

(DCS Numbers - see attached sheet)

U.S. NUCLEAR REGULATORY COMMISSION  
OFFICE OF INSPECTION AND ENFORCEMENT

REGION I

Report Nos. 50-272/82-06  
50-311/82-05

Docket Nos. 50-272  
50-311

License Nos. DPR-70  
DPR-75

Licensee: Public Service Electric and Gas Company  
80 Park Plaza  
Newark, New Jersey 07101

Facility Name: Salem Nuclear Generating Station - Units 1 and 2

Inspection At: Hancocks Bridge, New Jersey

Inspection Conducted: February 9 - March 8, 1982

Inspectors: *L. J. Norrholm* 3/11/82  
L. J. Norrholm, Senior Resident Inspector date

*R. Summers* 3/11/82  
R. Summers, Resident Reactor Inspector date

Approved By: *E. G. Greenman* 3/12/82  
E. G. Greenman, Chief, Reactor Projects Section No. 2A, date  
Projects Branch No. 2, DPRP

Inspection Summary:

Inspections on February 9 - March 8, 1982 (Combined Report Numbers 50-272/82-06 and 50-311/82-05)

Unit 1 Areas Inspected: Routine inspections by the resident inspectors of plant operations including tours of the facility; conformance with Technical Specifications and operating parameters; log and record reviews; reviews of licensee events; and followup on previous inspection items. The inspection involved 66 inspector hours by the resident NRC inspectors.

Results: One item of noncompliance was identified (Failure to apply for timely operator license renewal - Paragraph 10 b).

Unit 2 Areas Inspected: Routine inspections by the resident inspectors of plant operations including tours of the facility; conformance with Technical Specifications and operating parameters; log and record reviews; reviews of licensee events; and followup on previous inspection items. The inspection involved 72 inspector hours by the resident NRC inspectors.

Results: One item of noncompliance was identified (Failure to post fire watches at open penetrations - Paragraph 4 d).

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Report Nos. 50-272/82-06 and 50-311/82-05 DCS Nos.:

050272-811108	050311-811110
050272-811120	050311-811111
050272-811124	050311-811113
050272-811128	050311-811117
050272-811130	050311-811118
050272-811206	050311-811119
050272-811208	050311-811122
050272-811222	050311-811123
050272-811226	050311-811207
050272-811228	050311-811209
050272-811229	050311-811212
	050311-811215
050272-820106	050311-811217
050272-820107	050311-811219
050272-820109	050311-811221
050272-820113	050311-811222
050272-820119	050311-811228
050272-820131	
	050311-820110
	050311-820111
	050311-820112
	050311-820114
	050311-820121
	050311-820211
	050311-820219

## DETAILS

### 1. Persons Contacted

J. Driscoll, Assistant General Manager - Salem Operations  
L. Fry, Operations Manager  
J. Gallagher, Maintenance Manager  
H. Midura, General Manager - Salem Operations  
L. Miller, Technical Manager  
J. O'Connor, Radiation Protection Engineer  
F. Schnarr, Reactor Engineer  
R. Silverio, Assistant to the General Manager  
J. Stillman, Station QA Engineer

The inspector also interviewed other licensee personnel during the course of the inspections including management, clerical, maintenance, operations, performance and quality assurance personnel.

### 2. Status of Previous Inspection Items

- (Closed) Unresolved Item (272/79-32-03) Surge protection for meteorological tower instrumentation. The inspector confirmed through record review that Design Change IEC 700 to provide surge protection has been completed. The inspector had no further questions on this item.
- (Closed) Unresolved Item (272/81-27-01) SORC minutes and open item tracking. The inspector confirmed that SORC minutes are prepared and issued within approximately two weeks and that all SORC open items are being adequately tracked on a computer-based tracking system, with a number of previous items closed out. The inspector had no further questions on this item.
- (Closed) Follow Item (272/81-04-06) Corporate fire protection support. The inspector confirmed that, in the new Nuclear Department organization, the Nuclear Site Protection staff includes an individual qualified in fire protection. The position is filled with an experienced fire protection engineer located on site. The inspector had no further questions on this item.
- (Closed) Unresolved Item (311/80-12-02) Instrument cabinet isolation valves. The inspector reviewed procedure 2 PD 14.1.008, Channel Sensor Valve Lineup Verification, Revision 0, dated March 1, 1981. This procedure is called out quarterly through the Inspection Order system with the intent that it be conducted prior to start-up following a major outage. The purpose of the procedure is to confirm proper alignment of those sensor cabinet isolation valves which do not have numbered identifiers and are therefore not on valve lineup lists. Such periodic surveillance prior to startup, coupled with detailed functional, channel check and calibration procedures, provides assurance that the instrumentation will be available during startup. Isolation during operation becomes evident immediately due to frequent channel check requirements with companion instrumentation. The inspector had no further questions on this item.

- (Closed) Follow Item (272/81-29-03) Functional testing of Containment Fan Coil Units. The inspector reviewed Operations Directive 10, Removal and Return of Safety Related Equipment To An Operable Status, Revision 0, dated March 2, 1982. This directive specifically details procedures to be followed prior to allowing safety related equipment, including CFCU's, to be removed from service on an elective basis. The directive further details retest requirements to demonstrate operability when the equipment is returned to service. OD-10 covers all major safety related equipment. The inspector had no further questions on this item.
- (Closed) Noncompliance (272/80-31-01) Failures to implement and review procedures. The inspector reviewed the corrective actions outlined in licensee correspondence dated March 9, 1981, and the Region I reply dated May 7, 1981. With respect to completion of two-year reviews, SORC reviews, and currency of the procedure index, all actions have been completed. It was further noted that a systematic program of periodic procedure review has been initiated. The inspector had no further questions on this item.

## SITE

### 3. Shift Logs and Operating Records

- a. The inspector reviewed the following plant procedures to determine the licensee established requirements in this area in preparation for a review of selected logs and records.
- AP-5, Operating Practices, Revision 11, August 13, 1981;
  - AP-6, Incident Reports and Reportable Occurrences, Revision 7, October 8, 1981;
  - AP-13, Control of Lifted Leads and Jumpers, Revision 4, February 11, 1980;
  - Operations Directive Manual; and,
  - AP-15, Safety Tagging Program, Revision 1, November 21, 1980.
- b. Shift logs and operating records were reviewed to verify that:
- Control room log sheet entries are filled out and initialled;
  - Auxiliary log sheets are filled out and initialled;
  - Log entries involving abnormal conditions provide sufficient detail to communicate equipment status, lockout status, correction and restoration;

- Log book reviews are being conducted by the staff;
  - Operating orders do not conflict with Technical Specification requirements;
  - Incident reports detail no violation of Technical Specification LCO or reporting requirement; and,
  - Logs and records were maintained in accordance with Technical Specifications and the procedures in 3.a above.
- c. The review included examination of the following plant shift logs and operating records and discussions with licensee personnel:
- Log No. 1 - Control Room Daily Log, February 9 - March 8, 1982
  - Log No. 6 - Primary Plant Log, February 9 - March 8, 1982
  - Log No. 7 - Secondary Plant Log, February 9 - March 8, 1982
  - Log No. 8 - Unavailable Equipment Status Log, February 9 - March 8, 1982
  - Night Orders, January 7, 1982 - February 19, 1982
  - Lifted Lead and Jumper Log - All active
  - Tagging Requests - All active (Unit 2)
  - Incident Reports 81-393, 396-398, 400, 401, 404, 405, 411, 414, 415, 417
- d. No unacceptable conditions were identified.

#### 4. Plant Tour

- a. During the course of the inspections, the inspector made observations and conducted multiple tours of plant areas, including the following;
- (1) Control Room (daily)
  - (2) Relay Rooms
  - (3) Auxiliary Building
  - (4) Vital Switchgear Rooms
  - (5) Turbine Building

- (6) Yard Areas
- (7) Radwaste Building
- (8) Penetration Areas
- (9) Control Point
- (10) Site Perimeter
- (11) Fuel Handling Building
- (12) Guard House
- (13) Containment (Unit 1)

b. The following determinations were made:

- Monitoring instrumentation. The inspector verified that selected instruments were functional and demonstrated parameters within Technical Specification limits.
- Valve positions. The inspector verified that selected valves were in the position or condition required by Technical Specifications for the applicable plant mode. This verification included examination of control board indication and field observation of valve positions (Charging/Safety Injection, Auxiliary Feedwater, and Containment Spray Systems).
- Radiation Controls. The inspector verified by observation that control point procedures and posting requirements were being followed and that Radiation Exposure Permits were properly employed.
- Plant housekeeping conditions. The inspector observed that with limited exceptions, housekeeping was generally acceptable. Any cluttered or littered areas for which maintenance was not in progress, was brought to the attention of the plant management or operating staff.
- Fluid leaks. No fluid leaks were observed which had not been identified by station personnel and for which corrective action had not been initiated, as necessary.
- Piping vibration. No excessive piping vibrations were observed and no adverse conditions were noted.

- Selected pipe hangers and seismic restraints were observed and no adverse conditions were noted.
  - Equipment tagging. The inspector selected plant components for which valid tagging requests were in effect and verified that the tags were in place and the equipment in the condition specified.
  - By frequent observation through the inspection, the inspector verified that control room manning requirements of 10 CFR 50.54 (k) and the Technical Specifications were being met. In addition, the inspector observed shift turnovers to verify that continuity of system status was maintained. The inspector periodically questioned shift personnel relative to plant conditions and their knowledge of emergency procedures. One issue with respect to licensed operators is discussed in paragraph 10 b.
  - Releases. On a sampling basis, the inspector verified that appropriate documentation, sampling, authorization, and monitoring instrumentation were provided for effluent releases.
  - Fire protection. The inspector verified that selected fire extinguishers were accessible and inspected on schedule, that fire alarm stations were inspected on schedule, that fire alarm stations were unobstructed and that cardox systems were operable. The inspector further noted that fire protection modifications discussed in the FPSE, dated November 20, 1979, have been completed for the Auxiliary Feedwater, Charging Pump, and Fuel Oil areas. This item is also referenced in NRC Inspection Report 50-272/81-29.
  - Technical Specifications. Through log review and direct observations during tours, the inspector verified compliance with Technical Specifications including Limiting Conditions for Operation (LCO's). The following parameters were sampled frequently: RWST level, BAST level and temperature, containment temperature, boration flow path, offsite power, BAST and Accumulator chemistry. In addition, the inspector conducted periodic visual checks of protective instrumentation and inspection of electrical switchboards to confirm availability of safeguards equipment.
  - Security. During the course of these inspections, observations relative to protected and vital area security were made, including access controls, boundary integrity, search, escort, and badging.
- c. The following acceptance criteria were used for the above items:
- Technical Specifications
  - Operation Directives Manual
  - Inspector Judgement

- d. During a plant tour on February 15, 1982, the inspector noted two 4-inch core bores between the electrical and mechanical penetration areas on elevation 78' in Unit 2. The core bores penetrated the dividing fire boundary wall and had not been filled with retardant material. No fire watches were posted on either side of the penetrations and no fire patrol was established. Fire detectors appeared operable in the areas.

On February 24, 1982, the inspector found the adjoining door between the Unit 1 and Unit 2 4 KV Switchgear Rooms blocked open by a portable fire extinguisher. The door is in a fire boundary. No fire watches were posted and no fire patrol established. Detectors were apparently operable in the areas concerned. The above failures to provide fire watches or patrols in areas with inoperable fire barrier penetrations constitute non-compliance with Technical Specification 3.7.11 (311/82-05-01).

- e. During a control room tour at 7:15 a.m. on February 18, the inspector noted that Power Operated Relief Valve PR1, which was providing the vessel vent path with the head in place, was closed. Technical Specification 3.4.9.3 requires operability of the Pressurizer Overpressure Protection Valves (POPs) or establishment of a vent path when the head is in place and temperature is less than 312°F. The POPs valves were not operable at the time of the above observation. Further investigation revealed that troubleshooting to find a DC ground at 5:12 a.m. that morning had caused Valve PR1 to fail shut. Accordingly, the licensee was still within the eight hour time limit required by the Technical Specification for establishing the vent path. The licensee acknowledged the inspector's concern that operators had not apparently recognized the loss of the vent path for a period of three hours. The valve was re-opened immediately.
- f. The inspector had no further questions with respect to plant tours.

##### 5. Review of Periodic and Special Reports

Upon receipt, periodic and special reports submitted by the licensee pursuant to Technical Specifications 6.9.1 and 6.9.2 were reviewed by the inspector.

This review included the following considerations:

- The report included the information required to be reported by NRC requirements;
- Test results and/or supporting information were consistent with design predictions and performance specifications;
- Planned corrective action was adequate for resolution of identified problems; and,
- Determination whether any information in the report should be classified as an abnormal occurrence.



Within the scope of the above, the following periodic reports were reviewed by the inspector:

- Unit 1 Monthly Operating Report - January 1982
- Unit 2 Monthly Operating Report - January 1982

No unacceptable conditions were identified.

6. Full Power License Conditions (Unit 2)

The full power license for Salem Unit 2 was issued on May 20, 1981, and contains several conditions to be met prior to given dates or events. The inspector reviewed a number of these items to determine status of implementation. The following comments apply to the areas reviewed (Numbers refer to paragraph references in the full power license):

- 2.C.(25)(h)(i) Containment pressure indication. Through review of control room indications and calibration records, the inspector confirmed that installed wide range indication for containment pressure will indicate at least three times design pressure. The modification to expand this range in unit 1 is being made during the current outage and will be confirmed as complete prior to startup.
- 2.C.(25)(h)(iii) Containment atmosphere hydrogen measurement. The inspector examined the installed hydrogen meters in both units and reviewed Design Change 1-EC-553 to confirm that 0-10% hydrogen measurement capability was in place. The installed detector heads were capable of 10% range and the design change consisted of recalibration and a change in the meter face gradations. Unit 2 was modified on ECN 30495. The inspector had no further questions on this item.
- 2.C.(3) Boron Mixing and Cooldown Test. This natural circulation test was conducted in September 1981, completing the startup and power ascension test program. Results of the test are included in the licensee's supplemental Startup Test Report, forwarded to NRC by letter dated February 2, 1982. Test results were reviewed in NRC Inspection 50-311/81-30.
- 2.C.(25)(c) Plant Shielding. The inspector reviewed the licensee's post-accident accessibility analysis and area dose projections based on the assumptions stated in Supplement 5 to the Safety Analysis Report. Necessary shielding modifications have been made. The licensee had stated an intent to provide additional shielding in the primary sampling area.

- 2.C.(25)(c) Continued. This conclusion was based on the ultimate addition of the post-accident sampling system in this area and the need for multiple sampling. The licensee has since relocated the post-accident sampling equipment away from the normal sampling area. As documented in NRC Report 50-311/81-08 (Emergency Preparedness Appraisal), the interim sampling system will accommodate only one sample. On this basis, the temporary shielding provided in this area is adequate in the context of the sampling procedure provided to and demonstrated for the Appraisal team. The inspector had no further questions on this item. Conclusions of the shielding evaluation apply equally to Unit 1 and similar modifications have been provided where required.

## 7. Operating Events

### UNIT 1

During this period, the Cycle 4 core was loaded, the vessel internals replaced, and the head replaced. At the conclusion of the inspection, the plant was in Mode 5, maintaining approximately 30% cold calibrated pressurizer level, with no bubble.

### UNIT 2

- a. On February 11, through engineering review, the licensee determined that a portion of the backup water supply to auxiliary feedwater piping was not included in the seismic analysis. The affected section includes about three feet of service building piping in the demineralized water and fire protection water supplies to auxiliary feedwater suction. If tornado damage to the auxiliary feedwater storage tank is postulated, and the alternate seismically qualified source (service water) is lined up, this section of piping could divert the water away from the auxiliary feedwater system. The licensee is developing a mechanism to protect the section of pipe in a seismic event. On the basis that a simultaneous tornado and seismic event is incredible, the licensee has concluded that continued safe operation of Unit 2 is possible until the piping is protected. Prompt Licensee Event Reports 50-272/82-07 and 50-311/82-07 were submitted.

Based on discussions with NRC personnel and review of the design basis, the inspector had no questions at this time.

- b. The plant tripped from 100% power at 4:23 p.m. on February 19, due to low-low level in Steam Generator 21 following loss of Steam Generator Feedwater Pump 21. The pump tripped on overspeed due to momentary loss of control power as its power source was being shifted from Essential Controls Inverter 22 to the backup solatron power supply. The plant was critical at 8:25 and the unit synchronized at 10:17 p.m.

- c. For the past several months, the licensee has limited Unit 2 power to approximately 95% due to receipt of high steam flow alarms above that power level. During this inspection period, calibration data was re-analyzed and it was determined that the pressure compensation effect on differential pressure and indicated flow rate had not been properly accounted for. As a result, indicated steam flow at elevated power level (and lower steam pressure) was higher than actual steam flow. New calibration data was obtained at 100% rated thermal power, and used in instrument calibration instead of the projections from lower power level previously applied. At the end of the report period, all steam flow channels were consistent with power level. The inspector's review of calibration data identified no unacceptable conditions.
- d. At the conclusion of this report period, the plant was operating at 90% due to maintenance on one 500KV transmission line.
- e. The inspector had no further questions with respect to events reviewed.

#### 8. Surveillances

The inspector observed the licensee's performance of the following surveillance procedures:

- 2 PD 2.6.035 Channel Functional Test
  - 2 LT - 519 No. 21 Steam Generator Level Protection Channel II
- SP(0) 4.3.2.1.1 (e-B) ESF - Solid State Protection System Slave Relay Tests Unit 2 - Train "B"

During the performance of these tests, the inspector confirmed the following: Testing was performed in accordance with adequate procedures; test instrumentation was calibrated; limiting conditions for operations were met; removal and restoration of the affected components were properly accomplished; and, the test results conformed with Technical Specification and procedural requirements and were reviewed by personnel other than the individual performing the test. Any deficiencies noted were reviewed and resolved by the personnel of the responsible department. The personnel performing the surveillance activities were knowledgeable of the systems and the test procedures. The inspector confirmed that these personnel were qualified to perform the tests.

The inspector had no questions regarding the performance of surveillance activities.

## 9. System Operation and Review

The inspector conducted a walk down of selected portions of plant systems. The following drawing was used to conduct this review:

- a. Auxiliary Feed System (Unit 2) - 205336, Revision 7, dated July 7, 1981

The walk down was conducted to confirm system operability. Included in this review was an examination of valve positions, seismic restraints and supports, leaks, local indicators and instrumentation, unusual noise or vibrations, overheated equipment, and system conformance with "as built" drawings. No unacceptable conditions were identified.

## 10. Other Items

- a. On March 3, 1982, a representative of the painting trades informed the Resident Inspector of a concern with respect to surface preparation.

Specifically, piping for the reactor coolant pump oil collection system in Unit 1 Containment had been erected without prior sandblasting and had been painted with no machine surface preparation. Additionally, he expressed a concern that unpainted piping support steel in the Component Cooling Heat Exchanger room was rusted and had not been sandblasted prior to erection. He stated a concern that the steel would be painted without being cleaned.

Inspection on March 4 confirmed that the Component Cooling Heat Exchanger room contained structural steel with considerable accumulations of rust but none of it had been painted as yet. Inspection in containment revealed that all the piping associated with the oil collection system had been recently painted. No problems were evident by visual examination.

The licensee is committed to Regulatory Guide 1.54 and ANSI N101.4 on this subject. The commitment is implemented through PSE&G Detailed Specification 61-6200, Piping Specification, which includes Addendum XIII for field painting requirements. PSE&G Detail Specification 69-7096, Structural Paint Specifications, provides additional guidance. Controlled Work Packages OP-933417-1307.1 and OP-933417-1307, which controlled the work on the oil collection system, were reviewed. Since these packages were designated "non-safety related", the above specifications were referenced but no sign-off is provided to attest to proper preparation and application of paint. QC surveillance and signoff are not required by the contractor for painting in such packages.

For painting of ferritic pipe in containment, the specifications require sandblasting or a wheelabrating equivalent to meet Steel Structure Painting Council SP6, Commercial Blast Cleaning (SSPC SP6). SP6 describes the visual characteristics of acceptably prepared surfaces.

Discussions were held with the supervisors responsible for the job site since objective quality evidence of surface condition prior to painting was not available. The supervisors stated that the brand-new piping was hand sanded in place and that the surface met SP6 prior to application of paint. In aggregate, the above actions and the Specification itself exceed NRC requirements imposed by the Regulatory Guide and ANSI standard.

With respect to structural members in the Component Cooling Heat Exchanger Room, the licensee's Specification 69-7096 requires that the steel be blast cleaned prior to painting. Since this is a safety-related work, QC signoffs will be applied.

The inspector confirmed that station management was aware of this requirement and that early steel erection had been properly sanctioned.

The inspector had no further questions on this item.

- b. Unit 1 Reactor Operator license OP-4433-2 expired on May 17, 1981. The operator licensee failed his second attempt at obtaining a Unit 2 license in January 1981, and had completed the required training and recertification process for Unit 1 licensed duties on May 8, 1981. An administrative oversight, associated with his temporary removal from licensed duties, resulted in failure to make timely application for renewal of his license.

This oversight was identified by PSE&G in late September 1981. The operator had functioned continuously as a control room operator during the period May - September 1981. On September 25, 1981, PSE&G forwarded a standard request for operator license renewal to the Operator Licensing Branch (OLB) of NRR. No contact was made with NRR by any identified individual to assess the chance of success of this tardy renewal effort. Based on the rule (10 CFR 55.33) allowing continued operation pending review of a renewal application, PSE&G continued to use the operator in performing licensed duties after submittal of the application. Receipt of the application at NRR was confirmed by PSE&G.

In followup with OLB in late January 1982, PSE&G was advised that renewal might not be made and was requested to reapply. On February 1, 1982, PSE&G made a new submittal asking for renewal or issuance of a new license waiving all examinations. On February 18, 1982, the application was denied. The operator had been removed from licensed duties on February 1, 1982, when indication of denial was received.

Failure to provide a licensed operator at the controls violates 10 CFR 50.54(k) and Technical Specification 6.2.2. In view of the continuance provision of 10 CFR 55.33, and the conditions stated above, PSE&G takes the position that they were not formally aware of the operator's unlicensed status until after he had been removed from licensed duties.

The failure to make timely application for renewal of license OP-4433-2 constitutes noncompliance with 10 CFR 55.33 (272/82-06-01).

- c. By correspondence dated October 14, 1981, the licensee responded to generic letter 81-04 dealing with emergency procedures and training for station blackout events. The inspector confirmed that licensee commitments with respect to procedures and training were met. Emergency Instruction 4.9A, Loss of All AC Power, Revision 0, was issued on December 16, 1981 and was in place in the control rooms by December 31, 1981. All licensed operators had received training in the new procedure by that date. In addition, the subject is covered in the on-going operator requalification program. Based on initial review, the inspector had no questions with respect to content of the procedure. NRR review of the submitted procedure is continuing.

## 11. Licensee Events

### a. In Office Review of Licensee Event Reports

The inspector reviewed LERs submitted to the NRC:RI office to verify that details of the event were clearly reported, including the accuracy of the description of cause and adequacy of corrective action. The inspector determined whether further information was required from the licensee, whether generic implications were involved, and whether the event warranted onsite followup. The following LERs were reviewed:

#### UNIT 1

- |    |               |   |
|----|---------------|---|
| -- | 81-113/03L    | No. 14 Steam Generator Level Channel 3 - Inoperable                     |
| *  | -- 81-114/01T | No. 11 Containment Fan Coil Unit - Service Water Leak in Secondary Coil |

- 81-115/03L No. 13 Steam Generator Steam Flow Channel - Inoperable
- \* -- 81-116/03L 100' Elevation Containment Air Lock - Inoperable
- 81-117/03L Reactor Coolant Leak Detection System - Inoperable
- \* -- 81-118/01T No. 11 Containment Fan Coil Unit - Service Water Leak in Primary Coil
- 81-119/03L No. 12 Charging Pump - Inoperable Due to Service Water Leak
- \* -- 81-120/03L Boric Acid Storage Tank Level Indicators-Nitrogen Header Pressure Low
- 81-121/03L Containment Fan Coil Unit - Service Water Leak Outside Containment
- 81-122/03L Fire Detection Instrumentation - Inoperable
- \* -- 82-01/03L Pressurizer Overpressure Protection System - Inoperable
- \* -- 82-02/01T No. 14 Steam Generator - Defective Tubes
- \* -- 82-03/03L No. 1C Diesel - Inoperable
- \* -- 82-04/03L Positive Reactivity Addition With No Boration Capabilities
- \* -- 82-05/01T Degradation of Fuel Cladding
- 82-06/03L Air Particulate Detector Pump - Inoperable

UNIT 2

- \* -- 81-118/03L No. 21 Service Water Header - Inoperable
- 81-119/03L Nuclear Instrumentation - Power Range Channel N-43 - Inoperable
- 81-120/03L Solid State Protection System Train B - Logic Failure
- 81-121/03L Individual Rod Position Indication - 2SB2 - Inoperable

- \* -- 81-122/03L      Containment Air Lock - Inoperable
- 81-123/03L      2A Safeguards Equipment Cabinet - Inoperable
- \* -- 81-124/03L      2C Vital Bus Undervoltage Relay - Inoperable
- 81-125/03L      No. 21 Containment Spray Pump - Inoperable
- 81-126/03L      Radiation Monitor 2R12A - Inoperable
- 81-127/03L      No. 2A Diesel Generator - Prelubrication Oil  
                          Heater - Inoperable
- \* -- 81-128/03L      Pressurizer Pressure - Below DNB Parameters
- \* -- 81-129/03L      Boric Acid Storage Tank Level Indication -  
                          Nitrogen Header Pressure Low
- 81-130/03L      Axial Flux Difference - Outside the Target Band
- 81-131/03L      No. 24 Reactor Coolant Loop Flow Channel 2 -  
                          Inoperable
- \* -- 82-01/03L      No. 24 Steam Generator Pressure Channel 4 -  
                          Inoperable
- \* -- 82-02/03L      125V DC Distribution System - 2A1 Battery Charger -  
                          Inoperable
- 82-03/03L      Radiation Monitor 2R11A - Out of Calibration
- \* -- 82-04/03L      DNB Parameters - Exceeded Specification Limits
- \* -- 82-05/03L      2C Vital Bus Undervoltage Relay - Inoperable

b. Onsite Licensee Event Followup

(1) For those LERs selected for onsite followup (denoted by asterisks in detail paragraph 11a.), the inspector verified the reporting requirements of Technical Specifications and Regulatory Guide 1.16 had been met, that appropriate corrective action had been taken, that the event was reviewed by the licensee as required by AP-4 and 6, and that continued operation of the facility was conducted in accordance with Technical Specification limits. The following findings relate to the LERs reviewed on site:



UNIT 1

-- 81-114/01T  
81-118/01T

These reports detail service water leaks to containment resulting from Containment Fan Coil Unit (CFCU) cooler leaks. One of these was repaired using Belzona metal. This type of repair is discussed in detail in NRC Inspection Report 50-272/81-29. Corrective action for these recurring leaks has been accomplished during the current outage. All coils have been replaced with A16X material and it is expected that this change will reduce or eliminate tube leaks. Inspection Report 81-29 also discussed the acceptability of continued operation with a known leak in a CFCU. During the course of this inspection, the inspector discussed the basis for continued operation (service water pressure always exceeds containment design pressure) with members of the plant staff. Several scenarios have been presented which may void that basis. The licensee is continuing an evaluation to determine whether the scenarios postulated fall within the design basis of the plant. The inspector is continuing to review this area as a followup to items identified in the referenced Inspection Report. Noting that leaking CFCU's are now immediately isolated and taken out of service, the inspector had no further questions at this time.

-- 81-116/03L

This LER details three instances of inoperable air locks. The licensee has taken measures to improve the seal performance by changing the vendor and has arranged for additional preventive maintenance as recommended by the air lock manufacturer. With respect to the last event, involving removal of the handwheel, discussions with personnel revealed that a retainer came loose but would not have rendered the air lock inoperable. The capability to seal the air lock door was maintained. The retainer will be one of the items inspected in the preventive maintenance program. The inspector had no further questions on this item.

- 81-120/03L  
81-129/03L (Unit 2)      These events involve the loss of level instrument indication for Boric Acid Storage Tanks in both units. The level instruments employ a nitrogen bubbler system. Due to diversion of large volumes of nitrogen to the Boric Acid Evaporator, the supply was depleted, resulting in loss of level indication. Transfer to the alternate high pressure supply was made quickly and level instruments restored to service. Although alternate sources of nitrogen are readily available, the licensee has committed to additional procedural controls to preclude depletion of the nitrogen supply. This item will be reviewed when licensee actions are defined and completed (272/82-06-02).
- 82-01/03L      The frequent requirement to block Power Operated Relief Valves (PORV) due to seat leakage has apparently been recognized at a number of plants. The licensee has initiated steps to improve the seat design/material. This item will be reviewed in followup of identified unresolved item 50-311/81-25-01.
- 82-02/01T      As a result of degraded tubes found in the peripheral sections of Steam Generator 14 Cold Leg, the licensee conducted augmented inspection of all four steam generators. All degraded tubes found conform to the initial findings in that the thinning is confined to the periphery and is located at the support plates. One tube from Steam Generator 14 has been removed and is undergoing evaluation by Westinghouse. The licensee has also requested relief from 100% Technical Specification inspection. This request is undergoing staff review. Completion of required eddy current testing and review of tube analysis findings will be accomplished in followup of inspection item 272/82-01-02.
- 82-03/03L      The inspector confirmed by inspection of the diesel control areas that the tagging and identification changes stated in this LER have been completed to preclude further confusion relating to lockout status of the diesels. The inspector had no further questions.

- 82-04/03L Dilution of the reactor coolant system while lowering level is a recognized phenomenon due to slow draining of the steam generator tubes. On this occasion, the charging pumps were prematurely tagged for maintenance while draining continued. The inspector identified no procedural control which would preclude recurrence of this item. The licensee stated that such controls will be applied. This item is unresolved pending review of licensee corrective action (272/82-06-03).
- 82-05/01T Following the discovery of one fractured fuel pin in assembly C-04, a complete inspection of all "C" assemblies scheduled for use in Cycle 4 was conducted. No other failures or problems were found. Westinghouse evaluation of failure mechanism is continuing and a supplemental report will be issued. This item remains unresolved pending review of the investigation findings and supplemental report (272/82-06-04).
- UNIT 2
- 81-118/03L This event was caused by a technician going to the wrong place on the service water piping and removing what he thought to be a thermowell plug. Corrective actions have included counseling of the technician and promulgation of a memorandum, dated February 26, 1982, to all I & C Technicians cautioning them of the potential for making similar errors. The inspector had no further questions.
- 81-122/03L Comments above with respect to Unit 1 LER 81-116/03L also apply to these containment air lock failures.
- 81-124/03L  
82-05/03L 2C Vital Bus Undervoltage is detected by a disc-operated relay. These reports detail two instances, two months apart, in which the relay setpoint was found lower than the Technical Specification value. The inspector observed relay checkout and cleaning on the second occasion. Mis-operation of the relay appeared to have been caused by foreign matter accumulation in the pin and jewel mount area. Following cleaning, repetitive and reliable operation was restored. The inspector had no further questions.

- 81-128/03L Failure of a bistable fuse caused isolation of let-down and blocked pressurizer heater operation due to an indicated low pressurizer level. As a result, pressure decreased below the DNB limit of 2220 psia for approximately 12 minutes while the failure was being evaluated and corrected. The slow pressure transient lasted for less than the two hours permitted by Technical Specification 3.2.5. Due to the unique aspects of this failure and its effects on plant parameters, the event details were disseminated to all licensed operators.
- 82-01/03L Failure of this Steam Generator Pressure channel was attributed to freezing in the penetration area. Long term corrective action includes remote temperature monitoring and alarm capability. This item remains unresolved pending inspector review of action taken on Design Change Request 2 SC-160 and review of the supplemental report (311/82-05-02).
- 82-02/03L Inability to restore battery chargers to service following an extended time off line has been previously identified in LER's. The charger output voltage is preset and, after a significant discharge time, exceeds battery voltage by an amount sufficient to cause an inrush current which again trips the charger. The charger can be subsequently brought on line by adjusting voltage downward and slowly raising it once the breakers are closed. This practice has not been set out in operating or maintenance procedures. The licensee stated that an appropriate procedure will be developed. This item is unresolved pending inspector review of the licensee's corrective action (311/82-05-03).
- 82-04/03L This event is discussed in detail in NRC Inspection Report 50-311/82-01.

The inspector had no further questions relating to Licensee Event Reports reviewed during this inspection period.

12. Unresolved Items

Areas for which more information is required to determine acceptability are considered unresolved. Unresolved items are contained in Paragraph 11.

13. Exit Interview

At periodic intervals during the course of this inspection, meetings were held with senior facility management to discuss inspection scope and findings.