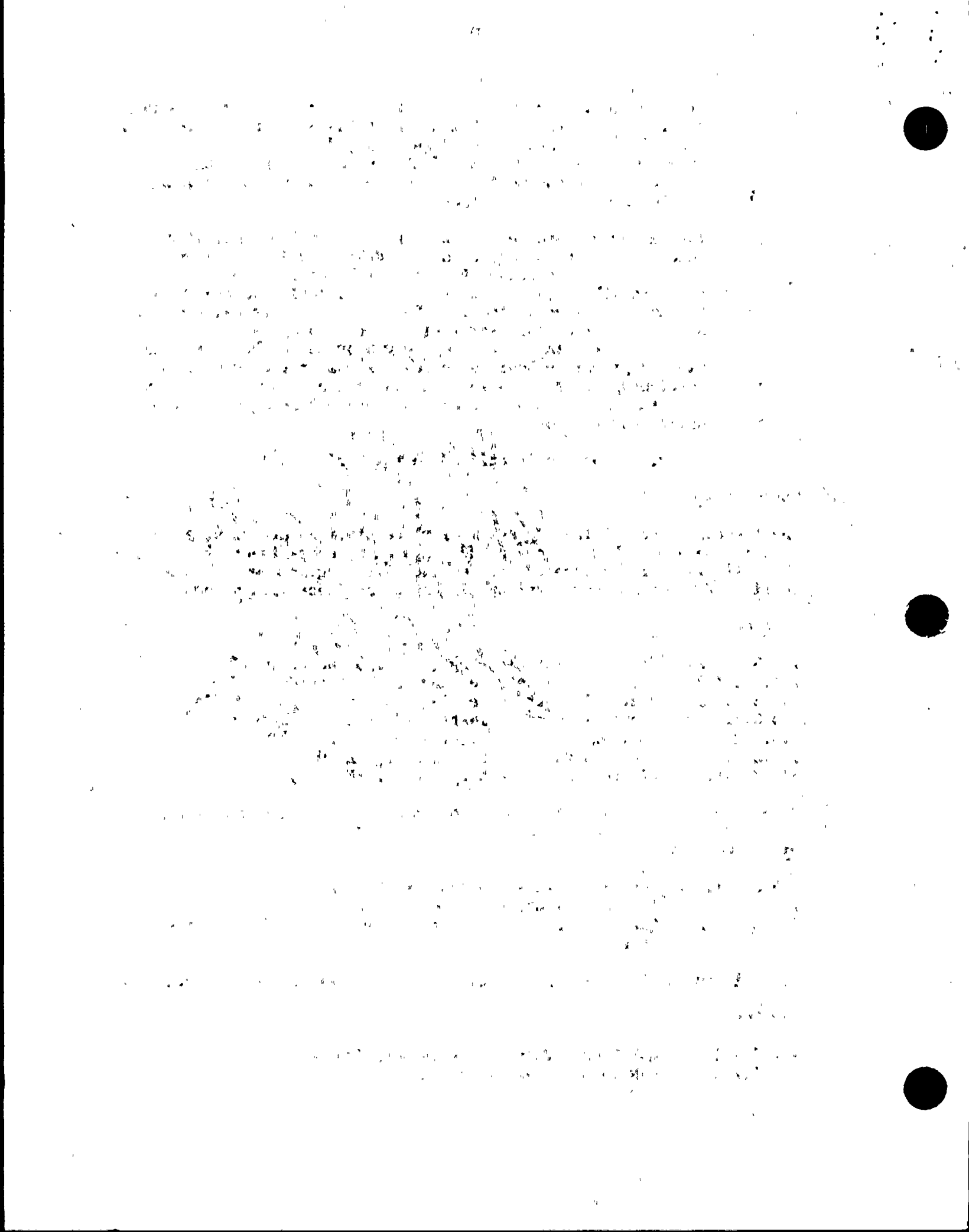
Diesel Generators

7.4.8.1.1.2.1	Monthly Operability Testing, D-G one
7.4.8.1.1.2.6	HPCS Diesel Generator Power Test
7.4.8.1.1.2.3	Quarterly Removal of Water from the D-G, Fuel Storage Tanks.

Plant Technical Specification Section 3/4-8, Electrical Power Systems.

RHR System

7.4.6.2.2.1	RHR System Valve Position Verification
7.4.5.1.8	RHR Loop A Operability Test



7.4.5.1.9 RHR Loop B Operability Test
7.4.5.1.10 RHR Loop C Operability Test

Plant Technical Specifications Section 3/4-5, Emergency Core Cooling Systems and Section 3/4-6, Containment Systems.

HPCS System

7.4.5.1.6 HPCS Valve Lineup
7.4.5.1.11 HPCS System Operability Test

Plant Technical Specifications Section 3/4-5, Emergency Core Cooling Systems.

The effectiveness of the program was evaluated by examining frequency and thoroughness of samples of the above surveillances performed during the past year. It is concluded that the surveillance program appears to be adequate and to function as planned.

No violations or deviations were identified.

6. Maintenance

The licensee's maintenance program was examined by reviewing the following maintenance procedures which describe both the corrective and preventive maintenance programs.

1.3.7 Maintenance Work Request (MWR)
10.1.5 Scheduled Maintenance System
10.1.6 Corrective Maintenance Program
10.25.5 Station Battery Maintenance and Load Test
10.25.18 Setting DSH and DSL Cards on PCP Battery Charger

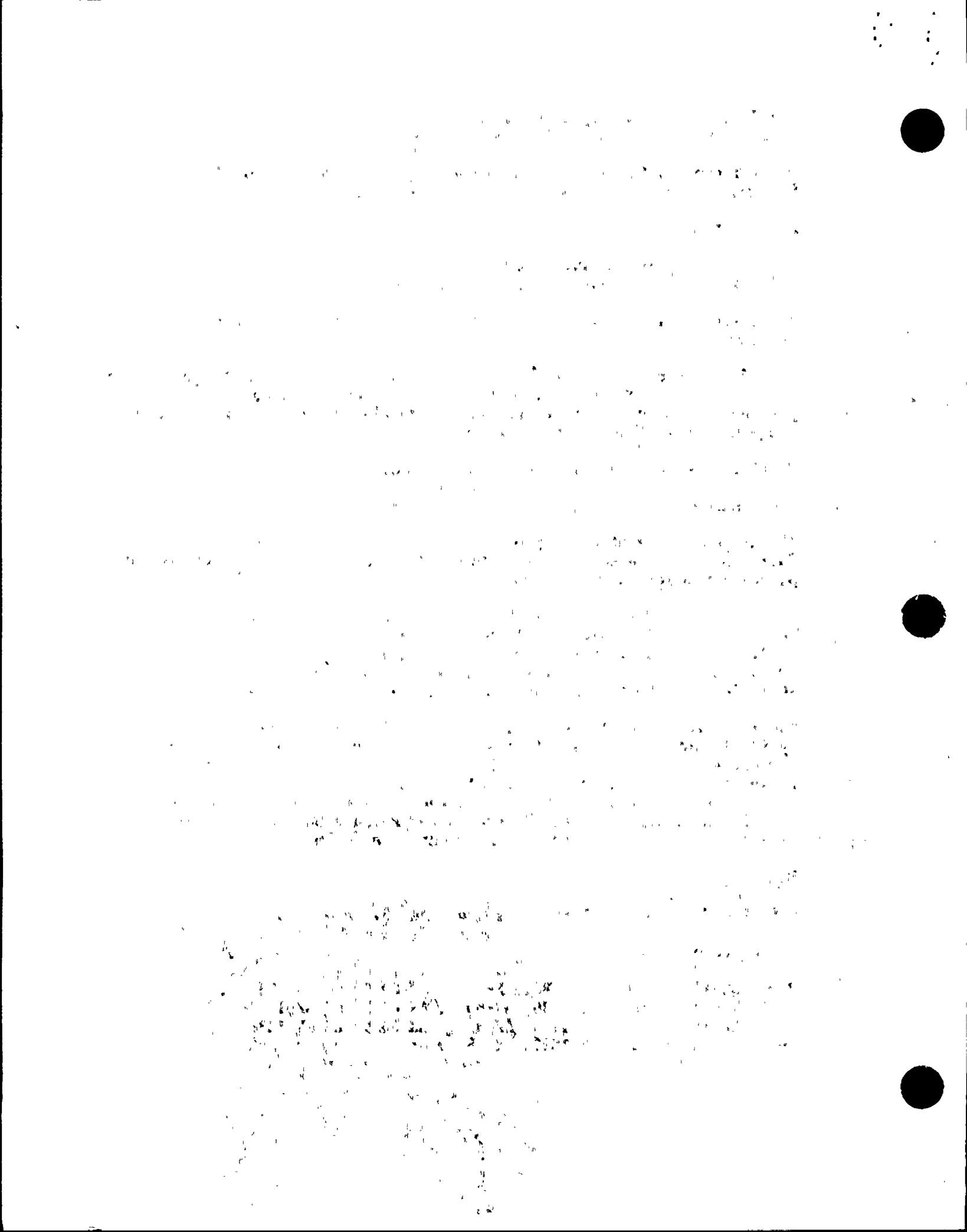
The licensee's computer system, the Power Plant Information Control System (PPICS) as used in the maintenance program was examined. The corrective maintenance program which utilizes the MWR program was reviewed. The following MWRs completed during the past year for performing corrective maintenance on the station batteries, emergency diesel generators, and the RHR pump were examined to determine the effectiveness of the corrective maintenance program.

Batteries

HPSC-B1-DG3 MWR's AX-8604, AY-3749, AW-6871 and AW-6873

Diesel Generators

2-DG-ENG-1A1 MWR's AY-1530, AX-6062, AX-6065 and AX-1237
2-DG-ENG-1A2 MWR's AY-1530, AX-6062, AX-6065 and AX-1238
2-DG-ENG-1B2 MWR's AY-1530, AX-6063, AX-6059 and AX-1238
2-DG-ENG-1C MWR's AY-1822, AY-1824, AX-7267 and AX-1242



RHR Pumps

2-RHR-P-2A MWR's AY-0518, AY-1613, AY-6117, AX-7591, AX-8604, AY-3749
2-RHR-P-2B MWR's AX-8604, AY-4899, AY-3755
2-RHR-P-2C MWR's AY-3749

The computer master equipment list and the Scheduled Maintenance System (SMS) program which typify the control and functionability of the preventive maintenance program were examined.

The review of Procedure 1.3.7, Maintenance Work Request, requires the plant QC Supervisor/Designee to review MWRs to determine the requirements for QC inspections and to review each work process for establishing any necessary QC hold points. However, it appears as though the selection of requiring QC inspections of MWRs is conducted on a random basis. This may be an area of weakness.

To this end the inspector reviewing the QA/QC participation in plant maintenance of plant equipment by examining the following QC inspection reports:

84-024 MWR AY-1566, RHR Pump No. 3
84-057 MWR AY-2954, D-G, Gen. C
84-061 MWR AY-2959, D-G, Engine 1B2
84-085 MWR AY-2961, D-G, Gen. 1A&1B
84-156 MWR AY-5285, RHR Valves 130A&241

The inspector also examined the QA/QC procedure PQA-03, Plant Surveillance Activities and the following QA surveillance reports.

2-83-70 Testing and Startup of Standby D-G Division II
2-83-180 Replacement of Divisions 1 and 2 Batteries and Racks
2-84-218 D-G-GEN-1B, Repair, Installation and Testing
2-85-046 Diesel Fuel Testing

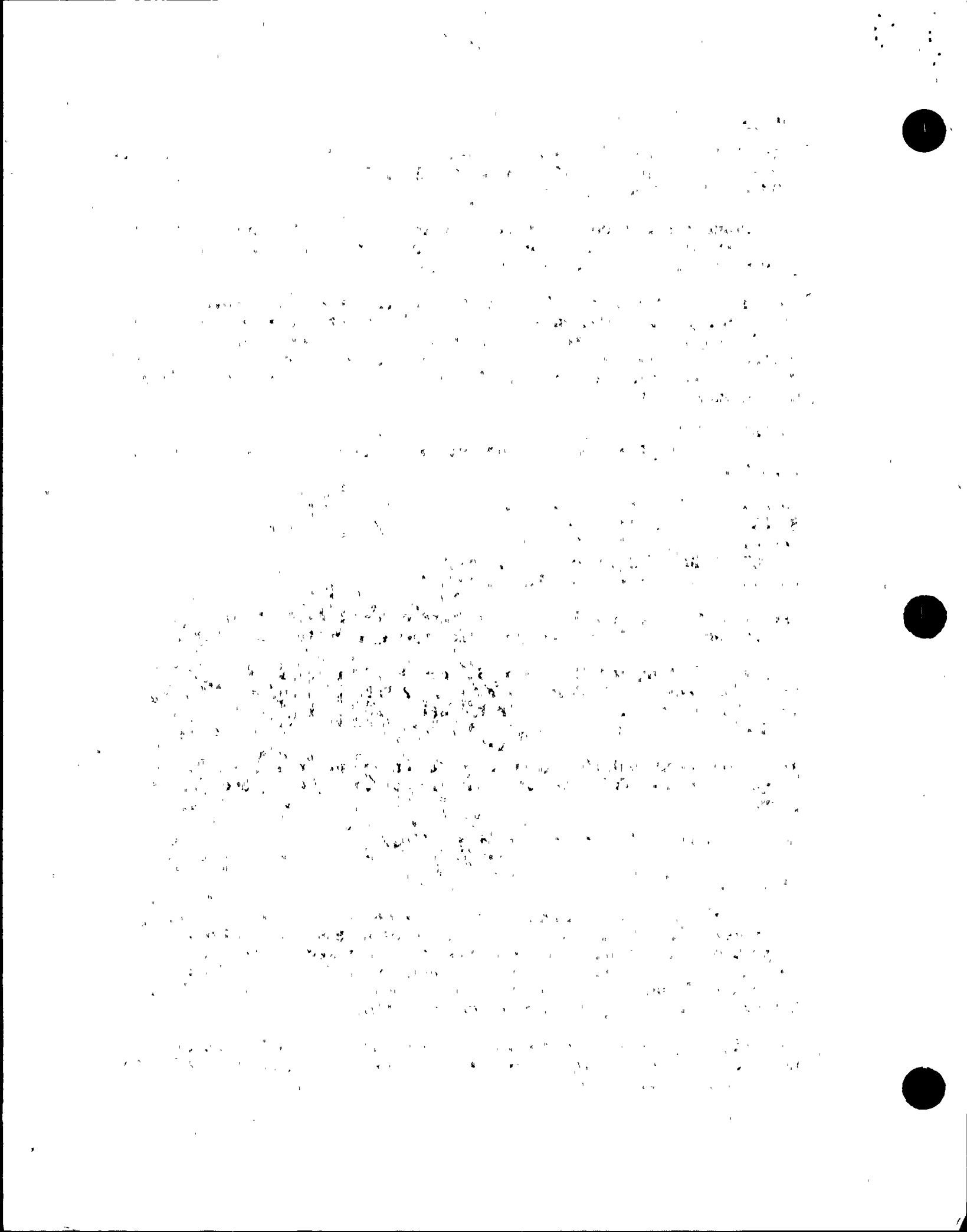
It is concluded that the licensee's maintenance program appears to be adequate and the administrative controls for the program function properly.

No violations or deviations were identified.

7. Station Batteries

The installation of the eight Class 1 station batteries in the battery rooms were inspected; and the performance test results, receiving inspections, maintenance and miscellaneous other records for the batteries were examined to determine their operability. The battery rooms were found to be clean and orderly, and the installation of the batteries and battery racks appeared to be thorough and complete.

The following battery records for the eight Class 1 station batteries were requested by the inspector for examination during Tuesday/Wednesday of the first week of the inspection:



a. Receiving documentation.
b. Manufacture certifications.
c. Manufacture's performance test data.
d. Weekly maintenance records.
e. Quarterly maintenance records.
f. Startup/lineup tests report/results.
g. Pre-Operational test report/results.

The licensee produced the records piece-meal over the two week inspection period with the quarterly maintenance records for Divisions 1 and 2, 125V batteries being delivered for examination, the morning of the scheduled exit meeting, April 26. Also the licensee failed to produce for examination the manufacture's capacity test data period and the weekly maintenance test records (July 1983, September 1983) for Divisions 1 and 2 125V batteries.

The files of battery records presented to the inspector for examination were intermixed with numerous other miscellaneous battery records. It required several hours by licensee personnel to sort out and identify the proper records requested by the inspector before the examination of these records could commence. The inspector noted that the records were in transition between construction and operations for central storage.

Startup/Lineup test results and pre-operational test results were produced for all eight Class 1 station batteries. The pre-operational test included a battery capacity test and load profile test except in the case of 24V batteries. From these test results, the operability of the batteries was determined. The 18 month technical specification surveillance to demonstrate battery operability is scheduled to be performed on the eight Class 1 station batteries during the plant M-3 maintenance shutdown scheduled for May/June 1985.

No violations or deviations were identified.

8. Licensee Program for Action on Operational Event Reports

The inspector examined the administrative controls for review and action on reports of equipment malfunctions at other nuclear facilities. Such reports included NRC Bulletins and Information Notices, INPO event reports, and manufacturer notifications of hardware deficiencies. The inspector examined the review and action records associated with 10 Information Notices, 5 Bulletins, and 22 unresolved actions associated with event reports for the residual heat removal, high pressure core spray, and diesel generator systems, for the 1975 through 1985 period. The inspector also examined three vendor certified information manual files at the plant, which are used by maintenance personnel for repair activities, to ascertain incorporation of information relative to hardware changes resulting from the event report corrective actions.

The Supply System reviews are conducted by the onsite Nuclear Safety Assurance Group (NSAG), staffed by five engineers in accordance with technical specifications. Action on the NSAG recommendations was assigned to the plant Technology Department, or to other parts of the organization as appropriate. The files were found to be orderly and

retrievable via subject with similar items grouped to facilitate correlation of similar issues. A tracking system was maintained to reflect the status of review and corrective actions. Of the 22 unresolved items, the NSAG files indicated significant progress in definition and implementation of most, and the unresolved status appeared to be due to delayed feedback of closure information to the NSAG. Backlogs of reviews were acceptable, and the backlog of action completion by the plant staff appeared reasonable.

Interview of records staff and inspection of vendor certified information files (relative NRC Bulletins 8-16 and 80-09) indicated that information was not included in these maintenance references relative to specific changes in hardware or hardware components. As example, the files did not alert personnel that Rosemont Model 1151/1152 pressure transmitters required Code "E" components to prevent overranging problems, nor that Hydramotor Actuators required special spring material for some applications. As a result a February 1985 revision to the NSAG procedures now calls for consideration of the vendor manual file when conducting a review of event reports. No action had been taken to assure that relevant information from prior reviews is incorporated into the applicable vendor file. The need for such information is variable and peculiar to each specific event report and its associated corrective action (e.g., deletion from the qualified equipment list and total replacements may or may not void the need to supplement a file). The Operational Quality Assurance Manager committed to a review of the NSAG event report files to ascertain if any of the items merit backfit of the vendor files (85-11-05).

No violations or deviations were identified.

9. Design Changes and Modifications

The inspector interviewed personnel and examined the Supply System procedures and instructions for control of design changes and modifications, including the applicable corporate policy statements (NOS-23), Plant Procedures, and Technology Directorate (engineering department) procedures. The inspector examined 16 "Open" and 11 "Closed" Plant Modifications Records (PMRs) and associated Design Change Packages (DCPs), associated with principal safety-related systems (residual heat removal, high pressure core spray, and diesel generators).

The procedures were found to establish control of design change requests, responsibilities and methods of design and design verification, responsibilities and methods of design document control, responsibilities and controls for incorporation of design changes into plant procedures, drawings, and operator training programs, 10 CFR 50.59 evaluations.

The PMR and MWR review found evidence of design verification, definition of installation and test requirements, training/procedures/drawings change evaluations, 10 CFR 50.59 reviews, and general completeness of records. Additionally, the inspector reviewed 150 maintenance work requests in the work queue of the instrument, electrical, and mechanical shops, to identify those originating from PMRs and to assess quality control and testing requirements prescribed by associated PMRs.

The following observations were noted as a result of the above reviews:

a. Definition of Testing Requirements

The corporate policy NOS-23 assigned responsibility to the Site Engineering Manager (Technology Directorate) for specification of testing requirements in the DCP. The DCP is incorporated into the PMR and an implementing Maintenance Work Requests (MWRs) prepared by the Plant Technology Department. The Technology Directorate Procedure TI-2.1 requires the design engineer to specify testing requirements as appropriate, and records show that these have been defined in general form, and implemented by the Plant Technology system engineers during preparation of the MWRs. However, neither the Technology Directorate nor the Plant Technology Department procedures have provided guidance to the engineers to implement certain Operational Quality Assurance Program Description Section 11 "Test Control" requirements, i.e., to incorporate or reference Test Prerequisites, Acceptance/Rejection Criteria, and Responsibilities for Evaluation of Test Data. Furthermore, although Plant Procedure 1.2.2 includes a matrix of minimum content for various types of procedures, it omits the above aspects as applicable to test procedures. This omission was reflected in some MWRs, which included only abbreviated test requirements, where testing was required in addition to that specified by more thorough permanent plant operability verification procedures. No significant deficiencies were noted in the MWRs in this regard, however, the absence of instructions in this area appears to be a weakness in the administrative controls of special testing associated with design changes.

The Administrative Manager committed to Supply System evaluation of the test procedure preparation instructions with respect to the quality assurance program requirements (85-11-06).

b. Prioritization of Quality Control Inspection Activities

Neither the design engineers (in preparation of the DCPs) nor the system engineers (in preparation of the MWRs) specify quality control inspection hold points or other inspection requirements. The quality control organization reviews MWRs and establishes hold points based upon their own review. The MWR records showed that the inspection staff tended to invoke inspections and hold points where prestablished inspection checklists already existed, and tended to not become involved in other activities, some of which appeared to have high safety significance. The inspector cited MWRs AW-0926 and 0934 as examples of work on safety-related diesel generator bearings and speed control logic, where inspection/verification activities might be warranted. Also noted was planned additional work on voltage adjustment potentionmeters, where inadequacies in control of prior maintenance work had resulted in NRC enforcement actions.

The plant Quality Assurance Manager noted that quality assurance department staff were being given additional systems related technical training, which should help sensitize them to the level of

significance of work activities subject to inspection. He committed to management review of quality assurance staff performance in this area (85-11-07).

c. Corporate Review of Plant Modification Proposals

The corporate policy procedure (NOS-23) establishes that any employee may initiate a proposed design change, and that rejection of any such proposal shall be documented with return to the originator. It also requires that the Director of Power Generation shall periodically review the file of rejected PMRs. There was no documented evidence of such a review having been performed since the issuance of the procedure in March 1984, nor any files staff recollection of such a review. The Director of Power Generation stated that he had conducted such reviews shortly after the procedure had been issued, but not recently. (The number of such PMRs appears to be only about 10 per year). This appeared to be one example of a missed opportunity for corporate management to probe into details of the plant administration.

With the consolidation of the Director of Power Generation functions into the position of Assistant Managing Director for Operations, the Deputy Managing Director stated that the policy NOS-23 would be re-examined to assess whether this specific requirement would be retained in its present form (85-11-08).

No violations or deviations were identified.

10. Gaseous and Liquid Effluent Control Program

This portion of the inspection focused on the Technical Specification requirements for measuring and controlling effluent releases.

The following topical areas were examined by review of procedures, selective examination of completed surveillances, observation of work in progress and discussion with licensee personnel. The inspection focused on activities conducted in the last quarter of 1984 and 1985 to date.

Topical Areas

Section	Subject
a	Surveillance Testing Program
b	ODCM Implementation
c	ODCM Changes
d	Semi-Annual Reports
e	Reactor Coolant System Chemistry
f	Instruments
g	Alarm Set Point Calculations
h	Dose Projection Calculations
i	Chemistry Laboratory
j	Audits
k	Radiological Environmental Monitoring Program

l	Independent Effort
m	LER Status

a. Surveillance Testing Program

Procedures to implement TS required surveillances for radiation monitoring instruments and the standby gas treatment system were examined. The inspector verified that procedures exist for each part of TS 4.3.7 and 4.6.5.3; that selected procedures contain acceptance criteria where necessary; that procedures contain adequate guidance to return equipment to operable status; and that the general degree of procedural guidance is adequate.

Procedures examined included:

7.1.1	HP/Chemistry Shift Channel Check;
7.1.2	HP/Chemistry Daily Channel and Source Check;
7.1.3	HP/Chemistry Weekly Iodine, Particulate and Tritium Results;
7.1.4	HP/Chemistry Monthly Source and Channel Check;
7.4.3.7.1.9	Control Room Ventilation Monitor - Channel Functional Test (CFT);
7.4.6.5.3.1	Standby Gas Treatment System Operability Test;
7.4.3.7.12.5	Reactor Building Elevated Release - Noble Gas Monitor - CFT;
7.4.3.7.12.6	Reactor Building Elevated Release - Noble Gas Monitor - Channel Calibration.

In addition to series 7 surveillance procedures, radiological calibrations are performed for effluent monitors according to the series 12 (chemistry procedures). These procedures were also examined.

Based on procedure review, the inspector noted the following items.

Procedure 7.4.6.5.3.2, which provides for TS required flow testing contains different acceptance criteria than TS 4.6.5.3(b)(3). The licensee took immediate corrective action by issuing a procedure change. The inspector verified that the test had not been performed using the wrong criteria and that the system lineup test performed during plant preoperational testing met the TS required flow rate.

The source check procedure 7.1.2 does not contain acceptance criteria. The inspector noted that in one case, the source response could be lower than the normal instrument response. The licensee was aware of this situation and has initiated corrective action. The TS definition of source check does not imply quantitative acceptance criteria are required.

The inspector observed portions of the daily instrument checks and calibration of the liquid effluent monitor. The inspector observed some technicians were not fully knowledgeable of all radiation monitoring system functions. These weaknesses did not appear to

impair the individual's ability to perform channel checks and source checks.

This perceived weakness was identified to licensee representatives.

Regarding radiological calibrations of effluent monitors, procedure 12.13.6, "Reactor Building Elevated Release Effluent Monitor" provides for a radiological transfer calibration of this monitor. The procedure incorporates linearity determinations, adequate acceptance criteria, review of calibration data and provisions for return of the device to operational status. Similar procedures exist for the other gaseous effluent release monitors.

Procedure 12.13.11, "Radwaste Effluent Monitor" provides instruction for a primary calibration as well as secondary source calibration. Calibration for other liquid monitors is provided in similar procedures.

These procedures considered with the instrument procedures for electronic calibration are considered adequate to implement the TS calibration requirement.

No violations or deviations were identified.

b. Offsite Dose Calculation Manual (ODCM) Implementation

Technical Specification 6.8.1.i requires a written program be established, implemented and maintained for ODCM implementation. Plant procedure 1.11.7 sets forth this program. This procedure defines responsibility for the following items required by TS:

- alarm setpoints on effluent monitors;
- limiting liquid effluent concentrations;
- liquid effluent dose calculations;
- liquid radwaste treatment system operability;
- outdoor liquid hold up tank use;
- gaseous effluent dose calculations;
- ventilation exhaust treatment operability;
- total dose, semi-annual report, and ODCM revisions.

Appropriate sections of TS, the ODCM and procedures are referenced in procedure 1.11.7.

The inspector also examined procedures written to implement these program requirements. The inspector verified that written, approved procedures are available to perform the surveillances required by technical specification:

- 4.11.1 Liquid Effluent;
- 4.11.2 Gaseous Effluents;
- 4.11.3 Solid Radioactive Waste.

Procedures examined in this area included the following:

Procedure No.	Title
7.4.11.1.1.1	Determination of Radioactivity in Radioactive Liquid Effluent Waste;
7.4.11.1.2	Cumulative Dose Contributions from Liquid Effluents;
7.4.11.1.1.3	Post Release Analysis from Batch Releases - Quarterly;
7.4.11.1.3.1	Calculation of Dose Due to Liquid Releases... 31 Day Period;
7.4.11.2	Dose Calculations for Air Effluent Radioisotopes...31 Day Dose;
7.4.11.2.1.1	Noble Gas Particulate and Iodine Sample Collection and Analysis;
7.4.11.2.1.2.2	Monthly Gas Grab Samples;
7.4.11.2.1.2.3	Grab Gas Samples Following Shutdown, Startup and Thermal Power Changes;
7.4.11.3.1	Verification of Solidification, Solidification Control and Test Specimens;

Notwithstanding exceptions noted elsewhere in this report, procedures were found generally adequate to implement TS requirements.

No violations or deviations were identified.

c. ODCM Changes

Technical Specification 6.14.2 describes the requirement for reporting licensee initiated changes to the ODCM. ODCM changes made by the licensee and reported in the 1984 semiannual reports were examined.

The inspector noted that seven changes were identified in the 1984 effluent reports.

Technical Specification 6.14.2.a.1, 6.14.2.a.2 and 6.14.2.a.3 states:

1. Sufficiently detailed information to totally support the rationale for the change without benefit of additional or supplemental information. Information submitted should consist of a package of those pages of the ODCM to be changed with each page numbered and provided with an approval and date box,

together with appropriate analyses or evaluations justifying the change(s);

2. A determination that the change will not reduce the accuracy or reliability of dose calculations or setpoint determinations; and

3. Documentation of the fact that the change has been reviewed and found acceptable by the POC.

The changes submitted by the licensee in 1984 were corrections or improvements to the ODCM. Plant Operation Committee (POC) review and approval was described. Supporting information was provided in the change descriptions. The inspector noted that pages submitted as changes were numbered, noted the amendment number and date but did not contain an approval box.

SCN-84-97 and 84-98 changed the ground dose factor for Sr-90 from zero to the value for Y-90 listed in table E-6 of Regulatory Guide 1.109. For this change, no accompanying analyses or evaluations were included in the submittal documenting the appropriateness of using the value for Y-90. In addition, the submittals did not contain the required determination that the changes will not reduce the accuracy or reliability. The inspector identified these matters to a licensee representative in a telephone conversation subsequent to the inspection. The importance of strict adherence to TS requirements was discussed at the exit interview.

d. Semi-Annual Effluent Report

Technical Specification 6.9.1.11 contains a requirement to submit the semi-annual radioactive effluent release report 60 days following January 1 and July 1 of each year. Additional reporting requirements are also contained within that specification. The inspector reviewed reports submitted for 1984 to determine if the reporting requirements of TS and referenced Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in...Effluents...," Revision 1 were satisfied.

The review identified one typographic error which was identified to the licensee. The inspector noted that calculations are based in large part on minimum detectable activity reporting levels. For example for 1984, only Cobalt-58, Zinc-65, Tritium, Sodium-24, Copper-64, and Arsenic-76 exceeded the MDA for liquids.

Reported releases based on MDA values accounted for at least half the liquid activity released. Gaseous effluent releases reported for 1984 were very low, the maximum value being only 0.17 percent of a TS limit.

The inspector examined selected records used in production of the semi-annual reports. Records examined included the following for the fourth quarter of 1984:

Procedure 12.11.1, Data sheet 1a, "Effluent Gas Sample Logs";

Computer printouts prepared by the station radiochemist of weekly and monthly gaseous effluent releases;

Summary of doses from WNP-2 gaseous effluents (monthly);

Procedure 7.4.11.2, attachment, "WNP-2 Gaseous Effluent Monthly Report";

Procedure 7.4.11.1.1.1, "Radioactive Liquid Release Authorization".

Notwithstanding the exceptions noted in Section h of this paragraph, data used for preparation of the semi-annual effluent report calculations was found consistent with plant effluent release data. Techniques used to prepare the semi-annual report were discussed with responsible individuals and found generally acceptable. This inspection only considered selective review of input data for dose projections and reports and did not attempt to validate dose calculation methodology. Validations performed by the licensee are discussed elsewhere in this report.

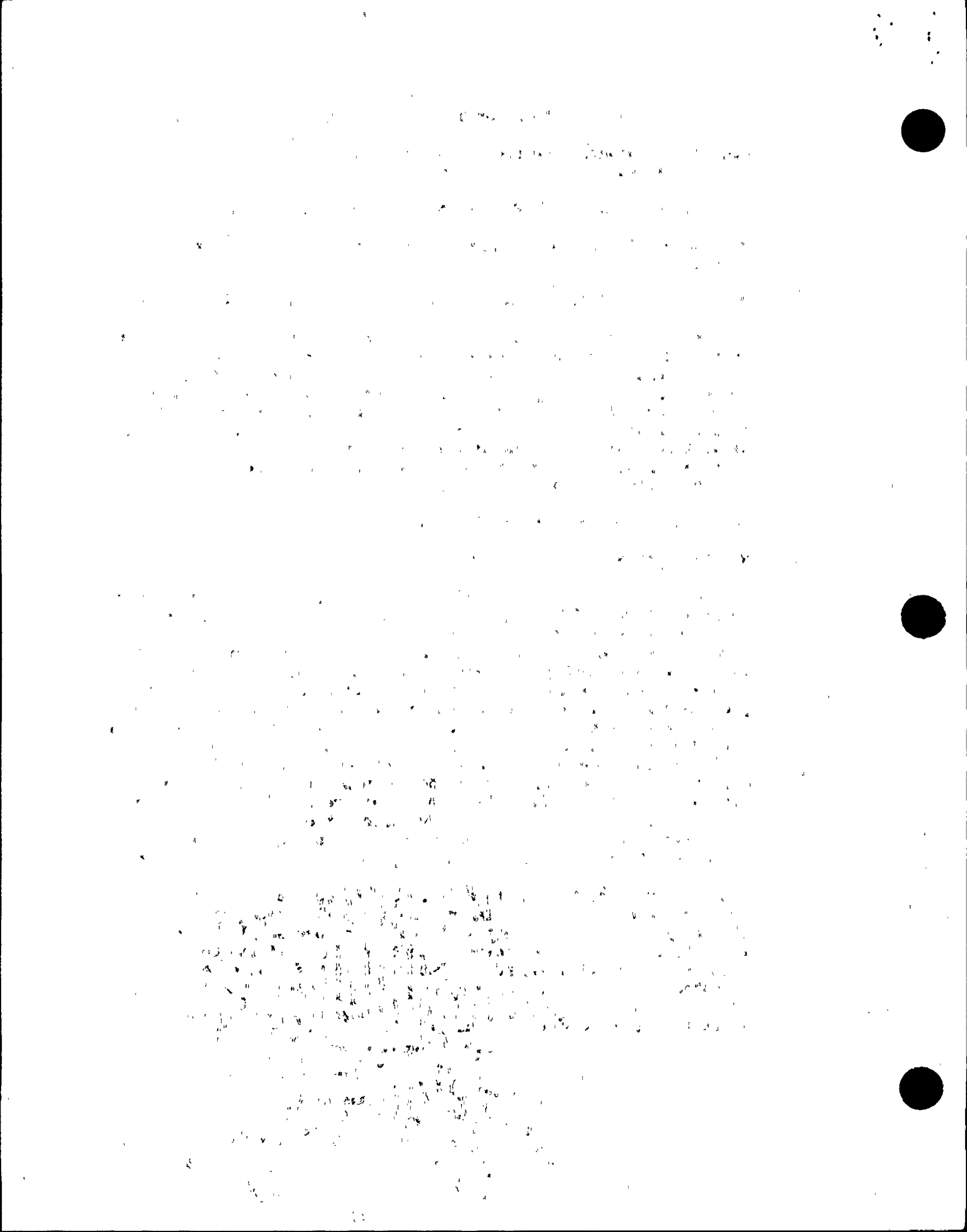
No violations or deviations were identified.

e. Reactor Coolant System Chemistry

The inspector examined selected reactor coolant system surveillances performed to meet TS requirements. The review was conducted by verifying that hydrogen ion concentration (ph), chloride, conductivity and iodine dose equivalent analysis were performed at the required frequency from January 1, 1985 to date, and that parameters were within the TS limits. Performance of surveillance procedure 7.4.11.2.1.2.3 which implements TS requirements to take samples following startups, shutdowns and thermal power changes exceeding 15 percent in one hour was examined. The inspector verified that samples were taken as required for the period January 1, 1984 to date. The inspector noted that this procedure did not identify the fact that samples are required at least once per 24 hours for at least seven days unless the dose equivalent Iodine-131 concentration in coolant or the noble gas monitor effluent activity has not increased by more than a factor of three.

The inspector pointed out to a licensee representative that the procedure did not fully implement the surveillance requirement in that no provision was made to take more than one sample or to check the effluent monitor or iodine concentration. Performance of chemistry surveillances and chemistry control is considered acceptable.

No violations or deviations were identified.



f. Instruments

Maintenance histories and operability records were examined for several effluent monitors. By review of the following documents, the inspector concluded that gaseous effluent monitoring instrumentation operability is acceptable and that surveillances are performed as required by Technical Specification.

PPM	Title
7.1.1	HP/Chemistry Shift Channel Checks, January - April 19, 1985.
7.1.2	HP/Chemistry Daily Channel and Source Check, February - April 19, 1985.
7.1.4	HP/Chemistry Monthly Source and Channel Check, January - April 19, 1985.
7.4.3.7.1.9	Control Room Ventilation Radiation Monitor - Channel Functional Test, January - April 1985.

The inspector also examined computer records of surveillances performed on several instruments in 1984.

The inspector verified for selected instruments that surveillances required are entered in the licensee's master schedule.

Calibration procedures were examined and found acceptable as described in Section 1 of this paragraph.

No violations or deviations were identified.

g. Alarm Setpoint Calculations

Technical Specification 3.11.2.1 sets forth the requirement to control the instantaneous gaseous effluent dose rate. Calculation of alarm setpoints to implement this requirement is described in the licensee's offsite dose calculation manual (ODCM) section 3.6.1, "Calculation of Gaseous Effluent Monitor Alarm Setpoints". This procedure describes three requirements for the calculation:

- monthly isotopic analysis of effluent releases are performed;
- partitioning of releases to the three gaseous effluent release points are considered;
- both skin and whole body dose alarm setpoints will be calculated with the most limiting selected.

The inspector examined the licensee's calculations to verify proper implementation of this requirement. The inspector also examined the licensee's methods for controlling instrument setpoints. The inspector examined similar items for the liquid release point.

No violations or deviations were identified.

h. Dose Projection Calculations

Implementation of TS 6.8.1 was examined by review of the required procedures. PPM 1.11.5, "Quality Assurance Program for Effluent Monitoring" is provided to meet the top tier procedural requirement.

Implementation of PPM 1.11.5, step 1.11.5.3.6.d regarding quality control of effluent monitors states." Independent verification of a substantial fraction of computations are performed by a second individual."

Computations required for effluent monitoring are not defined by procedure 1.11.5. Technical Specification 3/4.11.1 and 3/4.11.2 contain requirements to control, calculate and report releases based upon effluent monitor readings and sample results. These calculations were examined by the inspector. The inspector also examined procedures established to implement these calculations as described in section b of this paragraph.

Calculations to implement TS 3/4.11.1 and 3/4.11.2 are performed by the station radiochemist using the 7.4.11 series of surveillance procedures and various computer programs developed at the station which are run on small computers. These calculations are also performed by Radiological Programs, which is part of the support services organization, at the plant support facility (PSF). Radiological Programs uses NRC approved codes GASPAR and LADTAP to calculate doses to the offsite population. The station performs simpler calculations using the methodology of the offsite dose calculation manual (ODCM). The two techniques produce differing estimates of the same values using the same liquid effluent data and slightly different initial data for noble gas releases. The differences are not significant provided the systems used operate properly but make it difficult to directly compare the results.

Plant procedures directing calculations permit the use of computer programs as a substitute for hand calculations. Review of the procedures involved revealed no quality control instructions when computer programs are used. In addition, PPM 1.11.5 provides no additional guidance in this regard. NRC Regulatory Guide 4.15, Section C.6.4 provides guidance on quality control when computers are utilized.

Section 6.4 states in part, "For computer calculations, the input data should be verified by a knowledgeable individual. All computer programs should be documented and verified before initial routine use.

The inspector attempted to determine if step 1.11.5.3.6.d of PPM 1.11.5 was being implemented with respect to TS 3.11.1 and 3.11.2 calculations.

The following findings were identified which outline deficiencies in this area.

Documentation of the liquid release calculations and two gaseous release calculation programs used during 1984 and 1985 to date were examined. Documentation of marginal quality was available for liquid release calculations. Documentation for the gaseous release calculation programs was not available. The second gaseous effluent release computer program which was recently implemented did have documentation in preparation.

During the inspection, the inspector was not presented satisfactory evidence that independent verification of a substantial fraction of computations were performed by a second individual. Independent verification of overall computational results was performed by a comparison of the results obtained by Radiological Programs independent of those performed by the plant staff. Licensee representatives maintained that these comparisons served to meet the intent of PPM 1.11.5. These comparisons were performed but not formally documented. These comparisons did serve a useful purpose in that several errors in computer programs were identified and corrected.

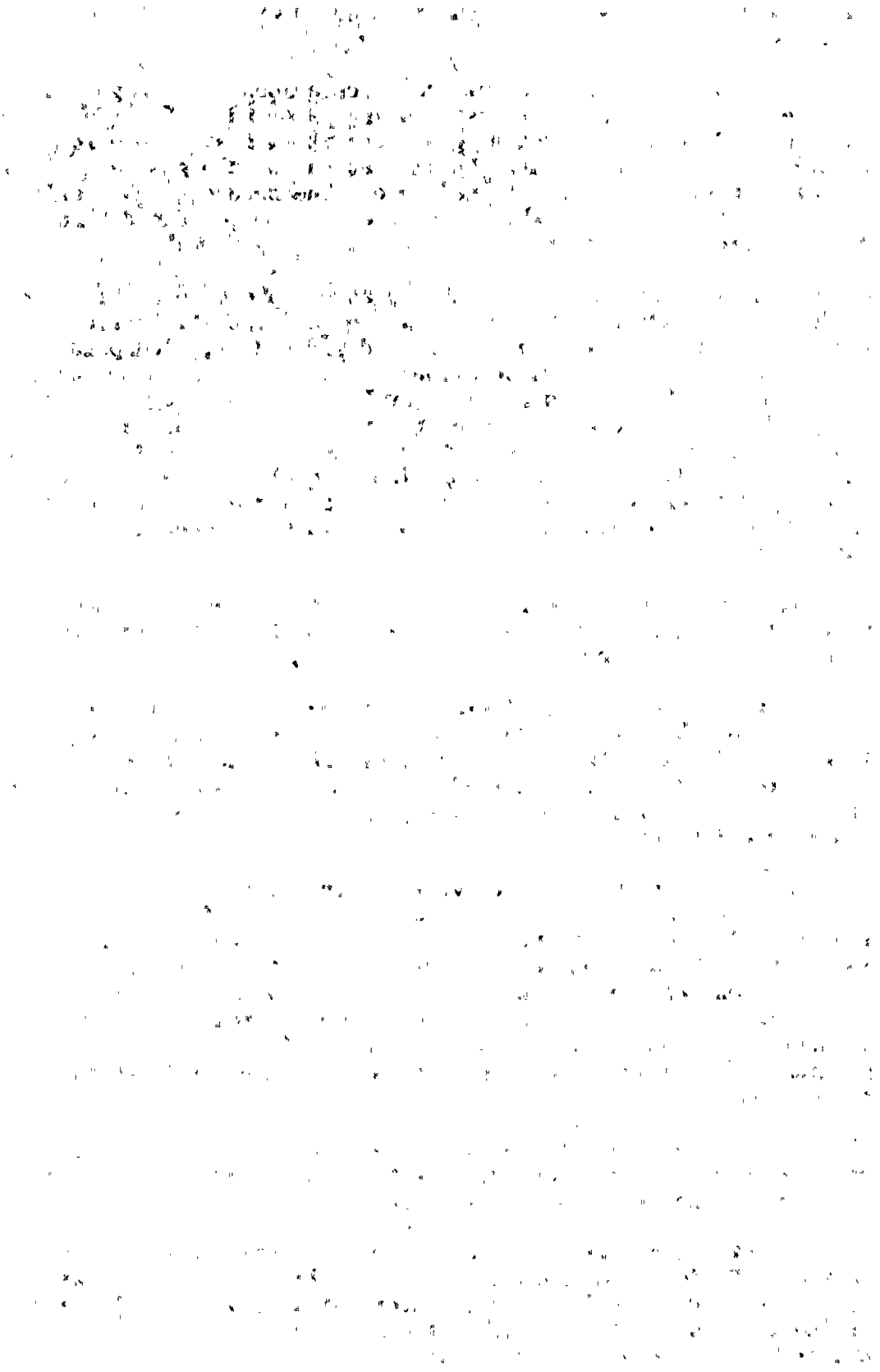
The identification and correction of errors was not documented using plant reporting systems such as problem reports, nonconformance reports or other means.

One error in computer calculations pointed out to the inspector resulted in substantial underestimate of a dose parameter required to be calculated by the TS. This error, while known to the responsible individual, remained unreported for three months. These errors were identified in computer programs in use for performing TS required calculations.

Performance of calculations to verify computer programs were performed to some extent. The inspector was not offered evidence that verification of computer programs was performed by a second individual. Documented tests, containing test computer runs, comparing expected output to actual computer output were not available. These tests were undergoing completion during the inspection period for the second gaseous effluent release computer program. This program was implemented for use prior to completion of the test effort.

The inspector did not attempt to validate the licensee's dose calculations that were performed at the site or by Radiological Programs at the plant support facility.

The inspector did review portions of calculations performed by both parties. Review of monthly data and calculations performed at the plant revealed a problem with computer calculations for the liquid effluent doses. The responsible licensee representative reviewed the problem and took corrective action.



Projected doses for liquid effluent releases calculated by plant staff and by radiological programs were compared for the fourth quarter of 1984. These were found in good agreement on a monthly and quarterly basis.

The inspector compared calculations of release rates and curies released performed by the plant with those performed by radiological programs using the Radiological Effluent Management (REM) program. The inspector identified a problem with these calculations. Investigation by the licensee revealed an error in one equation used in the computer code used by Radiological Programs. The licensee representative assured the inspector that this code had not yet been validated and that this code was not used to perform any of the semi-annual release report calculations.

The inspector noted that written verification packages were available for codes used by radiological programs. Regarding regulatory guide 4.15 section C.6.4 computer data input verification, the licensee representative at the plant stated that computer input data is checked after input with the original data sheets. The inspector noted that this was not a procedural requirement and that no place was provided for any individual to sign-off that such a check had been completed. The inspector could not verify that these checks had been performed.

The licensee has developed computer programs to perform TS required calculations. Failure to adequately document the codes, their validation and the verification of input data represent poor implementation of quality control requirements in this area. Ongoing informal activities have served to identify some problems in this area but these problems have not been appropriately documented. Based on findings identified during the inspection, the licensee was prepared at the exit interview to offer a substantial commitment towards program verification. The commitment offered by the licensee described steps to be taken to document and verify computer codes prior to use. These steps describe an acceptable method of verification.

The following will be examined in a subsequent inspection:

- documentation and verification of programs in use;
- procedural changes to implement this commitment;
- provisions for verification of computer input data;

Based on the licensee's commitment to improve in this area, a notice of deviation from Regulatory Guide 4.15 was considered not appropriate. (Open, 85-11-09).

i. Chemistry Laboratory

The inspector examined implementation of the licensee's laboratory analytical control (LAC) program. Plant procedure 11.2.7 contains the program requirements. The inspector noted that only four key parameters have been implemented for the spike sample program which

each technician is required to perform every six months. These parameters are chloride, silica, organic phosphate and boron. The inspector discussed with licensee representatives the need to consider including more parameters in this program.

Acceptance criteria for the spike sample are calculated using the statistical t-test. Use of this test leads to acceptance criteria of sample mean plus or minus 12 standard deviations. The inspector noted that while statistically valid, this technique did not appear appropriate for plant use and suggested that the acceptance criteria be redefined. The licensee representative agreed to consider this matter.

The inspector noted that no program had been established to trend spike sample results. No requirement exists in this area.

The inspector examined the routine use of standards called for by the LAC. This area was found acceptable.

The inspector noted that no chemistry procedure is available to describe responsibilities for review of work. A plant procedure is available. In addition, some chemistry procedures did not contain provision for supervisory acceptance while others did. This matter was identified to licensee representatives.

The inspector examined the licensee's cross check program which consists of blind samples supplied by a commercial laboratory, the EPA and NRC.

Review of this data revealed that the chemistry lab routinely reported values for Strontium isotopes that were low by more than a factor of 2. In addition, Iron-55 agreement was poor. This was identified in a March 1984 corporate audit. Results of an NRC cross check sample recently completed did not show improvement.

The licensee indicated that they were aware of this problem and had initiated several actions to improve their performance in this area. At the exit interview, the licensee representative committed to provide a written submittal to the NRC describing the plan to improve performance in this area.

j. Audits

Annual audits required by TS 6.5.2.8.j, k, l and m were verified to have been performed or scheduled as required. An audit performed in 1984 to meet the requirement of 6.5.2.8.j and m was examined by the inspector. The audit appeared comprehensive in scope, concerns and quality findings were identified, these were responded to by audited organizations. Corrective actions were examined and accepted by the auditing organization.

The inspector noted that two concerns were independently identified in the course of this inspection. In the case of concern 9, "Records for effluent monitoring are not being consistently logged

and filed in plant records", it appears that the corrective action only addressed NPDES records. Minor problems with other chemistry records were also identified to and discussed with licensee personnel during the inspection.

In the case of concern 14 regarding inter laboratory cross-checks discussed in section h of this paragraph, the corrective action had not been totally effective for Strontium analyses.

An audit of ODCM implementation required on a bi-annual frequency, and the annual audit of quality assurance for effluent and environmental monitoring was being performed during this inspection period. The inspector attended the audit entrance briefing for information purposes.

No violations or deviations were identified.

k. Radiological Environmental Monitoring Program (REMP)

Technical Specification 6.9.1.10 and TS 3/4.12.2 implement the 10 CFR 50 Appendix I.IV.B.1,2&3 requirements to: provide data on releases; provide data on radioactive material in the environment and doses to individuals; and changes in land use in unrestricted areas.

The annual REMP report submitted to meet these requirements was examined. The licensee samples the following media as specified in TS 3/4.12.1 - Table 3.12-1.

Media	Analysis
Environment	Direct Radiation
Air	Particulate, Iodine
Water	Gamma, Gross Beta, Tritium
Soil and Sediment	Gamma
Fish	Gamma
Milk	Gamma, Iodine
Produce	Gamma

Based on examination of the report, submitted April 23, 1985, the inspector concluded that the report was on time and contained information consistent with the requirements of: TS 6.9.1.10; TS 3/4.12.1; and TS 3/4.12.2.

No violations or deviations were identified.

l. Independent Effort

1. Technical Specifications

The inspector identified a potential problem with TS 3/4.11.2.4 Gaseous Radwaste Treatment System. No action is specified if the radiation monitor becomes inoperable while the system is in bypass mode.

This matter was discussed at the exit interview.

2. Dosimetry Staff and Qualification

Qualification of staff performing personnel radiation dosimetry was examined. Technicians involved in this area all exceeded three years experience in health physics. Supervisory and professional technical personnel also had adequate experience. Based upon discussion with personnel, staffing in this area to meet the TLD processing requirements appeared adequate.

m. Licensee Event Report Status

The following LER's are closed based on in office examination by a regionally based inspector.

Number	Event
84-105	Control Room Air Intake Monitor spike
84-089	Scram generated during surveillance testing
84-078	Control Room Air Intake Monitor spikes
84-077	Control Room Air Intake Monitor spike
84-074	Release of wrong tank to environment
84-069	Control Room Air Intake Monitor spike
84-066	Control Room Air Intake Monitor spike
84-063	Control Room Air Intake Monitor spike
84-073	Control Room Emergency Filtration Start on Chlorine Monitor Signal
84-128	Control Room Emergency Filtration Start on Chlorine Monitor Signal
84-30	Control Room Air Intake Monitor spike

The matter of the control room air intake monitor spiking due to induced signals and corrective action taken by the licensee was reported in NRC Inspection Report 50-397/84-28.

No violations or deviations were identified.

11. Training

a. General

The inspector reviewed the organization of the technical training department and the general methods of operation and the status of the maintenance and non-licensed training programs including licensee progress towards achieving INPO accredidation of the training department. The inspector examined the licensee's administrative procedures regarding personnel training to verify that a documented training program had been established consistent with the Technical Specification, FSAR Chapter 13, Regulatory Guide 1.8 Rev. 1-R, and ANSI N18.1 requirements.

The following procedures were reviewed:

- Nuclear Operation Standard (NOS)-5 Rev. 2, "Personnel Training, Qualification and Certification"
- Technical Training Manual:
  - Section 4.1 Rev. 0, "General and Technical Support Training - Program Summaries"
  - Section 4.3 Rev. 0, "WNP-2 Nuclear License Training - Program Summaries"
  - Section 5.3 Rev. 0, "WNP-2 Equipment Operator Training Program Description"
- PPM 1.8.1 Rev. 2, "Training Program Administration"
- PPM 1.8.2 Rev. 4, "General Employee Training"
- PPM 1.8.3 Rev. 2, "Operations Department Training"
- PPM 1.8.4 Rev. 4, "Certification of Plant and Support Contract Personnel"
- PPM 1.8.5 Rev. 3, "Maintenance Department Training"
- PPM 1.8.6 Rev. 1, "Technical Training Department"

The inspector identified that for the replacement of maintenance personnel, a review of past experience and training was not being performed by both the Department Manager and the Plant Training Coordinator as described in FSAR Chapter 13 Section 13.2.2.C, "Requalification and Replacement Training for Other Plant Personnel (Maintenance, HP/Chemistry, Technical)." At present, the licensee department managers have the responsibility for reviewing past experience and training of replacement personnel and determining required training commensurate with job duties. The licensee has committed to review and take actions to correct this conflict.

No violations for deviations were identified.

b. Maintenance Training

The inspector reviewed the licensee training program for maintenance personnel. The inspector's review consisted of discussions with supervisors and personnel responsible for program implementation and a tour of the maintenance training building. The inspector determined that the licensee's maintenance training program required the appropriate training and refresher training commensurate with job duties. The training department consists of many electrical, instrument, and mechanical visual aids to assist the instructor in training. Currently the maintenance training department is

a. Overall the system operating procedures appeared to be adequate for use by properly trained and qualified individuals.

b. Detailed information and quality of the procedures varied. The HPCS procedure was found to be more detailed, informative and consistent with other available documents; than the RHR procedure seemed to include only that information required to accomplish the designated activities.

The inspector indicated to the licensee representatives that the HPCS procedure was more in line with what the inspector considered as a good procedure and the RHR procedure was one of low quality. The inspector also indicated that discussions with responsible personnel indicated differing opinions as to the level of detail expected to be included in a system operating procedure. The licensee indicated that this subject material would be addressed in a timely manner to assure all individuals responsible for preparation, review and approval would be cognizant of managements expectations in this area.

The inspector also directed the licensee attention to a precaution in the RHR procedure which requires the Reactor Operator to hold the pump switch in the stop position during an electrical power interruption when the system is in the shutdown cooling mode of operation. This action is to preclude a water hammer event in case the coolant level in the RHR heat exchanger had dropped. The inspector questioned the practicability and appropriateness of the procedural solution to the potential problem on a long-term basis. The licensee indicated the matter would be evaluated to determine if a design change to the system would be more appropriate to preclude such an event.

c. The procedure for controlling deviations to established plant operating procedures provides that other persons may verify their copies of procedure deviations against the master maintained by the administrative department or the copy in the control room. The inspector observed that the control room copy of deviation forms are not replaced by copies bearing the management signed forms showing that the required subsequent review and approval of the deviation, unless the original was changed in which case, the signed changed form is filed in the control room. The licensee representatives indicated that the matter would be evaluated and necessary measures initiated, if appropriate, to assure that verification of other procedures are against the latest approved revisions.

d. The inspector indicated that procedure form and content description in Chapter 13 of the FSAR may be inconsistent with Chapter 17 (QA Topical Report). The description in Chapter 13 has been incorporated in the plant procedure governing preparation of plant procedures; e.g.

Pursuant to Chapter 13 of the FSAR only surveillance procedures are required to have acceptance criteria. However, all procedures examined included appropriate acceptance criteria as required under

undergoing a job-task-analysis of maintenance personnel as part of the process towards achieving INPO accreditation.

The inspector reviewed on a sample basis individual training files and interviewed a few I&C, technical and instrument technicians. The inspector verified annual general employee training, on-the-job training, formal classroom training, procedure training, industry experience training and prenatal radiation exposure training for female employees.

The inspector attended the general employee training short course and PPM 1.3.7 Rev. 6, "Maintenance Work Request" procedure change training. Appropriate handouts were provided to the students and the instructors appeared to have an adequate knowledge of the subject matters being taught.

No violations or deviations were identified.

c. Non-Licensed Operator Training

The inspector reviewed the licensee's non-Licensed operator training program, spoke with licensee personnel and reviewed training schedules. The inspector also reviewed on a sample basis individual training records for five equipment operators.

Based on this review the inspector concluded the equipment operator training was being conducted in conformance with the licensee's procedure and policies.

No violations or deviations were identified.

12. Plant Procedures

The inspectors examined the following listed system Operating Procedures to ascertain whether or not the procedures were adequate for use by a licensed reactor operator.

- Residual Heat Removal System (RHR), PPM 2.4.2
- High Pressure Core Spray System (HPCS), PPM 2.4.4
- Emergency Standby AC Generator, PPM 2.7.2
- Critical 120V AC Distribution System, PPM 2.7.5
- Uninterruptible Power Supply System, PPM 2.7.4

The inspector's examination included a review of selected drawings; vendor manuals; training material; related abnormal, Emergency and surveillance procedures; and Administrative procedures for preparation, review, approval and use of the plant procedures including approved procedure deviation forms.

Based upon the inspectors review of the above mentioned material and related discussions with responsible licensee personnel the following observation were made to licensee management.

the provisions of the licensee's QA program. The licensee indicated this matter would be examined and assure that appropriate measures are in place to assure compliance with the QA requirements.

e. The inspector examined the caution tags on the reactor control panels. All tags were found to be consistent with plant procedure requirements.

f. The Reactor Operators who interfaced with the inspectors during the examination of the procedures, demonstrated a high proficiency in their knowledge of the plant systems and how the various documents inter-related.

g. An examination of readily accessible valves in the RHR system, revealed that the valves were properly identified and positioned for operation of the reactor at power.

No violations or deviations were identified.

13. Quality Assurance Audit Program

Records and procedures of the Quality Assurance (QA) audit program were examined for the year 1984, and discussions relating thereto were held with QA management and audit personnel. The following observations and findings resulted.

a. Scope and Schedule of Audits

QA audits are scheduled on a calendar year basis. The proposed audit schedule is developed by the QA audit staff, and subsequently presented to the Corporate Nuclear Safety Review Board (CNSRB) for review and discussion prior to approval by management.

During 1984 a total of 14 audits were conducted of activities at WNP-2. The scope of activities subjected to audit included all those which are required by the facility technical specifications to be performed under cognizance of the CNSRB. As such, the scope of audits covers the performance, training and qualifications of WNP-2 operations staff as well as support organizations and the oversight and review committees required of the technical specifications.

b. Qualifications of Audit Personnel

Records of the qualifications of audit personnel were examined and found to be in accordance with applicable industry and regulatory standards for such personnel.

c. Documentation and Resolution of Audit Findings

Reports of QA audits were selectively examined in detail for the year 1984. The reports reflected a well planned and thorough audit process. Deficiencies, when identified within the organizations or activities audited were clearly documented in terms of those

conditions not conforming to licensee imposed or applicable regulatory requirements.

The audit findings were directed to appropriate management levels of the organizations audited for formal (written) response and resolution.

A goal of 120 days, from the time of identification of adverse audit finding to resolution and closeout, has been established by QA management. For the period 1984, the average period for closeout of audit findings was 123 days - closely approaching the goal established. To closeout an audit finding the QA staff carefully evaluates the management written response for adequacy in terms of not only correcting the deficient condition but also steps proposed to prevent recurrence. Records revealed it not unusual for the QA staff to find the initial response to audit findings to be unacceptable, requiring additional response by the management of the organization audited.

After reaching satisfactory resolution in the written response(s) to the audit findings, the QA staff verifies implementation of corrective actions generally through reaudit, prior to final closeout of audit findings.

As a part of each audit the QA staff, in addition to documenting specific adverse findings where applicable, makes a determination of the overall effectiveness of the activity audited. This determination is documented in the report of the audit, thus providing an overall assessment of the effectiveness of activities and organizations audited for senior licensee management.

No violations or deviations from NRC requirements were identified within the QA audit program activities examined. It was concluded that a viable and effective QA audit program had been implemented with regard to operational activities at the WNP-2 facility, and that the program enjoys healthy support of senior licensee management.

No violations or deviations were identified.

14. Exit Meeting

On April 19 and 26, 1985, an exit meeting was conducted with the licensee representatives identified in paragraph A. The inspectors summarized the scope of the inspection and findings as describe in this report. The licensee acknowledged the violations identified in the areas of control of M&TE, the offsite committee, the onsite committee, and primary containment integrity.