U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-374/84-23(DRP)

Docket No. 50-374 License No. NPF-18

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

Facility Name: LaSalle County Station, Unit 2

Inspection At: LaSalle Site, Marseilles, IL

Inspection Conducted: June 6 through 22, 1984

Inspector: M. J. Jordan

Approved By: N. J. Chrissotimos, Chief
Reactor Projects Section 2C

7-10-84
Date

Inspection Summary

Inspection on June 6 through 22, 1984 (Report No. 50-374/84-23(DRP))
Areas Inspected: Special inspection by the resident inspector of activities surrounding the bypassing of the temperature isolation functions for the Reactor Water Cleanup System, and a resulting enforcement conference held on June 22, 1984. The inspection involved a total of 10 inspector-hours onsite by one NRC inspector.
Results: One item of noncompliance was identified for violating Technical Specifications - Paragraph 2.

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DETAILS

1. Persons Contacted

   a. Commonwealth Edison Representatives

   L. O. DelGeorge, Assistant Vice President of Licensing and Engineering
   D. Galle, Divisional Vice President and General Manager for Nuclear Stations
   D. Farrar, Director, Nuclear Licensing
   G. J. Diederich, Plant Superintendent, LaSalle County Station
   C. E. Sargent, Assistant Superintendent for Operations, LaSalle County Station
   W. R. Huntington, Technical Staff Supervisor, LaSalle County Station
   G. L. Cooper, Master Instrument Mechanic, LaSalle County Station
   J. H. Atchley, Shift Engineer, LaSalle County Station

   b. NRC Representatives

   A. B. Davis, Deputy Regional Administrator
   C. E. Norelius, Director, Division of Reactor Projects
   N. J. Chrissotimos, Chief, Reactor Projects Branch 2C
   W. H. Schultz, Enforcement Coordinator
   B. A. Berson, Regional Counsel
   M. J. Jordan, Senior Resident Inspector, LaSalle County Station

2. Inspection of the Significant Event

On June 6, 1984 the licensee informed the NRC Resident Inspector that for approximately 7.5 hours the temperature and flow isolation signals in the Reactor Water Cleanup (RWCU) System for electrical Division I and Division II were bypassed. The RWCU system bypassed isolation signals were as follows:

High Differential Flow
High Heat Exchanger Area Temperature
High Heat Exchanger Differential Temperature
High Pump Area Temperature
High Pump Area Temperature Differential Temperatures

The only operable RWCU system isolation signals were Standby Liquid Control Initiation and Reactor Vessel Water Level Low Low.

Investigation by the licensee and the inspector identified that the following occurred:

On June 4, 1984 at approximately 7:30 a.m. a technical staff engineer was performing a startup testing procedure on the temperature and differential temperature isolation indicators in the control room. The engineer checked out the bypass keys to both Division I and II isolation test switches for the isolation of the RWCU system. The procedure required taking the appropriate bypass isolation switch for each division to the "test" position, and not returning them to the normal position until at least ten minutes have passed after the individual switches for the temperature and differential temperatures have been returned to normal. This bypasses the isolation signals for all temperatures, differential temperatures, and differential flow functions in the RWCU system. Data was then taken every two hours per procedure. The test took approximately 15 minutes to complete. The procedure did not specify to do one division at a time, nor did it indicate a time limit that the switches could be in test.

While this test program was being accomplished an instrument mechanic (IM) requested the same keys to the isolation switches from the Shift Engineer to perform a calibration check on the high temperature isolation switches. Since the keys were already checked out to the tech staff engineer, the shift engineer authorized the work; however, the shift engineer told the IM to coordinate his work with both the tech staff engineer who was performing work on the same switches and the Shift Control Room Engineer (SCRE). Thus, a discussion was held between the SCRE, IM, and tech staff engineer. The SCRE stated he knew the Technical Specification requirements, but failed to impress upon the IM or tech staff engineer the length of time both keys could remain in the test position. The SCRE assumed both switches would be in the "test" position only the length of time the tech staff person needed to perform his work. The one division the IM was not working on would then be returned to normal. The IM and tech staff engineer performed their appropriate tests with both Division I and Division II isolation switches in the "test" position. The isolation remained bypassed until the swing shift reactor operator walked down his panels before assuming the shift and recognized the violation of Technical Specifications. The switches were then returned to the normal position at approximately 3:00 p.m.

A review of the drawings and procedures by the inspector and the licensee revealed the following:

a. The alarm circuit for the temperature, differential temperature, and differential flow was still available and would have alerted the Reactor Operator (RO) and the IM of a problem with the RWCU system.

b. The readings for the room temperatures and the ventilation differential temperatures that the tech staff engineer took were reviewed and the data indicated that every two hours a check was made. No abnormality of the temperature was noticed or recorded.

c. A discussion between the RO and the inspector indicated he was aware of the annunciators which came up as a result of the IM testing and the other annunciators which would have come up if something besides the calibration testing alarm would have occurred.

d. The RO indicated to the inspector that he was notified when the tech staff engineer and the IM were not testing such as coffee breaks, lunch breaks, etc. Also the alarms were cleared during these times such that if an alarm would come up for any reason he would assume it to be valid.

e. If a breach in the RWCU system would have occurred, the regenerative heat exchanger may not have worked as efficiently and the high temperature isolation to protect the resin in the RWCU demineralizer may have isolated the system using the same isolation valves.

Technical Specification 3.3.2.c requires that when less than the minimum number of operable trip channels are inoperable, "Close the affected system isolation valves within one hour and declare the affected system inoperable." The RWCU isolation functions for temperature, differential temperature, or differential flow were inoperable and the system not isolated for approximately 7.5 hours. This is an item of noncompliance (374/84-23-01(DRP)).

3. Enforcement Conference

On June 22, 1984 an enforcement conference was held between Commonwealth Edison Company (CECo) and NRC Region III management. Attendees are listed in Paragraph 1. The discussion covered an overview of the RWCU isolation bypass event, a review of the event, subsequent corrective actions, a review of previous corrective actions to level IV noncompliances and why these actions could not reasonably had been expected to have prevented this event, and a review of the Regulatory Performance Improvement Program (RPIP) and its effect on the event.

The licensee attributed the root cause of the violation to be inadequate understanding and communication among the Shift Engineer, Shift Control Room Engineer (SCRE), and the personnel performing the test.

The safety significance of the event was discussed, and although the event was taken by the licensee as a serious occurrence because of violating a Technical Specification Limiting Condition for Operation (LCO), the safety significance was minimal. The isolation signals which were bypassed were anticipatory in nature. The alarms associated with the isolation signal were not bypassed which could have allowed operator action for isolation of the system. Also the isolation on low low water level was still available and would have isolated the system.

The licensee reviewed actions taken on previous level IV noncompliances and the discussion addressed the performance of too many jobs concurrently and overburdening the personnel to control the work. Although the event involved two simultaneous jobs the overall workload in the control room was not great, as had been the cause of previous events.

A discussion was then held on the inability of a management system to prevent this event from occurring. The licensee agreed that the management system of the Shift Engineer (SE), SCRE, and Reactor Operator (RO) should have prevented the event. The SCRE had a "mindset" in that he knew the Technical Specification LCO requirements but had not conveyed the requirement to the RO or personnel performing the tests. When he checked the status of the plant and saw both switches in test he thought that the tech staff engineer was doing his test and that in a short time one of the switches would be returned to normal. The SE also knew of the Technical Specification requirement, but while performing his control room tours as required by Administrative Procedure (LAP 200-1) did not recognize the off-normal condition of two annunciator lights indicating both switches were in test. The RO was not aware of a Technical Specification LCO time clock being in effect as the SCRE had not related this information to him specifically. This "mindset" by the individuals continued until the relief RO came on duty and identified the Technical Specification violation.

This breakdown of the management system to prevent this type of event from occurring is not considered an item of noncompliance because it was not a serious safety event.

The licensee also discussed the potential that while performing the Technical Specification surveillance tests LCO action time clocks need to be observed closely to prevent the possibility of exceeding allowable times. The licensee is establishing a program to prevent exceeding an LCO during surveillance testing. The corrective actions being taken to prevent recurrence of the management breakdown and prevent exceeding LCO action times during surveillance testing is considered an open item (374/84-23-02(DRP)).