

U. S. NUCLEAR REGULATORY COMMISSION
REGION III

Report No. 50-461/89008(DRP)

Docket No. 50-461

License No. NPF-62

Licensee: Illinois Power Company
500 South 27th Street
Decatur, IL 62525

Facility Name: Clinton Power Station

Inspection At: Clinton Site, Clinton, Illinois

Inspection Conducted: January 27, 1989, through March 16, 1989

Inspectors: P. Hiland
S. Ray
R. Landsman

Approved By: M. A. Ring, Chief *M. A. Ring*
Reactor Projects Section 3B

4/5/89
Date

Inspection Summary

Inspection on January 27, 1989, through March 16, 1989 (Report No. 50-461/89008(DRP))

Areas Inspected: Routine, unannounced safety inspection by the resident inspectors of licensee action on previous inspection findings; followup of Information Notices and regional requests; refueling activities; operational safety verification; monthly maintenance observation; monthly surveillance observation; onsite followup of events at operating reactors; licensee's implementation of requested actions of NRC Bulletin 88-07; and heat shrink tubing.

Results: Of the nine areas inspected, two violations were identified. One was in the area of operational safety verification and concerned procedures which allowed temporary changes to be made to procedures without meeting the requirements of Technical Specifications. The other consisted of four examples of failure to have adequate procedures or to follow those procedures and was discussed in the area of onsite followup of events at operating reactors. In addition, five "licensee-identified" violations were discussed in the area of operational safety verification.

These violations were of minor safety significance and the licensee had taken or was taking prompt and adequate corrective actions. The five violations had been or would be properly reported. For these five violations, in accordance with 10 CFR 2, Appendix C, Section V.G.1, a Notice of Violation was not issued. All of the above violations were receiving management attention. Two Unresolved Items were also identified in the area of operational safety verification.

DETAILS

1. Personnel Contacted

Illinois Power Company (IP)

W. Kelley, President
*W. Gerstner, Executive Vice President
*D. Hall, Vice President - Nuclear
#*J. Perry, Assistant Vice President
*K. Baker, Supervisor - I&E Interface
*E. Bush, Director - Nuclear Program Scheduling
T. Camilleri, Director - Plant Maintenance
*R. Campbell, Manager - Quality Assurance
J. Cook, Manager - Nuclear Planning and Support
*R. Freeman, Manager - Nuclear Station Engineering Department
D. Holesinger, Assistant Manager - Clinton Power Station
*M. Hollon, Acting Director - Nuclear Program Assessment Group
*D. Holtzcher, Acting Manager - Licensing & Safety
J. Miller, Manager - Scheduling & Outage Management
*R. Schultz, Director - Planning & Programming
#*J. Weaver, Director - Licensing
*J. Wilson, Manager - Clinton Power Station
*R. Wyatt, Manager - Nuclear Training
*P. Yocum, Supervisor - Plant Operations

Soyland/WIPCO

J. Greenwood, Manager - Power Supply

Nuclear Regulatory Commission

C. Paperiello, Deputy Administrator, Region III
R. Cooper, Chief, Engineering Branch, Region III
#*P. Hiland, Senior Resident Inspector, Clinton
H. Miller, Director, Division of Reactor Safety, Region III
M. Phillips, Chief, Operational Programs Section 2, Region III
*S. Ray, Resident Inspector, Clinton
P. Rescheske, Reactor Inspector, Region III

*Denotes those attending the monthly exit meeting on March 16, 1989.

#Denotes those attending the management meeting on February 10, 1989.

*The inspectors also contacted and interviewed other licensee and contractor personnel.

2. Previously Identified Items (92701) (92702) (92700)

- a. (Closed) Violation (461/87031-04): Between March and July 1987, numerous discrepancies, thought to be limited to only "housekeeping" items were identified by the licensee. The licensee failed to promptly correct conditions and/or failed to evaluate and document the discrepancies that had been identified.

This item was previously reviewed as documented in Inspection Report No. 50-461/87032, Paragraph 2.e. At the time of that review, this item remained open pending receipt of a revised response to the violation based on additional discrepancies identified by the licensee. The licensee provided a supplemental response via IP Letter U-601254, dated November 18, 1988. In their supplemental response the licensee identified that the original response (ref: IP Letter U-601040, dated September 21, 1987) had been changed from 18 to 28 items.

As stated in the licensee's supplemental response, during the course of rework on the original scope of 18 concerns, the licensee identified 10 additional items as requiring rework. The 10 additional items were documented on corrective action documents to provide the required rework. During this report period, the inspectors reviewed completed work packages that implemented the stated corrective action.

Based on the completion of rework by the licensee and the corrective action previously taken as documented in Inspection Report No. 50-461/87032, Paragraph 2.e., this item is closed.

Items listed in subparagraphs b. through o. below have been closed based on a directive by the Division Director, Division of Reactor Safety, Region III. Our decision to close these items was based on the length of time the item had been in existence and the recognition of limited safety significance.

- b. (Closed) Open Item (461/85005-01): Verify Piping Vibration, Thermal Expansion and Dynamic Effects Testing Performed During Preoperational Test Program (SSER-2, Paragraph 3.9.2). The inspectors noted that IP Memorandum JAM 86-593, dated November 24, 1986, documented the licensee's closure of this item.
- c. (Closed) Open Item (461/85005-20): Verify Installation of Heavy Duty Turbocharger Drive Gear Assembly on all Emergency Diesel Generators (EDGs). The inspectors noted that IP Plant Modification DG-38, which installed the new turbochargers, had been implemented and tested on all three EDGs during this inspection period.

- d. (Closed) Open Item (461/86028-07): Install Isolation Switches and Redundant Fusing in Remote Shutdown Panel. The inspectors noted that IP Plant Modification RS-04 was installed and tested during this inspection period to address this item.
- e. (Closed) Unresolved Item (461/86037-03): Adequacy of Inservice Inspection (ISI) Program. The inspectors noted that regional specialists conducted inspections of the ISI Program during this inspection period.
- f. (Closed) Unresolved Item (461/86053-02): Verify the Effectiveness of Training Provided to Licensee Personnel to Perform Safety Evaluations Required by 10 CFR 50.59. Several other inspections have been conducted of safety evaluations since this item was opened. No significant deficiencies were noted.
- g. (Closed) Violation (461/86053-05): Examples of Failure to Follow Procedures in Maintenance and Modification Activities. All issues involved in this violation had been previously closed except item 461/86053-02 which was closed above.
- h. (Closed) Open Item (461/86054-08): Verify Equipment Enhancements to Meet the Hydrogen Control Rule are Implemented (SSER-6, Paragraph 6.2.7). The licensee will respond to this issue as required after the issuance of the NRC Staff's generic Safety Evaluation Report of the Hydrogen Control Owners Group topical report of Mark III containments.
- i. (Closed) Open Item (461/86054-13): Verify that Fuel Pool Cooling and Cleanup System Pump Motors Have Been Environmentally Qualified After Shutdown Involving Fuel Offload (SSER-6, Paragraph 9.1.3(1)). The inspectors noted that IP Plant Modification FC-12 was implemented during this inspection period to address this item.
- j. (Closed) Open Item (461/86066-01): Update Final Safety Evaluation Report Table 6.2-47 to Show Valve 1E51F068 (RCIC) was to Remain Open During Type A Testing. The inspectors noted that Updated Safety Analysis Report Table 6.2-47 shows that 1E51F068 was to remain open.
- k. (Closed) Open Item (461/86066-03): Install Additional Temperature Monitors for containment Integrated Leak Rate Testing (ILRT). The next performance of the containment ILRT will be inspected by the NRC.
- l. (Closed) Unresolved Item (461/86077-02): Plant Modifications Audit Findings Need to be Resolved. Plant modifications will be inspected in future inspections.

- m. (Closed) Open Item (461/87004-01): Safety Related Circuits Depicted on Schematic Diagrams Did Not Show Existing Fuses. The inspectors noted that IP Memorandum Y-84329, dated May 6, 1987, documented the licensee's investigation and conclusion that the existing schematics were correct.
- n. (Closed) Open Item (461/87036-03): Questions Regarding the Use of the Verbs "Should/Shall" in Emergency Procedure Guidelines. The inspectors noted that IP Memorandum signed by the Assistant Plant Manager - Operations (no date), concluded that use of the verbs should and shall was appropriate.
- o. (Closed) Information Notice 88-03 (461/88003-NN): Cracks in Shroud Support Access Hole Cover Welds (BWRs). The licensee's plans for conducting inspections for the subject cracks were forwarded to Region III.
- p. In Inspection Report 50-461/88030, Paragraph 9, a contract NRC inspector noted that he did not find any formal procedure for review of amendments to Technical Specifications to see if changes to surveillance, preventative maintenance, or corrective maintenance procedures would be required to incorporate the amendments. During this inspection period the licensee provided the inspectors with information detailing their procedures for incorporating amendments to Technical Specifications. Licensing and Safety Procedure L.8 required that Licensing and Safety Department notify all applicable departments of pending changes to the operating license and request that each department review the changes for any impact on that department's procedures, documents and programs. For any needed changes to procedures that are identified in this review a Commitment Tracking Form is submitted to insure the changes are incorporated within a short period of time after the amendment is approved. The licensee also provided examples of cases where procedure L.8 had recently been used to make required changes to surveillance procedures. The information provided closed the inspectors concerns in that area.
- q. (Open) Violation (461/88023-02): Inadequate Records of Diesel Generator Starts.

Refer to Paragraph 7 of this report for followup of this item.

No violations or deviations were identified.

3. Followup of Information Notices/Regional Requests (92701)

As a result of the finding of two balls missing on Hydraulic Control Unit (HCU) Charging Water Ball Check Valves, 1C11-115, at Dresden

Station, regional management requested an inspection to determine if a similar condition could exist at Clinton. The condition had the potential of preventing affected control rods from scrambling at low reactor pressures. The inspectors reviewed Surveillance Procedure CPS No. 9115.01, "CRD Accumulator Check Valve Leak Test." The procedure was to be performed each refueling outage and had not been previously performed.

The inspectors noted that CPS No. 9115.01, steps 8.3.1 and 9.2.1 provide the requirement that the test demonstrate that the scram accumulators hold their charge above the alarm setpoint for a period of 10 minutes without the Control Rod Drive (CRD) drivewater pumps in operation. The inspectors noted that in the licensee's response to Grand Gulf Final Safety Analysis Review question 211.17, they stated that normal surveillance testing of the scram accumulator check valves would assure that the scram accumulators hold their charge above the alarm setpoints for at least 20 minutes without the CRD pumps. Although the inspectors could find no basis for the change in commitment, the inspectors noted that other plants with identical HCUs performed the test for periods as short as two minutes. Licensing and Safety Department staff informed the inspectors that the original draft of the Clinton Technical Specifications included a surveillance requirement for a 10 minute test but it was later dropped when the NRC staff determined that the test was not required to be part of the Technical Specifications.

On March 12, 1989, CPS No. 9115.01 was performed. The surveillance demonstrated that there were no check valve balls missing as indicated by the lack of gross back leakage. One accumulator low pressure alarm was received a few seconds before the end of the ten minute period but a check of the local accumulator pressure gauge showed that pressure was still above the lower allowable limit for the alarm setpoint. The specified alarm setpoint was 1520 psig with an allowed band of 1520-1550 psig. A calibration conducted the day before the test left the alarm setpoint at 1540 psig. Operators verified that the accumulator pressure was still above 1520 psig at the 10 minute point. The inspectors had no further concerns about this item.

No violations or deviations were identified.

4. Refueling Activities (60710) (92703)

During the report period, inspections of refueling activities were performed by the inspectors. The purpose of these inspections was to verify that the licensee was performing refueling activities in accordance with approved procedures and Technical Specifications.

In addition to the inspectors' observations, a Region III specialist inspector observed refueling activities, the results of which were documented in Inspection Report 50-461/89002.

On January 7, 1989, the removal of the dryer assembly from the reactor vessel was interrupted when an unanticipated radiation monitor interlock was activated during the removal process. This interlock prevented continuous movement of the dryer assembly for about 5 minutes until the polar crane operator bypassed the interlock to continue the removal process. Contractor personnel were unaware of the interlock and its functions. They overrode the interlock in violation of procedures and failed to communicate the event to the Control Room. On January 8, 1989, the contractors removed the moisture separator from the reactor vessel while again overriding the radiation monitor interlock on the polar crane. On January 28, 1989, an incorrect fuel bundle was removed from the reactor core and placed in the refueling pool upender before the error was identified by refueling operators. On January 31, 1989, a startup neutron source was dropped onto the reactor core while removing it from the reactor.

Based on the above events, the licensee suspended all refueling operations until a management evaluation of the errors made could be performed and corrective actions put in place.

The steps to be taken by the licensee were detailed in NRC Confirmatory Action Letter, CAL-RIII-89-005, dated February 1, 1989, and included the following:

- "1. Develop an action plan to recover the dropped source and assess any damage incurred to the startup neutron source, the fuel bundles in the vicinity of the dropped source, the top bundle support plate, and any other in-vessel components that may have been impacted by the dropped component.
2. Conduct a management critique of the three events and evaluate the effectiveness of root cause determination and the adequacy and implementation of the corrective actions to prevent recurrence. This should include, but not be limited to:
 - a. A review of the adequacy and effectiveness of initial pre-refueling and post-event training of contractor and Illinois Power personnel regarding refueling operations.

- b. A review of the adequacy and effectiveness of procedures, communications, and contractor controls associated with refueling operations.
 - c. Review current refueling problems and events against problems and events encountered during your initial core load and where commonalities exist, explain why your past corrective action was ineffective in preventing recurrence.
3. Within 30 days provide NRC Region III with a formal report regarding your site procedures involving the control of contractors performing safety-related activities for adequacy of content, communications and associated training.
4. Within 30 days of the conclusion of your refueling activities, submit to NRC Region III a formal report of all significant events that occurred during the refueling to include root cause determination and corrective action taken to prevent recurrence."

Further, the licensee was to obtain concurrence from the Region III Regional Administrator prior to resumption of refueling activities.

The licensee's initial response to CAL-RIII-89-005 was provided in IP Letter U-601375, dated February 10, 1989. That response detailed the licensee specific actions on items 1 and 2 above and partially addressed items 3 and 4. For item 1, the licensee developed an action plan and recovered the dropped source on February 3, 1989, (detailed observations of this activity were documented in Inspection Report 50-461/89002). For item 2, the licensee provided the results of their management critique of the three events which included root cause identification and corrective action taken or planned. The results of that critique were discussed at a management meeting between Region III and the licensee conducted on February 10, 1989, and discussed in Paragraph 11 of this report. The licensee also submitted IP Letter U-601381, dated March 3, 1989, to clarify their response in the area of contractor control.

Based on the licensee's completion of corrective actions identified as a result of the licensee's management critique, the Region III Regional Administrator concurred with the licensee's resumption of refueling activities on February 15, 1989.

The inspectors verified by direct field observations that the remaining refueling activities were completed in accordance with approved procedures and Technical Specifications. The inspectors

noted that the additional controls and training provided to refueling personnel appeared effective in assuring refueling activities were properly accomplished. The inspectors directly observed training classes for the remaining refueling operations and practice sessions using a simulated fuel bundle. Core alterations were completed on February 22, 1989. Vessel reassembly to the point of installing the internals, tensioning the head, and entering OPERATIONAL CONDITION 4 were completed on March 16, 1989.

For items 3 and 4 above, the inspectors will review the licensee's required responses and document the results of that review in a future inspection report. This review will be tracked by Open Item 461/89005-01. The inspectors noted that IP Letter U-601399, dated March 7, 1989, requested an extension of the due date for item 3 above until March 21, 1989.

Violations and deviations in this area were reported in Inspection Report No. 50-461/89002. No additional violations or deviations were identified.

5. Operational Safety Verification (71707) (61720) (RIII-89-A-0027)

The inspectors observed control room operations, attended selected pre-shift briefings, reviewed applicable logs, and conducted discussions with control room operators during the inspection period. The inspectors verified the operability of selected emergency systems and verified tracking of LCOs. Routine tours of the auxiliary, fuel, containment, control, diesel generator, turbine buildings and the screenhouse were conducted to observe plant equipment conditions including the potential for fire hazards, fluid leaks, and operating conditions (i.e., vibration, process parameters, operating temperatures, etc). The inspectors verified that maintenance requests had been initiated for discrepant conditions observed. The inspectors verified by direct observation and discussion with plant personnel that security procedures and radiation protection (RP) controls were being properly implemented.

Inspections were routinely performed to ensure that the licensee conducted 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 the performance of licensed and nonlicensed operators and shift technical advisors. The following items were considered during these inspections:

- Adequacy of plant staffing and supervision.

- Control room professionalism, including procedure adherence, operator attentiveness and response to alarms, events, and off-normal conditions.
- Operability of selected safety-related systems, including attendant alarms, instrumentation, and controls.
- Maintenance of quality records and reports.

During the entire inspection period the plant remained shutdown for the first refueling outage. On March 16, 1989, the plant entered OPERATIONAL CONDITION 4 with the tensioning of the final reactor vessel head bolt.

- a. On January 16, 1989, the licensee discovered that they had three electrical penetrations through the secondary containment that did not contain the required internal ventilation seals. The unsealed penetrations were discovered during a walkdown of previously inaccessible areas as part of the corrective action for an August 5, 1988, occurrence where the licensee discovered that the penetration seal contractor had failed to review concrete and block wall airlock-type barriers when determining the scope of penetrations requiring sealing mechanisms. The inspectors noted that the three unsealed penetrations were discovered despite the fact that they were outside the scope of the walkdown being conducted. The conduits penetrated a sheet metal wall between the main steam tunnel and the turbine building.

The licensee reported this event as LER 89-006-00 dated February 15, 1989. In the LER the licensee attributed the cause of the missing seals to the fact that the penetration seal contractor incorrectly designated the seals as turbine building seals and not auxiliary building seals. Thus when a review of penetrations requiring seals was conducted during construction, it was incorrectly determined that internal seals were not required for the conduits.

Corrective actions for the event included sealing the three conduits and performing a review of the penetration seal data base to review other secondary containment penetrations that the contractor indicated did not require a seal. The licensee identified 127 additional penetrations in the scope. The licensee has reviewed the 127 penetrations and determined by documentation and field walkdowns that sealing mechanisms, where required by design, were installed by other contractors.

Technical Specification 3.6.6.1 required that secondary containment be maintained in operational conditions 1, 2, and 3,

and when irradiated fuel was being handled in the secondary containment and during core alterations and operations with the potential for draining the reactor vessel. The definition of secondary containment in the Technical Specifications included the requirement for operable sealing mechanisms on penetrations. Thus the plant had been in non-compliance with the Technical Specifications for most of the period from initial operation on September 29, 1986, until the seals were installed on January 16, 1989. Because of the small amount of leakage that could be expected through the conduits and the fact that periodic surveillances had demonstrated that the Standby Gas Treatment System was able to maintain the design secondary containment negative pressure, the safety significance of the violation was small. This event is considered a "licensee-identified" violation (461/89008-01) for which a Notice of Violation will not be issued in accordance with 10 CFR 2, Appendix C, Section V.G.1. This item is closed. The inspectors will review the completion of the LER corrective actions separately.

- b. On February 10, 1989, while conducting maintenance on Intermediate Range Monitor (IRM) "C" to straighten out a bent instrument tube, the instrument technicians inadvertently disconnected the drive motor from Source Range Monitor (SRM) "C" instead of IRM "C." They had connected a hand retracting tool and retracted SRM "C" about six inches before discovering their mistake. They then inserted SRM "C" with the hand tool and reconnected the drive motor. When informed of the mistake, the Shift Supervisor declared SRM "C" inoperable until the operators ran the detector drive system through a full cycle. The operators and the inspector reviewed the chart recorder for SRM "C" and noted that there had been no change in count rate during the time the detector had been withdrawn six inches. The operators had not noted that the detector had been partially withdrawn because the drive display was not normally kept continuously energized.

The licensee documented their investigation into this event in IP memorandum TJC-0751-89, dated February 14, 1989. That investigation concluded that the work planning for repair of IRM-C was incomplete; the lack of drive motor module location information was not recognized; a lack of understanding the system layout by all individuals contributed to this event; proper reference prints were not made available in the maintenance work package.

In order to make repairs to the IRM-C instrument tube, the maintenance work package (MWR D-02857) provided instructions on how to lower the IRM-C detector using local control of the detector motor module. When the maintenance technicians began

the work in the field, drive motor module "SRM/IRM-C" was located and assumed to be the correct drive motor. However, as discussed above the initial drive motor selected was incorrect. The correct drive motor for IRM-C was "SRM/IRM-G."

At the time of this maintenance activity, the reactor plant was in OPERATIONAL CONDITION 5 (Refueling) with no CORE ALTERATIONS in progress. SRM-C was one of only two operable SRMs (SRM-A and D were inoperable for unrelated reasons). Technical Specification 3.9.2. required at least 2 source range monitor channels be OPERABLE and inserted to the normal operating level. The ACTION statement when not meeting Technical Specification 3.9.2. required suspension of all operations involving CORE ALTERATIONS and insertion of all insertable control rods. Plant conditions had met the ACTION statement since CORE ALTERATIONS were not in progress and all control rods were inserted; therefore, Technical Specification 3.9.2. was in compliance.

10 CFR 50, Appendix B, Criteria V requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings. Failure of the licensee to provide adequate instructions for the repair of IRM-C on February 10, 1989, which resulted in work being conducted on the wrong instrument, was a violation (461/89008-02). However, the inspectors review of this item concluded that the licensee had performed the maintenance activity in a cautious manner which led to a prompt identification of the inadequate maintenance procedure; the applicable Technical Specification including its associated ACTION statement had been met; immediate and appropriate action was taken by the Shift Supervisor to reinsert SRM-C and verify continued operability. Corrective action detailed in the licensee's investigation report included counseling the Supervisor - Maintenance Planning on the requirement to recognize the need for special planning attention for infrequent maintenance tasks and discussions with all supervisors and assistant supervisors were held to define their responsibility for infrequently performed work.

Based on the above actions taken by the licensee, the inspectors concluded that this was a "licensee-identified" violation for which a Notice of Violation will not be issued in accordance with 10 CFR 2, Appendix C, Section V.G.1. This item is closed.

- c. On February 14, 1989, the inspectors reviewed Temporary Modification 89-011. This Temporary Modification was approved and installed on January 25, 1989. Its purpose was to allow connecting an operable source range monitor (SRM) detector from one channel to operable electronics from another SRM channel in

order to maintain the SRMs operable in the necessary quadrants during CORE ALTERATIONS. The temporary modification was necessary due to excessive noise being experienced in SRM electronics, especially on the "D" channel. The safety evaluation for the temporary modification stated in part that as a result of the modification "there is no affect on the SRM's ability to provide signals to the RC&IC [Rod Control and Information System] for control rod block signals." Although that statement was technically true, it did not identify the fact that if the channel was reading above 100 counts per second (cps) after the modification, the "detector not full in" rod block would be bypassed. The safety evaluation further stated "it should be noted that if three channels are inoperable, then a rod block signal needs to be put in per the requirements of Technical Specification 3.9.2."

The specific temporary modification installed on January 25, 1989, consisted of hooking the "D" SRM detector up to the "A" SRM electronics. Thus the "D" SRM electronics was receiving no input signal. Due to the noise in the "D" electronics, it was indicating greater than 100 cps even with no input signal. At the time the temporary modification was installed, the "D" SRM channel was not placed in trip. One of the plant operators noted that the reading of greater than 100 cps bypassed one of the rod block signals from the "D" electronics. At the time, the rod block was not required from channel "D" because Technical Specifications required only 2 operable channels and two other channels were operable.

On January 26, 1989, less than two SRMs became operable and the licensee placed the "D" SRM drawer trip test switch in the "zero" position which simulated a 0 cps output and unbypassed the "detector not full in" rod block feature. The licensee later placed caution tag 89-295 on the switch to insure that the rod block would not be bypassed due to the noise on the channel. The inspectors determined that the licensee's actions had been adequate.

- d. On February 18, 1989, a non-licensed operator noted that two mechanical maintenance personnel were starting to perform a preventative maintenance task on the wrong emergency diesel generator (EDG). They had been scheduled to change the air intake filters on the Division II EDG but had actually set up to work on the Division I EDG. The Division I EDG was required to be OPERABLE at the time. The work was stopped before it had reached the point of affecting the operability. The licensee was evaluating corrective actions to prevent recurrence.

- e. On February 20, 1989, while performing preplanned maintenance activities on the Division II Emergency Diesel Generator (EDG), the licensee identified discrepancies between the approved Maintenance Procedure, CPS No. 8707.05, Revision 3, and vendor supplied technical manual instructions for installing drive housings on the EDG air start motors. While orienting the drive housing on a Division II EDG air start motor, a maintenance technician stripped a bolt hole when torquing to the procedurally required 20-25 ft.-lbs. (ref: CPS No. 8207.05, Paragraph 8.3.1). The maintenance technician informed supervision of the stripped housing and a review of the procedure against current vendor supplied technical manuals identified a discrepancy in that rather than the 20-25 ft.-lbs identified in plant procedures, the current vendor tech manual specified a torque value of 10-12 ft.-lbs. The housing assembly was bolted to the air start motor by 12 bolts. There are 6 air start motors installed on the Division I and II EDGs.

Since the Division I EDG was recently returned to service following a similar maintenance outage, the licensee declared it inoperable and complied with Technical Specification 3.8.1.2, ACTION a. by suspending CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, operations with a potential for draining the reactor vessel, and crane operations over the spent fuel storage pool. At the time of this event the reactor plant was in OPERATIONAL CONDITION 5 (Refueling) and CORE ALTERATIONS were in progress. The licensee removed the 6 air start motors from the Division I EDG, removed the 12 housing support bolts, and inspected the bolt holes. One of the six air start motors was replaced when one bolt hole showed indications of wear. The licensee verified all housing bolts were torqued to the vendor technical manual specified 10-12 ft.-lbs. Following acceptable post maintenance testing Division I EDG was declared operable at 12:20 p.m. on February 21, 1989.

The licensee's investigation into this event identified that when the original Technical Manuals were received for the three on site emergency diesels there was no distinction between the air start motor installation instructions. However, the Division I and II EDGs incorporated a "POW-R-QUICK PS60" air start motor and the Division III EDG incorporated an "Ingersoll Rand" air start motor. The major difference between the two types of air start motors was that the POW-R-QUICK used an aluminum cast motor and the Ingersoll Rand used a steel cast motor. The original vendor installation manual directed a torque value of 20-25 ft. lbs. apparently with the assumption that all air start motors were of the Ingersoll Rand (steel motor) type. The licensee is continuing their investigation to

determine if the current vendor information for the POW-R-QUICK air start motors had been properly received from the EDG supplier and whether that information had gone through an adequate review when received on site. The licensee initiated Condition Report No. 1-89-02-112 to document the above identified problem, provide root cause identification, corrective action, and evaluate reportability. The inspectors will review the licensee's final disposition of that Condition Report and the licensee's determination that the event was not reportable.

On February 22, 1989, during a tour of the diesel generator rooms, the inspectors noted that one of the 12 drive housing bolts on one of the six air start motors on the Division I EDG was loose. The bolt was backed off about one half turn. The inspector brought the discrepancy to the attention of the Shift Supervisor who took prompt action to retorque the bolt and check the other bolts on the EDG. No other bolts on the air start motors were found to be at less than the 10-12 ft.-lbs. specified. The licensee checked the bolts after the next run of the EDG to insure that the bolts remained tight at the newly specified lower torque.

On February 27, 1989, the licensee identified another concern with torquing of cap screws on the air start motors. The concern was that the cap screws on the grease cap on the end of the motors may have been overtorqued. The concern was documented on Condition Report 1-89-02-137. The licensee was still in the process of dispositioning the condition report concerning this item but had preliminarily determined that overtorquing the grease cap screws did not impact the operability of the EDGs.

- f. On February 26, 1989, on two separate occasions, the licensee noted that they had slightly less than 23 feet of water over the reactor vessel flange while in OPERATIONAL CONDITION 5. The loss in water level was caused by the sequence of steps in surveillance procedure CPS No. 9016.06, "Containment/Drywell Isolation Valve Cold Shutdown 18 Month Operability." The procedure specified securing the Fuel Pool Cooling and Cleanup system pump before the upper containment pool supply and return valves were shut. In both cases, upon discovering that pool level was less than 23 feet above the reactor vessel flange, the operators noted that the Limiting Condition for Operation (LCO) in Technical Specification 3.9.11.2 applied. That LCO required that two shutdown cooling mode loops of the Residual Heat Removal (RHR) system be OPERABLE with at least one loop in operation. At the time of the events only one loop of RHR

was in operation with no other loop OPERABLE. The ACTION requirement for Technical Specification 3.9.11.2 required that an alternate method of decay heat removal be demonstrated OPERABLE within one hour unless level could be restored before that time. In the first event, level was restored within one hour. In the second event, an alternate mode of decay heat removal was OPERABLE. Thus the operators believed that they were in compliance with their Technical Specifications.

During an investigation of the events, the licensee determined that they had violated Technical Specification 3.0.4 in that they had made an entry into an "other specified condition" while relying on the provisions of the ACTION requirements of Technical Specification 3.9.11.2. The "other specified condition" was less than 23 feet of water above the reactor vessel flange. The licensee was in the process of writing an LER to report the events. A similar violation of Technical Specification 3.0.4 was discussed in Paragraph 8.b.(3) of this report. That violation was what led the licensee to identify that the events discussed in this paragraph were a violation.

These violations were considered to be of low safety significance. The licensee will report the events within the required 30 days and has taken or scheduled corrective actions to prevent recurrence. The events were considered "licensee-identified" violations (461/89008-03) for which a Notice of Violation will not be issued in accordance with 10 CFR 2, Appendix C, Section V.G.1 and this item is closed. The LER will be reviewed separately.

- g. On March 1, 1989, the licensee discovered that some bolts on the service water heat exchanger on the Division III Diesel Generator were loose or missing. There were four bolts designed to hold the heat exchanger in place. One bolt was completely missing, one did not have a nut installed, and one was loose. The licensee determined that the bolts may have never been properly installed. At end of this report period, the licensee was still evaluating whether the diesel had been inoperable due to not meeting seismic qualification requirements. The condition was documented by Condition Report 1-89-03-003. This is considered an Unresolved Item (461/89008-04).
- h. On March 2, 1989, the licensee determined that they had failed to place at least one Intermediate Range Monitor (IRM) Control Rod Block channel in the tripped condition within one hour after declaring all IRMs inoperable. This was a violation of Technical Specification 3.3.6, Table 3.3.6-1, ACTION 61.b. All IRMs had become inoperable when weekly surveillance CPS No.

9031.14, "IRM Channel Functional," could not be performed within the specified time due to plant conditions. The missed ACTION requirement was caused by the failure of the Line Assistant Shift Supervisor to refer to the Technical Specification requirements when he declared the IRMs inoperable. The Shift Supervisor was aware of the requirement to place at least one channel in the tripped condition but failed to follow up on the actions of his shift. The mistake was discovered by the Shift Technical Advisor about one hour after the IRM Control Rod Block channel should have been tripped.

The event was of low safety significance because control rod block signals were already present due to inoperable Average Power Range Monitors and Source Range Monitors that had been properly placed in the tripped condition. Corrective actions to prevent recurrence have been completed. The event was considered a "licensee-identified" violation (461/89008-05) for which a Notice of Violation will not be issued in accordance with 10 CFR 2, Appendix C, Section V.G.1 and this item is closed. The licensee will report the event as an LER which will be reviewed separately.

- i. On March 6, 1989, the licensee discovered that they had breached secondary containment for a period of about two days as a result of a valve lineup for a local leak rate test (LLRT). Due to a tagged open valve at the time of the LLRT, the Shift Supervisor changed the approved LLRT lineup to use a drain path which took advantage of the open valve. The drain path allowed a 3/4 inch open path through the secondary containment boundary between the steam tunnel and the turbine building. CORE ALTERATIONS were in progress during the time that secondary containment was breached because control rods were being withdrawn and inserted for venting. Technical Specification 3.6.6.1 required that SECONDARY CONTAINMENT INTEGRITY be maintained while conducting CORE ALTERATIONS. At a critique of the event, the Shift Supervisor stated that he had not considered the effect on SECONDARY CONTAINMENT INTEGRITY at the time he changed the LLRT lineup procedure. The inspectors noted that the LLRT procedure was specifically written to be performed in COLD SHUTDOWN condition but was conducted in REFUELING condition at a time when SECONDARY CONTAINMENT INTEGRITY was required.

Administrative procedure CPS No. 1052.01, "Conduct of System Lineups," Revision 1, Step 8.3.2.3 allowed the Shift Supervisor, Assistant Shift Supervisor, or Department Supervisor to make changes to the approved valve lineups procedures, based on plant conditions, by lining out the specified position, writing in the desired position and initialing and dating the change. Similar

allowances were made in the LLRT procedure CPS No. 9861.02, "Note" before Step 8.2.2 which allowed the Shift Supervisor/Assistant Shift Supervisor to make changes to specified lineups based on plant conditions at the test director's discretion. Thus changes to approved procedures could be made without meeting the approval, documentation, and review requirements of Technical Specification 6.8.3. CPS No. 1052.01 and 9861.02 which both contained the allowances which were in apparent contradiction to the requirements of Technical Specifications, had both been reviewed and approved by licensee management.

The specific breach of secondary containment event was considered a "licensee-identified" violation (461/89008-06) of low safety significance for which the licensee had been taking adequate corrective actions. The Standby Gas Treatment System should still have been able to maintain the design negative pressure in secondary containment. The event will be reported as a LER and a Notice of Violation will not be issued in accordance with 10 CFR 2, Appendix C, Section V.G.1. The item is considered closed and the LER will be reviewed separately.

However, the other issue associated with this item was the fact that plant procedures CPS No. 1052.01 and 9861.02 allowed procedure changes to be made without meeting the requirements specified in Technical Specification (TS) 6.8.3. Those requirements included no change to the original intent of the procedure; approval by two members of the unit management staff, at least one of whom holds a Senior Operator license on the unit; screening for unreviewed safety questions; independent technical review; Facility Review Group review; and approval by the Manager - Clinton Power Station within 14 days of implementation. This issue is considered a violation of TS 6.8.3 (461/89008-07). The inspectors had not confirmed whether other plant procedures contain steps which allow the procedures to be changed without following the requirements of Technical Specifications.

- j. During the inspection period the licensee identified that they may not have been meeting their commitment to Regulatory Guide 1.105 in regard to control of setpoints on instruments. The licensee was committed to Revision 1 of the Regulatory Guide in their Updated Safety Analysis Report. Revision 1 of Regulatory Guide 1.105 required that setpoints be established on instruments in systems important to safety and that the setpoints be selected considering the instrument drift that could occur during the interval between calibrations. The licensee identified two areas of possible deviation from the Regulatory Guide.

First, the licensee identified approximately 124 instruments in systems important to safety for which no calibration surveillances or preventative maintenance procedures were being conducted. The systems involved included systems specifically addressed in Technical Specifications.

Second, the licensee identified approximately 76 instruments for which required Technical Specification surveillances existed but the periodicity specified in the Technical Specifications may not have been adequate to ensure the instrument setpoints remain within limits considering instrument drift rate calculations.

During the ongoing outage the licensee was performing calibrations on the instruments important to safety for which calibration procedures had previously not existed and had shortened the periodicity of Technical Specifications for which drift rate calculations did not support the longer periods. The licensee was involved in discussions with the NRC Staff to resolve questions about the intended scope of Regulatory Guide 1.105. This item is considered an Unresolved Item (461/89J08-08).

One violation and two unresolved items were identified. In addition five "licensee-identified" violations for which Notices of Violation were not issued in accordance with 10 CFR 2, Appendix C, Section V.G.1 were identified.

6. Monthly Maintenance Observation (62703) (93001)

Selected portions of the plant maintenance activities on safety-related systems and components were observed or reviewed to ascertain that the activities were performed in accordance with approved procedures, regulatory guides, industry codes and standards, and that the performance of the activities conformed to the Technical Specifications. The inspection included activities associated with preventive or corrective maintenance of electrical, instrumentation and control, mechanical equipment, and systems. The following items were considered during these inspections: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibration was performed prior to returning the components or systems to service; parts and materials that were used were properly certified; and appropriate fire prevention, radiological, and housekeeping conditions were maintained.

The inspectors observed/reviewed the following work activities:

<u>Maintenance Work Procedure No.</u>	<u>Activity</u>
D05147	Replace Governor on Division I Diesel Generator
C49510	Correct Wiring on Scram Discharge Volume Computer Points
DG-38	Replace Turbocharger on Division II Diesel Generator
D05076	Junction Box Inspections

No violations or deviations were identified, however, during the observations of Modification DG-38 the inspectors noted an occupational safety concern which was brought to the attention of licensee management and reported in accordance with NRC Inspection Manual Chapter 1007.

7. Monthly Surveillance Observation (61726)

An inspection of inservice and testing activities was performed to ascertain that the activities were accomplished in accordance with applicable regulatory guides, industry codes and standards, and in conformance with regulatory requirements.

Items which were considered during the inspection included whether adequate procedures were used to perform the testing, test instrumentation was calibrated, test results conformed with Technical Specifications and procedural requirements, and tests were performed within the required time limits. The inspectors determined that the test results were reviewed by someone other than the personnel involved with the performance of the test, and that any deficiencies identified during the testing were reviewed and resolved by appropriate management personnel.

The inspectors observed/reviewed the following activities.

<u>Surveillance/Test Procedure No.</u>	<u>Activity</u>
CPS No. 9052.03	ECCS Div I Auto Actuation
CPS No. 9432.62	Rad Monitor IRIX-PRO08A,B,C,D Channel Calibration
CPS No. 9431.13	SRM "B" Discriminator Calibration

<u>Surveillance/Test Procedure No.</u>	<u>Activity</u>
CPS No. 9080.01	Division I Diesel Generator Operability-Manual
CPS No. 9337.81	Fire Detector Channel Functional
CPS No. 9275.01	Snubber Inspections
CPS No. 9861.02	Local Leak Rate Testing
CPS No. 9431.12	APRM "D" Channel Calibration

On February 21, 1989, during the inspectors' observations of CPS No. 9337.81, the inspectors noted that the procedure required dual verification of wire removal and reinstallation steps. The inspectors observed that the second technician was initialing the verification steps without actually looking at the leads. When questioned, the technician acknowledged that he was not properly following the procedure. The inspectors brought the situation to the attention of the technician's foreman who took immediate actions to correct the procedural noncompliance. Because of the minor safety significance and prompt corrective actions, this finding was not considered a violation.

As part of the inspection of the Diesel Generator Operability Surveillance, the inspectors reviewed the Diesel Generator Start Logs being maintained in the Main Control Room. These logs (CPS 3506.01C002) were instituted in response to a previously identified violation (461/88023-02) concerning the adequacy of diesel start records. That violation was discussed in Inspection Report No. 50-461/88023, Paragraph 10. On February 17, 1989, the inspectors noted several discrepancies in the logs including the following:

- Numerous blanks in the log sheets were not filled in including: start times, stop times, number of failures in the last 100 starts, number of failures in the last 20 starts, number of starts since the last replacement of the air start motors, Shift Supervisor's signature, System Engineer's signature, and Supervisor of Plant Operation's signature.
- Log sheets for runs longer than 24 hours did not indicate that the time stopped was on a different day than the time started.
- One 24 hour run, start number 3-89-6, had only one operator's signature in the "performed by" blank.

- On two of the log sheets disagreements between the Shift Supervisor and the System Engineer on the classification of the test were not resolved.

The inspectors brought the discrepancies to the attention of the Quality Assurance (QA) Department. QA conducted an inspection of the logs after the correction of most of the NRC's findings. QA found several more discrepancies. Most of the discrepancies concerned improper recording of the number of failures in the last 100 and last 20 starts. Condition Report 1-89-03-043 was written to document those findings. Corrective actions to ensure that the diesel generator start logs are properly kept will be reviewed when Violation 461/88023-02 is reviewed for closure.

No violations or deviations were identified.

8. Onsite Followup of Events at Operating Reactors (93702)

a. General

The inspectors performed onsite followup activities for events which occurred during the inspection period. Followup inspection included one or more of the following: reviews of operating logs, procedures, condition reports; direct observation of licensee actions; and interviews of licensee personnel. For each event, the inspectors reviewed one or more of the following: the sequence of actions; the functioning of safety systems required by plant conditions; licensee actions to verify consistency with plant procedures and license conditions; and verification of the nature of the event. Additionally, in some cases, the inspectors verified that licensee investigation had identified root causes of equipment malfunctions and/or personnel errors and were taking or had taken appropriate corrective actions. Details of the events and licensee corrective actions noted during the inspectors' followup are provided in Paragraph b. below.

b. Details

(1) Dropped Neutron Source Tube Due to Personnel Error [ENS No. 14599]

On January 31, 1989, the licensee informed the NRC via the ENS that they had inadvertently dropped a startup neutron source tube into the reactor vessel while removing it from the core during refueling operations. The event was caused when a fuel handler bumped against the disengage button of the hoist control. This event was discussed in Inspection Report No. 50-461/89002 by a regional specialist inspector.

The event was also one of the topics discussed in Confirmatory Action Letter CAL-RIII-89-005 from the Regional Administrator to the licensee dated February 1, 1989. The CAL was being followed up separately in this report.

The inspectors attended critiques of the event, discussions of recovery options, Facility Review Group meetings which reviewed the written recovery procedure, and dry and wet runs of the recovery operations. The inspectors also witnessed the actual recovery operations on February 3, 1989.

(2) ESF Actuation-Containment Isolation of Instrument Air Valves Due to Personnel Error

On February 3, 1989, the licensee informed the NRC via the ENS of an automatic ESF actuation of containment isolation valves 1IA006 and 1IA007. The isolation was caused by instrument technicians relanding a lead in a surveillance procedure during the restoration phase without first resetting the containment isolation logic circuit. With the seal-in logic present, the containment instrument air isolation valves closed. The loss of instrument air to containment had no effect on any other systems because of plant conditions at the time. The licensee submitted LER 89-008-00 on March 3, 1989 to document their analysis and corrective actions.

In the LER the licensee attributed the cause of the event to personnel error on the part of the Assistant Supervisor - Control and Instrumentation (C&I). While performing surveillance procedure CPS No. 9433.04, "Emergency Core Cooling System (ECCS) Reactor Vessel Water Level 321-N091B Channel Calibration," it was determined that the surveillance might interfere with an upcoming logic system functional test which had higher priority. The Assistant Supervisor - C&I decided to restore from the partially completed surveillance and directed the C&I technicians to perform Step 8.7.13 of CPS No. 9433.04 which contained instructions for relanding the signal lead lifted during a previous part of the surveillance. Step 8.7.12 contained instructions to reset the containment isolation logic prior to relanding the lead but neither the technicians nor the supervisor noted the requirement.

It was determined that C&I personnel did not follow the requirements contained in administrative procedure CPS No. 1011.02, "Implementation and Control of Surveillance

Testing," for restoration from a surveillance prior to completion. That procedure required that when a test is terminated prior to completion, department supervision is responsible for determining the restoration steps required to be performed, and when necessary, initiating and implementing temporary changes.

10 CFR 50, Appendix B, Criterion V required in part that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and be accomplished in accordance with those procedures. Failure to follow the prescribed procedure in CPS No. 1011.02 for restoration from a terminated surveillance was one example of a violation (461/89008-09a).

(3) ESF Actuation-Containment Isolation of Shutdown Cooling Discharge and Partial Loss of Reactor Pool Level Due to Inadequate Procedure

On February 3, 1989, the licensee informed the NRC via the ENS of an automatic ESF actuation of containment isolation valve 1E12-F037B. That valve was the Residual Heat Removal (RHR) pump "B" containment fuel pool cooling shutoff valve. Closure of the isolation valve in the discharge path of the running RHR system caused the minimum flow recirculation valve 1E12-F064B to open. This created a path from the reactor vessel and upper containment fuel pool to the suppression pool. As a result, water was pumped out of the reactor vessel thereby lowering the level of the upper containment fuel pool to about five inches less than the required 23 feet above the reactor vessel flange. Level was restored and normal flow reestablished in the RHR system within about one hour.

The licensee submitted LER 89-009-00 on March 6, 1989, to describe the event. They attributed the cause of the event to a deficient procedure. Surveillance Procedure CPS No. 9432.23, "Primary and Secondary Containment Isolation Logic System Functional," which simulated a high drywell pressure signal, did not identify that valve 1E12-F037B would be affected. This event was the first time the procedure had been performed under operating conditions. Neither the originator nor the independent technical reviewer of the procedure identified the deficiency.

10 CFR 50, Appendix B, Criterion V required in part that activities affecting quality be prescribed by documented

procedures of a type appropriate to the circumstances and be accomplished in accordance with those procedures. Failure to prescribe steps in Surveillance Procedure CPS No. 9432.23 which would have prevented an ESF actuation and loss of water level over the reactor vessel was one example of a violation (461/89008-09b).

(4) Security Force Strike

On February 3, 1989, the licensee informed the NRC via the ENS of a strike by security force personnel. The strike involved the bargaining unit personnel employed by the licensee's security contractor, Burns International. The strike had been anticipated by the licensee and Burns management and replacement personnel were available to perform necessary duties. A regional specialist inspector reviewed the licensee's plans for coping with the strike within a few hours after it began and considered them adequate.

(5) Loss of ENS Phone Due to Preplanned Electrical Outage

On February 4, 1989, the licensee informed the NRC via the ENS that the ENS phone system would be taken out of service as part of a routine electrical outage. Alternate commercial telephone service was available. The ENS phone system was restored on February 5, 1989.

(6) ESF Actuation-Standby Gas Treatment System Train Actuation Due to Inadequate Procedure

On February 6, 1989, the licensee informed the NRC via the ENS of an unanticipated automatic actuation of an ESF. The "B" train of the Standby Gas Treatment System (SGTS) had initiated during restoration from an electrical outage when power was restored to the SGTS logic circuitry before it was restored to the associated plant radiation monitors which input into the start logic. The licensee issued LER 89-010-00 dated March 8, 1989, detailing their investigation of the cause of the event.

The licensee attributed the cause to an inadequate bus restoration plan. The Division I electrical bus was being restored following scheduled outage work. The operators were using the lineup checklist contained in Operating Procedure CPS No. 3507.01, "Station Lighting and Low Voltage System," to restore electrical loads. Neither the lineup checklist nor the bus outage work plan specified the

order in which loads were to be reenergized. In the deenergized state the radiation monitors associated with SGTS provided a signal to the logic circuitry equivalent to a high radiation level signal. Thus when the logic circuitry was reenergized before the radiation monitors, an actuation occurred.

10 CFR 50, Appendix B, Criterion V required in part that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and be accomplished in accordance with those procedures. Failure to prescribe steps in Operating Procedure CPS No. 3507.01 or other work plans which would have prevented an ESF actuation was one example of a violation (461/89008-09c).

(7) Media Interest in Worker Transported to Local Hospital

On February 7, 1989, the licensee informed the NRC via the ENS that media interest had been expressed in a contract employee who had complained of chest pains and had been transported to a local hospital by ambulance. No contamination was involved. A local television station apparently became aware of the incident through a scanner radio and contacted the utility for more information.

(8) ESF Actuation-Group 11 Containment Isolation During Restoration From Surveillance Test [ENS No. 14894]

March 1, 1989, the licensee informed the NRC via the ENS of an automatic actuation of an ESF. During restoration from Surveillance Procedure CPS No. 8801.17, "Nuclear Systems Protection System (NSPS) Card Test Procedure," an actuation of Group 11 containment isolation valves occurred as a circuit card was being replaced in its receptacle. A temporary grounding wire had been attached to the card before it was inserted because of previous problems with surveillances on circuit card of this type. The grounding wire was part of extensive corrective actions which had been taken by the licensee to prevent such actuations. The licensee was still evaluating the cause of the actuation.

All except four of the group 11 containment isolation valves had been tagged out of service or closed during the outage. The remaining four valves which isolated were containment isolation valves for drywell chillers and chilled water systems. The isolation had no effect on the plant in the condition it was in.

(9) Spill of Reactor Water During Restoration of System from Testing
ENS No. N/A

On March 16, 1989, while restoring from an out of service tagout on the Standby Liquid Control (SLC) System, a spill of about 800 gallons of water from the reactor into the containment occurred. The cause of the event was the opening of the SLC injection isolation valves in the drywell before the open vent valves in the containment were closed. The reactor was at atmospheric pressure at the time of the event. The spill caused contamination of the area around the SLC System in the containment as well as the control rod drive hydraulic control units and other equipment on the levels below SLC. Two operators sent to isolate the spill received low levels of contamination on their shoes.

The Assistant Shift Supervisor who had directed that the tags be cleared had not specified the order in which the valves should be manipulated. Administrative Procedure CPS No. 1014.01, "Safety Tagging Procedure," contained a caution prior to Step 8.6.1 which stated that "restoration from tagouts frequently requires a specific order of clearing tags to prevent flooding or other hazard. The tagging authority shall specify a special sequence of clearing when required."

10 CFR 50, Appendix B, Criterion V required in part that activities affecting quality be prescribed by documented procedures of a type appropriate to the circumstances and be accomplished in accordance with those procedures. Failure to follow the prescribed procedure in CPS No. 1014.01 for specifying the order for clearing a tagout was one example of a violation (461/89008-09d).

One violation with four examples was identified.

9. Temporary Instruction 2515/99 - Inspection of Licensee's
Implementation of Requested Actions of NRC Bulletin 88-07, BWR Power
Oscillations (25599)

The inspectors verified through interviews with various shift personnel that they were aware of the LaSalle power oscillation event of March 9, 1988. In addition, the inspectors verified through a review of training records that all Shift Technical Advisors (STAs), Senior Reactor Operators (SROs), and Reactor Operators (ROs) were briefed on the event by July 1, 1988, except for one STA who was away from the plant. He was briefed on July 7, 1988. The inspectors

verified through a review of the Minimum Shift Coverage Log that he did not stand watch until after he was briefed.

Prior to the licensee having the operating briefings, the staff was made aware of the LaSalle event by the issuance of Night Orders to the operating staff:

4/4/88	review of the GE SIL on the issue
4/6/88	review of the INPO SEN on the issue
4/12/88	the operators were told that for any power oscillations to manually scram the reactor
5/13/88	the operators were told that if both recirculation pumps trip, either from fast or slow speed, with the reactor critical, to manually scram the reactor
7/1/88	review the revised Loss of Reactor Coolant Flow off normal procedure

The inspectors reviewed the revised Loss of Reactor Coolant Flow procedure and concluded that it provided for prompt corrective action to terminate (1) power oscillations observed in the "detect and suppress" region of the operating map and (2) any abnormalities if both reactor recirculation pumps trip. It instructs the operator to manually scram the reactor in either case.

Licensee training programs were reviewed and verified to be adequate. SRO/RO requalification training included a lesson on the Loss of Coolant Flow off normal procedure. The lesson plan included a discussion on the LaSalle event and the procedure modifications that were incorporated to avoid such an occurrence. To ensure this was included in future replacement training programs, a task had been added to the SRO/RO training task lists on responding to core flow instabilities.

The licensee verified that the instrumentation would function adequately if a power oscillation would occur. The analysis indicated that the operators would have sufficient time to manually scram the reactor if both pumps trip before entering the instability region of the power-to-flow map. Furthermore, the automatic neutron flux scram response time and instrumentation accuracy were sufficient to monitor the reactor to preclude continued operation in this condition.

This completes the requirements of TI 2515/99 and NRC Bulletin 88-07. Both items are closed.

No violations or deviations were identified.

10. Temporary Instruction 2500/17 - Inspection Guidance for Heat Shrinkable Tubing (25017)

Several inspections have been conducted in the past concerning proper installation of Raychem heat shrinkable tubing splices. The licensee conducted an extensive inspection/corrective action program in response to Information Notice 86-53. These actions and inspections have been documented in Inspection Reports 50-461/86057, Paragraph 2.b.(1), 50-461/87004, Paragraph 3, and 50-461/87013, Paragraph 4. In addition recent inspections by regional environmental qualifications specialists have included inspections of devices containing Raychem splices. No deficiencies in those splices were noted in the recent EQ inspections (50-461/87026, 50-461/88010, and 50-461/89006).

In conjunction with the licensee's inspection of junction boxes for uninsulated butt splices during this inspection period, as well as other routine outage activities, the inspectors were able to inspect several Raychem splices. The field observations included two Raychem splices which were in the process of being installed as well as completed splices in junction boxes, pull boxes, and conduit boxes. The splices were all in harsh environments. The inspectors noted no deficiencies in the Raychem splices inspected. The inspectors also reviewed the licensee's procedure for installation of Raychem splices, Maintenance Procedure CPS No. 8492.01, "Cable Termination and Repair." The inspectors determined that the procedure appeared to be proper and complete. It contained instructions for selecting the proper size Raychem kit, QC hold points for inspections of proper installation, acceptance criteria consistent with the manufacturer's recommendations, and references to the types of deficiencies discussed in Information Notice 86-53.

Based on extensive previous inspections in this area and the inspectors' sampling of splices during this inspection period, Temporary Instruction 2500/17 is closed.

No violations or deviations were identified.

11. Management Meeting (30702)

On February 10, 1989, NRC management met with IP management at the Region III Offices to discuss the licensee's progress in responding to the Confirmatory Action Letter issued on February 1, 1989; problems with infrequently performed surveillance and maintenance activities that resulted in three ESF actuations and corrective action to prevent recurrence; and plans to resume refueling activities, including designation and training of the responsible entity and prospective schedule. Attendees at that meeting are identified by an # in Paragraph 1 of this report.

12. Violations For Which A "Notice of Violation" Will Not Be Issued

The NRC uses the Notice of Violation as a standard method for formalizing the existence of a violation of a legally binding requirement. However, because the NRC wants to encourage and support licensees' initiatives for self-identification and correction of problems, the NRC will not generally issue a Notice of Violation for a violation that meets the tests of 10 CFR 2, Appendix C, Section V.G.1. These tests are: (1) the violation was identified by the licensee; (2) the violation would be categorized as Severity Level IV or V; (3) the violation was reported to the NRC, if required; (4) the violation will be corrected, including measures to prevent recurrence, within a reasonable time period; and (5) it was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation. Five violations of regulatory requirements identified during the inspection for which a Notice of Violation was not issued were discussed in Paragraphs 5.a,b,e,h, and i.

13. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. Two unresolved items disclosed during this inspection was discussed in Paragraphs 5.g and 5.j.

14. Exit Meetings (30703)

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the inspection and at the conclusion of the inspection on March 16, 1989. The inspectors summarized the scope and findings of the inspection activities. The licensee acknowledged the inspection findings and briefly discussed some of the recent corrective actions which had been taken. The licensee indicated that they did not agree that the finding discussed in Paragraph 5.i of this report was a violation of Technical Specifications. The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify any documents/processes as proprietary.

The inspectors attended exit meetings held between regional/headquarters based inspectors and the licensee as follows:

<u>Inspector</u>	<u>Date</u>
A. Gautam	February 10, 1989
P. Rescheske	February 14, 1989
W. Grant	February 15, 1989
J. Smith/M. Huber	March 3, 1989