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DCD

November 30, 1989

Mr. A. Bert Davis  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region III  
Washington, D.C. 20555

Subject: Dresden Nuclear Power Station Units 2 and 3  
Response to Notice of Violation and  
Inspection Report No. 237/89019; 50-249/89018  
NRC Docket Nos. 50-237 and 50-249

Reference: Letter from W.D. Shafer to Cordell Reed  
dated October 30, 1989, transmitting IR  
No. 50-237/89019; and 50-249/89018

Dear Mr. Davis:

Enclosed is the Commonwealth Edison response to the subject Notice of Violation (NOV) which was transmitted with the referenced letter and Inspection Report. The NOV cited two violations:

- (a) Level IV violation concerning the failure to place a reactor water level switch in the tripped condition when it was isolated for maintenance, and;
- (b) Level V violation concerning an inadequate verification prior to a fuse removal which resulted in an unnecessary half scram.

We understand the significance of the issues involved (which include the adequacy of independent verification, attention to detail, and work package review by licensed personnel) and the need for effective corrective actions to prevent recurrence.

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We recognize that the performance of the Operations Department during the first half of SALP 9 was not what we have come to expect based upon the overall improving trend experienced over the last several years. This improving trend has been recognized by the NRC in assigning a SALP 1 rating to plant Operations for the SALP 8 period. We further recognize that the two violations in this Inspection Report are not examples of SALP 1 performance. However, we believe the actions we have taken in response to these violations are thorough, and expect them to result in improved performance.

Overall, we believe our Operations Staff continues to demonstrate excellent professionalism, teamwork, and capability regarding overview of plant activities and response to abnormal plant conditions. We continue to direct management attention and effort toward reducing events and efficiently supervising plant activities. For example, Unit 3 is currently on a record run of 180 days and we are currently on a dual unit run of 110 days.

We are confident that the actions taken in response to these violations, along with other initiatives implemented by Dresden and continued diligence in monitoring plant operations, can achieve our objective to maintain performance at a SALP 1 level.

Very truly yours,



Cordell Reed  
Senior Vice President

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cc: B.L. Siegel - Project Manager, NRR  
R.M. Lerch - Projects Section Chief, RIII  
S.G. DuPont - Senior Resident Inspector

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ATTACHMENT A

CECo. RESPONSE TO NOV 50-237/89019; 50-249/89018

VIOLATION 237/89019-01

Dresden Technical Specification Table 3.2.2 requires two operable or tripped trip systems for instrumentation that initiates or controls the core and containment cooling systems whenever any emergency core cooling subsystem is required to be operable.

Contrary to the above, on August 30, 1989, reactor low/low water level indicating switch (LIS) 2-263-72C, for emergency core cooling system initiation, was not placed in the tripped condition on Unit 2 when it was isolated for maintenance. As a result, the minimum number of operable or tripped trip systems did not exist.

BACKGROUND

On August 30, 1989, while performing a routine surveillance, instrument technicians noted a fitting that was leaking on a sensing line at the instrument-rack. The sensing line was for reactor level indicating switch (LIS) 2-263-72C. At 1925 hours, with Unit 2 in normal power operation at 100% rated core thermal power, this instrument was taken out-of-service (OOS) to repair the leaking sensing line fitting. This switch is part of the low low reactor water level ECCS initiation logic and the Emergency Diesel Generator auto start logic. The Operating Engineer and the Shift Engineer were aware of the applicability of Technical Specification Table 3.2.2 Note 1 which requires its trip system to be tripped downscale when the instrument was made inoperable.

At approximately 2050 hours, while the Shift Engineer was performing a Control Room panel walkdown, it was identified that the appropriate annunciator alarms were not as would be expected with this instrument tripped in the appropriate direction. A prompt investigation revealed that the instrument had not been tripped downscale, but rather, had drifted upscale when isolated and equalized. The instrument technicians were immediately requested to insert the proper downscale trip signal which was completed at 2115 hours, one hour and 50 minutes after the instrument was removed from service.

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## DISCUSSION

The root cause of this event was determined to be a management deficiency, in that, although the Operating Engineer was aware of the Technical Specification requirement for inserting a downscale trip signal while LIS 2-263-72C was isolated and communicated this requirement with Instrument Maintenance management and the Shift Engineer, the requirement was not adequately communicated to the personnel performing the work. Additionally, the review of the work package was inadequate, in that, the Shift Control Room Engineer, who authorized the work to begin, did not adequately familiarize himself with the work to be performed to ensure that the instrument would be tripped in the appropriate position and understand what impact this would have on the plant including the annunciator alarms to expect. The SCRE did conduct an extensive investigation prior to authorizing the work with the work crew concerning the possible ramifications on the plant from the other instruments on the instrument rack resulting from potential external mechanical vibrations and/or internal hydraulic pulsations when the instrument was isolated. However, this review failed to include the specific trip actions for this instrument required to comply with the Technical Specifications.

In addition, investigation of this event concluded that additional guidance was needed concerning control of instruments declared inoperable or isolated for maintenance activities and the need to indicate the direction, i.e. upscale or downscale, an instrument was to be tripped in the work package instructions. Therefore, procedural deficiency and inadequate work instructions are believed to be contributing factors in this event.

## CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

The level instrument was placed in the downscale tripped position immediately upon discovery that it was not in the proper tripped condition. This placed the instrument in a condition to comply with the Technical Specifications. The event was also reviewed with the involved personnel to ensure they understood the consequences of their actions.

## CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER NONCOMPLIANCES

1. A review of this event will be conducted in a Station tailgate session. This will be completed by January 15, 1990.
2. The Regulatory Assurance staff will perform a review of Technical Specification trip requirements for inoperable Reactor Protection System, Primary Containment Isolation System and Emergency Core Cooling System initiating instrumentation. This review will be completed by April 1, 1990.
3. Based on this review, the Operations staff will implement a Technical Specification interpretation policy statement in order to clarify these trip requirements. This will help ensure greater awareness of the trip requirements, and clarify the required actions. This policy will be implemented by June 1, 1990.

4. A review will also be conducted of the current guidance regarding review of maintenance requests prior to the authorization of work to ensure that the reviewers understand not only the scope of the work to be performed but also the impact, ramifications, and expected plant response based on the current plant conditions. This review and the changes in procedural guidance will be completed, trained on, and implemented by March 31, 1990. In the interim, a memo will be provided to the SCRE's which will provide additional guidance on the current expectations for review of maintenance requests prior to authorization.
5. In addition, the maintenance memorandum regarding work package preparation will be revised to more clearly define that work package steps are to include the trip position of instruments when the maintenance requires tripping of the instrument. This memorandum will be revised by January 31, 1990.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved at 2115 hours, August 30, 1989, when the proper downscale trip signal was inserted.

## ATTACHMENT B

CECo. RESPONSE TO NOV 50-237/89019; 50-249/89018

### VIOLATION 237/89019-02

10 CFR 50, Appendix B, Criterion V, as implemented by Commonwealth Edison Company's Quality Assurance Program, as described in Section 5 of Topical Report CE-1A, requires that activities affecting quality be prescribed by documented instructions, procedures or drawings of a type appropriate to the circumstances and be accomplished in accordance with these instructions, procedures or drawings. Dresden Administrative Procedure 7-27, Independent Verification, Revision 0, requires that independent verifications ensure that each check constitutes an actual component identification.

Contrary to the above, on September 21, 1989, removal of a primary containment isolation fuse for Equipment Outage Number II-1209 was not accomplished in accordance with instructions in that the independent verification did not constitute an adequate component identification. An incorrect reactor protection system scram fuse was removed which resulted in an unexpected half scram on Unit 2.

### BACKGROUND

On September 21, 1989, with Unit 2 in the run mode at 98% rated core thermal power, the Operations department was preparing to remove relay 595-703D from service to allow the Instrument Maintenance department to replace and calibrate Main Steam Line Low Pressure Switch (PS) 2-261-30B in accordance with Dresden Instrument Surveillance (DIS) 250-2, (MSL Low Pressure Isolation Switch Calibration). The Operations department prepared an equipment Out-Of-Service (OOS) checklist to remove fuse number 595-703D from Control Room Panel 902-17. The equipment OOS checklist was given to the Unit 2 Nuclear Station Operator (NSO) to remove fuse number 595-703D from panel 902-17 and attach the associated OOS card. The NSO, accompanied by the Station Control Room Engineer (SCRE), then proceeded to panel 902-17 to remove fuse number 595-703D. The SCRE was to act as the independent verifier for the OOS.

The fuse that the NSO was to remove is installed in Panel 902-17 on the aisle side of the panel. Each fuse in this fuse block is labeled as to its correct number. On the aisle side of the panel there is a phenolic nameplate listing the fuses in the order of their position in the fuse block. This fuse block contains fuse numbers that begin with both 590-XXX (Reactor Protection System logic) and 595-XXX (Primary Containment Isolation System logic). To minimize confusion, the phenolic nameplate is color coded to

distinguish the 590 series fuses from the 595 series fuses. The 590 series fuses are engraved in white letters with an orange background and the 595 series fuses are engraved in white letters with a black background. The labels on the fuses are also color coded to match the phenolic nameplate. It should be noted that the two different series fuse numbers, 590 and 595, contained in the fuse blocks have the same ending digits in many cases, i.e., 590-703D and 595-703D.

When the NSO and the SCRE arrived at panel 902-17 to remove the fuse the NSO began reading the fuse labels to locate fuse 595-703D. As the NSO was looking for the fuse label he came to one that had 703D as the last four digits and questioned the SCRE, "703D, Right?", to which the SCRE responded, "Yes". The NSO did not communicate the entire seven digit fuse number nor did the SCRE request it, thereby missing a positive check of the fuse number. The NSO had actually located fuse number 590-703D instead of fuse 595-703D. The NSO then pulled fuse 590-703D, resulting in a half scram and annunciating the appropriate alarms on the front panel for a half scram.

Upon recognizing the incorrect fuse had been pulled, it was immediately reinstalled and the half scram reset. Subsequently the correct fuse (595-703D) was removed in accordance with the OOS checklist.

#### DISCUSSION

The root cause of this event was determined to be inattention to detail on the part of the NSO and the SCRE, in that they did not adequately ensure the proper fuse was selected prior to removal of fuse number 590-703D. Contributory causes to the event included inadequate communication between the NSO and the SCRE, the labels did not specifically differentiate (other than by color) the fuse logic functions, and the independent verification procedure (DAP 7-27) did not specifically prevent removal of the fuse prior to completion of the independent verification. The NSO did not transmit the complete fuse number to the SCRE when the NSO located the fuse tag he identified as fuse number 595-703D, nor did the SCRE question the incomplete message transmitted by the NSO. Although the fuses had color coded labels, no caution was provided regarding similar numbering of the fuses.

#### CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED

Upon recognizing the incorrect fuse had been pulled, it was immediately reinstalled and the half scram reset along with the associated annunciators. The NSO and the SCRE were counseled as to the importance of properly identifying fuses prior to removal.

## CORRECTIVE ACTIONS TAKEN TO AVOID FURTHER NONCOMPLIANCES

1. The Operations department will tailgate this event which will include stressing the use of proper communications and the need for self-checking. This tailgate will be complete by January 15, 1990.
2. The Training department will include this event in one of the upcoming Operator continuing training cycles. This discussion will include the event, apparent root cause, and the corrective actions taken. This training will be complete by March 31, 1990.
3. A "Caution Label" will be added to the Control Room panels that contain both 590 and 595 series fuses alerting the Operators that there are two series of fuse types contained in the fuse block and that positive identification of the entire fuse number must be made. The labeling will also include the function of the fuse type, i.e., Scram or Isolation, and explains the color scheme utilized to differentiate its function. This label upgrade was completed on November 16, 1989.
4. The Independent Verification procedure (DAP 7-27) will be revised to include guidance regarding the removal of fuses which may initiate an Engineered Safety Feature (ESF) actuation, e.g. RPS, PCIS, etc., to ensure that positive identification by both the initial person locating the fuse and the independent verifier is obtained and agreed upon prior to fuse removal. This event clearly identified that communications and complete information transfer is very important. Further, an independent verification using the "apart in action" concept versus the "apart in time" concept when removing ESF fuses can help prevent inadvertent actuations. This procedure revision will be implemented by January 31, 1990.

## DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance was achieved on September 22, 1989 when the Shift Control Room Engineer was counseled on the requirements of independent verification.