U.S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No: 50-397/91-46

Docket No: 50-397

License No: NPF-21

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

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Inspection at: WNP-2 site near Richland, Washington

Inspection Conducted: December 9, 1991 - January 23, 1992

Inspectors: R. C. Sorensen, Senior Resident Inspector
D. L. Proulx, Resident Inspector
C. D. Townsend, Resident Inspector, San Onofre
P. L. Eng, Project Manager

Approved by: _____ FOR _____ 2-21-92
P. H. Johnson, Chief Date Signed
Reactor Projects Section 3

Summary:

Inspection on December 9, 1991 - January 23, 1992 (50-397/91-46)

Areas Inspected: Routine inspection by the resident inspectors of control room operations, operational safety verification, surveillance program, maintenance program, licensee event reports, special inspection topics, and quality verification functions. During this inspection, Inspection Procedures 30702, 35702, 41701, 61726, 62703, 71707, 71714, 90712, 92700, 92701, 92702 and 93702 were utilized.

Safety Issues Management System (SIMS) Items: None.

Results:

General Conclusions and Specific Findings

Significant Safety Matters: None.

Summary of Violations and Deviations: One violation was identified involving the failure to establish the required 30 scfm blower capacity for the Main Steam Isolation Valve Leakage Control (MSLC) System surveillance.

Open Items Summary:

No followup items were closed, but five LERs were closed: Four new items were opened.

DETAILS

1. Persons Contacted

*J. Baker, Plant Manager
*L. Harrold, Assistant Plant Manager
C. Edwards, Quality Control Manager
*D. Pisarcik, Health Physics and Chemistry Manager
*R. Webring, Plant Technical Manager
J. Harmon, Maintenance Manager
*A. Hosler, Licensing Manager
*S. Davison, Quality Assurance Manager
R. Koenigs, Design Engineering Manager
S. McKay, Operations Manager
*J. Peters, Administrative Manager
*M. Reis, Compliance Supervisor
*W. Sawyer, Operations Shift Manager

The inspectors also interviewed various control room operators, shift supervisors and shift managers, maintenance, engineering, quality assurance, and management personnel.

*Attended the Exit Meeting on January 23, 1992.

2. Plant Status

At the beginning of the inspection period, the plant was operating at 100% power. On December 17, reactor power was decreased to 63% power because reactor water conductivity increased due to a small condenser tube leak. Operators removed one circulating water pump from service (with two pumps running rather than three) and conductivity decreased, so the reactor was returned to 100% power on December 18. On December 20, a condenser tube ruptured, resulting in a circulating water leak of approximately 65 gallons per minute (GPM). This caused reactor water conductivity to increase to nearly the TS limit of 10 micromhos/cm, and the operators manually scrammed the reactor. The reactor was shutdown for several days to repair the condenser tube leak and a safety relief valve acoustic monitor. The operators commenced a reactor startup on December 25, and the reactor achieved 100% power on December 27, and it remained at full power through the end of the inspection period.

3. Observation of Simulator Training (41701)

The inspector observed the performance of crews of licensed operators during simulated accident scenarios. One crew was comprised of three reactor operators and two staff senior reactor operators. This crew had been in simulator training for approximately six weeks. The other crew was comprised of the same three reactor operators (RO), but two different senior reactor operators (SRO). This crew was destined to become the sixth operating crew in the licensee's on-shift crew rotation, and they were preparing for an upcoming operational evaluation in February. Although the ROs had the benefit of six weeks of intensive simulator

training, the latter two SROs had not and were just beginning the simulator portion of their training. Consequently, the scenarios were less challenging and were conducted from a purely instructional, vice evaluative, standpoint. The staff crew was dealt more challenging scenarios that allowed evaluation of their skills at understanding and using the emergency operating procedures (EOPs), as well as other required skills.

To the degree that the inspector observed the scenarios, the inspector found that the operators in the staff crew appeared competent. The inspector had observed certain of these individuals in a similar setting several months ago, and he noted considerable improvement in their performance. Command and control were strong, although communications appeared to be disorganized on occasion. The instructors were encouraging, but were tough when warranted. For instance, the staff crew was failed in one evaluated scenario due to their lack of coordination and timeliness in handling a certain emergency situation. The staff crew successfully passed a licensee administered requalification exam near the end of the inspection period.

No violations or deviations were identified.

4. Management Visit and Tour (30702)

During the inspection period, Messrs. W. Russell of the NRC Office of Nuclear Reactor Regulation and K. Perkins of the NRC Region V office, visited WNP-2. The purpose of the visit was to meet with various members of the licensee staff to discuss the operator requalification process. They conducted a review of problems experienced by licensees during the NRC administered requalification exams in order to determine how the process could be improved. They noted that 10 of the 15 industry programs found to be unsatisfactory were due, at least in part, to emergency operating procedure (EOP) deficiencies.

Messrs. Russell and Perkins spoke with 17 persons from the Operations, Training, Quality Assurance, and Design Engineering staffs, as well as with members of Supply System senior management.

No violations or deviations were identified.

5. Seismic Qualification Concerns (92701)

During a plant tour, the seismic qualification of the diesel starting air (DSA) piping associated with the DSA receivers was questioned. The inspector subsequently reviewed the licensee's QID file that documented the seismic qualification of the subject piping.

QID File #019001 documents the analysis used to seismically qualify the skid mounted air start piping supplied by Stewart & Stevenson Services. The analysis was done by the vendor through the use of the ANSYS computer code. This involved the assignment of seismic nodes to various points in the starting air piping. Using this methodology, stresses in all piping locations were shown to be less than the allowables.

An accompanying drawing showed the qualified configuration of the starting air piping, as well as the location of nodes and pipe supports. The inspector verified that the as-built configuration of the DSA piping for Divisions 1 and 2 matched the drawing, as follows:

* by measuring a sample of piping dimensions as described in the drawing

* by verifying the proper location of piping supports as well as the proper type

* by verifying the integrity and tightness of the piping supports

One discrepancy was identified. The configuration of the Division 1 DSA piping differs from the drawing. Specifically, there are two vertical piping runs of approximately 28 inches each that are not shown on the drawing of the qualified configuration. The inspector asked cognizant licensee representatives to produce documentation to show that this as-built configuration was seismically qualified. Since this request was made at the end of the inspection period, this issue will be pursued in the next inspection period and is unresolved (Unresolved Item 397/91-46-01).

No violations or deviations were identified.

6. Operational Safety Verification (71707)

a. Plant Tours

The following plant areas were toured by the inspectors during the course of the inspection:

- Reactor Building
- Control Room
- Diesel Generator Building
- Radwaste Building
- Service Water Buildings
- Technical Support Center
- Turbine Generator Building
- Yard Area and Perimeter

b. The following items were observed during the tours:

(1) Operating Logs and Records. Records were reviewed against Technical Specification and administrative control procedure requirements.

(2) Monitoring Instrumentation. Process instruments were observed for correlation between channels and for conformance with Technical Specification requirements.

(3) Shift Manning. Control room and shift manning were observed for conformance with 10 CFR 50.54.(k), Technical Specifications, and administrative procedures. The attentiveness of the

operators was observed in the execution of their duties and the control room was observed to be free of distractions such as non-work related radios and reading materials.

(4) Equipment Lineups. Valves and electrical breakers were verified to be in the position or condition required by Technical Specifications and administrative procedures for the applicable plant mode. This verification included routine control board indication reviews and conduct of partial system lineups. Technical Specification limiting conditions for operation were verified by direct observation.

(5) Equipment Tagging. Selected equipment, for which tagging requests had been initiated, was observed to verify that tags were in place and that the equipment was in the condition specified.

(6) General Plant Equipment Conditions. Plant equipment was observed for indications of system leakage, improper lubrication, or other conditions that could prevent the system from fulfilling its functional requirements. Annunciators were observed to ascertain their status and operability.

(7) Fire Protection. Firefighting equipment and controls were observed for conformance with administrative procedures.

(8) Plant Chemistry. Chemical analyses and trend results were reviewed for conformance with Technical Specifications and administrative control procedures.

(9) Radiation Protection Controls. The inspectors periodically observed radiological protection practices to determine whether the licensee's program was being implemented in conformance with facility policies and procedures and in compliance with regulatory requirements. The inspectors also observed compliance with Radiation Work Permits, proper wearing of protective equipment and personnel monitoring devices, and personnel frisking practices. Radiation monitoring equipment was frequently monitored to verify operability and adherence to calibration frequency.

(10) Plant Housekeeping. Plant conditions and material/equipment storage were observed to determine the general state of cleanliness and housekeeping. Housekeeping in the radiologically controlled area was evaluated with respect to controlling the spread of surface and airborne contamination.

(11) Security. The inspectors periodically observed security practices to ascertain that the licensee's implementation of the security plan was in accordance with site procedures, that the search equipment at the access control points was operational, that the vital area portals were kept locked and alarmed, and that personnel allowed access to the protected

area were badged and monitored and the monitoring equipment was functional.

c. Engineered Safety Feature Walkdown

Selected engineered safety features (and systems important to safety) were walked down by the inspectors to confirm that the systems were aligned in accordance with plant procedures. During the walkdown of the systems, items such as hangers, supports, electrical power supplies, cabinets, and cables were inspected to determine that they were operable and in a condition to perform their required functions. Proper lubrication and cooling of major components were observed for adequacy. The inspectors also verified that certain system valves were in the required position by both local and remote position indication, as applicable.

Accessible portions of the following systems were walked down on the indicated dates.

System	Dates
Diesel Generator Systems, Divisions 1, 2, and 3.	January 9
High Pressure Core Spray (HPCS)	January 9, 10
Reactor Core Isolation Cooling (RCIC)	January 10
Standby Service Water System	January 6, 10
Main Steam Leakage Control (MSLC)	January 3
Standby Gas Treatment System (SGTS)	January 13
Residual Heat Removal (RHR) Trains A, B, C	January 13
Automatic Depressurization System (ADS)	January 10

d. During the inspector's walkdown of the MSLC system, the following conditions existed:

* MSLC-F-1 (the inboard MSLC subsystem suction filter for MSLC dilution flow) appeared to contain an excessive amount of dirt, and appeared to be in a degraded condition. This filter was installed to protect the MSLC system from damage due to the intrusion of large sized foreign material, and was categorized as a Quality Class 2 component. The inspector reviewed the preventive maintenance (PM) history for MSLC-F-1 and noted that no PM's had been performed for this filter, nor was any scheduled to be performed in the future. The inspector informed the System Engineer of the filter's condition, who stated that the filter would be cleaned and inspected.

* The manual handwheel for valve MSLC-V-1D directly contacted adjacent MSLC system piping. The inspector was concerned that a seismic event or thermal expansion could adversely affect the valve's or the MSLC system's operability, or that the valve could not be operated manually, if necessary. The licensee stated that the system was adequately restrained to prevent significant movement of the piping during a seismic event. Also, the system has been analyzed to demonstrate that less than 1/16" thermal expansion occurs during system operation. In addition, no problems had been noted with manual operation of the valve. Therefore, the operability of MSLC-V-1D was not in question. However, the licensee stated that TER/PMR 91-0146 was issued to correct this discrepancy during the next refueling outage, to support MOVATS testing.

* The inspector reviewed the last 18 month surveillance test (performed on May 26, 1991) that established MSLC system operability, per PPM 7.4.6.1.4.3, "18 Month MSIV Leakage Control System." TS 4.6.1.4.c.2 requires that each of the MSLC blowers establish at least 17" of vacuum at 30 standard cubic feet per minute (SCFM). However, PPM 7.4.6.1.4.3 required the capacity of the MSLC blowers to be recorded in cubic feet per minute (CFM). No correction factor was established to convert the recorded capacity to SCFM. The capacity for the inboard and outboard MSLC subsystem blowers was recorded as 31.4 and 31.0 CFM, respectively. The inspector performed independent calculations to convert these values to SCFM and noted that during this performance of this surveillance procedure, capacities of only 28.5 and 28.2 SCFM were obtained. This appears to be a violation of TS section 4.6.1.4.c.2 and TS 6.8.1. (Violation 397/91-46-02)

  The inspector discussed this issue with the System Engineer who stated that the licensee would evaluate the NRC's findings. Representatives of the licensee's Design Engineering group also performed calculations to convert the recorded blower capacity to SCFM, and confirmed the inspector's results. However, rather than declaring the surveillance results unsatisfactory and both trains of MSLC inoperable, the licensee issued a Plant Operations Committee (POC) approved TS interpretation that stated that conversion from CFM to SCFM was unnecessary for satisfactory performance of PPM 7.4.6.1.4.3, because adequate margin still existed to the design minimum capacity of 3.8 SCFM. The inspector informed the licensee that this TS interpretation was considered inappropriate because the TS requirement appeared to be specific in its acceptance criteria. Subsequently, on January 16, 1992, the licensee requested, and received, a Waiver of Compliance to TS 4.6.1.4.c.2 with the intention of amending this TS by March of 1992.

  Although the safety significance of this TS violation is minimal, it emphasizes the need for attention to detail in evaluating completed surveillance data. In addition, despite the apparent quality effort recently done by EXCEL in

evaluating TS compliance, this violation demonstrates the need for continued management attention in this area. In addition, PPM 1.3.34, "Plant Technical Specification Interpretation Process," stated that official management interpretations of the TS may be necessary when the TS are unclear or imprecise. It further stated that PPM 1.3.34 was not to be used to grant exceptions to TS requirements. Because TS 4.6.1.4.c.2 appears to be clear and precise in its criteria, utilization of PPM 1.3.34 did not appear to be the appropriate mechanism for resolving the inspector's concerns.

e. During the walkdown of the RCIC system, the inspector noted an unusual amount of vibration in small bore piping associated with a drip pot level switch. Since this portion of the RCIC system is subjected to reactor coolant system pressure, the inspector brought this concern to the attention of cognizant licensee representatives. The inspector was shown documentation of a study that was done to analyze the vibration in this section of the RCIC system.

Accelerometers had been placed at several different points in various areas of the subject piping. These accelerometers were used to measure accelerations and displacements of the piping, which was then used to calculate cyclic loads. The results showed that the cyclic loads were less than the ASME Code allowables used to establish an infinite number of cycles to failure. Although the inspector found this to be acceptable, he encouraged the licensee representatives to take the additional steps to identify the source of the cyclic loading.

One violation was identified.

7. Surveillance Testing (61726)

a. Surveillance tests required to be performed by the Technical Specifications (TS) were reviewed on a sampling basis to verify that: (1) a technically adequate procedure existed for performance of the surveillance tests; (2) the surveillance tests had been performed at the frequency specified in the TS and in accordance with the TS surveillance requirements; and (3) test results satisfied acceptance criteria or were properly dispositioned.

b. Portions of the following surveillance test were observed by the inspectors on the date shown:

Procedure	Description	Date Performed
7.4.3.2.1.1	DIV I Level 2 Isolation Actuation	January 3

No violations or deviations were identified.

8. Plant Maintenance (62703)

During the inspection period, the inspector observed and reviewed

documentation associated with maintenance and problem investigation activities to verify compliance with regulatory requirements and with administrative and maintenance procedures, required QA/QC involvement, proper use of clearance tags, proper equipment alignment and use of jumpers, personnel qualifications, and proper retesting. The inspector verified that reportability for these activities was correct.

The inspector witnessed portions of the following maintenance activities:

Description	Date Performed
Repair CRD-P-1B per AR 6042	January 7

No violations or deviations were identified.

9. Cold Weather Preparations (71714)

The inspector reviewed actions taken by the licensee to ensure that equipment important to safety was protected from freezing during the winter months. This inspection consisted of system walkdowns; tours of the Service Water Pumphouses, Circulating Water Pumphouse, Diesel Generator Building, Radwaste Building, Reactor Building, and Tower Makeup Pumphouse; review of clearance orders; verifying proper installation of tags; and interviews with personnel. The inspector utilized the licensee procedure from the Plant Procedures Manual (PPM), PPM 1.3.37, "Cold Weather Operations." Although minor deficiencies existed, all safety related systems, structures and components appeared to be adequately protected from freezing. The inspector brought the following deficiencies to the attention of the licensee:

* Paragraph 4.0 of PPM 1.3.37 stated "Implementation of this procedure will be initiated by a Scheduled Maintenance System (SMS) white card each November 1." Snow fell at the site on October 26, 1991, and several other days of below freezing weather occurred prior to November 1, 1991. It appears that the licensee's scheduled date of initiating cold weather preparations may not be adequate to cover all yearly weather conditions.

* Paragraph 5.1.6, step 13, of PPM 1.3.37 stated that the electrical pit in the Circulating Water Pumphouse (CWP) should be dry. The electrical pit contained several inches of water. (The fire pumps are located in the CWP.)

* Paragraph 5.1.6, step 11, of PPM 1.3.37 stated that each of the space heaters in the CWP should be in the "AUTO" position with the thermostats set at 50 degrees F. Space heater PRA-TS-4 in the CWP, was in the "OFF" position and its thermostat was set at 40 degrees. A deficiency tag (which had existed for over a month) hung from the thermostat, and indicated that the associated space heater required repairs. This condition did not appear to have a significant effect on the equipment located in the CWP, because it appeared to be warm in the area.

Licensee management acknowledged the inspector's findings at the exit meeting and committed to evaluating these observations for corrective action in the future.

No violations or deviations were identified.

10. Inspection of Quality Verification Function (35702)

The inspector reviewed selected portions of the licensee's Quality Assurance program. Quality Assurance (QA) is under the Operational Assurance Programs at WNP-2 and is referred to as Plant QA. As part of this inspection, the inspector interviewed licensee personnel and reviewed a sample of completed quality verification activities.

The inspector observed that the licensee has a number of individuals with good qualifications for various aspects of quality verification work, however, in reviewing completed QA documentation the inspector concluded that *not* all peronnel were able to provide both adequate technical reviews and the appropriate level of documentation and communication needed to clearly illustrate their issues. There were examples of good findings; however, in several cases, good issues had been rejected by the station due in part to QA presentation problems. Examples included the turbine overspeed testing issue described below, and an issue involving work performed on an operable RHR train with a second train out of service. Other surveillances reviewed were adequately documented but provided little technical findings. Plant QA is staffed with personnel with experience in areas such as operations, maintenance and health physics. Even so, it appears that they do not have a strong technical reputation with other divisions based on interviews with personnel outside of Plant QA. The Plant QA Manager agreed that there was room for improvement in this area. He indicated that Plant QA was in the process of adding new technically qualified personnel and enhancing training to address these concerns.

The inspector discussed surveillance planning with the licensee to assess knowledge of preparation requirements and responsiveness to emerging issues. The Plant QA personnel interviewed demonstrated good knowledge of their procedural requirements while understanding the need to remain flexible to deal with emerging issues.

The Assistant Plant Manager is responsible for resolving QA findings. The inspector considered this an appropriate level of interface with the Plant QA organization.

As part of this effort, the inspector reviewed problem evaluation request (PER) 291-212 and observed, as QA had previously identified, that the licensee had manually bypassed the first stage turbine pressure transmitters, MS-PS-3A,3B,3C,3D, temporarily, in order to conduct low power turbine overspeed testing without incurring spurious reactor trips. These transmitters provide reactor power indication, as sensed by first stage turbine pressure, to the Reactor Protection System (RPS) to automatically scram the reactor due to turbine valves or governor valves being nearly closed. These RPS scram signals are required by Technical Specification (TS) 3.3.1, Table 3.3.1-1, in Operational Mode 1. The trip

is bypassed when reactor power is less than 30%. To accomplish this, the trip is automatically bypassed when the turbine is below a load of 30% of rated thermal power (165 psig turbine first stage pressure). The action required by the technical specifications for having this instrumentation inoperable is to, in part, reduce turbine load to less than 30% rated thermal power. Also, the Final Safety Analysis Report (FSAR), Appendix H, section H.1.2.8 describes the recirculation pump trip (RPT) as a safety grade system to mitigate the thermal consequences of a turbine trip or generator load rejection by tripping the recirculation pumps early in a transient. The power level for the RPT is also sensed from these pressure transmitters.

The manual isolation of the transmitters was originally documented in PER-291-202. PER-291-202 states, in part, that "...the reactor would have scrammed if MS-PS-3A,3B,3C,3D were in service." Apparently, the method used to conduct the turbine overspeed testing may result in the first stage pressure indicating greater than 165 psig although the turbine load is actually less than 30%. Nonetheless, the manual isolation of these pressure switches had apparently occurred without appropriate administrative actions such as entering the TS action statement, or providing a safety evaluation for exceeding the trip setpoint without incurring a scram.

The inspector discussed the PER with the originator and determined that the testing was performed in Mode 1 at approximately 20% power and that the transmitters were temporarily valved out to avoid the spurious scram as had previously occurred. The licensee has determined that the pressure transmitters should not have been manually isolated without appropriate administrative controls and has modified the procedure for turbine overspeed testing. However, the inspector was not able to complete his review of this matter before the end of this inspection period. Therefore, this issue remains unresolved (Unresolved Item 397/91-46-03).

11. Concerns With Pressurization of the Shutdown Cooling Suction Piping (92701)

On December 9 the licensee informed the resident staff that the shutdown cooling suction line was being pressurized and required draining on a daily basis. Pressurization was attributed to leakage past RHR-V-8 and either RHR-V-9 or RHR-V-20. These valves are the isolation valves for the common suction line from the "A" recirculation loop. Both RHR-V-9 and RHR-V-20 are located in the drywell. Only RHR-V-8 is accessible during normal operation.

The licensee stated that it was considering two courses of action. The first involved declutching the motor operator for RHR-V-8 and manually tightening the valve using the handwheel. This method had been used in the past to alleviate this leakage. However, on this occasion the inspector questioned whether this approach would render the valve inoperable since the motor was not necessarily designed to open the valve under such conditions. This may result in valve or motor operator damage. The licensee stated that no damage had been identified in the past when such an approach had been taken for reducing the leakage. The

second alternative being considered was to leave RHR-V-8 as it was and continue periodically draining the RHR suction line.

The inspector noted that an additional problem had been identified by the licensee and documented on a PER regarding a deficiency on a number of motor operated valves, including RHR-V-8. The deficiency involved potential motor operator damage that could be inflicted by manual declutching operations, possibly precluding valve operation by the motor operator. Appropriate actions were being developed by the licensee to cope with this potential problem. The inspector also noted that RHR-V-8 was specifically utilized in the EOPs, and therefore warranted special consideration regarding manual declutching operations.

A pressure switch downstream of RHR-V-8 is set to alarm a control room annunciator at 168 psia. A relief valve in the same location is set to relieve at about 180 psia. These precautions were designed to prevent the occurrence of an inter-system LOCA, since the RHR system is not designed to withstand reactor coolant system pressure. Operations personnel were monitoring suction line pressure hourly and were draining the suction line about daily. The inspector will monitor the licensee's actions and will periodically monitor and trend RHR suction line pressure.

No violations or deviations were identified.

12. Manual Reactor Scram Due to High Reactor Water Conductivity (92701)

On December 20, WNP-2 was operating at 100% power, with two circulating water pumps operating. A third circulating water pump was started and, within two hours, a severe condenser tube leak had developed. The leak was estimated to be about 65 GPM using sulfur hexafluoride tracer methods. The third circulating water pump was secured in an effort to mitigate the inleakage, but reactor water conductivity continued to increase dramatically. A reactor downpower was commenced when conductivity passed through 1.0 micromho/centimeter. When reactor water conductivity reached 10.0 micromho/centimeter, the Technical Specification limit, the reactor was manually scrammed. Conductivity reached as high as 11.0 micromho/centimeter in the reactor and over 30.0 micromho/centimeter in the hotwell.

The severe leak was the result of an 8" to 12" long axial crack in an interior condenser tube. The tube was plugged, as well as a number of others with suspicious characteristics. The root cause for the tube failure has not yet been determined. The licensee will not remove the tube for analysis until the Spring 1992 refueling outage. Approximately 32% of the 48,000 condenser tubes have been eddy current tested. The licensee is currently evaluating whether the scope of the eddy current testing should be expanded during the Spring 1992 refueling outage.

In further discussions with cognizant licensee personnel, the inspector learned that conductivity has only exceeded 1.0 micromho/centimeter four times since plant startup, and had never exceeded 2.0 micromho/centimeter until this event. Although the licensee complied with the Technical Specifications during this event, the fact that reactor conductivity

exceeded 10.0 micromhos/centimeter, and had never been close to this value, presents some concern. Operations personnel have apparently been quicker in the past to shutdown the plant when a condenser tube rupture was evident. On this particular occasion however, it appears that they had been conditioned by two previous events where reactor conductivity had increased and then decreased when the third circulating water pump was secured. The plant had been scrammed on one of these previous occasions, even though reactor conductivity had not exceeded 1.0 micromho/centimeter, and was in fact trending down. In addition, PPM 1.13.1, Chemical Process Management and Control, had been revised about a year ago and contained new instructions for handling conductivity excursions, none of which included a reactor scram.

The reactor water chemistry LCO for conductivity is based on concern for early detection of chloride intrusion. While high chloride concentrations are generally not a concern in the circulating water system for WNP-2, and Technical Specification limits apparently were not exceeded during this event, high sulfate concentrations in the circulating water are of potential concern. Sulfates reached a value of at least 10,000 times the normal concentration in the reactor coolant. The effects of sulfate intrusion on reactor internals is apparently not well understood. The inspector will continue to follow the licensee's actions in response to this event (Followup Item 397/91-46-04).

No violations or deviations were identified.

13. Licensee Event Report (LER) Followup (90712, 92700)

The following LERs associated with operating events were reviewed by the inspector. Based on the information provided in the report it was concluded that reporting requirements had been met, root causes had been identified, and corrective actions were appropriate. The below LERs are considered closed.

LER NUMBER	DESCRIPTION
91-30	Plant Shutdown Due to Leakage Through Defective Weld
91-31	IRM Control Rod Block Channel Calibration not Performed Quarterly as Required
91-32	Reactor Scram due to Failure in a Feedwater Control System Component
91-33	250 VDC Battery Inoperable due to Lack of Fuse Coordination
91-35	Manual Scram due to High Reactor Coolant Conductivity in Excess of Technical Specification Limits

In addition, the following LER was reviewed by the inspector and left open pending verification of corrective action:

91-34	RHR D/P Switch Found Isolated During Surveillance Testing

No violations or deviations were identified.

14. Unresolved Items

Unresolved items are matters about which more information is required to determine whether they are acceptable items, violations or deviations. Two unresolved items addressed during this inspection are discussed in paragraphs 5 and 10 of this report.

15. Exit Meeting

The inspectors met with licensee management representatives periodically during the report period to discuss inspection status and an exit meeting was conducted with the indicated personnel (refer to paragraph 1) on January 23, 1992. The scope of the inspection and the inspectors' findings, as noted in this report, were discussed and acknowledged by the licensee representatives.

The licensee did not identify as proprietary any of the information reviewed by, or discussed with, the inspectors during the inspection.