APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-285/87-25 License: DPR-40

Docket: 50-285

Licensee: Omaha Public Power District (OPPD)
1623 Harney Street
Omaha, Nebraska 68102

Facility Name: Fort Calhoun Station (FCS)

Inspection At: Fort Calhoun Station, Blair, Nebraska

Inspection Conducted: October 1-31, 1987

Inspector: _____ 11-6-87
P. H. Harrell, Senior Resident Reactor Inspector Date

_____ 11-6-87
T. Reis, Resident Reactor Inspector Date

Approved: _____ 12/2/87
T. F. Westerman, Chief, Project Section B, Division of Reactor Projects Date

Inspection Summary

Inspection Conducted October 1-31, 1987 (Report 50-285/87-25)

Areas Inspected: Routine, unannounced inspection including followup on previously identified items, licensee event report followup, operational safety verification, plant tours, safety-related system walkdowns, monthly maintenance observations, monthly surveillance observations, security observations, radiological protection observations, in-office review of periodic and special reports, review of an allegation related to a rumor that fuel assemblies received just prior to the 1985 refueling outage could not pass receipt inspection requirements, review of the nonlicensed training program, review of the 10 CFR Part 21 program, followup on an onsite event related to the failure of Emergency Diesel Generator 2, and followup on an order for modification of license related to Event V valves.

Results: Within the 15 areas inspected, one violation (failure to take prompt corrective action for identified fire door deficiencies, paragraph 5) was identified.

## DETAILS

1. Persons Contacted

*W. Gates, Plant Manager
C. Brunnert, Supervisor, Operations Quality Assurance
M. Core, Supervisor, Maintenance
T. Dexter, Supervisor, Security
*H. Falhaber, Supervisor, Electrical Engineering, Generating Station Engineering
J. Fisicaro, Supervisor, Nuclear Regulatory and Industry Affairs
*J. Fleuhr, Supervisor, Station Training
J. Foley, Supervisor, I&C and Electrical Field Maintenance
*L. Gundrum, Plant Licensing Engineer
R. Jaworski, Section Manager, Technical Services
J. Kecy, Acting Reactor Engineer
R. Kellogg, Supervisor, Mechanical, Technical Services
J. Lechner, Acting Plant Engineer
D. Munderloh, Supervisor, Nuclear Licensing
T. Patterson, Supervisor, Technical
*A. Richard, Manager, Quality Assurance
*G. Roach, Supervisor, Chemical and Radiation Protection
*R. Scofield, Supervisor, Outage Projects
*D. Trausch, Acting Supervisor, Operations
*S. Willrett, Supervisor, Administrative Services and Security

*Denotes attendance at the monthly exit interview.

The NRC inspectors also contacted other plant personnel, including operators, technicians, and administrative personnel.

2. Followup on Previously Identified Items

(Closed) Severity Level IV Violation 285/8634-02: Failure to properly install fire barrier/security doors.

This violation concerned the failure to provide adequate procedures for the installation of fire barrier/security doors, and the failure to install fire barrier/security doors in accordance with the procedures that were provided.

Three fire barrier and/or security doors were installed contrary to the documented procedures, and the procedures did not provide appropriate quantitative acceptance criteria as related to Underwriter's Laboratory (UL) standards. To summarize, work proceeded past unsigned hold points; work-completed signatures were entered in the procedures, when certain steps had in fact not been completed; and work was verified as completed when a door did not meet all UL standards.

As a result of this violation, the licensee initiated two operations incidents (OI) concerning this event. An OI is an internal licensee document that describes the actions necessary to be completed to provide specific and generic corrective actions for a plant event. OIs 2621 and 2625 required that personnel involved be interviewed and counseled on the importance of adherence to procedures. The door installation problems were corrected via the issuance of maintenance orders (MO) 864475 and 870028. A memorandum was written and circulated to all generating station engineering personnel describing the violation and detailing the reasons for the violation. The memo stressed the importance of procedural compliance, verification of work completion prior to signing work-completed steps, and ensuring that verification of completed procedure steps is performed by an appropriately qualified individual. In an effort to eliminate the lack of quantitative acceptance criteria, the memo stressed that care was warranted when citing a manufacturer or industry standard and that references to a drawing with specific criteria should be provided whenever possible.

The NRC inspector reviewed the actions taken by the licensee and it appeared that the actions corrected the identified problems associated with door installation and will reduce the probability of recurrence of similar problems.

3. Licensee Event Report (LER) Followup

Through direct observation, discussions with licensee personnel, and review of selected records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications (TS).

The LERs listed below are closed:

87-002 Initiation of the ventilation isolation actuation signal (VIAS) due to unknown causes

87-011 Initiation of engineered safeguards features (ESF) due to automatic transfer of Inverter C

87-015 Initiation of ESF due to automatic transfer of Inverter D

87-024 Unplanned actuation of the VIAS caused by Radiation Monitor RM-062

A discussion of the closeout of each LER is provided below:

a. LER 87-002 was issued by the licensee to report an event related to the initiation of the VIAS due to a high reading on RM-062. The

licensee reported, at the time of the event, the plant was in hot shutdown and no activities were in progress that could have caused the RM-062 reading to increase. All systems affected by a VIAS functioned normally.

The licensee reviewed the cause for the high reading and could not determine the reason for the initiation of the VIAS. A review was performed by the NRC inspector, of all activities performed by the licensee, to verify that the followup actions were adequate in attempting to determine the VIAS initiating event. Based on the review performed by the NRC inspector, no problems were identified. It appeared that this event was due to indeterminate reasons. The NRC inspector will look for a recurrence of this event during future LER reviews.

b. LERs 87-011 and 87-015 reported events where partial actuation of engineered safeguards features (ESF) occurred due to the automatic transfer of an inverter from its normal operating mode to its bypass transformer mode, the alternate source of power. During the transfer, the voltage on the inverter bus dropped causing the unblocking of the pressurizer pressure low signal, safety injection actuation signal, containment isolation actuation signal, and VIAS. Unblocking of the above signals caused initiation of the signal circuits; however, since the plant was in a refueling outage, operation of the equipment associated with the signals, except for the VIAS, was not initiated because the equipment was in a pull-to-lock condition, as allowed by the TS. During both events, all equipment associated with the VIAS functioned normally.

To resolve the problem with the inverters, the licensee issued testing procedures in attempt to determine the cause of the voltage drop during transfer from the normal to the backup power supply. The procedures, approved by the plant review committee, were issued as attachments to MOs 872838 and 872768. The procedures were issued to verify that the inverters could transfer from the normal to the backup supply without a degradation of bus voltage. The results of the tests indicated that the inverters would transfer without voltage degradation. The testing did not identify the problem that had been previously experienced.

The NRC inspector reviewed the test procedure and the test results. Based on this review, it appeared that the procedures adequately prescribed a testing method and that the conclusions reached by the licensee accurately reflected the test performed.

Since these events occurred, the licensee experienced additional events where inverters transferred from the normal to the backup supply. In each of these events, no problems occurred due to the transfers. The NRC inspector will look for a recurrence of this event during future LER reviews.

c. LER 87-024 reported an inadvertent actuation of the VIAS during calibration of Radiation Monitor RM-062. The VIAS was initiated when an instrument and control (I&C) technician connected test equipment to the radiation monitor to test the high alarm set point. The test equipment was not reset, so when the technician energized the equipment, a signal was introduced which inadvertently tripped the VIAS. The VIAS system functioned as designed.

Action to prevent recurrence of this event has been performed by issuance of applicable procedure changes. Calibration Procedures CP-050, CP-051, CP-060, CP-061, and CP-062 "Electronic Calibration Procedure," for each plant radiation monitor, were changed to add a precautionary step to require the technicians to verify the test equipment has been reset prior to connection to the monitor.
The NRC inspector reviewed the procedure changes issued by the licensee. Based on the review, it appeared that appropriate action had been taken to correct the cause of this event. It also appeared that the procedure changes will preclude recurrence of this event.

No violations or deviations were identified.

4. Operational Safety Verification

The NRC inspectors conducted reviews and observations of selected activities to verify that facility operations were performed in conformance with the requirements established under 10 CFR, administrative procedures, and the TS. The NRC inspectors made several control room observations to verify the following:

- Proper shift staffing
- Operator adherence to approved procedures and TS requirements
- Operability of reactor protective system and engineered safeguards equipment
- Logs, records, recorder traces, annunciators, panel indications, and switch positions complied with the appropriate requirements
- Proper return to service of components
- MOs initiated for equipment in need of maintenance
- Appropriate conduct of control room and other licensed operators
- Management personnel toured the control room on a regular basis

No violations or deviations were identified.

5. Plant Tours

The NRC inspectors conducted plant tours at various times to assess plant and equipment conditions. The following items were observed during the tours:

- General plant conditions, including operability of standby equipment, were satisfactory.
- Equipment was being maintained in proper condition, without fluid leaks and excessive vibration.
- Plant housekeeping and cleanliness practices were observed, including no fire hazards and the control of combustible material.
- Performance of work activities was in accordance with approved procedures.
- Portable gas cylinders were properly stored to prevent possible missile hazards.
- Tag out of equipment was performed properly.
- Management personnel toured the operating spaces on a regular basis.
- The auxiliary feedwater pumps were not steam bound.

During a tour of the plant on October 20, 1987, the NRC inspector noted that Fire Door 989-9 was unlatched. With the fire door unlatched, the TS fire barrier requirement of Door 989-9 was not met. The NRC inspector latched the fire door.

During four of the previous six inspection periods, March 1 through October 31, 1987, the NRC inspector noted problems related to TS fire barriers being nonfunctional due to unlatched fire doors. On 12 occasions, Fire Doors 1011-1, 989-11, 1007-37, 1007-38, 989-13, 989-9, and 1013-6 were found to be unlatched on one or more occasions. In NRC Inspection Reports 50-285/87-10, issued for the inspection period of April 1987, and 50-285/87-20, issued for the inspection period of July 16 through August 30, 1987, the NRC inspector reported that discussions had been held with licensee management personnel to stress the need for additional attention in the area of maintaining fire barriers in a functional status. Even though the discussions were held, the additional level of management attention was not provided as evidenced by continuing problems in maintaining fire barriers in a functional status.

Criterion XVI of Appendix B to 10 CFR Part 50 states, in part, that measures shall be established to assure that conditions adverse to quality, such as deficiencies, are promptly corrected.

Paragraph 4.1.1 of Section 10.4 of the licensee's Quality Assurance Plan states, in part, that conditions adverse to quality, such as deficiencies, shall be corrected as soon as practicable.

Contrary to the above, the NRC inspector identified 12 deficiencies involving seven fire doors that did not properly latch, thus making the TS fire barrier nonfunctional, and no corrective action was taken by licensee management to correct the identified deficiencies. The deficient fire-door latching mechanisms involved Fire Doors 989-11, 989-13, 989-9, 1011-1, 1007-37, 1007-38, and 1013-6, and were previously identified in NRC Inspection Reports 50-285/87-06, 87-10, 87-15, and 87-20. This is an apparent violation of the failure by licensee management to take corrective actions for problems identified with fire doors. (50-285/8725-01)

Upon notification by the NRC inspector, the licensee adjusted the latch on Fire Door 989-9 and returned the door to a fully functional status. The repair work was completed via MO 874860.

6. Safety-Related System Walkdowns

The NRC inspector walked down accessible portions of the following safety-related systems to verify system operability. Operability was determined by verification of selected valve and switch positions. The systems were walked down using the drawings and procedures noted.

- Containment spray system (Procedure OI-CS-1, Revision 16, and Drawing E-23866-210-130, Revision 37)

- Main steam system (Procedure OI-MS-1, Revision 13, and Drawing 10405-M-253, Revision 46)

- Normal 4160-volt electrical distribution (Procedure OI-EE-1, Checklist A, Revision 10, and USAR Figure 8.1-1, Revision 32)

During the walkdowns, the NRC inspector noted minor discrepancies of an editorial nature between the drawings, procedures, and plant as-built conditions for the selected areas checked. No discrepancies were noted during the walkdown of the containment spray system.

The NRC inspector noted two minor physical deficiencies with plant equipment during the containment spray system walkdown and brought them to the attention of the licensee. MOs were initiated and repairs were completed for the identified deficiencies. The deficiencies were an abnormality with a valve position indicator and a valve exhibiting excessive packing leakage. The deficiencies would not have affected the operation or safe operability of the system.

Minor editorial discrepancies were noted in Procedures OI-MS-1 and OI-EE-1, Checklist A during the walkdown of these systems. None of the

conditions noted affected the operability or safe operation of the systems. Licensee personnel stated that the noted minor discrepancies would be corrected.

No violations or deviations were identified.

7. Monthly Maintenance Observations

The NRC inspectors reviewed and/or observed selected station maintenance activities on safety-related systems and components to verify the maintenance was conducted in accordance with approved procedures, regulatory requirements, and the TS. The following items were considered during the reviews and/or observations:

- The TS limiting conditions for operation were met while systems or components were removed from service.
- Approvals were obtained prior to initiating the work.
- Activities were accomplished using approved MOs and were inspected, as applicable.
- Functional testing and/or calibrations were performed prior to returning components or systems to service.
- Quality control records were maintained.
- Activities were accomplished by qualified personnel.
- Parts and materials used were properly certified.
- Radiological and fire prevention controls were implemented.

The NRC inspectors reviewed and/or observed the following maintenance activities:

- Repair of a charging pump power supply breaker (MO 874749)
- Repair of a leaking flange on the component cooling water system (MO 873956)
- Replacement of the motor on RM-057 (MO 873891)
- Repair of an oil recirculation pump on an emergency diesel generator (MO 873869)
- Repair of fire doors (MO 864475 and 870028)
- Testing of Inverters C and D (MO 872768 and 872838)
- Repair of Fire Door 989-9 (MO 874860)

. Correction of labeling in auxiliary feedwater cabinet (MO 874709)

No violations or deviations were identified.

8. Monthly Surveillance Observations

The NRC inspectors observed selected portions of the performance of and/or reviewed completed documentation for the TS required surveillance testing on safety-related systems and components. The NRC inspectors verified the following items during the testing:

. Testing was performed by qualified personnel using approved procedures.

. Test instrumentation was calibrated.

. The TS limiting conditions for operation were met.

. Removal and restoration of the affected system and/or component were accomplished.

. Test results conformed with TS and procedure requirements.

. Test results were reviewed by personnel other than the individual directing the test.

. Deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The NRC inspectors observed and/or reviewed the documentation for the following surveillance test activities. The procedures used for the test activities are noted in parenthesis.

. Automatic initiation of the auxiliary feedwater system (ST-FW-3)

. Inservice inspection of a raw water pump (ST-ISI-RW-3)

. Monthly inspection of a station battery (ST-DC-1)

. Auxiliary feedwater pump steam supply valve inservice inspection (ST-ISI-MS-1)

. Monthly inspection of the diesel fire pump battery (ST-FP-2)

During the observation of the performance of ST-FW-3, the NRC inspector noted that test circuit jacks were incorrectly labeled in the test cabinets. The I&C technician performing the test was aware the jacks were improperly labeled and was able to perform the test correctly. The

labeling deficiencies were corrected via MO 874709. The revised labeling was reinspected by the NRC inspector and found to be satisfactory.

No violations or deviations were identified.

9. Security Observations

The NRC inspectors verified the physical security plan was being implemented by selected observation of the following items:

- The security organization was properly manned.
- Personnel within the protected area (PA) displayed their identification badges.
- Vehicles were properly authorized, searched, and escorted or controlled within the PA.
- Persons and packages were properly cleared and checked before entry into the PA was permitted.
- The effectiveness of the security program was maintained when security equipment failure or impairment required compensatory measures to be employed.
- The PA barrier was maintained and the isolation zone kept free of transient material.
- The vital area barriers were maintained and not compromised by breaches or weaknesses.
- Illumination in the PA was adequate to observe the appropriate areas at night.
- Security monitors at the secondary and central alarm stations were functioning properly for assessment of possible intrusions.

No violations or deviations were identified.

10. Radiological Protection Observations

The NRC inspectors verified that selected activities of the licensee's radiological protection program were implemented in conformance with the facility policies and procedures and in compliance with regulatory requirements. The activities listed below were observed and/or reviewed:

- Health physics (HP) supervisory personnel conducted plant tours to check on activities in progress.
- Radiation work permits contained the appropriate information to ensure work was performed in a safe and controlled manner.

- Personnel in radiation controlled areas (RCA) were wearing the required personnel monitoring equipment and protective clothing.

- Radiation and/or contaminated areas were properly posted and controlled based on the activity levels within the area.

- Personnel properly frisked prior to exiting an RCA.

- Personnel were aware of and actively participated in the as low as reasonable achievable (ALARA) program.

The licensee did not meet its 1987 exposure goal of 345 man-rem. Current exposure on self-reading dosimeters is 442 man-rem and data available through the end of August 1987 accounted for 370 man-rem on thermoluminescent dosimeters. The ALARA exposure goal was derived from a 5-year commitment to the Institute of Nuclear Power Operations (INPO) and data available from previous outages. The exposure goal was set prior to completion of the refueling outage maintenance schedule and appeared not to have been formulated with the appropriate input to make it an achievable goal.

The licensee was making efforts to improve ALARA goal setting in the future. The former ALARA coordinator had been transferred to outage scheduling. His experience in man-rem estimates and reduction methods should assist in establishing more realistic ALARA goals in the future.

No violations or deviations were identified.

11. In-office Review of Periodic and Special Reports

In-office review of periodic and special reports was performed by the NRC resident inspectors and/or the Fort Calhoun project inspector to verify the following, as appropriate:

- Reports included the information required by appropriate NRC requirements.

- Test results and supporting information were consistent with design predictions and specifications.

- Determination that planned corrective actions were adequate for resolution of identified problems.

- Determination as to whether any information contained in the report should be classified as an abnormal occurrence.

The NRC inspectors reviewed the following:

- September monthly operating report, dated October 13, 1987

- Monthly operations report for September 1987, undated

- Additional information on the Fort Calhoun internals vibration monitoring system, dated October 13, 1987

No violations or deviations were identified.

12. Review of an Allegation (Reference 4-86-A-127)

The NRC inspector reviewed an allegation related to a rumor that the fuel assemblies received just prior to the 1985 refueling outage could not pass the established quality control inspections. A prior review was performed into the structural integrity of the fuel and was documented in NRC Inspection Report 50-285/87-20.

The purpose of this portion of the allegation followup was to review the fuel receipt inspection records generated when the fuel was received on site. The NRC inspector performed the following:

- Review of Procedure SP-NFR-1, "New Fuel Receipt," to verify that receipt inspection requirements were clearly established.

- Verification that the individual performing the inspection was qualified per the licensee's established program.

- The receipt inspection records were completed in accordance with the established requirements in Procedure SP-NFR-1.

- Any anomolies noted during receipt inspection activities were properly dispositioned by the appropriate personnel.

The review performed by the NRC inspector revealed that the receipt inspection records had been satisfactorily completed by qualified personnel. Inspection of each fuel bundle included a verification by a qualified licensee individual and by a representative of the fuel supplier, Exxon Nuclear Company (ENC), that the bundle met established requirements. During inspection of the fuel assemblies, licensee personnel noted that 4 of the 44 bundles received had minor problems (e.g., bent tab and white residue on a fuel pin). In each case, the documentation indicated that a qualified licensee individual and the ENC representative had reviewed the identified problems and had determined that the fuel bundles were acceptable.

Based on the documentation reviewed by the NRC inspector, it appeared that the fuel bundles were properly receipt inspected and all identified anomolies were properly dispositioned.

No violations or deviations were identified.

13. Nonlicensed Training Program

The NRC inspector reviewed the nonlicensed staff training program to verify the program was being implemented in accordance with the

requirements of Section 5 of the ... Chapter 12 of the Updated Safety Analysis Report and ANSI 3.1-1978. ...e review included examination of training records and discussions with licensee personnel. The review also included verification that selected personnel met the experience requirements for the position held as defined by ANSI 3.1. In the selected cases reviewed, personnel qualifications exceeded the appropriate requirements.

The licensee recently revised the nonlicensed training programs as part of an effort to achieve INPO accreditation for the overall program. The revised training programs employ INPO concepts of performance-based training and the licensee was pursuing an INPO review for accreditation. The review was scheduled for the first quarter of 1988.

The NRC inspector reviewed the following training program master plans (TPMP) to verify that the appropriate requirements had been implemented.

| Plan Designation | Title |
|---|---|
| STA-TPMP | Shift Technical Advisor-Training Program Master Plan |
| AON-TPMP | Auxiliary Operator Nuclear-Training Program Master Plan |
| RP-TPMP | Radiation Protection Technician-Training Program Master Plan |
| EON-TPMP | Equipment Operator Nuclear-Training Program Master Plan |
| I&C-TPMP | Instrumentation and Controls-Training Program Master Plan |

Based on the review performed, it appeared that the licensee had implemented comprehensive and effective training programs for nonlicensed staff personnel.

No violations or deviations were identified.

14. Review of the 10 CFR Part 21 Program

This review was continued from a review that was initiated during the previous inspection period. The previous review was documented in NRC Inspection Report 50-285/87-24.

The NRC inspector reviewed a selected sample of the available documentation for evaluations performed by the licensee for self-identified conditions, deviations, or circumstances. Based on this review, it appeared that the licensee was performing an adequate review.

The NRC inspector also reviewed evaluations performed by the licensee for deviations, conditions, or circumstances identified by users, vendors, or suppliers. The evaluations were performed to determine the applicability of the identified problem to the safe operation of the facility. The evaluations reviewed by the NRC inspector are listed below:

| User, Vendor, or Supplier | Subject |
|---|---|
| Valcor Valves | Failure of valve springs |
| Validyne | Component failures in transducers |
| Georgia Power | Failure of springs in Valcor valves |
| Promatec | Defective fire barrier seals |
| Northeast Utilities | Cracks in charging pump blocks |
| Foxboro | N-E11 and N-E13 transmitter deficiencies |
| Airco | Defective weld electrodes |
| Seimens-Allis Engineering | Defective reactor coolant pump antirotation device |
| Atwood and Morrill | Defective stationary sleeves on main steam isolation valves |
| Niagara Mohawk | Improper electrical manhole duct seal design |
| Automatic Valve | Degradation of aluminum valves using Houghto 620 lubricant |
| Automatic Sprinkler Company | Model C valves and Mercury check devices failed to open |
| Isomedix | Measurement tolerance concerns on dose and dose rates for qualification tests |
| Arizona Nuclear Power Project | Fire in emergency diesel engine injector |
| Basler Electric | Cracking of O-rings on Fairbanks-Morse diesel engines |
| Cooper-Bessemer | Internal failure of an emergency diesel engine |

| | |
|---|---|
| Vermont Yankee | Defective spring packs in Limitorque valves |
| SOR | Gas bubbles in pressure switches |
| Bechtel | Pipe support tolerance and installation procedures |
| Public Service of Colorado | Deficiencies with air-start motors on an emergency diesel engine |

The NRC inspector noted that the following Part 21 reports provided by users, vendors, and suppliers were still under review by the licensee:

| User, Vendor, or Supplier | Subject |
|---|---|
| TEC | Defective Model 914-1 valve flow monitors |
| Virginia Electric | Defective Inland Steel Company products |
| Foxboro | Defective E-line and H-line instruments |
| General Electric | HFA armature binding |
| Gibbs and Hill | Qualification of the containment recirculation line |
| Niagara Mohawk | Improper seating of Agastat GP Series relays |
| Toledo Edison | Inadequate instructions for maintaining torque balance switches |
| Indiana Electric | Defective parts supplied for an auxiliary feedwater pump |
| Sacramento Municipal Utilities District | Warping of Limitorque limit switch rotors |
| Foxboro | Defective SPEC 200 current-to-voltage cards |
| Morrison-Knudsen | Failures in 125-volt relays |

The NRC inspector reviewed approximately 30 purchase orders to verify that the licensee had included the requirements of Part 21, as appropriate. No examples were noted where Part 21 wasn't appropriately included.

During an inspection performed in January 1987 the NRC inspector noted two areas where the licensee needed to provide additional attention. The two areas are discussed below:

- The licensee was not providing training in the area of Part 21 for licensee personnel. The licensee established a training program for appropriate personnel, including training during general employee training and retraining classes.

- The licensee had not established an internal tracking system for ensuring Part 21 reports were being reviewed. The licensee implemented a tracking system to establish documentation that Part 21 reports have been received and that an appropriate review had been completed.

Based on the review performed by the NRC inspector, it appeared that the licensee had established a program for effectively reviewing Part 21 reports and taking action, when necessary.

No violations or deviations were identified.

15. Followup on an Onsite Event

During this inspection period, the NRC inspectors continued to followup on an onsite event that occurred on September 23, 1987. The event was the failure of Emergency Diesel Generator 2 to perform its intended safety function during surveillance testing. The diesel failure was caused by water entering the instrument air system on July 6, 1987.

The details of the followup are provided in NRC Inspection Report 50-285/87-27.

16. Review of Licensee Actions Related to an Order for Modification of License

On April 20, 1981, an order for modification of license was issued by the NRC. The Order was related to the requirement for establishment of a TS amendment for testing of valves of an Event V configuration. Valves of an Event V configuration are those valves located in high pressure/low pressure system boundaries which provide the potential for an intersystem loss-of-coolant accident.

The NRC inspector performed the reviews listed below to verify that the licensee had properly implemented the requirements of the Order. These reviews are in addition to previous reviews performed and documented in NRC Inspection Report 50-285/86-03.

- A TS was implemented in accordance with the requirements of the Order.

- Test procedures were established to implement the requirements of the TS.

- The test procedures provided an acceptable test method.

- Test data for past testing activities indicated results within the established TS acceptance criteria.

The NRC inspector reviewed the TS manual and noted that the licensee had submitted and received approval from the NRC, of a TS amendment to include the requirements stated in the Order. TS 2.1.1(12) appropriately implemented the requirements of the Order by specifying the valves that requiring testing and the acceptance criteria for valve leakage rates.

The licensee issued Procedures ST-CV-1, "Leak Test of HPSI System Secondary Check Valves" for high-pressure safety injection (HPSI) Check Valves SI-195, SI-198, SI-201, and SI-204, and ST-CV-2, "Leak Test of LPSI System Secondary Check Valves," for low-pressure safety injection (LPSI) Check Valves SI-194, SI-197, SI-200, and SI-203 to implement the requirements of TS 2.1.1(12). The NRC inspector reviewed Procedures ST-CV-1 and ST-CV-2, and determined that they contained the following elements:

- The procedures specified that each check valve be tested individually in lieu of being tested in pairs.

- The testing frequency specified was the same as required by the TS.

- As-found leakage was recorded.

- Leakage rate adjustments were made to correct the data obtained during testing pressures to a differential pressure of 2100 psid which is experienced during plant operations.

- Evaluations of the data were reviewed to verify compliance with established TS acceptance criteria.

The NRC inspector reviewed selected tests completed in accordance with the requirements of Procedures ST-CV-1 and ST-CV-2. The review indicated that the leakage rate through each of the check valves was a maximum of 2.0 gallons per minute (gpm). This value is within the acceptable limits for leakage as specified in the TS.

The plant has an installed leakage system that continually monitors the backflow through combined injection flow Check Valves SI-216, SI-220, SI-208, and SI-212. The combined injection flow through the check valves includes HPSI, LPSI, and flow from the safety injection tanks. This leakage monitoring system contains a flow meter and necessary valves to

determine the amount and source of leakage from any of the four check valves. The licensee logs the value of the leakage on the control room logs and monitors the system for any abnormal conditions.

The NRC inspector reviewed a selected sample of the control room logs and noted that the reading for the total combined flow from the four check valves has been consistently less than 0.5 gpm. This is within the acceptable limits as specified by the TS.

Based on the reviews performed by the NRC inspector, as discussed above, it appeared that the licensee had properly implemented a leakage testing program that complied with the Order. A review of the test results obtained by the licensee indicated that the Event V valves continued to perform their intended safety function by meeting the acceptance criteria specified in the TS.

No violations or deviations were identified.

17. Exit Interview

The NRC inspectors met with Mr. W. G. Gates (Plant Manager) and other members of the licensee staff at the end of this inspection. At this meeting, the NRC inspectors summarized the scope of the inspection and the findings.