

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/92002(DRP)

Docket No. 50-346

Operating License No. NPF-3

Licensee: Toledo Edison Company
Edison Plaza, 300 Madison Avenue
Toledo, OH 43652

Facility Name: Davis-Besse Nuclear Power Station

Inspection At: Oak Harbor, Ohio

Inspection Conducted: January 7, 1992, through
February 18, 1992

Inspectors: W. Levis
R. K. Walton

Approved By: I. N. Jackiw
I. N. Jackiw, Chief
Reactor Projects Section 3A

3-13-92
Date

Inspection Summary

Inspection on January 7, 1992, through February 18, 1992
(Report No. 50-346/92002(DRP))

Areas Inspected: A routine safety inspection by resident inspectors of licensee actions on previous inspection findings, licensee event reports followup, plant operations, followup of events, radiological controls, maintenance/surveillance, emergency preparedness, security, engineering and technical support, and safety assessment/quality verification was performed.

Executive Summary:

Plant Operations: The plant operated at full power during the inspection period.

Management has provided additional guidance to operators on when a safety system can be bypassed. The additional guidance was necessary when operators bypassed the Steam and Feed Rupture Control System during reactor shutdown on December 6, 1991.

A violation was identified with #2 Containment Hydrogen monitor out of service for maintenance, when operators found that the #1 Containment Hydrogen monitor was also deenergized. The condition existed for almost 10 hours before control room operators

observed the abnormal condition (Para 4).

Maintenance/Surveillance: Because of a letdown cooler leak through #1 Letdown Cooler, contamination and pH control problems the Component Cooling Water System have occurred. The licensee has isolated the cooler and plans to replace it during the next refueling outage.

Observation of an Auxiliary Feedwater System (AFW) Surveillance indicated several weaknesses. The inspectors review of an action plan to establish and maintain a freeze seal determined that the plan was well thought out. (Para 5).

Radiological Controls: A violation was issued when a radiological controls technician operated a containment air lock hatch without notifying operations personnel. LER 91-009 documents the event (Para 2).

Emergency Preparedness: The licensee conducted a drill to assess its ability to protect the health and safety of the general public and site personnel during a hypothetical accident. The licensee adequately identified drill weaknesses (Para 7).

Engineering/Technical Support: The cause of the cooldown event during reactor shutdown on December 6, 1991, has been aggressively pursued by Performance Engineering. Recommendations have been made to ensure that future reactor shutdowns do not cause unstable conditions to exist which could lead to a cooldown transient (Para 9).

Performance Engineering evaluated an event at another nuclear facility and made recommendations to prevent its occurrence at this facility.

Safety Assessment/Quality Verification: Licensee is continuing efforts to strengthen switchyard controls.

Licensee efforts with respect to Information Notice 91-70 were good (Para 10).

DETAILS

1. Persons Contacted

a. Toledo Edison Company

D. Shelton, Vice President, Nuclear
G. Gibbs, Director, Quality Assurance
*L. Storz, Plant Manager
J. Heffley, Manager, Maintenance
*M. Bezilla, Superintendent, Plant Operations
E. Salowitz, Director, Planning and Support
*S. Jain, Director, DB Engineering
*R. Zyduck, Manager, Nuclear Engineering
G. Grime, Manager, Industrial Security
D. Timms, Manager, Systems Engineering
J. Polyak, Manager, Radiological Control
*R. Coad, Supervisor, Radiological Protection
J. Lash, Manager, Independent Safety Engineering
*G. Honma, Supervisor, Compliance
*B. DeMaison, Manager, Emergency Preparedness
*J. Wood, Operations Administration
M. Stewart, Manager, Nuclear Training
*R. W. Schrauder, Manager, Nuclear Licensing
N. L. Bonner, Manager, Design Engineering
T. J. Myers, Director, Technical Services
*N. Peterson, Engineer, Licensing
*E. Caba, Manager, Performance Engineering
G. Skeel, Gen. Supervisor, Nuclear Sec. Operations
A. K. Zarkesh, Supervisor, Ind. Safe Engineering Group
*J. W. Rogers, Superintendent, I&C Maintenance
*D. Stephenson, Independent Safety Engineering
*L. W. Worley, Manager, Quality Assurance

b. USNRC

*W. Levis, Senior Resident Inspector
*R. K. Walton, Resident Inspector

*Denotes those personnel attending the February 18, 1992, exit meeting.

2. Licensee Action on Previous Inspection Findings

(Closed) Unresolved Item (346/89019-01(DRP)): Corrective Actions of Previous Events Not Always Effective.

In response to this concern the licensee established a Corrective Action Team which issued a report for improving the corrective action process. As a result, changes to the Potential Condition Adverse to Quality (PCAQ) process, such as establishing stricter membership requirements and further guidance when root cause analysis for repetitive events was required, were made. Open items are now tracked at the director level to ensure appropriate management attention.

A formal root cause procedure is still in development. The Operations group has issued its "Issues Book" which details circumstances of previous events such that appropriate lessons learned will be applied to prevent repeat occurrences. The use of other self assessment tools are being evaluated. The inspectors will continue to follow the licensee's efforts in this area. This item is closed.

3. Licensee Event Reports Followup (92700)

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

(OPEN) LER 91-007 Shutdown Required by Technical Specifications due to Emergency Diesel Generator Problems. On December 6, 1991, the licensee shutdown the reactor due to a failure of Emergency Diesel Generator (EDG) #2. This event was described in Inspection Report 346/91022. The increased surveillance frequency of EDG #2 was completed. It did not exhibit abnormal operation during these surveillances. The cause of EDG #2 failure was attributed to a timing switch. The switch is undergoing failure analysis. This item will remain open pending the inspectors review of the analysis.

(OPEN) LER 91-008 Reactor Trip Due To Blown Fuse During Maintenance On Non-Essential 4160 VAC Bus D2. This event was discussed in Inspection Report 346/91022. This event was due to a maintenance personnel error while working in a confined area and a design engineering error for having installed potential transformer leads on a current transformer terminal block. The licensee continues to study this event. This LER will remain open pending the inspectors review of the licensee's corrective actions.

(OPEN) LER 91-009 Seal Test Not Performed on Emergency Air Lock. On December 5, 1991, a radiological controls technician, while making preparations for a containment entry, cycled the containment emergency hatch inner door to verify that the strongback was not installed. DB-HP-01101, Containment Entry, requires that the strongback not be installed but did not state how to verify. The purpose of the strongback is to keep the doors closed when pressure testing the airlock volume to 38 psig. The strongback is normally mounted on the wall inside the airlock. This is inaccessible to view, so the technician cycled the inner door from outside the airlock to verify that the strongback was not installed. This event was not communicated to the shift supervisor. As a result, Technical Specification 4.6.1.3.a., which requires that the hatch seal be leak tested within 72 hours after use, was not performed.

The cause of this event was due to poor communications and lack of procedural guidance to verify the method of strongback removal. Licensee's corrective actions include changing DB-HP-01101, Containment Entry, to ensure that the shift supervisor is notified prior to operating emergency air lock doors. Additionally, strongbacks are now located in an area where they can be visually sighted. A computer annunciator, which alerts the control room operators that the emergency air lock doors are not closed, malfunctioned. A work order was issued to repair the annunciator circuitry.

The inspectors are concerned that personnel operated a piece of equipment, which placed the plant in a Technical Specification action statement, without the knowledge of the shift supervisor. DB-HP-00000, Radiological Protection Program Administration, step 6.1.5. requires that all radiological controls personnel ensure that their activities are performed in accordance with Technical Specifications and regulatory requirements. The failure to notify the shift supervisor of the operation of the inner containment emergency air lock door resulted in the failure to perform surveillance requirement (SR) 4.6.1.3. The failure to perform SR 4.6.1.3. is a violation (346/92002-01(DRP)).

No other violations or deviations were identified.

4. Plant Operations (71707)

a. Operational Safety Verification

Inspections were routinely performed to ensure that the licensee conducts activities at the facility safely and in conformance with regulatory requirements. The inspections focused on the implementation and overall effectiveness of the licensee's control of operating activities, and on the performance of licensed and non-licensed operators and shift managers. The inspections included direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions of operation (LCO), and reviews of facility procedures, records, and reports.

- 1) On December 6, 1991, as described in Inspection Report 346/91022, the inspectors observed that the plant experienced a cooldown transient during a normal reactor plant shutdown. During the cooldown transient, T_{sc} decreased to 505°F (with reactor coolant system pressure normal) and steam header pressure dropped to 660 psig. Control room operators observed the Steam Generator Low Pressure and High Level Block Permissive annunciators alarm at about 720 psig steam

pressure. The permissive allows operators to bypass a high level or low pressure condition during a normal shutdown without unnecessarily actuating the Steam and Feedwater Rupture Control System (SFRCS). Control room operators blocked the trip and continued efforts to stop the cooldown. The cooldown was stopped after additional steam loads were secured.

Operations policy 3A, Conservative Plant Operations, does not directly address a policy on bypassing safety features but implies operations management approval is required prior to performing such an activity. Operations management was present in the control room during the shutdown and was aware of when the system was bypassed. Operations management reviewed the event and issued a memo clarifying its position on when operators could bypass safety systems. It stated that bypassing safety systems shall be done in accordance with approved procedures and only when the operators have control of an adverse plant trend. Control was further defined to ensure that operators understood and could intervene to stop or reverse an adverse trend.

The inspectors believe that the use of the SFRCS block was inappropriate for the circumstances. Even though actual steam pressure did not drop to the SFRCS trip setpoint (less than 620 psig), the inspectors were concerned that operators blocked a safety system during a condition when they did not have full control of plant parameters. Technical Specification 3.3.2.2. and plant operating procedures allow operators to block SFRCS low pressure with steam pressures less than 750 psig. The block allows operators to prevent the actuation of SFRCS during normal plant cooldown.

Licensed operator training stresses that operators are not to bypass a safety system unless they have control of the plant parameter. Requalification failures have occurred relative to bypassing SFRCS during simulator training in the past. Licensed operator training continues to emphasize to its operators that safety systems be allowed to function without operator intervention. An analysis of this event was performed by Performance Engineering, (see paragraph 9).

- 2) On December 6, 1991, the plant declared Emergency Diesel Generator (EDG) 1-2 inoperable and entered a 72-hour Allowable Outage Time (AOT) Action to perform troubleshooting. After a speed switch was replaced and EDG 1-2 was successfully tested, the

control room received alarms indicating trouble with the EDG. A temporary waiver of compliance (TWOC) was issued to allow the plant to remain in MODE 3 after reactor shutdown so that plant cooldown was not required. The TWOC was issued to prevent thermal cycling of plant equipment which would otherwise have been necessitated by the plant cooldown. Repairs were made to the speed switch, the TWOC was exited, and the plant was restarted on December 11, 1991.

- 3) On February 10, 1992, at 12:10 a.m., #2 containment hydrogen monitor was made inoperable for maintenance. At 6:30 p.m. the same day, a control room operator noted that both containment hydrogen analyzer indicators were reading off scale low. A review of the computer alarm points found that #1 containment hydrogen monitor was 'bad'. The shift supervisor dispatched an operator who found that the power supply breaker to the #1 containment hydrogen monitor was open. The breaker was reclosed, the computer alarm cleared and the indicator returned to normal. The #1 containment hydrogen monitor was declared operable at 6:46 p.m. on February 10, 1992. The licensee continues to investigate how the breaker was repositioned.

A review of the computer alarm printer showed that the #1 containment hydrogen monitor was deenergized at 8:52 a.m. on February 10, 1992 and had gone undetected by operators for almost 10 hours. Both indicators on a back panel of the control room and the computer alarm monitor displayed this abnormal condition. Operator turnover, which occurs around 3 o'clock, includes panel walkdowns with two pairs of operators and two pair of senior operators. Additionally, operators periodically tour the control room when taking logs (even though containment hydrogen analyzer data is not logged).

The computer alarm monitor is often 'pages' in length. Operators often review only the first 'page' of computer alarms during turnover but are not required to do so. Inspection Report 346/89-201 stated, "...operators did not appear to be sensitive to individual computer alarms because of the number of computer alarms received during each shift. The inspectors found that there were no procedures for responding to computer alarms..." The licensee's response to this finding was:

"One computer CRT is normally maintained on

display for computer alarms in the Control Room. Operators are knowledgeable of the appropriate action to take upon receipt of a computer alarm."

The inspectors note that operators took the proper actions after identifying the abnormal condition. The licensee entered into Technical Specification 3.0.3, which requires plant shutdown with two inoperable hydrogen analyzers. A T.S. amendment, which was approved on January 16, 1992, addresses actions to be taken with both analyzers inoperable. It requires that with two analyzers inoperable, at least one analyzer be made operable within 72 hours or the plant be in hot standby within 6 hours. This amendment, however, was not yet entered into the Technical Specifications.

The corrective actions taken include, operator review of all computer monitor alarms twice a shift and a computer monitor problem log to document erroneous, malfunctioning or unnecessary computer alarms. This log will be reviewed by engineering personnel to resolve the problem points.

The inspectors are concerned that the #1 containment hydrogen analyzer power supply breaker was opened and that control room indicators, which detected the abnormal condition, were not observed by the operators for almost 10 hours. DB-OP-06417, CTMT Vessel Atmosphere H₂ Analyzer System operating procedure, step 3.1.4.d., requires that the four AC power circuit breakers in the rear of the cabinet be closed. On February 10, 1992 at 8:52 a.m., a breaker in the rear of the cabinet was opened contrary to DB-OP-06417, step 3.1.4.d. This is a violation (346/92002-02(DRP)) of Technical Specification 6.8.1.a, failure to implement DB-OP-06417.

Similarly, on January 28, 1992, an operator noted that the power supply breaker to motor operated decay heat valve DH2734 was found open. It is believed this breaker too, may have been accidentally opened during maintenance activities. The licensee documented this event on a Potential Condition Adverse to Quality Report (PCAQR 92-0018) and its investigation of this event continues.

b. Off-Shift Inspection of Control Rooms

The inspectors performed routine inspections of the control room during off-shift and weekend periods. The

inspections were conducted to assess overall crew performance and, specifically, control room operator attentiveness during night shifts. The inspectors determined that both licensed and non-licensed operators were alert and attentive to their duties, and that the administrative controls relating to the conduct of operations were being adhered to.

c. Engineering Safety Feature (ESF) System Walkdown

The operability of selected engineered safety features was confirmed by the inspectors during walk-downs of the accessible portions of several systems. The following items were included: verification that procedures match the plant drawings, that equipment, instrumentation, valve and electrical breaker line-up status is in agreement with procedure checklists, and verification that locks, tags, jumpers, etc., are properly attached and identifiable. The following systems were walked down during this inspection period:

- Auxiliary Feedwater
- 4160 VAC Switchgear

d. Plant Material Conditions/Housekeeping

The inspectors performed routine plant tours to assess material conditions within the plant, ongoing quality activities and plant-wide housekeeping. Housekeeping was generally adequate.

No other violations or no deviations were identified.

5. Radiological Controls (71707)

The licensee's radiological controls and practices were routinely observed by the inspectors during plant tours and during the inspection of selected work activities. The inspection included direct observations of health physics (HP) activities relating to radiological surveys and monitoring, maintenance of radiological control signs and barriers, contamination, and radioactive waste controls. The inspection also included a routine review of the licensee's radiological and water chemistry control records and reports.

Health physics controls and practices were satisfactory.

No violations or deviations were identified.

6. Maintenance/Surveillance (61726, 62703)

Selected portions of plant surveillance, test and maintenance activities on systems and components important to safety were observed or reviewed to ascertain that the

activities were performed in accordance with approved procedures, regulatory guides, industry codes and standards, and the Technical Specifications. The following items were considered during these inspections: limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating work; activities were accomplished using approved procedures and were inspected as applicable; functional testing or calibration was performed prior to returning the components or systems to service; parts and materials used were properly certified; and appropriate fire prevention, radiological, and housekeeping conditions were maintained.

On February 5, 1992, Donald Crouch accepted the position of Superintendent of Mechanical Maintenance. Mr. Crouch is a licensed senior reactor operator and was a shift supervisor for over four years. During the seventh refueling outage, he was an Outage Shift Manager.

The licensee, as a result of letdown cooler #1 leak of 1 gallon per hour, is experiencing contamination of the Component Cooling Water (CCW) System. The licensee has taken precautions to prevent the spread of contamination, such as installing collection devices on leaking CCW components and requiring personnel to be on a Radiation Work Permit (RWP) prior to entry into the CCW pump room. In addition to the contamination, the introduction of boron in the system requires additional pH controls. The difficulty in maintaining pH has resulted in occasional feed and bleed of the system. Water is drained from the system through floor drains to the miscellaneous waste monitor tank and water is added from the normal source, demineralized water system. The licensee is considering the installation of a temporary demineralizer skid to aid in cleanup of the system. Letdown cooler #1 was isolated on February 12, 1992, due to the additional burden on operations and increased processing of radwaste. Long term corrective action will be the replacement of the cooler during the next refueling outage. The inspectors will continue to follow licensee's efforts in this area.

a. Maintenance

The reviewed maintenance activities included:

- Troubleshooting Pressurizer Heater Breaker Auxiliary Relay
- Replacement of #1 Containment Hydrogen Analyzer Pump
- Establish Freeze Seal for Modification of Hydrogen Addition system

The inspectors met with licensee maintenance staff

to discuss the action plan for establishing a freeze seal. The freeze seal is established by applying a freezing agent to the exterior of the pipe and creating an ice block in the pipe's interior, thereby creating a maintenance boundary. The inspectors reviewed the licensee's plans and contingency action (in case of freeze plug failure) and its effect on plant operations. The inspectors thought that the action plan was thorough and well planned. The freeze seal was established on January 21 and 22, 1992, in support of modifying the hydrogen addition piping. The freeze plug was thawed on January 22, 1992, after the maintenance was complete.

b. Surveillance

The reviewed surveillances included:

<u>Procedure No.</u>	<u>Activity</u>
DB-MI-03112	Safety Features Actuation System Channel 2 Containment Pressure Calibration
DB-SC-03070	Emergency Diesel Generator #1 Monthly Test
DB-SP-03161	Auxiliary Feedwater (AFW) Train 2 Level Control, Interlock and Flow Transmitter Test
DB-SS-04151	Main Turbine Control Valve Test
DB-SS-04152	Main Turbine Combined Intermediate Valve Test
ST 5013.04	Control Rod Exercising Test

On January 15, 1992, during the performance of surveillance DB-SP-03161, the inspectors noted the following conditions:

- Step 4.3.55 requires that the leakage from the Auxiliary Feed Pump 1-2 Service Water supply line vent be estimated and recorded in milliliters per minute. The purpose of this measurement is to note leakage past valve SW1383 and prevent contamination of the condensate storage tank from the service water system. The operator performing the test had no means to collect the water coming from the vent and no stopwatch to note the time. Anything other than a crude approximation would be very difficult under these conditions. If accuracy is required, it was not being performed. The inspectors discussed this with Systems Engineering and found that the crude approximation was sufficient. An appropriate procedural change will be made to reflect this approximation.
- While performing section 4.4, the Instrument and

Control technicians vented the transmitters to the floor without using any collection device. Operations Standing Order 92-15 dated January 1, 1992, states that components in systems such as Main Steam are to be treated as potentially contaminated and that leakage or drainage be treated accordingly. The operator did notify Radiological Controls personnel following the inspectors question. The area was surveyed and no contamination was found.

- While performing step 4.3.55, which requires climbing to get access to a vent valve, no ladder was used and the operator did not use a safety belt; even though station policy requires a safety belt when working above 10 feet. The operator did not know these requirements.
- There was initially no copy of the procedure at the AFW room. The test was being controlled from the control room, which had contact with the operator via headsets. Following a break for lunch, after the inspector's question, a copy of the procedure was used by the operators in the AFW pump room.

Though these items are not a violation of regulatory requirements, they are contrary to established site policies and demonstrated a weakness in work practices. The items were discussed with licensee management who acknowledged the inspector's comments.

No violations or deviations were identified.

7. Emergency Preparedness (71707, 82701)

An inspection of emergency preparedness activities was performed to assess the licensee's implementation of the emergency plan and implementing procedures. The inspection included monthly observation of emergency facilities and equipment, interviews with licensee staff, and a review of selected emergency implementing procedures.

On February 5, 1992, the licensee performed an integrated emergency preparedness drill. The purpose of the drill was to monitor the performance of designated plant personnel during a simulated plant emergency and to correct noted weaknesses prior to the performance of the Emergency Preparedness Exercise which is scheduled for May 13, 1992. The licensee plans continued use of the simulator in lieu of the control room for drill purposes. This minimizes distractions of control room operators during the drill and is considered a strength. The inspectors noted good communications from the simulated control room to other emergency facilities with the exception of a lack of

periodic control room briefings by supervisory operators. The inspectors noted good command and control by the Emergency Plant Manager in the Technical Support Center (TSC). The TSC periodic briefings were informative of present plant conditions but did not fully describe near term goals. The inspectors read press releases created from the Joint Public Information Center and found them to be informative and easy to understand.

The licensee's post drill critique identified these and other issues which need additional attention. The licensee is taking corrective actions to correct any noted deficiencies.

No violations or deviations were identified.

8. Security (71707)

The licensee's security activities were observed by the inspectors during routine facility tours and during the inspectors' site arrivals and departures. Observations included the security personnel's performance associated with access control, security checks, and surveillance activities, and focused on the adequacy of security staffing, the security response (compensatory measures), and the security staff's attentiveness and thoroughness. Security personnel were observed to be alert at their posts. Appropriate compensatory measures were established in a timely manner. Vehicles entering the protected area were thoroughly searched.

No violations or deviations were identified.

9. Engineering and Technical Support (62703, 71707)

An inspection of engineering and technical support activities was performed to assess the adequacy of support functions associated with operations, maintenance/modifications, surveillance and testing activities. The inspection focused on routine engineering involvement in plant operations and response to plant problems. The inspection included direct observation of engineering support activities and discussions with engineering, operations, and maintenance personnel.

During the plant shutdown on December 6, 1991, a cooldown condition occurred, the cause of which was unknown to the operators. Performance Engineering analyzed the cooldown event in an attempt to recreate the condition and determine its cause. Its analysis included careful review of data collected by the Data Acquisition and Analysis System (DAAS), the alarm computer printer and personnel interviews. It concluded that the cooldown transient was caused by an excessive steam load. The report also made recommendations for procedure enhancements and additional operator training.

To confirm their findings, Performance Engineering recreated the plant shutdown on the simulator. The inspectors witnessed the simulated lowering of reactor power using data collected from the actual shutdown as an input to the simulator. The inspectors note that the simulator very closely duplicated the actual plant conditions during shutdown but lacked details necessary to fully recreate the cooldown transient. Performance Engineering reassessed the data and was later able to recreate the cooldown condition. They discovered two balance of plant problems which they recommend be repaired. Other recommendations include earlier starting of the auxiliary boiler and motor driven feedwater pump and earlier securing of a steam driven main feedwater pump.

The inspectors note that the licensee's analysis of this event and recommendations made were commendable. Performance Engineering feels that the simulator response is true to the plant with the exception of modeling the time response for auxiliary steam to the deareator feed tanks. The training department is presently assessing what actions need be taken to ensure that the simulator better duplicates actual plant conditions.

Performance Engineering evaluated an event at another nuclear facility to determine its applicability to Davis Besse. The event involved a partially open pressurizer spray valve which resulted in a loss of control of reactor coolant system pressure. Issues evaluated by the report include operators not effectively detecting the spray valve position, bypassing a safety system during a transient condition, and other issues. The report made recommendations for procedural changes and enhanced training of operators. The report also noted past problems with the Davis-Besse pressurizer spray valve and the corrective actions taken to prevent valve failure. Review of this event for applicability to Davis-Besse is considered a strength.

No violations or deviations were identified.

10. Safety Assessment/Quality Verification (40500, 92701)

An inspection of the licensee's quality programs was performed to assess the implementation and effectiveness of programs associated with management control, verification, and oversight activities. The inspectors considered areas indicative of overall management involvement in quality matters, self-improvement programs, response to regulatory and industry initiatives, the frequency of management plant tours and control room observations, and management personnel's participation in technical and planning meetings. The inspectors reviewed Potential Condition Adverse to Quality Reports (PCAQR), Station Review Board

(SRB) and Company Nuclear Review Board meeting minutes, event critiques, and related documents; focusing on the licensee's root cause determinations and corrective actions. The inspection also included a review of quality records and selected quality assurance audit and surveillance activities.

On August 30, 1991 with the plant at 63% power, the licensee received information that questioned the seismic qualification of its Foxboro Spec 200 instrumentation cabinets. Spec 200 instrumentation cabinets house Reactor Protective System, Post Accident Monitoring, Control Room Emergency Ventilation and other safety-related instruments. The licensee documented this condition in a Potential Condition Adverse to Quality Report (PCAQR 91-0308) as required by procedures. The NRC issued Information Notice 91-70 to address this concern.

During the seventh refueling outage, the licensee performed an inspection of all 15 Spec 200 cabinets and found that all the cabinets had seismic restraint deficiencies. The deficiencies were inconsistent from cabinet to cabinet but were limited to, brackets, rubber bumpers, and guide rails missing from inside the cabinets. Also, empty instrumentation card racks were not filled with dummy modules as required by the vendors instructions.

Prior to reactor startup, all affected cabinets had seismic restraints installed. The root cause for this event was poor vendor identification of the installation requirements for the cabinet seismic mounts and inadequate engineering review of the vendor documents. As a corrective action, design engineering instructed its people to carefully review vendor documentation for seismic requirements. The vendor issued a letter on October 22, 1991 acknowledging the potential installation errors and included revised instructions for proper seismic mounting.

The licensee intended to enlist a testing laboratory to determine if the cabinets, in their as-found condition, would have been operable during a seismic event. The results of this analysis will be used to determine reportability of this issue.

The licensee received NRC Information Notice 91-70, Improper Installation of Instrumentation Modules. The licensee's response dated December 6, 1991, stated that the Foxboro Spec 200 equipment "is presently installed in accordance with the manufacturer's instructions to maintain seismic qualification." The inspectors consider the licensee's response to the information notice to be timely.

As a follow on effort to their shutdown risk activities and response to recent industry events, the licensee has met with their transmission and distribution personnel to

establish firmer control of switchyard activities. As a result of these meetings, plant personnel are now notified prior to work being accomplished and what the scheduled work entails, along with plant activities required to support it. In addition, stricter access controls are now in place; the shift supervisor's permission is now required for personnel to enter the switchyard. A switchyard crane policy is in development. Presently a policy exists for work in the protected area only. A joint assessment of switchyard work practices is also being planned. The inspectors will continue to follow licensee's efforts in this area.

No violations or deviations were identified.

12. Exit Interview (71707)

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the inspection period and at the conclusion of the inspection and summarized the scope and findings of the inspection activities. The licensee acknowledged the findings. After discussions with the licensee, the inspectors have determined there is no proprietary data contained in this inspection report.