U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-344/89-24

Docket No. 50-344

License No. NPF-1

Licensee: Portland General Electric Company
121 S.W. Salmon Street
Portland, OR 97204

Facility Name: Trojan

Inspection at: Rainier, Oregon

Inspection conducted: September 9, 1989 - October 13, 1989

Inspectors: R. C. Barr
Senior Resident Inspector

J. F. Melfi
Resident Inspector

Approved By: M. M. Mendonca, Chief — 11/14/89 Date Signed
Reactor Projects Section 1

Summary:

Inspection on September 9 - October 13, 1989 (Report 50-344/89-24)

Areas Inspected: Routine inspection of operational safety verification, maintenance, surveillance, event follow-up, system engineering, and open item follow-up. Inspection procedures 30703, 37702, 61726, 62703, 71707, 90712, 92700, 92701, 92702, and 93702 were used as guidance during the conduct of the inspection.

Results

This inspection identified two apparent violations of regulatory requirements. Weaknesses included (1) a failure to include dial indicators in the licensee's calibration program (paragraph 4); (2) a failure to perform an out-of-calibration investigation on the high voltage power supply to the power range nuclear detector (paragraph 6).

DETAILS

1. Persons Contacted

*D. W. Cockfield, Vice President, Nuclear
*C. P. Yundt, Plant General Manager
*T. D. Walt, General Manager, Technical Functions
*A. N. Roller, Manager, Nuclear Plant Engineering
*C. K. Seaman, Manager, Nuclear Quality Assurance
D. W. Swan, Manager, Technical Services
M. J. Singh, Manager, Plant Modifications
J. D. Reid, Manager, Quality Support Services
*J. W. Lentsch, Manager, Personnel Protection
*J. Whelan, Branch Manager, Maintenance
J. Mody, Branch Manager, Plant Systems Engineering
*D. L. Nordstrom, Branch Manager, Quality Operations
*J. P. Fischer, PM/EA Branch Manager
T. O. Meek, Branch Manager, Radiation Protection
R. N. Prewit, Supervisor, Quality Systems
*R. L. Russell, Branch Manager, Operations
*J. C. Heitzman, Acting Assistant Operations Supervisor
N. A. Regoli, Instrument and Control Supervisor
J. A. Benjamin, Supervisor, Quality Audits
J. D. Guberski, Nuclear Safety and Regulation Department Engineer
*W. J. Williams, Compliance Engineer

The inspectors also interviewed and talked with other licensee employees during the course of the inspection. These included shift supervisors, reactor and auxiliary operators, maintenance personnel, plant technicians and engineers, and quality assurance personnel.

*Denotes those attending the exit interview.

2. Plant Status

At the beginning of this inspection period, the plant was in mode 1, 99% power. On September 9, 1989, anomalous control rod movement was observed during the performance of a surveillance. The anomalous control rod movement was determined by the licensee to be dirty contacts on a bypass switch. On September 16, the loop 2 Tave meter oscillated several times on its full range of indication (see paragraph 6). The licensee was having problems with the pressurizer relief tank heating up due to a leaking Pressurizer Safety Valve (PSV 8010C) and a leaking let-down relief valve. To fix these valves, the plant shutdown on September 16, 1989. During the outage, the condition of the Reactor Protection System (RPS) racks was noted to be poor, and additional cleaning and maintenance was required. The plant began its heatup on October 1, 1989. When the RCS approached Normal Operating Temperature (NOT) and Normal Operating Pressure (NOP), the Pressurizer Safety Valve (PSV 8010B) was noted to be leaking. The valve lift setting was measured and adjusted higher on October 2-3, 1989 (see paragraph 5). The plant reached Mode 1 on October 3, 1989, and began power ascension. A safety concern over the Reactor

Coolant System (RCS) average temperature (Tave) and reference temperature (Tref) was raised during the outage (see paragraph 6) and power was limited to 97% pending its resolution. The plant continued in Mode 1 at 97% power until the end of the inspection period.

3. Safety Verification (71707)

Operational Safety Verification

During this inspection period, the inspectors observed and examined activities to verify the operational safety of the licensee's facility. The observations and examinations of those activities were conducted on a daily, weekly or biweekly basis.

Daily the inspectors observed control room activities to verify the licensee's adherence to limiting conditions for operation as prescribed in the facility Technical Specifications. Logs, instrumentation, recorder traces, and other operational records were examined to obtain information on plant conditions, trends, and compliance with regulations. On occasions when a shift turnover was in progress, the turnover of information on plant status was observed to determine that pertinent information was relayed to the oncoming shift personnel.

Each week the inspectors toured the accessible areas of the facility to observe the following items:

(a) General plant and equipment conditions.
(b) Maintenance requests and repairs.
(c) Fire hazards and fire fighting equipment.
(d) Ignition sources and flammable material control.
(e) Conduct of activities in accordance with the licensee's administrative controls and approved procedures.
(f) Interiors of electrical and control panels.
(g) Implementation of the licensee's physical security plan.
(h) Radiation protection controls.
(i) Plant housekeeping and cleanliness.
(j) Radioactive waste systems.
(k) Proper storage of compressed gas bottles.

Weekly, the inspectors examined the licensee's equipment clearance control with respect to removal of equipment from service to determine that the licensee complied with technical specification limiting conditions for operation. Active clearances were spot-checked to ensure that their issuance was consistent with plant status and maintenance evolutions. Logs of jumpers, bypasses, caution and test tags were examined by the inspectors.

Each week the inspectors conversed with operators in the control room, and with other plant personnel. The discussions centered on pertinent topics relating to general plant conditions, procedures, security, training and other topics related to in-progress work activities.

The inspectors examined the licensee's nonconformance reports (NCRs) to confirm that deficiencies were identified and tracked by the system.

Identified nonconformances were being tracked and followed to the completion of corrective action.

Routine inspections of the licensee's physical security program were performed in the areas of access control, organization and staffing, and detection and assessment systems. The inspectors observed the access control measures used at the entrance to the protected area, verified the integrity of portions of the protected area barrier and vital area barriers, and observed in several instances the implementation of compensatory measures upon breach of vital area barriers. Portions of the isolation zone were verified to be free of obstructions. Functioning of central and secondary alarm stations (including the use of CCTV monitors) was observed. On a sampling basis, the inspectors verified that the required minimum number of armed guards and individuals authorized to direct security activities were on site.

The inspectors conducted routine inspections of selected activities of the licensee's radiological protection program. A sampling of radiation work permits (RWP) was reviewed for completeness and adequacy of information. During the course of inspection activities and periodic tours of plant areas, the inspectors verified proper use of personnel monitoring equipment, observed individuals leaving the radiation controlled area and signing out on appropriate RWP's, and observed the posting of radiation areas and contaminated areas. Posted radiation levels at locations within the fuel and auxiliary buildings were verified using both NRC and licensee portable survey meters. The involvement of health physics supervisors and engineers and their awareness of significant plant activities was assessed through conversations and review of RWP sign-in records.

The inspectors verified the operability of selected engineered safety features. This was done by direct visual verification of the correct position of valves, availability of power, cooling water supply, system integrity and general condition of equipment, as applicable.

No violations or deviations were identified.

4. Maintenance (62703)

On September 23, 1989, the north Centrifugal Charging Pump (CCP) was operated for 6 minutes with the supply of water to the pump isolated. This event was the result of improper valve lineup and is further discussed in paragraph 6.

The operator stopped the pump when low flow annunicators to the Reactor Coolant Pump seals annuciated. Subsequent discussion with licensee personnel revealed that the seal was checked to see if it was "hot" within 15 minutes after the event happened. The licensee ran the In-Service Testing (IST) flow tests for the pump and the pump passed design flows at design pressure.

Due to the importance of the pump, and since the pump had to be replaced before when (in 1983) the manual suction isolation valve to the pump was left closed, the licensee discussed this recent event with the pump

manufacturer. The pump manufacturer recommended a disassembly of the pump. After these discussions, the licensee decided to only look at the outboard thrust bearings to determine if any pump degradation had taken place. It was decided not to inspect the seals, since there were other indications available to determine if the seals were degraded.

The licensee initiated Maintenance Request (MR) 89-9141 to inspect the thrust bearing. The workers entered under and adhered to Radiological Work Permit (RWP) 89-017. The licensee obtained the proper clearances and no Limiting Conditions for Operations (LCO) were exceeded. The inspector noted that the thrust bearing did not show any signs of abnormal wear. The Quality Inspection (QI) hold points on MR 89-9141 were observed, and the equipment was restored to service.

During the observation of the work activity, the inspector noted a dial indicator was used to obtain the initial thrust bearing readings. The value of 0.010 inches was obtained. The licensee stated that the thrust bearing axial clearance was noted in the vendor manual to be 0.011 to 0.013 inches. The licensee personnel stated that this was for a dry bearing and since the bearing had oil on it after the work was performed, the licensee set the thrust bearing for the same reading (0.010 inches).

The inspector noted that the dial indicator used did not have a calibration sticker on it. When questioned on this, the licensee replied that the dial indicators were not required to be calibrated since they either worked or did not; and if it works, it is accurate. The system was then restored to service.

The inspector further investigated the use of dial indicators by the licensee. It was determined that the licensee does not regularly verify that their dial indicators are in calibration. If the dial indicator is requested by the worker to be a calibrated dial indicator, the licensee uses lower tier Maintenance Department Procedure (MDP) 1-12, "Dial Indicators," to calibrate a dial indicator. Due to the questions asked by the inspector, the dial indicator used was subsequently verified to be in calibration. The Quality Inspection (QI) person involved became aware of the issue and investigated independent of the resident inspector. He reported back to the inspector of the licensee's practices. The inspector related his concerns, and then the QI inspector initiated Non-Conforming Activity Report (NCAR) P89-0428 to document the concern.

The licensee's calibration program for Portable Measuring and Test Equipment (PM and TE) is described in Maintenance Procedure (MP) 3-1, "Calibration of Portable Measuring and Test Equipment." Step 5.7 of this procedure notes that: "When plant characteristics, efficiencies, capabilities, or other parameters are measured or adjusted to assure compliance with Technical Specifications, the instrument(s) used must have adequate accuracy to determine the measured quantity to the precision required by the stated limits of the specification. In order to maintain these requirements, measuring and test equipment shall be calibrated or inspected either on a regular scheduled basis or prior to its use, depending on the requirements of the procedure for the PM&TE."

This is done, in part to meet 10 CFR 50, Appendix B, criterion XII, "Control of Measuring and Test Equipment," which states: "Measures shall be established to assure that tools, gages, instruments, and other measuring and testing devices used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within necessary limits." Since the licensee was taking measurements on an activity that affected quality with equipment that was not properly controlled, calibrated or adjusted at specified periods, this is an apparent violation of regulatory requirements (50-344/89-24-01).

One violation was identified and no deviations were identified.

5. Surveillance (61726)

The inspector observed the licensee perform a retest/surveillance on Pressurizer Safety Valve (PSV) 8010B. This valve is one of three safety valves that provides overpressure protection for the Reactor Coolant System. These three valve setpoints are noted in Technical Specification 3/4.3.1 as having a lift setting of 2485 Psig ±2%. This safety valve was observed leaking when the licensee was in Mode 3 on October 1, 1989, approximately 3 hours after Normal Operating Temperatures (NOT) and Pressures (NOP). The licensee came down slightly in pressure to get the B Pressurizer Safety Valve (PSV 8010B) to reseat. This effort apparently reseated the valve as evidenced by decreased valve discharge tailpipe temperature and pressure was returned to normal. This activity was also performed to determine the initial setting of the safety valve, and readjust it higher in its acceptance band (2485 psig ±2%), if possible.

The licensee generated Maintenance Request (MR) 89-9345 to perform this testing and possible readjustment. The licensee did the work under Maintenance Procedure (MP 5-1), "Pressurizer Safety Valve Inservice Test" and procedure deviations 89-545 and 89-605. The licensee used a process (Trevitest) to evaluate the as-found condition. This process consisted of taking a calibrated hydraulic lifting device, attaching it to the safety valve, and increasing the hydraulic pressure until the valve lifts. The pressure where the valve lifts can be calculated from the initial RCS pressure, how much force is needed to lift the valve, the cross-sectional area of the valve seat, and the weight of the test equipment.

The inspector attended the Pre-Job briefing and the workers involved in the job were present. The specifics of the job were mentioned, the Radiological Work Permit (RWP) and the safety aspects of the work were discussed, as was the work interface between groups (I&C, Security, Mechanical Maintenance, Quality Inspections). The Trevitest equipment was brought onsite, and calibrated in the maintenance shop.

The procedure used by the licensee was reviewed prior to use. The workers went in under RWP 89-411, and the provisions of the RWP were noted to be adhered to. The inspector and the Quality Operations (QO) inspector concurrently observed that the test was conducted in accordance with the provisions of Periodic Engineering Test (PET) 5-6, "Containment and Recirculation Sump Surveillance," (issued 9/26/89). This procedure

was issued in response to observations by the inspectors in inspection report 50-344/89-19.

The inspector observed that the administrative tagouts were obtained prior to test initiation. The inspector observed portions of the test and restoration to service of the Safety Valve. The testing was done by qualified personnel. The system pressure was maintained approximately at 1900 psig. The inspector subsequently reviewed the test documentation for the valve and performed independent calculations from the test. No discrepancies were identified.

The valve was initially found with a setting of 2466 psig. The valve was then adjusted 3/8 of a flat clockwise and then retested. The new adjustment for the valve was found to be 2514 and 2519 psig. The as-found value and as-left values met the TS requirements.

After exiting containment, the form for PET 5-6 was delivered to the Shift Supervisor for his review and signature. The particular attachment was not adequate since there was no provision for inspectors entering containment for work observation if they did not take in or remove any material. The licensee is currently revising this procedure to reflect these concerns and other concerns with this procedure from operations, maintenance, and outage management personnel.

No violations or deviations were identified.

6. Event Follow-up (71707, 92700, 93702)

Temperature Oscillations of loop 3 Thot

At 7:00 a.m. on September 11, 1989, while conducting routine inspection activities in the control room, control board annunciators for Reactor Coolant System temperature annunciated. The loop 2 indication of delta T (Thot-Tcold) and Tave ((Thot+Tcold)/2) were noted to be oscillating. The loop 2 temperature indications of Tave, delta T, Over Temperature delta Temperature (OT delta T) and Over Power delta Temperature (OP delta T) are grouped together on the control board along with the other channels nearby. The other loop temperature indications were stable. The temperature oscillations were full scale on the Tave and delta T meters.

The licensee placed the rods in manual and defeated the Tave and delta T inputs for loop 2 following the actions of Off-Normal Instruction (ONI) 2-6. The temperature indications returned to normal within 10 minutes after the initiation of the oscillation. The reactor protection system bistables with loop 2 Temperature inputs were placed in the tripped condition within 10 minutes. The licensee entered Technical Specification Action Statement 3.3.3.1 and 3.3.3.2.

The licensee had recorders monitoring all the loop Tave and delta T inputs due to a previous OT delta T reactor trip that occurred about 5 weeks previously. From these recorder traces, it was noted that loop 2 Tave and delta T were rising and falling together, with OT delta T oscillating more often. The OT delta T oscillation was probably due to

the anticipatory circuit in the OT delta T calculator. It was quickly concluded that loop 2 Thot was the indicator that was oscillating.

The licensee shutdown and reached Mode 3 by 12:38 a.m. on September 16, 1989 to fix problems with the pressurizer safety valve not seating. It was subsequently determined by the licensee that reactor protection system (RPS) module TY-421A (Thot Low Level Amplifier) was not engaged when last installed in the RPS cabinet. The work instructions for the craft were not specific for the module tightness for the ELCO connector on Module TY-421 A.

Improper Terminations and Connections

After repairing the relief valves, the licensee performed inspections to determine the cause of Tave oscillating and to inspect for loose connections due to the reactor trip on OT delta T. The licensee performed an inspection and found seven loose connectors on the OT delta T modules. As followup to regional concerns, the licensee committed to the NRC to investigate the HAGAN protection racks.

A Shift Supervisor investigated several of the other HAGAN control racks and found several other connectors that were loose or questionable. The licensee then performed further inspections in the racks to identify loose or questionable connections.

What was found by the licensee was documented in a Lessons Learned Summary, dated September 29, 1989. The findings included:

1) Inadequate 'spade' lug engagement under the terminal screw.

2) Improper lug installation.

3) Lug "cocked" on "crossed" under the lock washer.

4) Terminal screws not tight.

5) Missing cabinet mounting hardware.

6) Incomplete or incorrect connection of connectors.

7) Cabinets not kept clean and free of nonpermanent items.

8) "Frayed" wiring at terminations.

The amount of inadequate terminations was a small fraction of the total. However, the licensee attributed this to technicians and supervisors not doing a thorough job. It was also noted that the rack cleanliness could be improved and actions were taken to put cleaning of the racks on the preventative maintenance program.

Tave - Tref deviation

Technical Specification (TS) maximum value for RCS Tave is 589 degrees F. (TS 3.2.5) which relates to Departure from Nucleate Boiling (DNB), and

the nominal 100% power value of 585 degrees F. The 589 degrees F. number is an absolute value for temperature in the core, and does not take into account instrument inaccuracies. The licensee had one Reactor Coolant Loop (loop D) that was reading higher than the other loops.

To account for all the inaccuracies and still be below the temperature limit, the licensee reduced power to 97%. At the end of the inspection period, the licensee was evaluating methods to return to 100% power conditions.

N-43 High Voltage Power Supply Out of Calibration

On September 19, 1989, during the channel check performed on Power Range Nuclear Instrument N43, the licensee discovered that the power range high voltage supply was out of its expected range along with the RPS trip resets associated with N43.

The inspector looked at the four previous channel checks for channel N43. The inspector determined that the previous check (9/7/89) of N43 showed that the detector high voltage supply had been out of its acceptance band. The licensee's initial review or subsequent re-review did not reveal that the power range high voltage setpoint had drifted lower than the criteria noted in the PICT 11-1 data sheet.

In discussing the importance of having the detector high voltage supply with a lower voltage setting, the licensee produced graphs showing that the detector output is relatively insensitive to large changes in the voltage power supply. Further, the high voltage power supply would not have an affect on the trip or reset functions of N43 if the voltage remains as pure direct current. The licensee also contacted Westinghouse, who concurred with this evaluation.

The licensee then concentrated on the low voltage power supplies for a possible explanation of the problem. The licensee hooked up monitoring equipment on the detector output signal, and noticed that the detector output was oscillating with an 8 millisecond frequency. The licensee suspected this oscillation to be due to a faulty capacitor. Since the high voltage power supply and the channel signal are connected at the detector, the oscillation of the power supply directly induced (via capacitive coupling) the noticed change in the detector output. This oscillation had a larger negative amplitude than positive amplitude. In tracing out the circuit of the detector output to the trips and trip resets, the induced oscillation would cause the resets to come in higher, due to the large negative amplitude. The failure of the power supply was causing the resets to conservatively shift to higher voltages. The licensee replaced the power supply, and channel N43 was calibrated.

The licensee did not conduct an out-of-calibration investigation as required by Maintenance Procedure (MP) 2-0, "Installed Plant Maintenance and Calibration". MP 2-0 notes that, "If the As Found readings for quality-related instruments are outside the stated tolerance (or if the instrument is completely failed), the I&C technician shall complete the testing portion of the procedure where applicable and bring it to the attention of the I&C Supervisor or his designee. They shall initiate a

Form I&C-10, "Installed Instrument Out-of-Calibration Investigation for Quality-Related Instruments." The failure to perform an out of calibration investigation is an apparent violation (50-344/89-24-02).

Inadvertent Auxiliary Feedwater Initiation

At 12:30 am on September 16, 1989, the licensee had an Auxiliary Feedwater (AFW) Auto Start. The licensee was in Mode 2 at the time and had just tripped the second Main Feedwater Pump (MFW). The AFW pump's auto start when both MFW pumps are tripped unless the signal is blocked. The operators' performed a General Operating Instruction (GOI)-3 step out of sequence, therefore causing the auto start. The licensee wrote an Event Report on this event. A similar event happened previously. The licensee reemphasized this event to their operators.

Running Centrifugal Charging Pump (CCP) Without Water Supply

On September 23, 1989, at 2:52 am, the North Centrifugal Charging Pump (CCP) was run for approximately 6 minutes with both suctions from the Volume Control Tank (VCT) closed (valves 112B and 112C). Six minutes later, when low flow annunciators came in for low Reactor Coolant Pump Seal flow, and low charging flow, the suction valves were noticed to be closed from the VCT and the RWST. The pump was immediately stopped and declared inoperable. An operator was dispatched to the pump, and no indication of overheating was observed. The oil was also checked for discolorization. Subsequent inspection found that maintenance personnel present at the time of the event also noted that the CCP seals were cool 15 minutes after the event. The pump was rotated by hand approximately two hours later to verify there was no rubbing.

Since the 'A' Emergency Diesel Generator (EDG) was out of service, the emergency boration Technical Specification (T.S.) 3.1.2.5 was a concern. The licensee verified that there was an emergency boration flow path to meet the T.S. 3.1.2.5.

The licensee's maintenance personnel discussed this event with the pump manufacturer. The licensee performed an inspection of the pump bearing. This is also discussed in paragraph 4.

The procedure used did not explicitly state for the operator to verify that the suction valves are open, but it does state to verify that there is a flow path to the pump. The operator was subsequently relieved by the licensee of control room operator responsibilities.

One violation was identified and no deviations were identified.

7. Follow-up of Licensee Event Reports [LERs] (90712, 92700)

LER 88-49, Revision 0, (Closed), "Partial Containment Isolations Result from Signal Spike and Operator Error." This LER reported partial containment isolations of the steam generator blowdown system (SGBD) on three different occasions within a 24 hour period. The licensee determined two of the isolations resulted from electronics noise spikes that exceeded the alarm setpoint. Subsequent licensee investigation, as

reported in LER 50-344/88-46 Revision 1, found that solenoid valve control circuits generated electrical noise in the power supply circuitry of the radiation monitors. As corrective action, the licensee installed noise suppression devices (capacitors) in these circuits. No unexpected isolations, as a result of noise, have been experienced since.

The third SGBD isolation occurred when an operator, who was evaluating an apparent abnormally low reading, took the PRM-10 control switch out of the CALIBRATE position toward the OFF position and, unintentionally, momentarily de-energized the radiation monitoring circuitry. The licensee concluded the consequences of troubleshooting needed to be fully evaluated prior to commencing the troubleshooting. The licensee conducted a lessons learned session with licensed operators on the subject of troubleshooting.

LER 89-17, Revision 0, (Closed), "Reactor Trip on Over Temperature Delta Temperature Signal." This LER reported an automatic reactor shutdown (trip) from 50% power due to the over temperature delta temperature (OT delta T) protection feature. The trip occurred while the OT delta T logic was in one out of three protection logic due to conducting a technical specification surveillance. The licensee concluded the trip was caused by an intermittent spike of another channel of OT delta T. The licensee, after investigating, could not identify what protection channel the spikes originated from or what caused the spikes. Prior to returning to power, the licensee recalibrated all OT delta T channels, replaced three electronic modules in Channel 4 OT delta T (the most suspect channel and modules), and instrumented all the channels to further attempt to identify and locate the source of the spikes. After a subsequent startup and shutdown during a separate investigation, the licensee did find several loose connectors that potentially could have resulted in intermittent signal spiking. The details of licensee actions and inspector followup are contained in paragraph 6.

Additionally, during the reactor trip, a feedwater suction relief valve lifted and failed to reseat. The licensee determined the relief valve lifted due to a pressure surge caused by the closing of the feedwater regulating valves. The relief valves stuck open because of subcomponent failures due to corrosion and vibration damage. The relief valve was repaired and returned to service. The licensee plans on further evaluating the timing of the feedwater regulating valves to minimize the pressure surges that occur during the valves' closure.

LER 89-18, Revision 0, (Closed), "Both Trains of Residual Heat Removal (RHR) Inoperable due to Cognitive Error."

The licensee determined the causes of the event were an error by the Operations crew to recognize the maintenance on FIS-611 resulted in B RHR system inoperability, inadequate administrative controls, and a lack of indepth review of planned work. As short term corrective actions, members of the operating crew were disciplined, an administrative procedure was implemented to improve coordination of safety train outages, and operations crew briefings were conducted to emphasize the importance of OPERABILITY determinations. As a long term corrective action, the licensee will research other facility programs for

controlling work and will consider changes in Trojan's administrative control program. NRC inspection report 50-344/89-27 documents inspection on this event.

No violations or deviations were identified.

8. Followup on Corrective Actions for Violations (92702)

Emergency Control Room Ventilation System not Tested in accordance with Technical Specification (Open Item 89-09-08, Open)

The licensee plans to revise their response to this violation to reflect their current assessment to assure consistency with Technical Specification requirements. The inspectors will review the licensee's response at that time and will include assessment of open item 89-09-06 in this review.

The following violations were reviewed to verify acceptability of selected licensee response and corrective actions, identification of root causes, generic implications, and actions to prevent recurrence.

Visual Examination of Pipe Supports using Unapproved Guidelines for Acceptance Criteria (Open Item 88-26-01, Closed)

Unverified Assumption used in Inverter Calculation (Open Item 89-09-02, Closed)

Failure to write Non-Conformance Report for Inverter Swings (Open Item 89-09-03, Closed)

Failure to account for Design Bases Wind Load in Calculation (Open Item 89-09-05, Closed)

Inadequate 50.59 Review CB-16 as Potential Missile to CB-1 (Open Item 89-09-07, Closed)

Failure to update Off-Normal Instruction for Annunciator Change (Open Item 89-09-11, Closed)

Failure to Calibrate Inverter Instrumentation (Open Item 89-09-13, Closed)

No violations or deviations were identified.

9. Followup on Open Items (92701)

The inspector verified selected actions and reviewed the licensee's Commitment Tracking List to assure acceptable resolution and tracking of the following:

Verification of Temperature Variations in Containment to assure Environmental Qualification assumption remain Valid (Open Item 88-43-02, Closed)

PGE Walkdown to Verify Valve List Accuracy (Open Item 89-09-01, Closed)

PGE Containment Spray Header Structural Support Evaluation (Open Item 89-10-04, Closed)

Lubrication of Brown/Boveri Circuit Breakers (Open Item 89-14-P, Closed)

Evaluation of Morrison-Knudsen Co., Inc. EMD 150 BMP Model D Air Start Motors (Open Item 89-19-P, Closed)

Evaluation of Defective Clip Connector in Solid State Protection System (Open Item 89-20-P, Closed)

No violations or deviations were identified.

10. Exit Interview (30703)

The inspectors met with the licensee representatives denoted in paragraph 1 on November 9, 1989, and with licensee management throughout the inspection period. In these meetings the inspectors summarized the scope and findings of the inspection activities.