

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-454/89004(DRP); 50-455/89007(DRP)

Docket Nos. 50-454; 50-455

License Nos. NPF-37; NPF-66

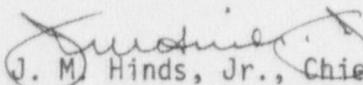
Licensee: Commonwealth Edison Company
Post Office Box 767
Chicago, IL 60690

Facility Name: Byron Station, Units 1 and 2

Inspection At: Byron Station, Byron, Illinois

Inspection Conducted: February 17 - March 31, 1989

Inspectors: P. G. Brochman
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Approved By:  J. M. Hinds, Jr., Chief
Reactor Projects Section 1A

04-19-89
Date

Inspection Summary

Inspection from February 17 - March 31, 1989 (Report Nos. 50-454/89004(DRP); 50-455/89007(DRP))

Areas Inspected: Routine, unannounced safety inspection by resident and regional inspectors of licensee action on previous inspection findings; operational safety; event follow-up; maintenance/surveillance; plant startup from refueling; use of under-rated gaskets in the steam generator primary manways; licensee event reports; special report follow-up; headquarters requests (TI 2515/100); and meetings.

Results: Of the 11 areas inspected, no violations or deviations were identified in 9 areas; 1 violation was identified in the following area: (inadequate corrective actions involving maintenance activities associated with Limitorque valves - paragraph 4). Additionally, 1 violation was identified in the remaining area: (source range neutron flux monitors inoperable for greater than one hour without taking action required by Technical Specifications - paragraph 7.a); however, in accordance with 10 CFR Part 2, Appendix C, Section V.G.1, a Notice of Violation was not issued. One unresolved item concerning identification of current personal certification standards for qualification for appropriate station positions was identified.

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DETAILS

1. Persons Contacted

Commonwealth Edison Company

- *R. Pleniewicz, Station Manager
- *G. Schwartz, Production Superintendent
- *R. Ward, Technical Superintendent
- *J. Kudalis, Service Director
- *T. Maiman, Vice President, PWR Operations
- *G. Pliml, Manager of Quality Assurance
- *R. Stobert, Director of Quality Assurance, Operations & Maintenance
- *D. Winchester, Quality Assurance Superintendent
 - T. Higgins, Assistant Superintendent, Operating
- *T. Tulon, Assistant Superintendent, Maintenance
 - D. St. Clair, Assistant Superintendent, Work Planning
 - J. Schrock, Operating Engineer, Unit 1
 - T. Gierich, Operating Engineer, Unit 2
 - T. Didier, Operating Engineer, Unit 0
- *D. Brindle, Operating Engineer, Admin.
- *M. Snow, Regulatory Assurance Supervisor
- *R. Flahive, Technical Staff Supervisor
 - S. Barret, Health Physics Supervisor
 - S. Wilson, Chemistry Supervisor
 - P. O'Neil, Quality Control Supervisor
 - D. Goble, Security Supervisor
 - A. Chernick, Training Supervisor
 - W. Pirnat, Regulatory Assurance Staff
- *E. Zittle, Regulatory Assurance Staff
- *W. Dean, Onsite Nuclear Safety

The inspector also contacted and interviewed other licensee and contractor personnel during the course of this inspection.

* Denotes those present during the exit interview on March 31, 1989.

2. Action on Previous Inspection Findings (92701 & 92702)

- a. (Closed) Open Item (455/86040-06(DRP)): Discrepancies between isometric drawings and the field or the P&IDs in the safety injection system. The inspector reviewed isometric drawings SI-22, SI-39, SI-55, SI-56, S-SI-001-202, and S-SI-001-221 and P&IDs M-136-1 and M-136-3 and verified all discrepancies were corrected. Based on this review, this item is considered closed.
- b. (Closed) Open Item (455/86040-07(DRP)): Procedural deficiencies identified during review of safety injection system. This item concerned two apparent procedural deficiencies. The first dealt with the addition of valves 2CV8114 and 2CV8116 to the charging pump

mini-flow line. The inspector stated that procedure 2BVS 5.2.e.1-1, "ECCS Subsystem Automatic Valve Actuation Test," needed to reflect the addition of valves 2CV8114 and 2CV8116 to the mini-flow line. The purpose of 2BVS 5.2.e.1-1 is to verify that each automatic valve in the ECCS portion of the Safety Injection (SI) System actuates to its proper position on a SI test signal and on a Refueling Water Storage Tank (RWST) level low-low test signal in accordance with Technical Specifications. However, valves 2CV8114 and 2CV8116 do not actuate on RWST low-low level with an SI signal present. Valves 2CV8114 and 2CV8116, with an SI signal present, close on Reactor Coolant System (RCS) pressure of 1448 psig and open on RCS pressure at 1643 psig. The control logic for valves 2CV8114 and 2CV8116 is separate from the valves tested in 2BVS 5.2.e.1-1 and these valves are not required to be added to 2BVS 5.2.e.1-1. Valves 2CV8114 and 2CV8116 are tested in accordance with Technical Specification 4.0.5 for ASME Code Components and their control logic is tested in Engineered Safety Features Actuation System slave relay surveillances.

The second deficiency identified concerned procedure 2BVS 5.2.f.2-1 Step F.1.3 which directed operators to "remove SI PA and PB from operation." The inspector was concerned that the step would be clearer if it were reworded in a way to prevent operators from placing both pumps in pull-to-lock, which would be a violation of Technical Specifications. The inspector reviewed procedure 2BVS 5.2.f.2-1, Step F.1.3 which has been revised to read "VERIFY/STOP Safety Injection Pumps 2SI01PA and 2SI01PB." Based on these reviews, this item is considered closed.

- c. (Closed) Violation (454/88007-01(DRP)): Failure to incorporate design requirements and design changes into operating procedures and programs. The inspector reviewed the licensee's response and verified that the corrective actions had been accomplished as stated. The licensee has taken the following actions to correct the deficiencies: (1) Revisions of procedures BAP 330-3A1(Superseded BAP 330-A1) and 1BOS XLE-R1 to include unique lock core identification and (2) revisions of procedure BOP RY-M1 to include the locked open position of 1RY087A and 1RY087B. Based on these corrective actions, this item is considered closed.
- d. (Closed) Violation (454/88007-02(DRP)): Post Modification Test for M6-85-0049 failed to clearly specify the valve lineup prior to the test being performed. The inspector reviewed the licensee's response and verified that the corrective actions had been implemented as stated. The inspector reviewed SPP-88-41(PORV VALVES FULL OPEN) to verify that proper valve lineup was specified. Based on this review, this item is considered closed.
- e. (Closed) Unresolved Item (455/89001-01(DRP)): Incomplete out-of-service requirements for maintenance work on Limitorque valve 2CV8355D. This item is discussed further in paragraph 4.

3. Plant Operations

Unit 1 operated at power levels up to 100% for the entire report period.

Unit 2 began the report period in a refueling outage. The unit was taken critical at 10:19 a.m. on March 4, 1989, and synchronized to the grid at 8:21 p.m. on March 6, completing the 58-day refueling outage. Major activities performed during the outage included ultrasonic examination and reconstitution of spent fuel assemblies, ultrasonic examination of the reactor vessel hot leg nozzles, 100% eddy current inspections of all steam generator (SG) U-tubes, replacement of two low pressure turbine rotors, and installation of a refueling vessel level indicator system. As a result of eddy current inspections on the SGs, two tubes were plugged in the 2A SG, six in the 2B SG, and three in the 2C SG. The unit operated at power levels up to 100% for the rest of the report period.

a. Operational Safety Verification (71707)

The inspectors observed control room operation, reviewed applicable logs and conducted discussions with control room operators during February and March 1989. During these discussions and observations, the inspectors ascertained that the operators were alert, cognizant of plant conditions, and attentive to changes in those conditions, and that they took prompt action when appropriate. The inspectors verified the operability of selected emergency systems, reviewed tagout records, and verified the proper return to service of affected components. Tours of the auxiliary, fuel-handling, rad-waste, and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations, and to verify that maintenance requests had been initiated for equipment in need of maintenance.

The inspectors verified by observation and direct interviews that the physical security plan is being implemented in accordance with the station security plan.

The inspectors observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. The inspectors also witnessed portions of the radioactive waste system controls associated with rad-waste shipments and barreling.

The observed facility operations were verified to be in accordance with the requirements established under Technical Specifications, 10 CFR, and administrative procedures.

During this inspection period, the Zion Resident Inspector reviewed Byron Administrative Procedure (BAP) 100-2 which states that a subset of procedures defining conduct of work within a department may be created using a 99 series of procedures. One of these 99 series procedures is defined as personnel certification standards for qualifications. PDs for all management positions are contained

in the BAP 299 series. Review of the BAP 299 procedures revealed that they were inconsistent with respect to each other and in several cases did not appear to be personnel certification standards. In fact, several of the position descriptions stated that there were no qualification requirements for specific PDs. Also, neither the purpose for nor use of the BAP 299 PDs was consistently understood by members of the licensee's staff. For example, one member of station management stated that the BAP 299s were periodically reviewed for revision like other station procedures, while another stated that BAP 299s were not subject to periodic review and update.

The licensee stated that it would review available position descriptions for applicability to the assertion in BAP 100-2 that personnel certification standards for qualification are needed. Identification of current personnel certification standards for qualification for appropriate station positions is considered to be an unresolved item, pending resolution by the licensee (454/89004-01(DRP); 455/89007-01(DRP)).

b. Onsite Follow-up of Events at Operating Reactors (93702)

The inspectors performed onsite follow-up activities for an event which occurred during February 1989. This follow-up included reviews of operating logs, procedures, Deviation Reports, Licensee Event Reports (where available), and interviews with licensee personnel. For the event, the inspector developed a chronology, reviewed the functioning of safety systems required by plant conditions, and reviewed licensee actions to verify consistency with procedures, license conditions, and the nature of the event. Additionally, the inspectors verified that the licensee's investigation had identified the root causes of equipment malfunctions and/or personnel errors and that the licensee had taken appropriate corrective actions prior to restarting the unit. Details of the event and the licensee's corrective actions developed through inspector follow-up are provided in the paragraph below:

Unit 2 - PORV Actuation for Cold Overpressure Protection

At 5:45 a.m. on February 22, 1989, the unit was in Mode 5 with the Reactor Coolant System (RCS) water solid at 375 psig and 128 degrees F. The 2D Reactor Coolant Pump was running and one train of Residual Heat Removal (RH) was in operation to provide shutdown cooling when a pressure transient in the RCS caused a pressurizer Power Operated Relief Valve (PORV) to cycle open to provide cold overpressure protection. RCS pressure was recorded to have reached 480 psig and RH discharge pressure reached 650 psig. The transient lasted for approximately 11 minutes during which time the PORV cycled open 12 times. It is presumed that RH suction relief valves also lifted during this transient, although this cannot be verified.

At the time of the transient, an Out-of-Service (OOS) was being processed which involved establishing an alternate charging flowpath. Per the OOS, the bypass valve (2CV8387B) around the normal charging flow control valve was opened approximately 1/8 turn which caused a sufficient rise in RCS pressure for the PORV to receive an open signal. The use of a valve bar was necessary to reclose the charging valve. Stable plant conditions were achieved at 5:56 a.m.

The licensee determined that the cause of the event was that inadequate precautions were taken in performing the OOS. In a water solid condition such as existed at the time of the transient, relatively little additional water influx to the RCS will result in a rapid increase in RCS pressure due to water incompressibility. It appears that excessive differential pressure and high flow across 2CV8387B prevented immediate isolation, requiring numerous PORV actuations while elevated RCS pressure existed.

The licensee's corrective action to prevent recurrence of this type of event includes training to be provided during licensed operator requalification emphasizing the potential for overpressurization and challenge to the PORVs during water solid operations. The training will include consideration of drawing a bubble in the pressurizer when operating under plant conditions existing at the time of the event, prior to altering the balance between charging and letdown.

No violations or deviations were identified.

4. Maintenance/Surveillance (61725, 62703, 41400)

Station maintenance and surveillance activities of the safety-related systems and components listed below were observed or reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides, and industry codes or standards, and in conformance with Technical Specifications.

Unit 2 main turbine overspeed trip test
Troubleshooting of delta T and Tav_g protection loop D
Replacement of Limitorque operator for valve 1SI8813
Repair of 11B drain cooler
Repair of OA hydrogen recombiner

The following items were considered during this review: the limiting conditions for operation were met while affected components or systems were removed from and restored to service; approvals were obtained prior to initiating work or testing; quality control records were maintained; parts and materials used were properly certified; radiological and fire prevention controls were accomplished in accordance with approved procedures; maintenance and testing were accomplished by qualified personnel; test instrumentation was within its calibration interval; functional testing and/or calibrations were performed prior to returning components or systems to service; test results conformed with Technical

Specifications and procedural requirements and were reviewed by personnel other than the individual directing the test; any deficiencies identified during the testing were properly documented, reviewed, and resolved by appropriate management personnel; work requests were reviewed to determine the status of outstanding jobs and to assure that priority was assigned to safety-related equipment maintenance which may affect system performance.

During the inspection period, the Zion Resident Inspector conducted a brief overview of the licensee's maintenance department and made a number of observations. In the area of training, the inspector noted that work analysts, shop foremen, general foremen and schedulers were generally promoted up from the technician ranks, thereby assuring that individuals were familiar with plant equipment; however, several instances were identified where work analysts had not had previous maintenance experience or training. The licensee stated that a formal training program for the identified individuals had not been developed, and that the work activities of these "outliers" were closely supervised by experienced personnel. The licensee stated that training and qualification and training requirements for the work analyst, scheduler and assorted maintenance staff positions will be defined through implementation of the Code of Conduct of Maintenance. The inspector noted that complete implementation of the Code of Conduct of Maintenance is scheduled for 1993.

The inspector noted that the Total Job Management (TJM) computer program can be used by the licensee to identify recurring equipment problems by two methods. Equipment for which several work requests have been written within a given time period are noted on a TJM printout for evaluation and trending by the maintenance staff. The inspector noted that TJM can also sort the work request data base by equipment vendor or equipment type; however, it is not clear that the licensee uses this capability to identify trends related to equipment type or vendor. The inspector stated that such evaluations would enhance the licensee's maintenance program.

A TJM printout of work requests performed on Copes-Vulcan valves between February 1988 and February 1989 identified 111 work requests for the subject valves. The inspector noted that the licensee did not have a procedure for the disassembly, refurbishment or reassembly of the subject valves. The licensee stated that procedures for Copes-Vulcan valves had been drafted and were being routed for comment. The inspector noted that the draft procedures had not been validated. It is not clear that the licensee validates new or revised procedures prior to use.

The inspector also noted that procedures or instructions for blocking valves did not exist. The licensee stated that the blocking of valves was considered to be craft capability work and that no additional instructions were needed on the work request. The licensee also stated that valve blocks were fabricated as needed and normally discarded after each use.

During the inspection period, the inspectors completed their review of an event which occurred in January 1989. During the Unit 2 refueling outage, a licensee contractor violated the licensee's Out-of-Service (OOS) procedure by removing the Limitorque operator from valve 2CV8355D when the valve was tagged out of service for an unrelated activity, causing the valve to lift off of its seat slightly. This caused a mechanic who was working downstream of the valve on the 2D Reactor Coolant Pump to be sprayed with seal injection water until operators were able to isolate the leak. In addition to the procedure violation by the contractor, the licensee had failed to specify proper isolation points on the OOS for the work which the contractor was performing. Also, as a result of an investigation following this incident, the licensee discovered that isolation points for several other Limitorque valves were not specified on the respective OOS's for these valves.

As discussed in Inspection Report 455/89001, within the past two years, there have been two previous instances where the improper control of work on Limitorque valves has caused unanticipated results (April 1987 and October 1988). Concerns which were identified by the licensee and the NRC following these incidents included the need for clarification of the licensee's policy on performing work on components which are being used as physical isolation points for other work activities and the need to design a system of controls of maintenance activities that could tolerate the possibility of personnel error. Prior to this event, the licensee had reviewed a list of Limitorque valves which were to be worked on during the Unit 2 outage and decided which valves needed to be blocked in position before work began and which could be manually isolated. It was decided that valve 2CV8355D, and several other valves, did not need to be blocked in place, however, manual isolation points were never added to the OOS's for these valves.

Corrective actions for the April 1987 and October 1988 events involving improper control of work activities on Limitorque valves were apparently not effective in preventing the January 1989 event as described above. 10 CFR Part 50, Appendix B, Criterion XVI requires that measures be established to assure that conditions adverse to quality, such as deficiencies and deviations, are promptly identified and corrected and that these measures assure that the cause of the condition is determined and corrective action taken to preclude repetition. The failure of corrective actions for the April 1987 and October 1988 events to preclude a third event with a similar root cause from occurring is a violation of 10 CFR Part 50, Appendix B, Criterion XVI (454/89004-02(DRP); 455/89007-02(DRP)).

Corrective actions initiated by the licensee in response to this event include the following:

- a. Immediate action by operating personnel to terminate seal injection flow.

- b. Prompt review of all other Limitorque work in progress by shift operating personnel. Additional points of isolation were added to several OOS's in place or pending.
- c. Operating management provided clarification, via a Daily Order, of requirements for isolation when the nature of work involves Limitorque operators and valves.
- d. Working departments were briefed on this Daily Order in a timely manner.
- e. The individual involved in this event was counseled on the potential severity of violation of the OOS procedure.
- f. An OOS training outline was drafted and presented to licensee contractor supervisory personnel in a classroom setting. Training was in turn presented to all craft personnel by trained supervisory personnel in a classroom setting.
- g. Byron Station Out of Service Procedure, BAP 330-1, is being revised to include specific direction when work is performed on operators of Limitorque valves. Training will be given to affected personnel on these procedure revisions.
- h. A review will be conducted by the licensee with regard to the use of motor-operated valves and air-operated valves as isolation points or boundaries for an OOS. The licensee is considering enhancements to the Outage Editor OOS system which would 'flag' valves which may require additional precaution if used as an isolation point.
- i. The maintenance procedure for Limitorque removal, BMP 3100-5, will be further clarified as to specific requirements necessary to work on an operator.
- j. This event has been factored into the licensee's lessons learned program and posters discussing the event and its implications have been posted at the station.

One violation was identified.

5. Engineering/Technical Support

a. Plant Startup From Refueling (71711)

The inspectors observed plant startup, approach to criticality, and the performance of physics tests to verify that these activities were conducted in accordance with approved procedures and Technical Specifications. The inspectors witnessed the approach to criticality and verified that source range nuclear instruments were operating properly, that 1/M plots were being performed, that approved procedures were being used, and that activities were conducted in accordance with Technical Specifications.

b. Use of Under-Rated Gaskets in the Steam Generator Primary Manways

On February 14, 1989, the licensee informed the resident inspectors that the gaskets installed in all of the Unit 1 and Unit 2 steam generator primary manways were under-rated for their intended application. At the time, Unit 1 was operating near 100% power and unit 2 was in Mode 6. The deficiency was discovered during a review of the gasket type prompted by an event at the Zion Station. The installed gaskets were asbestos gaskets rated for 999 psig. The type of gaskets intended for this application are asbestos gaskets rated for 2500 psig. The gaskets serve as a seal between the steam generator manway and the generator itself and are designed to maintain integrity of the generator to prevent leakage of primary water that is at approximately 2200 psig.

The under-rated gaskets were replaced in all the Unit 2 steam generators with gaskets of the proper rating during the Unit 2 refueling outage. The licensee obtained a safety evaluation in accordance with 10 CFR 50.59 from Westinghouse which provides reasonable assurance that the installed gaskets in Unit 1 will perform their intended function, namely, to provide acceptable leakage within the Technical Specification limits until the leakage progresses to detectable limits. This evaluation is based upon analyses of existing applications of this type of gasket at other PWR installations and the fact that the gaskets were proof-tested by the supplier to approximately 2700 psig. Based on this evaluation, the licensee believes that the gaskets are justified for continued use until the next scheduled refueling outage when they will be replaced with gaskets of the correct rating. The NRC has reviewed the safety evaluation and concurs with the licensee's conclusions.

During review of this incident, the inspectors discovered that the classification of these particular gaskets had been changed from safety-related to non-safety-related even though the function of the gaskets is to maintain the integrity of the reactor coolant system pressure boundary. The inspectors could not determine when the classification was changed and what the basis for the change was. Resolution of these questions will be tracked as an open item (454/89004-03(DRP); 455/89007-03(DRP)).

No violations or deviations were identified.

6. Safety Assessment/Quality Verification

a. Licensee Event Report (LER) Follow-up (90712 & 92700)

(Closed) LERs (454/88005-1L; 454/89002-LL; 455/89001-LL; 455/89002-LL; 455/89003-LL): Through direct observation, discussions with licensee personnel, and review of records, the following LERs were reviewed to determine that the reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with Technical Specifications.

<u>LER No.</u>	<u>Title</u>
<u>Unit 1</u>	
454/88005-01	Reactor trip caused by main generator instability trip.
454/89002	Reactor trip due to failed feedwater regulating valve.
<u>Unit 2</u>	
455/89001	Inadvertent safety injection during diesel generator surveillance.
455/89002	Boron Dilution Protection System blocked for greater than one hour during cold shutdown.
455/89003	Containment ventilation isolation due to radiation monitor checksource test failure.

With regard to LER 454/89002, this LER describes an event where the Unit 1 reactor tripped due to a failed feedwater regulating valve (FRV). The valve was responding to a steam flow perturbation caused by the partial stroke of the "C" Main Steam Isolation Valve (MSIV) for a surveillance being run at the time. During this evolution, the FRV failed open when the valve positioner feedback arm detached from the valve follower. After discussions with the valve positioner manufacturer, the linkage between the valve positioner and the valve follower was restored and enhanced by the addition of a star washer. "Loctite" was also placed on the connecting bolt threads to further ensure the tightness of the linkage. These enhancements were performed to all FRVs in both units. In addition, the licensee inspected a number of valves with similar types of positioners and found several positioners with loose nuts. The licensee is requesting that their corporate engineering staff investigate further possible enhancements. In the interim, the station will perform periodic inspections of the positioners on all FRVs.

With regard to LER 455/89001, this LER describes an event where an inadvertent safety injection occurred during the performance of a portion of the diesel generator 18 month operability surveillance. In addition, the diesel generator output breaker failed to close during the test due to a dirty contact causing the failure of an auxiliary relay. A description of the event is contained in Inspection Report No. 454/89001; 455/89001. Corrective actions by the licensee include placing a caution in the 18 month diesel generator operability surveillances, 1/2 BVS 8.1.1.2.f-13 and 1/2 BVS 8.1.1.2.f-14, to warn of possible ESF actuation with any protection channels in TEST. The caution will also instruct that

the status of instrument inverters be evaluated prior to performance of the surveillance. In addition, a note has been placed in the Electrical Distribution Book which states "Interrupting Power to the Constant Voltage Xfmr Can Cause ESF Actuation."

In response to the failure of the diesel generator output breaker to close, the licensee initiated an investigation to define any additional preventive maintenance or testing of auxiliary relays in the DC undervoltage circuit. The results of this investigation will be tracked as an open item (455/89007-04(DRP)). Finally, an account of this event will be placed in the Licensed Operator required reading program.

With regard to LER 455/89002, this LER describes an event where the Boron Dilution Protection System (BDPS) was blocked for 1 hour and 20 minutes to permit switchyard disconnect operations, which, in the past, have caused spikes on source range channels resulting in BDPS actuations. While the BDPS is blocked, both source range neutron flux monitors are considered inoperable, although the Reactor Protection System trip functions remain operable. Technical Specification 3.3.1 Action Requirement 5 requires that, with both source range monitors inoperable, the BDPS valves be verified closed and compliance with shutdown margin requirements be verified within one hour. These actions were not accomplished. Failure to perform the actions required is a violation of Technical Specification 3.3.1, (455/89007-05(DRP)). However, this is a licensee identified item, and in accordance with 10 CFR Part 2, Appendix C, Section V.G.1, a Notice of Violation was not issued.

The root cause of this event was a weakness in operating practice. The licensee determined that insufficient administrative tracking tools were available to the Reactor Operator (RO) to track non-routine actions required in short time intervals. A contributing factor was a lack of clarity in Technical Specifications in determining the effect of blocking BDPS on source range operability.

The licensee's corrective actions included making timers with alarm capability available to the ROs to be used to monitor Technical Specification Action Requirement or other time limits. In addition, LER 455/89002 will be included in the required reading program for all operating personnel. The licensee has also placed caution cards on the manual block switches on the main control board to alert the RO that blocking BDPS will render the source range monitors inoperable. Finally, a Technical Specification interpretation will be pursued to improve the clarity of BDPS operability requirements and their effect on plant systems.

b. Special Report Follow-up (90713)

On March 10, 1989, the licensee issued a special report in accordance with Unit 2 Technical Specification (TS) 3.1.1.3, Action Statement a.3, reporting of Moderator Temperature Coefficient (MTC) more positive than allowed by TS 3.1.1.3.a. The report stated that,

on March 5, 1989, during startup physics testing analysis, after the first refueling outage for Unit 2, the MTC was determined to be more positive than allowed by TS 3.1.1.3.a.

In accordance with the applicable action requirement, control rod withdrawal limits were established and provided to the Shift Engineer for implementation. The inspector verified that control rods were being maintained within the withdrawal limits. The limits will remain in effect until a core average burnup of 1000 MWD/MTU is achieved, in accordance with TS 3.1.1.3. The inspector verified that the submitted report contained all information required by the TS action requirement and that it was submitted within the required time limit.

This special report also stated that the corresponding results for Unit 1, submitted November 14, 1988 to A. Bert Davis from R. Pleniewicz, had been revised. The Unit 1 Cycle 3 core average burnup value, which was the most limiting case to obtain a negative MTC, has been revised from 250 MWD/MTU to 1000 MWD/MTU. The revision was based on changes in calculation methods used by Commonwealth Edison's Corporate Nuclear Fuel Services. The original calculation assumed a "no xenon" condition at Beginning of Life (BOL) and an "equilibrium xenon" condition at 1000 MWD/MTU. The revised calculation assumes a no xenon condition for all burnup steps. The licensee reviewed power history and boron concentrations to ensure rod withdrawal limits were not exceeded during the time of a core average burnup between 250 MWD/MTU and 1000 MWD/MTU. No limits were exceeded.

c. Follow-up on Headquarter Requests (255100, 92701)

(Closed) Temporary Instruction (TI) 2515/100: Receipt, Storage, and Handling of Emergency Diesel Generator (EDG) Fuel Oil. The inspector reviewed the licensee's Quality Assurance (QA) program, the Updated Final Safety Analysis Report (UFSAR), and Technical Specifications to determine the licensee's requirements and commitments in this area. The inspector reviewed the following procedures to ensure that safety-related activities are adequately controlled and comply with Technical Specifications and that procedures are sufficiently detailed for licensee personnel to perform the activity required:

BAP 370-2	Byron Station Sampling Program
OBOS 8.1.1.2.d-1	Diesel Generator Diesel Oil Sample Surveillance
1/2BOS 8.1.1.2.e-1	Diesel Generator Oil Sample Monthly Surveillance
BOP D0-3	Filling the 125,000 Gallon Fuel Oil Storage Tank Using the Fuel Oil Unloading Pump
BOP D0-6/8	Filling a Unit 1/2 Diesel Generator Storage Tank from Tanker Truck

The inspector also met with licensee personnel to discuss procedure implementation and practices concerning diesel fuel oil. The inspector obtained the requested information and forwarded it to NRR as requested. Based on these actions, this TI is considered closed.

7. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspectors, and which involve some action on the part of the NRC or licensee, or both. Open items disclosed during the inspection are discussed in paragraphs 5 and 6.

8. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violations, or deviations. An unresolved item disclosed during the inspection is discussed in paragraph 3.

9. Meetings

Exit Interview (30703)

The inspectors met with the licensee representatives denoted in paragraph 1 at the conclusion of the inspection on March 31, 1989. The inspectors summarized the purpose and scope of the inspection and the findings. 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 or processes as proprietary.