

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-461/87002(DRP)

Docket No. 50-461

License No. NPF-55

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

Facility Name: Clinton Power Station

Inspection At: Clinton Site, Clinton, IL

Inspection Conducted: December 16 through January 26, 1987

Inspectors: T. P. Gwynn
P. L. Hiland
R. N. Gardner

Approved By: *RC Knop*
R. C. Knop, Chief
Projects Section 1B

2/9/87
Date

Inspection Summary

Inspection on December 16 through January 26, 1987 (Report No. 50-461/87002(DRP))

Areas Inspected: Routine, unannounced safety inspection by the resident inspectors and a region-based inspector of licensee action on previous inspection findings; licensee action on 10 CFR 50.55(e) report; applicant action on Three Mile Island (TMI) action plan requirements; licensee event report review and followup; review of allegations; Region III request; operational safety verification; engineered safety feature system walkdown; onsite followup of events at operating reactors; and management meeting.
Results: Of the areas inspected, no violations or deviations were identified in nine areas. One violation was identified in the area of onsite followup of events (paragraph 10.b. - failure to follow and/or provide procedures). While the violation was of minor safety significance, licensed operators made a number of errors that could have been prevented had they used administrative controls available. One unresolved item was identified in the area of operational safety verification involving degradation of the secondary containment gas control boundary (paragraph 8).

8702170594 870210
PDR ADDCK 05000461
G PDR

DETAILS

1. Personnel Contacted

Illinois Power Company (IP)

- *#R. Campbell, Manager - QA
- #W. Connell, Manager - Nuclear Planning & Support
- #G. Edgar, Attorney
- #R. Freeman, Assistant Plant Manager, Maintenance
- #W. Gerstner, Executive Vice President
- #J. Greene, Manager - Nuclear Station Engineering Department (NSED)
- *#D. Hall, Vice President, Nuclear
- #H. Lane, Manager, Scheduling and Outage Management
- #J. Miller, Assistant Power Plant Manager, Startup
- *#J. Perry, Manager - Nuclear Program Coordination
- * R. Kerestes, Director, NSED Field Engineer
- * F. Schwarz, Director, Outage Maintenance Support
- *#F. Spangenberg, Manager - L&S
- *#E. Till, Director, Nuclear Training
- * J. Wemlinger, Supervisor, Operations Training
- *#J. Wilson, Manager - CPS
- #R. Wyatt, Director, Nuclear Program Assessment

Soyland/WIPCO

- #J. Greenwood, Manager Power Supply

Nuclear Regulatory Commission - Region III

- #B. Davis, Deputy Regional Administrator, Region III
- *#T. Gwynn, Senior Resident Inspector, Clinton
- *#P. Hiland, Resident Inspector, Clinton
- #R. Knop, Chief, Projects Section 1B
- #R. Warnick, Chief, Projects Branch 1

* Denotes those attending the monthly exit meeting on January 26, 1987.

Denotes those attending the management meeting on January 16, 1987.

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

2. Licensee Action On Previous Inspection Findings (92701/92702)

- a. (Closed) Open Item (461/86028-09): Fire Protection Administrative Controls. During a previous inspection, the inspector identified that fire protection administrative controls were not fully implemented.

During this report period, the licensee stated that their fire protection program had been fully implemented. In order to verify implementation, the inspector selected a random sample of five fire

protection surveillance requirements for review. The inspector's sample included the following procedures:

CPS No. 9071.01	Diesel Driven Fire Pumps Operability Test
CPS No. 9071.06	Visual Inspection of Spray and Sprinkler System Piping and Heads
CPS No. 9071.08	Fire Protection CO2 System Valve Position Check
CPS No. 9071.19	Monthly Fire Protection Valve Line-Up
CPS No. 9071.25	Fire Protection CO2 Weekly Operability Check

The inspector reviewed the associated inspection checklists for the above procedures that had been completed and stored in the licensee's record storage vault. The review performed was to ascertain if the administrative controls established were being implemented. For this review, the inspector verified that required inspection frequencies (monthly, weekly) were met; that noted deficiencies were documented and required maintenance work requests were initiated; completed inspections were reviewed for acceptable results; and that when unacceptable results were documented, followup inspections were performed to verify corrective action taken. For the sample selected, the inspector concluded that the licensee was implementing the administrative controls that had been established.

The inspector reviewed the licensee's action taken in response to a concern identified by offsite fire department personnel. As documented in Inspection Report 50-461/86028, offsite fire department personnel stated that a self contained breathing apparatus (SCBA) was found to have an empty cylinder during a drill. Since the concern expressed was not identified to the licensee at the time of the drill, the specific SCBA was not identified. However, the licensee revised its control over SCBAs intended for use by offsite fire department personnel. Previously, offsite fire department personnel received SCBA equipment from a licensee storage locker when responding to the Clinton Power Station. In an "Acquisition Agreement" dated September 30, 1986, the licensee provided SCBA equipment to three offsite fire departments for their general use and in particular for their use when responding to the Clinton Power Station as a secondary fire protection service. The inspector concluded the licensee's actions adequately addressed the expressed concern.

The inspector noted that construction activities at Clinton Power Station have been reduced to a level consistent with the startup phase of operation. Housekeeping requirements have been monitored on a continuous basis by the inspector and minor deficiencies identified have been promptly corrected by the licensee. The inspector observed the performance of routine fire watches and fire watches stationed in areas where grinding or hot work was being performed. No deficiencies in fire watch performance have been identified.

Based on the inspector's review of administrative records, actions taken by the licensee regarding concerns with control of SCBA equipment, and the noted housekeeping and fire watch performance, the inspector concluded that the fire protection program for Clinton Power Station was being fully implemented. This item is closed.

- b. (Closed) Open Item (461/86054-05): Deficiencies related to watertight doors. During a previous inspection, watertight doors in the plant were observed to have numerous minor hardware deficiencies indicating inoperable status. Testing and maintenance programs had not been established for these doors.

As documented in Inspection Report 50-461/86060, paragraph 2, this item remained open pending completion of corrective actions to upgrade reliability of the watertight doors (plant modification HC-20) and pending approval of the maintenance procedure for watertight doors.

The licensee presented this item to the inspector for closure. All watertight doors in the plant had been modified in accordance with minor modification HC-20 through supplement 1 and a formal procedure for maintenance of watertight doors (CPS No. 8250.01) was approved for use on December 4, 1986. This information provided the basis for closure of this item.

The inspector had noted apparent improvement in the reliability of plant watertight doors through routine tours of the facility. Discussion with the licensee's licensing staff indicated that only four maintenance work requests (MWRs) had been issued on watertight door deficiencies since completion of modification HC-20 on November 4, 1986. Of those four MWRs, only two involved inoperability of the affected door; the other two involved degraded performance of the closing mechanism which remained operable. This data indicated an improved reliability as compared to previous NRC observations.

Finally, the licensee completed testing of watertight door seals in accordance with the manufacturer's specifications. All doors had acceptable test results after necessary adjustments by the maintenance department. This item is closed.

- c. (Closed) Open Item (461/86074-04): The licensee agreed to review their maintenance training program to determine if an interim program or changes to the existing program were warranted prior to the completion of INPO accreditation.

The licensee completed their evaluation of the current maintenance training program and presented their results to the resident inspector for review. Both the IP Maintenance Department and the IP Nuclear Training Department participated in the review. Their review identified the following:

- (1) The current INPO accreditation program will resolve all training weaknesses observed by the NRC.
- (2) The current training program is implemented and additional efforts are being focussed on supporting emergent training requirements that arise from specific problems in the plant.

Their review concluded that any attempt to develop an interim training program would take nearly as long as developing and implementing the INPO required program and that development of an interim training program would result in costly delays in the accreditation schedule.

In view of Policy Statement on Training and Qualification of Nuclear Power Plant Personnel (50 FR 11147 dated March 20, 1985), the licensee's schedule for achieving INPO accreditation of their maintenance training program, and the lack of any substantive evidence that maintenance personnel are not adequately trained, this item is closed.

- d. (Open) Open Item (461/85005-32): Verify that procedures to ensure independent verification of system lineups are complete before fuel loading (TMI Item II.K.1.10).

This item was previously reviewed as documented in Inspection Report 50-461/86064, paragraph 2.a. Since that inspection, the licensee revised procedure CPS No. 1401.01, Conduct of Operations, to include clarified criteria for independent verification of system lineups and to include a listing of plant systems that required independent verification. In addition, the licensee reviewed operating procedures containing valve and/or electrical lineups to determine if the clarified criteria were met and initiated action to make necessary revisions.

The inspector reviewed the actions taken by the licensee and verified that necessary reviews and revisions were either completed or scheduled to be completed in a meaningful time frame. In particular, the licensee had reviewed all system operating procedures for systems to be declared operable to support the initial criticality milestone and had scheduled reviews/revisions for other operating procedures to be completed prior to required milestones. (Some exceptions were taken to this general statement where the licensee had a high level of confidence in the currently approved procedure being conservative). The inspector verified that the following procedures had been revised to include independent verification of important valve and electrical lineup:

- CPS No. 3315.01, Containment Monitoring (CM)
- CPS No. 3101.01, Main Steam (MS, IS, & ADS)
- CPS No. 3310.01, Reactor Core Isolation Cooling (RI)
- CPS No. 3302.01, Reactor Recirculation (RR)
- CPS No. 3402.01, Control Room HVAC (VC)

CPS No. 3306.01, Source/Intermediate Range Monitors (SRM/IRM)
CPS No. 3308.01, Local/Average Power Range Monitors (L/APRMS)

The licensee intends to complete review and revision of all operating procedures requiring independent verification by June 30, 1987. That will include review and revision of some procedures that currently (conservatively) require independent verification of components that exceed the criteria established in CPS No. 1401.01. The inspector identified some minor discrepancies in CPS No. 1401.01, Appendix C (for example, the reactor recirculation [RR] system was not listed but did require and was provided with independent verification) which were pending correction by the licensee.

- e. (Open) Open Item (461/85015-07): "Confirm necessary revisions to EPGs made, EOPs upgraded, and operators trained before fuel load (SSER4-13.6.3.1)." Paragraph 13.6.3.1 of Supplement 4 to the SER required verification that revisions were made to the CPS emergency procedure guidelines (EPGs), that emergency off-normal procedures (EOPs) were upgraded, and that the operators were trained prior to fuel load. In Inspection Report 50-461/86059, the inspector determined that the requirements were fulfilled with the exception of the combustible gas control EPG and EOP which was scheduled for completion after fuel load.

The inspector reviewed the status of this item with the licensee and with the NRC Licensing Project Manager (LPM). The licensee indicated that a generic combustible gas control EPG had been developed by the Hydrogen Control Owners Group (HCOG) and submitted to the NRC Office of Nuclear Reactor Regulation (NRR) for review on December 1, 1986. The licensee plans to endorse the HCOG submittal once NRC review has been completed. The licensee estimated that six months would be required to complete the NRC review and that additional time would be required to complete plant specific work necessary to achieve an EOP for use at CPS.

Discussion with the LPM indicated that the licensee's schedule for this item was consistent with the rest of the industry and that operation above 5% of full power using interim combustible gas control procedures was acceptable. The inspector will review this matter further when the licensee has prepared the applicable EOP.

- f. (Open) Open Item (461/86011-01): The licensee committed to having seven radiation chemistry technicians (RCTs) complete all (36) qualification cards by 5% power.

The licensee provided information to the inspector for closure of this item. That information indicated that nine RCTs had completed all qualification requirements necessary to act as the on-shift (ANSI/ANS 3.1 qualified) RCT. Only five of those RCTs were qualified to operate the Post Accident Sampling System Panel (PASS).

A sixth qualified PASS operator assigned to the Nuclear Training Department as an instructor was available to respond to emergencies. The licensee stated that another individual in the Chemistry Department was being trained to operate PASS.

The Supervisor-Chemistry had a high level of confidence in the ability of the chemistry group to augment the normal shift complement with PASS qualified personnel to respond to any emergency in the required time. The inspector noted that three of the six qualified individuals (a team leader, a PASS operator, and a third individual preparing the chemistry laboratory for PASS analysis) were needed to perform post-accident sampling; that the licensee had not specifically demonstrated the ability to augment the normal shift to meet PASS requirements; and that the ability to augment the shift with a sufficient number of qualified personnel was related to the number of qualified personnel available. The inspector, in consultation with Region III management, agreed that the licensee had met their commitment concerning the number of qualified personnel necessary to man the shift and thus their commitment to 5% power was met. This item will remain open pending review and verification of RCT qualification records by a Region III based specialist inspector.

The guidelines of CPS No. 1890.30, Post Accident Sampling Program, indicated that a minimum of six PASS qualified individuals was desired to ensure the availability of qualified personnel. The licensee stated that a plan was being formulated to enhance the PASS program to provide three staff professional (technical) individuals to act as PASS team leaders. When implemented, that plan will provide additional PASS qualified individuals to respond to emergencies, increase the depth of the organization (i.e., more than the minimum number of qualified personnel available), and improve leadership provided for PASS teams. The licensee stated that this plan will be finalized and the appropriate individuals qualified by April 1, 1987. This is an open item pending NRC review of the licensee's actions (461/87002-01).

- g. (Open) Open Item (461/86054-14): Deferred Testing Activities. The Clinton Power Station Operating License paragraph 2.D. granted a number of schedular exemptions to the performance of test activities. These exemptions deferred testing to a specific milestone. The status of these deferred test activities was reviewed by the inspector during this report period and is tabulated below:

System	Milestone	Deferred Tests Completed	Deferred Tests Remaining
Turbine Electrohydraulic Control (EH)	Reactor Heatup	ATP-EH-01	NONE
Traversing Incore Probe (TP)	5% Power		PTP-TP-01
Off Gas (OG)	Reactor Heatup	PTP-00-01 PTP-0G-02 PTP-V0-01 XTP-00-12	NONE
Containment Monitoring (CM)	Initial Criticality	PTP-CM-01	NONE
Leakage Detection (LD)	Initial Criticality	PTP-LD-01	NONE
Fuel Pool Cooling and Cleanup (FC)	5% Power*		PTP-FC/SM-01
Fuel Handling (FH)	5% Power*		PTP-FH-01
In-place Filter on Control Room HVAC (VC)	Initial Criticality	XTP-00-12(VC)	NONE
HVAC Testing For:	Reactor Heatup*	PTP-VA-01 PTP-VQ-01 PTP-00-01(VA) PTP-00-01(VQ) PTP-00-01(VP) XTP-00-12(VQ) PTP-00-01(VR) PTP-00-02(VW) PTP-00-01(VT) PTP-00-02(VT) PTP-00-01(VW) PTP-00-02(VF) PTP-00-02(VR) XTP-00-12(VW) PTP-00-02(VA)	NONE
Aux. Building (VA)			
Dry Well Purge (VQ)			
Dry Well Cooling (VP)			
Containment Building (VR)			
Turbine Building (VT)			
Radwaste Building (VW)			
Fuel Building (VF)			

* This milestone or before removal of the reactor pressure vessel head after initial criticality.

During this report period, the inspector verified the licensee had evaluated the results of the above completed deferred test activities. The inspector reviewed each of the above completed test summaries and verified the test results were reviewed and approved in accordance with the licensee's program.

This item will remain open pending the completion of the remaining deferred tests.

- h. (Open) Open Item (461/86074-02): Procedure comment control forms (CCFS) were being used to identify suggested procedure improvements. This use was not controlled by plant administrative procedures. The NRC inspector was concerned that these CCFS had not been reviewed to determine their technical impact and the need for an immediate procedure revision.

The licensee revised CPS No. 1005.01, "Preparation, Review, Approval, and Implementation of and Adherence To Station Procedures and Documents" on January 8, 1987, to include requirements concerning control of CCFS initiated against issued station procedures. The procedure changes were responsive to the NRC concern. In addition, all CPS departments reviewed outstanding CCFS to determine if any were of sufficient significance to warrant revision of the affected procedure prior to the normal biennial review. A small number of CCFS were identified which resulted in the initiation of procedure revisions. Those revisions were scheduled for completion by required plant milestones.

The licensee's QA organization performed a surveillance of the Operations Department procedure files (Surveillance Q-09456 dated December 15-16, 1986) to determine how CCFS generated against issued procedures were handled. Their surveillance verified the information discussed above and also determined that the procedure files were not up to date (i.e., the files contained CCFS which had already been resolved, contained CCFS against procedures that had been cancelled, etc). The licensee's QA department scheduled an additional surveillance to verify action taken to correct the identified concern.

This item will remain open pending completion of the licensee's actions and verification that the plant staff is adhering to CPS No. 1005.01 for control of CCFS.

- i. (Closed) Unresolved Item (461/86059-01): The basis for closure of CR 1-86-07-009 concerning performance of safety related work without approved procedures required additional justification.

The licensee presented this item to the inspector for closure. CR 1-86-07-009 was revised to provide assurance that work performed prior to issuance of approved work procedures for core drilling and concrete expansion anchor installation was adequately controlled, documented, and inspected. No violations were identified. Work control procedures were approved, as follows:

CPS No. 8901.16, Core Drilling, revision 0 dated September 13, 1986.

CPS No. 8199.01, Concrete Expansion Anchor Work, revision 0 dated August 25, 1986.

In addition, the licensee scheduled training for maintenance supervisors and planners to assure that all cognizant personnel understood the need to have approved procedures to control safety related work. That training was scheduled for completion on February 2, 1987. Completion was being tracked by centralized commitment tracking item (CCT) No. 044013. This item is closed.

- j. (Closed) Violation (461/86037-02): Procedure CPS No. 9052.02, Low Pressure Core Spray Valve Operability Checks, did not provide sufficient detailed instructions and/or appropriate acceptance criteria for determining that important activities had been satisfactorily performed.

This item was previously reviewed, as documented in Inspection Report 50-461/86060. At that time, this item remained open pending completion of revisions to certain surveillance test procedures identified in attachment B of the licensee's letter U-600689. Those revisions were required to be completed prior to initial reactor criticality. In addition, CPS No. 1011.05, CPS Surveillance Procedure Guidelines, was scheduled for revision by October 20, 1986, to address the reporting of all failures to meet surveillance test acceptance criteria to the shift supervisor. The licensee had provided interim guidance to all plant personnel in plant manager's standing order (PMSO) No. 30 regarding the reporting of test failures.

The inspector verified that the licensee had completed revision to surveillance test procedures required to be completed prior to initial criticality. Several minor editorial/non-technical discrepancies identified during this inspection were corrected by the licensee.

The inspector noted that CPS No. 1011.05 had not been revised as scheduled by the licensee. Discussion with cognizant licensee personnel indicated that PMSO No. 30 remained in effect and that the revision was scheduled and expected to be completed by January 30, 1987. This information provided a sufficient basis for closure of this violation.

- k. (Open) Violation (461/86060-02): Corrective actions in response to IPQA Audit Q38-86-10 and IPQA Surveillance Finding M-86-005 were not effective to prevent recurrence. The licensee had identified deficiencies in the processing of Maintenance Work Requests (MWRs) for evaluation of post maintenance testing. The corrective action performed was not effective as evidenced by additional deficiencies identified by an NRC inspection conducted subsequent to the licensee's corrective action.

During this report period, the licensee formally responded to the subject violation. The licensee was unable to respond to the violation in the thirty days required by the Notice of Violation dated October 17, 1987. The licensee verbally communicated to NRC

Region III their inability to meet the thirty day requirement and the written response dated December 19, 1986, was considered acceptable.

The inspector selected a sample of 47 MWRs that had been closed between August and December 1986, to verify the specific corrective action taken by the licensee.

The review performed was to ascertain if the closed MWRs were being evaluated for post maintenance testing (PMT) requirements in accordance with the licensee's controlling procedure CPS No. 1401.01, "Conduct of Operation", revision 11, dated December 31, 1986. For each of the MWRs selected, the associated PMT evaluation was performed in accordance with CPS No. 1401.01. The inspector was able to locate each PMT evaluation form in the licensee's record storage vault; in the system status files maintained in the main control room; or in the Plant Staff Technical Department. The inspector concluded through this review that the licensee's specific corrective action was adequate.

The corrective action taken to prevent further violation included revising the implementation procedure to require a copy of the completed MWR be received by the PMT evaluator prior to closing out the MWR in the computer file. In addition, the PMT evaluators had been relocated with maintenance planners. The inspector verified the above actions were in place; however, the formalized change to the MWR Preparation and Routing Procedure, CPS No. 1029.01 was not completed at the end of this inspection period. The licensee stated that the revised procedure would be issued January 30, 1987. This item will remain open pending the issuance and the inspectors review of this revised procedure.

1. (Open) Violation (461/86065-03): Procedure CPS No. 1016.01, CPS Condition Reports, was not followed in that corrective action plans were not approved prior to implementation; block 2 of the condition report form was not always filled out; and reviews of condition reports (CRs) by various departments did not identify and correct the violations that existed.

The licensee responded to this violation in letter U-600806 dated January 6, 1987. This letter was late in meeting the 30 day response requested by the notice of violation. The licensee's response to the violation appeared adequate to address the substance of the violations.

The inspector reviewed CPS No. 1016.01, revision 15 dated November 24, 1986 and verified that the changes reflected in the licensee's letter, Attachment A, paragraph I.a., had been incorporated. The inspector also reviewed several recent CRs and verified that they had been processed in accordance with the revised administrative controls.

The inspector reviewed records of training provided to personnel responsible for the review of condition reports and verified that the cognizant records coordinator had been included in the required training.

Discussion with plant staff personnel indicated that the additional procedure revision was scheduled to be completed on March 31, 1987, and that the revision was expected to be completed on schedule.

This violation will remain open pending completion of the actions discussed in Attachment A, paragraph II.a.

- m. (Open) Violation (461/86065-04): Three examples of inadequate surveillance procedures.

The licensee responded to this violation in letter U-600806 dated January 6, 1987. Review of the licensee's response indicated that the response adequately addressed two of the three examples in the NOV (examples B & C). However, that response limited the scope of the licensee's corrective actions to first time performance mode 1, 2, & 3 surveillance procedures. The inspector noted that the first example of the violation involving the Standby Liquid Control Pump Operability Test procedure was not a first time performance surveillance procedure and that the problem encountered did not involve installation of jumpers or lifting of leads. The licensee agreed to review this matter further to determine if additional corrective action was needed and to provide a supplementary response to this NOV.

The inspector reviewed PMSO-30, revision 3 and verified its implementation. The PMSO provided the controls identified in the licensee's response and appeared to have been effective in reducing the number of events resulting from first time performance of surveillance procedures.

This violation will be reviewed further after receipt of the licensee's supplemental response.

- n. (Open) Violation (461/86065-05): Eight examples of failure to follow procedures during the conduct of initial fuel load operations.

The licensee initially responded to this violation in letter U-600806 dated January 6, 1987. At the request of Region III, the licensee provided additional information concerning the corrective actions taken for each of the eight examples cited in letter U-600823 dated January 21, 1987. The licensee's supplemented response to the violation appeared adequate to address the substance of the violations.

The inspector reviewed the specific corrective actions taken by the licensee in response to each violation cited and verified, based on a sample of the actions taken, that their corrective actions had been implemented as stated.

Concerning the generic corrective actions addressed in letter U-600806, Attachment B, the inspector verified a sample of the corrective actions taken by direct observation of the corrective actions in progress and through interviews of various plant and plant management personnel. The actions taken by the licensee appear to have been effective in reducing the number of personnel errors and the frequency of reportable events. Additional NRC concerns regarding the conduct of plant operations were identified, as documented in paragraph 10.b. of this report. The licensee's additional corrective actions will be reviewed with their response to that violation.

This violation remains open pending licensee verification that all corrective measures indicated in the response to the notice of violation, attachment B, have been completed.

- o. (Open) Violation (461/86065-06): Two examples of performance of plant operations without approved procedures.

The licensee responded to this violation in letter U-600806 dated January 6, 1987. That letter was late in meeting the 30 day response requested by the Notice of Violation. Review of the licensee's response indicated that the response did not address the apparent violation of CPS No. 1011.01, Test Programs and Control. The licensee stated that CPS No. 1011.01 would be revised to provide controls over the type of activity described in the Notice of Violation. The licensee is planning to revise their response to this Notice of Violation to reflect the corrective actions to be taken. This violation will be reviewed further after receipt of the licensee's revised response.

- p. (Open) Violation (461/86065-07): Four examples of failure to meet plant technical specifications.

The licensee responded to this violation in letter U-600806 dated January 6, 1987. The inspector performed a preliminary review of the response to this violation during this report period. In conjunction with the response provided, the inspector performed a detailed review of Licensee Event Report (LER) 86-009-01 associated with this violation. Results of the inspector's review of LER 86-009-01 are contained in paragraph 5.a. below. At the conclusion of this report period, the inspector's review of the licensee's response to this violation was still in progress. The results of this review will be reported in a future inspection report. This item remains open pending completion of that review.

- q. (Open) Violation (461/86074-05): Failure to follow approved procedures for control of Temporary Modifications. This violation identified a number of deficiencies in the implementation of administrative controls for temporary modifications.

The licensee responded to this violation in letter U-600819 dated January 20, 1987, in a timely manner. The inspector noted that the licensee expected to be in full compliance on January 31, 1987. This item will remain open, pending the inspector's review of corrective actions taken by the licensee.

No violations or deviations were identified.

3. Licensee Action on 10 CFR 50.55(e) Report (92700)

- a. (Closed) 10 CFR 50.55(e) Item (461/86006-EE): Watertight Seals and Openings in Vital Area Boundaries.

This item was previously inspected as documented in Inspection Report 50-461/86060.

During this inspection, the inspector reviewed the licensee's final report submitted by letter U-600765 dated November 24, 1986; a supplemental final report submitted by letter U-600825 dated January 26, 1986; and portions of additional quality records related to corrective actions taken by the licensee. Those documents included the following:

CPS No. 1029.01, Maintenance Work Requests, revision 10 and 14
CR 1-86-11-171
CR 1-86-08-020
CR 1-86-12-014
CR 1-86-12-029
Plant Modification Packages A-67, A-71, and A-73
Plant Modification Package A-47 (10 CFR 2.790 information)
Chairman's Final Report on 55-86-06, letter Y-82470 dated October 31, 1986.

Review of the above documents indicated that the licensee's corrective actions had been completed; that additional findings concerning the floodproofing of the CPS Screenhouse had been submitted to the NRC in a supplemental report; and that the licensee's corrective actions had addressed both the specific and generic implications of the identified deficiency.

The inspector noted that a violation related to this matter (461/86048-03) was pending enforcement action by the NRC. Additional reviews related to this matter will be tracked by the violation. This item is closed.

- b. (Open) 10 CFR 50.55(e) Report (461/86007-EE): Broken Tack Welds on Anchor Darling Globe Valves.

This matter was previously reviewed as documented in Inspection Report 50-461/86072. That report determined that the licensee's planned corrective actions were deferred to the first refueling outage but the licensee had not provided sufficient justification for operation of 32 potentially affected valves during the first operating cycle.

The licensee provided letter Y-83108 dated January 13, 1987 to supplement the final report on this deficiency. That letter provided the engineering justification for operation of the affected valves through the first operating cycle. However, the licensee's review did not account for system operation to provide long term decay heat removal after a postulated accident involving damage to the plant. Although the likelihood of such an accident is small, the plant systems are designed to operate under those conditions and should not be adversely affected by this identified deficiency. The licensee conducted additional reviews and determined that two of the affected valves (1E12-F003A/B) may be operated in a throttled mode during long term decay heat removal after a postulated accident. The licensee's engineering justification provided a sufficient basis to justify removal of administrative controls from all valves except the two valves documented above. The licensee stated that administrative controls would remain in place for those two potentially affected valves pending completion of additional engineering reviews.

This matter will be reviewed further during a subsequent inspection.

No violations or deviations were identified.

4. Applicant Action on Three Mile Island (TMI) Action Plan Requirements (25401)

The NRC Office of Inspection and Enforcement issued Temporary Instruction (TI) 2514/01, Revision 2, dated December 15, 1980, to supplement the Inspection and Enforcement Manual. The TI provides TMI-related inspection requirements for operating license applicants during the phase between pre-licensing and licensing for full power operation. It is divided into two parts. Part 1 lists requirements that were closed prior to fuel load. Part 2 lists requirements that must be closed prior to full power operation. Part 2 of the TI was used as the basis for inspection of the following TMI item found in NUREG-0737, "Clarification of TMI Action Plan Requirements".

(Open) Item II.B.4.2: Training for Mitigating Core Damage. The licensee was to complete training prior to full power operation.

During a previous inspection (50-461/86023), part 1 (II.B.4.1) of this TMI action item was closed based on the licensee's established Mitigating Reactor Core Damage (MRCD) training program. During this report period, the inspector verified through review of training records that the Power Plant Manager had successfully completed the MRCD training. In addition,

the inspector verified that nonlicensed technicians had been provided training in accordance with the licensee's commitment contained in section 13.2 of their Final Safety Analysis Report (FSAR). However, the inspector noted that several technicians had not received the required training and the licensee was unable to provide the inspector evidence that those technicians would be trained as committed in the FSAR. This item remains open pending the inspectors review of actions taken by the licensee to complete the training of nonlicensed technicians.

No violations or deviations were identified.

5. Licensee Event Report (LER) Review and Followup (90712 & 92700)

a. In-Office Review Of Written Reports Of Nonroutine Events At Power Reactor Facilities (90712)

For the LERs listed below, the inspector performed an in-office review of each LER to determine that reporting requirements had been met; that the corrective action discussed appeared appropriate; that the information provided satisfied the applicable reporting requirements; to determine if appropriate actions had been taken on any generic issues present; and to determine if any additional NRC inspection, notification, or other response was appropriate. Where determined appropriate, the LER was scheduled for onsite followup inspection or other necessary action by cognizant NRC personnel.

- (1) (Closed) LER No. 86-006-00 (461/86006-LL) [ENS No. 06499 and 06569]: Automatic Initiation Of Essential Service Water Due To Transient Pressure Drop In Nonessential Service Water.
- (2) (Closed) LER No. 86-008-00 and 86-008-01 (461/86008-LL) [ENS No. 06552]: Containment Isolation Of The Instrument Air System Due To Procedural Inadequacy.

LER 86-008-01 indicated that LER 86-008-00 had been superseded in its entirety by LER 86-009-01. As discussed in (3) below, the information previously contained in LER 86-008-00 was included in LER 86-009-01. This LER is closed.

- (3) (Closed) LER No. 86-009-00 and 86-009-01 (461/86009-LL) [ENS No. 06568]: Automatic Actuation Of An Engineered Safety Feature Due To Procedural Inadequacy and Technical Specification Violation Due To Operator Error.

As documented in Inspection Reports 50-451/86072 (paragraph 6.b.) and 50-461/86073 (paragraph 3.b.), LER 86-009-00 did not accurately describe all the facts surrounding the subject event. The inspectors onsite followup of this event was documented in Inspection Report 50-461/86065 which resulted in the issuance of several violations (461/86065-04C, 06B, 07A, B, C). Followup of the licensee's corrective actions will be tracked by the open violations.

During this report period, the licensee issued LER 86-009-01. This LER incorporated all the information that had been contained in LER-008-00 as noted in (2) above. The inspectors review of LER 86-009-01 indicated that the licensee had provided a complete description of the subject event. The inspector confirmed by review of training records and licensee correspondence that corrective action stated in LER 86-009-01 had been or was being implemented. Since several of the corrective actions identified in this LER are also applicable to the violations issued in Inspection Report 50-461/86065, completion of all corrective actions will be reviewed and documented during the inspector's followup to those violations. This LER is closed.

- (4) (Closed) LER No. 86-020-00 (461/86020-LL) [ENS No. 06857]: Tripping of Level Transmitter Results in Automatic Switching of High Pressure Core Spray Pump Suction Valve Alignment.

The inspector noted that a similar event occurred on January 7, 1987, (see paragraph 10.b.(3) of this inspection report) which indicated that the root cause of this event may not have been accurately identified. Further review will be performed when the licensee completes their investigation of that event. This LER is closed.

- (5) (Open) LER No. 86-019-00 (461/86019-LL) [ENS No. 06856 and 07000]: Engineered Safety Feature Actuation Due To A Spurious High Output Alarm on the Main Control Room Air Intake Process Radiation Monitor.

This matter will be reviewed further on receipt of the licensee's supplemental report, scheduled for January 30, 1987.

- (6) (Open) LER No. 86-017-00, 86-017-01, and 86-017-02 (461/86017-LL) [ENS No. 06670]: Engineered Safety Feature Actuation Due To Spiking On Intermediate Range Monitor A.

This LER remains open pending receipt and review of the licensee's supplemental report. The licensee's supplemental report was scheduled for submittal on January 31, 1987.

- (7) (Closed) LER No. 86-023-00 (461/86023-LL) [ENS No. 07123]: Automatic Actuation of the Reactor Protection System (RPS) Due To Utility Personnel Error.

No violations or deviations were identified.

b. Onsite Followup Of Written Reports Of Nonroutine Events At Power Reactor Facilities (92700)

For the LERs listed below, the inspector performed an onsite followup inspection of each LER to determine whether responses to

the events were adequate and met regulatory requirements, license conditions, and commitments and to determine whether the licensee had taken corrective actions as stated in the LER.

- (1) (Open) LER No. 86-004-00 (461/86004-LL) [ENS No. 06413]:
Unplanned Automatic Initiation Of Standby Gas Treatment System Due To Inadequate Procedures.

This LER was previously reviewed as documented in Inspection Report 50-461/86072. At the conclusion of that inspection, there was an open question concerning this LER.

The licensee stated that their engineering review of trip logic seal-in circuitry indicated that there were no additional uses of logic similar to that which caused this event. For that reason, no additional corrective action was required and a supplement to the LER was not necessary. After receipt of this information, another event occurred (see paragraph 10.b.(9) of this report; ENS No. 07565) which may involve similar logic functions. The licensee's review of that event was considering the potential similarity in trip logic but was not complete at the conclusion of this inspection. This LER remains open pending review of the licensee's results and verification that the use of trip seal-in logic which caused this event was isolated to the five radiation monitors discussed in the LER.

- (2) (Open) LER No. 86-021-00 (461/86021-LL) [ENS No.06913]:
Reactor Water Cleanup Pump Room High Temperature Trip Due To Personnel Error.

This event was previously reviewed as documented in Inspection Report 50-461/86073, paragraph 3.e.

During this inspection, the inspector reviewed the LER and verified implementation of selected corrective actions being taken by the licensee. No significant discrepancies were identified but actions were not complete. In particular, LER 86-020-00 corrective actions 7, 8, and 9 were not complete at the time of this inspection. One minor item concerning inclusion of specific information in the LER related to a personnel error was discussed with the IP licensing department.

The inspector interviewed the Manager - Nuclear Station Engineering Department concerning corrective actions regarding lifted leads and jumpers. The recommendations of the licensee's jumpers and lifted leads task force had been forwarded to NSED for evaluation. The licensee was scheduled to have a general plan for addressing jumpers and lifted leads (in terms of the CPS design and the need to interrupt electrical continuity for maintenance or surveillance work) by the middle of February 1987. The licensee was planning to complete the identification and scoping of necessary plant

modifications by mid-1987 with the modification themselves to be completed based on an individual schedule.

This LER remains open pending completion of the licensee's corrective actions and review of the licensee's plan for addressing the Lifted Leads Task Force recommendations.

No violations or deviations were identified.

6. Review of Allegations (99014)

- a. (Closed) Allegation (RIII-86-A-0161): On October 27, 1986, Region III submitted the following concerns to IP for their review and followup. On December 11, 1986, IP notified Region III by letter U-600779 that their review and followup was completed. The inspector reviewed IP's response to the concerns as documented below.

Concern No. 1

Transco did not have the insulation top to place over valves, so they continued to work without the valve tops. As a result, dirt from the insulation process was trapped between the pipes and the insulation. The individual thought the feedwater piping was the system involved.

Review

The inspector reviewed the licensee's letter; reviewed the Transco stainless steel cleaning procedure SC-0394; reviewed an IPQA surveillance (CQ-01693) of stainless steel piping washdown techniques; and performed an inspection of a portion of the insulated carbon steel feedwater piping. The inspector determined the following:

- (1) The allegation was assumed to be substantiated due to the lack of documentation which clearly reflected the date of installation of the insulation tops for feedwater valves.
- (2) The feedwater piping was carbon steel covered with a fairly tight fitting insulation. Carbon steel would not be adversely affected by dirt.
- (3) Due to the tight fit of the insulation surrounding the feedwater piping, only a limited amount of dirt and debris could have been accessible to that piping. Any such foreign matter trapped between the piping and the insulation would have negligible affect on heat transfer across the insulation.
- (4) A specific Transco stainless steel cleaning procedure was used at Clinton. Furthermore, the IPQA surveillance (CQ-01693) conducted in November 1985 concluded that stainless steel

cleaning operations were being performed in accordance with the Transco procedure. Thus, it appears that sufficient controls existed to prevent foreign matter from being trapped between stainless steel piping and its insulation.

Conclusion

The allegation was assumed to be substantiated based on the lack of documentation which identifies the date of installation of the feedwater valve insulation tops. However, there is no safety concern associated with this matter. This allegation is closed.

Concern No. 2

The individual heard that several voids existed in the concrete wall between the Diesel Generator and Fuel Building. The individual thought that the approximate locations of the voids were between Column Lines AD and AC on either the 762' or 770' elevations. The individual also heard that the voids were probably repaired.

Review

The inspector reviewed the licensee's letter; reviewed the concrete pour traveler for the concrete wall immediately above the area identified in the concern; and performed a visual inspection of the subject wall.

The inspector identified the following:

- (1) As documented in concrete pour traveler F-W-8-4, voids were previously identified in the concrete wall in the general area identified in the concern. The voids were subsequently repaired by the licensee as documented on Quality Control Inspection Reports C-83-879 and C-83-1350 and Nonconformance Report (NCR) 3451.
- (2) A visual inspection of the subject concrete wall did not reveal the existence of additional voids.

Conclusion

This allegation was substantiated in that voids had been identified by the licensee in the general area of concern. However, the licensee had properly identified and documented these voids and had completed action to repair these voids. The actions were determined to have been effective based on a satisfactory visual inspection of the subject concrete wall by the inspector. This allegation is closed.

Concern No. 3

The inner bioshield wall was covered with "20 gauge reflective insulation" and the insulation was improperly installed. Gaps and dents existed in the insulation and dirt was trapped behind the insulation. Also, sheet metal screws were missing and holes existed in the insulation.

Review

The inspector reviewed the licensee's letter; reviewed the April 4, 1986, Bioshield Insulation Completion/Acceptance punchlist; and performed a visual inspection of the inner bioshield wall insulation.

The inspector determined the following:

- (1) On April 4, 1986, a walkdown of the inner bioshield wall insulation by Illinois Power (IP) identified approximately 33 items requiring rework. A number of these items were similar to the types of concerns identified in the allegation. The insulation was subsequently rejected by IP on May 5, 1986. On July 3, 1986, the insulation was accepted based on the rework of the 33 items and a subsequent satisfactory walkdown by IP.
- (2) The visual inspection of the inner bioshield wall conducted by the inspector on January 23, 1987, identified no deficiencies in the installed insulation.

Conclusion

The allegation was partially substantiated in that a number of the identified concerns were confirmed to have existed in May 1986. However, the licensee had properly identified and documented these concerns and had taken action to resolve these concerns. These actions were determined to have been effective based on a satisfactory visual inspection conducted by the inspector. This allegation is closed.

No violations or deviations were identified.

7. Region III Request (92701)

During this inspection period, the licensee performed a review of their computerized maintenance work request (MWR) milestone listing. The purpose of this review was to identify, from the list of MWRs associated with the initial criticality milestone, those MWRs which more correctly were required for either plant heatup or 5% power. As a result of their review, 74 MWRs had their associated milestone revised from initial criticality to heatup, 5% power, or were given a "can be worked anytime" status.

The inspector selected 13 MWRs from the 74 to determine if their removal from the initial criticality milestone was compatible with established requirements. A subsequent review included a review of associated technical specifications (TS) and a discussion of each MWR with plant personnel.

During the review, the inspector determined that three of the MWRs had recently been closed. This was indicative of the licensee's stated objective of completing all MWRs in an expeditious manner. The review of all but three of the remaining MWRs resulted in no identified concerns. The inspector did identify initial concerns with MWRs C29044, B34737 and C15708. Each of these MWRs had their associated milestone changed from initial criticality to a "can be worked anytime" status. MWR C29044 pertained to the installation of the Reactor Core Isolation Cooling (RCIC) headspray line to the reactor pressure vessel. A review of the Clinton TS for the RCIC system identified specific operability requirements for RCIC depending on vessel head status and plant pressure. Therefore, the inspector was concerned with the removal of this MWR from the initial criticality milestone. MWR B34737, which pertained to electrical cables for RCIC, was the subject of similar concern. Finally, MWR C15708 dealt with an investigation of Intermediate Range Monitor (IRM) spiking. The concern with this MWR pertained to the fact that the subject IRM continues to evidence spiking characteristics while being classified as operable and shorting links removed. Continued operation in this manner would increase the probability of future reactor trips.

During discussions with the licensee, the inspector determined that MWRs C29044 and B34737 were identified on the IP Open Vessel Testing Schedule as items required for completion prior to initial criticality. In addition, IRM Special Test CPS No. 2830.11, which addresses the IRM spiking problem identified in MWR C15708, was similarly identified on the Testing Schedule. The inspector reviewed the Testing Schedule and concluded that the work activities associated with MWRs C29044, B34737 and C15708 were adequately identified and controlled.

Based on the review of the 13 selected MWRs and the discussions with the licensee, it appears that the milestone revisions for the 74 MWRs were acceptable.

No violations or deviations were identified.

8. Operational Safety Verification (71707)

The inspectors observed control room shift turnovers and 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, and turbine buildings and the greenhouse were conducted to observe plant equipment conditions including 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.

During a plant tour on January 7, 1987, at about 2:30 p.m., the inspector noted that sealing material ("Bisco Sealant") had been degraded on a penetration through the secondary gas control boundary. The subject penetration was located on the 781' elevation of the Auxiliary building inside the East airlock. The penetration was used for a non-safety related 1" conduit passing through the airlock into the annular space within the secondary gas control boundary. The seal provided was approximately 10" x 20" and the sealant had been cut into several pieces.

The inspector informed the Shift Supervisor of the condition noted above and the licensee initiated Condition Reports 1-87-01-033 and 1-87-01-034 to document the deficiency and investigate the cause. At the conclusion of this report period, the licensee was still performing their investigation. This item will remain unresolved pending the inspectors review of the licensee's investigation (461/87002-02).

The following routine surveillances were observed by the inspector during the report period:

- CPS No. 9080.01, revision 22 , "Division II Diesel Generator Operability"
- CPS No. 9031.12, revision 20, "APRM Channel Functional"

The inspector's observations of the above surveillances were limited in scope. However, the inspector noted that the surveillances being performed were current revisions; the personnel performing the surveillances informed the control room operator when required by the procedure; and the personnel performing the surveillances exhibited a good working knowledge of the surveillance in response to the inspector's questions.

The inspectors observed plant housekeeping/cleanliness conditions. No discrepancies were noted.

The above reviews and observations were accomplished to verify that facility operations were conducted in conformance with the CPS technical specifications and the conditions of the operating license.

One unresolved item was identified.

9. Engineered Safety Feature System Walkdown (71710)

The inspectors performed a complete walkdown of the High Pressure Core Spray (HPCS) system during the report period to verify the system status. At the time the walkdown was performed, the licensee had declared the

HPCS system operable and meeting all requirements of the plant's Technical Specifications.

For the purpose of this walkdown, the inspector utilized the following system drawings and the checklists contained in the system operating procedure:

CPS No. 3309.01V001, revision 1, HPCS Valve Lineup
CPS No. 3309.01V002, revision 0, HPCS Instrument Valve Lineup
CPS No. 3309.01E001, revision 1, HPCS Electrical Lineup
CPS No. 3309.01E002, revision 0, HPCS 120V AC Electrical Lineup
P&ID M05-1074, sheet 1, revision Y
C&ID M10-9074, sheets 1 through 4, revision A

For the inspection performed, the following attributes were observed:

- System lineup procedures matched the plant drawings.
- Valve and electrical switch/breaker positioning agreed with the lineup checklists.
- Valves were locked when required.
- Equipment conditions appeared correct with no evidence of damage.
- Equipment and components were properly identified.
- Interiors of electrical and instrumentation cabinets were free of debris, loose material, uncontrolled jumpers, with no evidence of rodents.
- Instrumentation was properly installed and functioning.
- Lubrication was provided, where observable.
- Housekeeping was adequate and appropriate levels of cleanliness were being maintained.
- Support systems essential to system actuation (Division III Shutdown Service Water and Division III Emergency Diesel) were operational.

In conjunction with the above, the inspector reviewed the results of current surveillances performed on the HPCS system to verify Technical Specification requirements were met. The following surveillance test results were reviewed:

<u>Surveillance No.</u>	<u>Title</u>	<u>Frequency</u>	<u>Test Date</u>
CPS No. 9051.01	HPCS System Pump Operability	Quarterly	10/29/86
CPS No. 9051.02	HPCS Valve Operability Test	Quarterly	11/01/86
CPS No. 9051.03	HPCS System Functional Test	18 months	08/23/86
CPS No. 9051.04	HPCS Automatic Suction Operability	18 months	07/30/86
CPS No. 9051.05	HPCS Discharge Header Filled and Flow Path Verification	Monthly	01/06/87

The inspector concluded that the HPCS system was operable based on direct field observations of the above lineups and inspection attributes. In addition, the inspector's review of current surveillance tests for the HPCS system indicated that the plant's Technical Specifications were being met.

No violations or deviations were identified.

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

a. General

The inspector 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 inspector 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 attempted to verify the nature of the event. Additionally, in some cases, the inspector 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 inspector's followup are provided in paragraph b. below.

b. Details

(1) Engineered Safety Feature (ESF) Actuation - Partial Division II (Inboard) Containment Isolation (ENS No. 07312)

On December 26, 1986, at about 1:06 p.m. CST, a partial actuation of the division II containment isolation logic occurred during performance of post modification testing by the licensee's C&I maintenance technicians. The actuation resulted in start of division II standby gas treatment and shutdown service water systems and closure of several inboard containment isolation valves. The actual cause of the event was not known but the licensee suspected an error made by the maintenance technician. The licensee returned plant equipment to its normal operational status and notified the NRC Operations Center of the event via ENS at about 3:55 p.m. CST.

This matter will be reviewed further during review of the licensee's LER.

(2) ECCS Auto Initiation and Injection Into Reactor Vessel (ENS No. 07359)

At about 1:15 p.m. CST on January 2, 1987, division II Emergency Core Cooling Systems (ECCS) automatically started

and injected water into the Reactor Vessel in response to a spurious low reactor water level signal. At the time of occurrence the plant was in mode 5 maintaining reactor water level at about +170 inches. The division II RHR pumps (B and C) were secured by plant operators at a reactor vessel level of +200 inches after determination that an actual low reactor vessel level condition did not exist. All division II equipment responded as expected and were returned to the required standby conditions for mode 5 operation. The licensee initiated an investigation to determine the cause of the spurious signal. This matter will be reviewed further during review of the licensee's LER.

(3) ESF Actuation - Shift of High Pressure Core Spray Suction
(ENS No. 07424)

At about 10:00 a.m. CST on January 9, 1987, the licensee discovered that the High Pressure Core Spray suction path had shifted from its preferred source (RCIC storage tank) to the suppression pool. The licensee's initial investigation indicated that the realignment occurred the previous day when a RCIC storage tank level transmitter failed. At the time of occurrence, the plant was in mode 4 and the High Pressure Core Spray system was not an operable ECCS. The licensee is continuing to investigate the cause for the RCIC level transmitter failure. This event was similar to LER 50-461/86020-LL. This matter will be reviewed further during review of the licensee's LER.

(4) Inadvertent ESF Actuation During Alternate Rod Insertion Surveillance Test (ENS No. 07468)

At about 8:58 p.m. CST on January 13, 1987, the scram discharge volume vent and drain valves unexpectedly closed during performance of surveillance testing on the alternate rod insertion system 1 (an ATWS protection feature). Investigation by the licensee indicated that this ESF actuation occurred due to a missing step in the surveillance procedure being used. A temporary procedure change was initiated and the surveillance test was subsequently completed without further incident. The licensee notified the NRC Emergency Operations Center of this event at 11:24 p.m. CST via ENS. This matter will be reviewed further during review of the licensee's LER.

(5) Loss of Emergency Response Facility (ENS No. 07472)

On January 14, 1987, at about 9:00 a.m. CST, the licensee experienced a loss of power to the Emergency Offsite Facility (EOF). The loss of power occurred when the offsite 138KV transmission system feeding the EOF had a power failure apparently due to a tree contacting the transmission lines.

The licensee restored power to the 138KV transmission system and the EOF at about 11:00 a.m. CST. The licensee notified the NRC Emergency Operations center of this event at about 10:00 a.m. CST on January 14, 1987. This matter will be reviewed further during review of the licensee's LER.

(6) Degraded Emergency Response Capability Due to Snow (ENS No. 07520)

At 11:00 a.m. CST on January 19, 1987, the licensee determined that their emergency response capability was degraded due to the degraded condition of area roads that resulted from a winter snow storm. Approximately 8 inches of snow had fallen in the preceding 24 hours; blowing and drifting snow caused decreased visibility and made driving in the area hazardous. The licensee notified the NRC Operations Center of this event at 11:35 a.m. CST. By 1:20 p.m. CST, area road conditions had improved to the point that the licensee determined their emergency response capability was no longer degraded. This information was communicated to the NRC Operations Center. This matter will be reviewed further during review of the licensee's LER.

(7) Inadvertent Actuation of Division I ECCS Equipment (ENS No. 07545)

At about 2:35 p.m. CST on January 21, 1987, during performance of an operational pressure test of the reactor coolant pressure boundary, the licensee experienced an inadvertent division I ESF actuation. The actuation was caused by a hydraulic transient in an instrument sensing line that occurred while an operator was restoring pressure transmitter C34-N005 to service.

The hydraulic transient caused a transient reactor vessel water level low - level 2 signal which initiated the Low Pressure Core Spray system (LPCS), started the division I emergency diesel generator, and shut two containment isolation valves in the instrument air system. The low pressure coolant injection mode of the residual heat removal system did not actuate since that system was lined up in the shutdown cooling mode at the time of the event. In addition, the LPCS did not inject into the reactor vessel since the reactor vessel pressure was elevated for the operational pressure test in progress.

Upon initiation of the above division I ECCS equipment, the control room operators verified that an actual low level condition did not exist in the reactor vessel and restored the division I ECCS equipment to the standby mode. The licensee notified the NRC operations center of this event at 5:10 p.m. CST. This matter will be reviewed further during review of the

licensee's LER; however, as discussed below, the inspector performed a review of the sequence of plant operations that lead up to this event.

Discussion

The inspector interviewed licensed operators on shift at the time of this event to evaluate plant operations that resulted in the need to isolate pressure transmitter C34-N005. As discussed above, the event described was initiated when pressure transmitter C34-N005 was being returned to service. The inspector's review was primarily limited to interviews of on shift operators since the sequence of events documented below was not documented in the main control room operator's log.

The licensee was performing an operational pressure test maintaining an elevated pressure in the reactor vessel via the Control Rod Drive system. With the plant in mode 4, Reactor Recirculation Pump-A operating in slow speed, reactor vessel pressure at about 700 psig, and reactor coolant temperature at about 160 degrees fahrenheit, the control room operators were requested to start Reactor Recirculation Pump-B to allow continuous recirculation while testing the Reactor Recirculation Pump-A Flow Control Valve. Operating the Reactor Recirculation Pump was preventing thermal stratification in the lower portion of the reactor vessel.

Sequence of Events

Sometime before 2:00 p.m., the control room operators attempted to start Reactor Recirculation Pump-B (RR Pump B). After this first attempt failed, the control room operators noted that an annunciator light on control room panel 1H13-P680 (same panel as the RR pump controls) for "RECIRC PMP B TEMP INTLK ACTUATED" was lit. The applicable annunciator response procedure, CPS No. 5003.21 identifies the possible cause for this annunciator as follows:

1. Delta T >50 degrees F between recirculation loops.
2. Delta T >50 degrees F between vessel dome and either recirculation loop.
3. Delta T >100 degrees F between vessel bottom drain and vessel dome.

These thermal interlocks prevent undue stress to the reactor vessel, reactor vessel nozzles, bottom head region, recirculation pumps, and recirculation nozzles. CPS No. 5003.21 also provides the operator with actions to take in order to determine which temperature interlock is causing the alarm.

In addition, identification of the interlock relay (K687) and the specific electrical drawing reference (E02-1RR99, sheet 10) is provided.

The control room operators then discussed the possible cause for the annunciated interlock and reviewed control room electrical drawings. The operators decided to place the "Steam Line Delta T Interlock" bypass switch located on the Reactor Recirculation system Low Frequency Motor Generator (LFMG) Auxilary Relay Panel (1B33-P001B) in bypass. This action was carried out and a second attempt was made sometime after 2:00 p.m. to start RR Pump B. This second attempt also failed. The inspector assumed that the annunciated interlock was still lit on 1H13-P680 during the second attempt, since the "Steam Line Delta T Interlock" switch that was placed in bypass appeared to be the 8 degree F pump cavitation interlock described in section 5.4.1.3 of the Final Safety Analysis Report. That bypass switch would have no effect on the interlock that was preventing the RR pump start.

The control room supervisor then reviewed the electrical drawings again with the assistance of an individual more intimately familiar with the Reactor Recirculation system interlocks and determined that the annunciated interlock could be bypassed by isolating pressure transmitter C34-N005 and venting the instrument. This pressure transmitter was sensing the elevated pressure (700#) present in the reactor vessel due to the ongoing operational pressure test. However, since reactor coolant temperature was only 160 degrees F, the relationship for the interlock [Saturation Temperature = Saturation Pressure ($T_{sat}=P_{sat}$)] was not valid. The control room supervisor then directed that pressure transmitter C34-N005 be isolated and vented. This action was carried out and the RR Pump B was successfully started on the third attempt at 2:30 p.m. The only documentation of the events described above was then made in the Control Room Operators log book: "1430 - Started RR pump B".

Technical Specification Surveillance 4.4.1.4 (applicable in mode 1, 2, 3 & 4) requires that temperature differentials and flow rate shall be determined to be within specified limits within 15 minutes prior to startup of an idle recirculation loop. The operating procedure in use, CPS No. 3302.01, revision 2, "Reactor Recirculation (RR)" required in step 8.2.3.1 that "within 15 minutes prior to starting each Recirc Pump verify steps . . . [differential temperatures and loop flow]... are at the required flow and temperature range and log the data in the CRO [Control Room Operator] log". As noted above, contrary to the procedural requirements, the operators attempted to start RR Pump B twice and successfully started the pump on the third attempt without documenting in the CRO log the differential temperatures and loop flow. Subsequent review

by the licensee identified 6 of 8 additional RR Pump starts while in mode 4 where the required CRO log entries were not made. The failure to follow approved procedures is a violation of 10CFR50, Appendix B, Criterion V (461/87002-03A(DRP)).

The procedure in use, CPS No. 3302.01, "Reactor Recirculation (RR)", revision 2 dated February 27, 1986, did not address the plant conditions under which plant operators attempted to start RR Pump B on January 21, 1987 (i.e., elevated pressure causing an invalid interlock). The control room supervisor bypassed the differential temperature interlock by directing pressure transmitter C34-N005 be isolated and vented. No attempt was made by control room operators to revise the procedure or use other administrative controls immediately available. Those administrative controls would have provided independent review of the safety significance and approval of the method used to bypass this interlock. The failure to provide adequate instructions in procedure CPS No. 3302.01 or other documented instructions is a violation of 10 CFR 50, Appendix B, Criterion V (461/87002-03B(DRP)).

The inspector noted that the sequence of events described above may indicate a general unfamiliarity with Technical Specification requirements. The inspector's basis for this observation is the multiple failures to record information required for RR Pump starts in mode 1, 2, 3, & 4 coupled with the short time that the plant has been in mode 4 (about one month). In addition, the difficulties encountered by the on shift crew in starting a RR pump under the conditions present may indicate a weakness in the level of system knowledge by the operators. These observations were discussed with licensee management at the conclusion of the report period.

(8) ESF Actuation of Two Containment Isolation Valves (ENS No. 07564)

At about 7:30 p.m. CST on January 22, 1987, during performance of a channel functional test (CFT) for reactor water level 1, the licensee experienced an inadvertent actuation of two containment isolation valves in the instrument air (IA) system. The isolation resulted from the failure of a C&I technician to properly insulate leads lifted in accordance with the CFT procedure to preclude actuation of the affected containment isolation valves. The technician had successfully completed 2 of 4 channels to be tested prior to the event by individually taping back the lifted leads. During performance of the 3rd channel, the technician taped the lifted leads together thereby maintaining electrical continuity which resulted in the ESF actuation as reactor vessel water level (simulated for the CFT) reached the actuation setpoint. The logic involved is a 1 out of 4 actuation logic. The licensee restored the IA system to normal and successfully completed the remaining portions of the

CFT. The licensee notified the NRC Operations Center of this event at 11:15 p.m. CST on January 22, 1987. This matter will be reviewed further during review of the licensee's LER.

(9) ESF Actuation - Closure of Shutdown Cooling Suction Valve
(ENS No. 07565)

At about 8:00 p.m. CST on January 22, 1987, while restoring from an operational pressure test of the reactor coolant system, the licensee experienced an unexpected closure of the shutdown cooling inboard suction isolation valve (1E12-F009). During performance of the operational pressure test, valve 1E12-F009 was open and the valve motor controller was deenergized to prevent automatic closure when reactor vessel pressure was increased. During restoration from the test, the procedure in use did not direct the reset of the reactor high pressure seal in logic (actual reactor vessel pressure was below the actuation setpoint at the time of the event). The plant operators immediately reset the seal-in logic and opened valve 1E12-F009. At the time of occurrence, the plant was in mode 4 and depressurized. The licensee notified the NRC Operations Center of this event at 11:15 p.m. CST on January 22, 1987. This matter will be reviewed further during review of the licensee's LER.

One violation was identified.

11. Management Meeting (30702)

On January 16, 1987, NRC management met with IP management at the Clinton Power Station Visitor Center to discuss the status of the facility, the licensee's Monthly Performance Monitoring Management Report and actions being taken to enhance the licensee's performance in several areas, and to discuss the readiness of Clinton Power Station to perform initial critical reactor operation and to generate electricity. Personnel attending the meeting are identified by (#) in paragraph 1. of this report.

Mr. A. B. Davis, the Deputy Regional Administrator, opened the meeting with a brief discussion of Region III procedures for NTOLs at the full power license stage. Mr. Warnick then identified the scope of the meeting; discussed current Region III areas of concern and an overview of Region III plans for additional inspections at Clinton prior to making a decision regarding the recommendation for issuance of the full power license; and requested that periodic management meetings continue monthly for the near future.

The licensee then provided the status of testing deferred beyond fuel load; the status of surveillance testing required to be completed to support plant operation in modes 1 and 2; the status of maintenance and modification work required to be completed prior to initial criticality and subsequent milestones; and the status of deficiency documents

(condition reports, nonconforming material reports, and licensee event reports) applicable to plant milestones.

The licensee discussed the status of actions being taken to address recent NRC concerns related to their maintenance and modification programs; recent accomplishments and current problem areas. The licensee stated that management attention was being directed to the radiation protection (RP) areas to assure the readiness of the RP program to support critical reactor operation.

The licensee projected completion of all work necessary to achieve initial reactor criticality shortly after January 25, 1987. The licensee stated that the Region III Administrator would be contacted by the IP Vice President - Nuclear prior to his authorizing the plant operators to make the reactor critical. The licensee further stated that IP expects to proceed directly in their power ascension program through test condition 1 at which time they intend to shut down the reactor for a short, scheduled maintenance outage. The licensee expected to be ready to need a full power license by the end of February.

NRC (Region III) management acknowledged the licensee's status and plans, and noted that the Commissioner's agenda currently planned a full power license briefing for February 24, 1987.

The meeting concluded with a tentative agreement to meet again on February 13, 1987 at the Clinton site with a similar agenda.

12. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which will involve some action on the part of the NRC or licensee or both. One open item disclosed during the inspection was discussed in paragraph 2.f.

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. One unresolved item disclosed during this inspection was discussed in paragraph 8.

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 January 26, 1987. The inspectors summarized the scope and findings of the inspection activities. The licensee acknowledged the inspection findings. The inspectors highlighted the need for management attention to internal commitments and the CPS emergency off-normal procedures.

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 such documents/processes as proprietary.

The resident inspectors attended exit meetings held between Region III based inspectors and the licensee as follows:

<u>Inspector(s)</u>	<u>Date</u>
Wohld	1/15/87
Hasse	1/15/87
Foster	1/15/87