



Commonwealth Edison  
1400 Opus Place  
Downers Grove, Illinois 60515

January 20, 1992

U.S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

Subject: Dresden Nuclear Power Station Units 2 and 3  
Supplemental Response to Electrical Distribution  
System Functional Inspection (EDSFI) Report  
50-237/91038; 50-249/91042  
NRC Docket Nos. 50-237 and 50-249

Reference: M.A. Ring (NRC) Letter to Cordell Reed (CECo)  
dated December 20, 1991, transmitting NRC  
Inspection Report Nos. 50-237/91038; 50-249/91042

Dear Sirs:

Enclosed is Commonwealth Edison Company's (CECo) response to the Notice of Violation (NOV) and Notice of Deviation (NOD) which were transmitted with the referenced letter and Inspection Report. The NOV cited a Severity Level IV violation regarding post modification testing. The NOD is related to 4KV-ac circuit breaker overduty.

If there are any questions or comments regarding this response, please contact Denise Saccomando, Compliance Engineer, at (708) 515-7285.

Very truly yours,

T.J. Kovach  
Nuclear Licensing Manager

Attachments: A - Response to NOV  
B - Response to NOD

cc: A. Bert Davis, Regional Administrator-RIII  
B.L. Siegel, Project Manager, NRR  
W.G. Rogers, Senior Resident Inspector, Dresden  
D.S. Butler, Region III Inspector

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**ATTACHMENT A**

**RESPONSE TO NOTICE OF VIOLATION**

**NRC INSPECTION REPORT**

**50-237/91038-07 (DRS); 249/91042-07 (DRS)**

## RESPONSE TO NOTICE OF VIOLATION

### NRC INSPECTION REPORT

50-237/91038-07 (DRS); 249/91042-07 (DRS)

During an NRC inspection conducted on December 2 through 6, 1991, a violation of an NRC requirement was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions", 10 CFR Part 2, Appendix C (1991), the violation is listed below:

10 CFR 50, Appendix B, Criterion V, requires that activities affecting quality be accomplished in accordance with instructions that include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.

Contrary to the above, prior to December 6, 1991, the licensee's post modification test procedure for modification No. M-12-2-88-05 failed to include appropriate acceptance criteria required by procedure DAP 5-1 "Plant Design Change Program".

This is a Severity Level IV violation (Supplement I).

#### Discussion

In 1988, the station initiated Modification M12-2-88-05 to replace the feed breakers on 480 V-ac MCC 28/29-7. During post modification testing, control relay 2871/a, contact T1/M1, should have been verified to trip breaker No. 2971 during the performance of Test Procedure SP 89-1-4, Revision 0, "LPCI Swing Bus." The CECo Station Nuclear Engineering Department (SNED) specified the test and acceptance criteria for this modification. However, specific testing acceptance criteria for CR 2871/a interlock contact T1/M1 were not included. The failure to identify the omission of the CR 2871/a contact could have been identified by checking modification boundaries on the schematic drawings against test procedure boundaries.

Construction Test Procedures No. 7, Revision 1, "Miscellaneous Breakers/Contactors," and No. 19, Revision 1, "Control Circuits," were used by construction personnel to verify and confirm proper installation of the modification. The procedures require that all devices be functionally checked per schematic diagrams by verifying that individual device contacts closed or opened on demand. The station traveler for this test did not contain documented evidence that specific circuit acceptance criteria were met, other than an initial by the operator and Quality Assurance that the construction procedures were performed.

#### Actions Taken To Correct The Deficiency

Dresden Station will test Modification M12-2-88-05 Relay CR 2871/a Contact T1/M1 in accordance with a Dresden Station Special Procedure prior to the start-up of Unit 2 from the current forced maintenance outage.

## Corrective Actions Taken To Prevent Further Noncompliance

Commonwealth Edison, in the Engineering Assurance Program Assessment Report No. EA-91-03. Post Modification Acceptance Testing, dated October 30, 1991, reviewed the post modification testing acceptance criteria provided to the stations by the Nuclear Engineering Department in modification packages. Based on this assessment, the following recommendations have been proposed by the Engineering Assurance Group of the Nuclear Engineering Department.

- The ENC-QE-06 series of procedures should be revised to require better documented communication between the engineering groups developing the acceptance testing requirements and the station testing groups.
- Post Modification testing requirement discussions and documentation should be made a part of the currently required modification meetings.
- Modification Approval Letters should include a section specifically identifying the test results that require review by engineering.
- Guidelines should be developed to assist in the determination of what Post Modification reviews are required.

In order to implement the first three of the above recommendations, the Nuclear Engineering Department will review and revise the contents of the ENC-QE-06 and ENC-QE-06.4 procedures. These procedures provide guidance and control of the modification process and post modification testing. It is expected that the revised procedures will be issued for inclusion in the ENC Procedures Manual by April 30, 1992.

In order to develop guidelines to assist in the determination of what Post Modification reviews are required, a working group, which includes a member from each area of the Nuclear Engineering Department, will meet beginning in January, 1992. This working group will assess:

- The means to strengthen communication between the engineering organization and site test groups.
- The methods used to determine what testing is required for various activities performed during a modification.
- The proper use of specific testing criteria, including acceptance criteria, tolerances, and references.

The referenced Assessment Report also recommended that a tutorial be developed to help engineering personnel in the area of post modification testing. In this regard, the Nuclear Engineering Department has committed to evaluate the need for the development of a Technical Information Document (TID) in the post modification testing area to provide guidance in identifying and specifying tests, acceptance criteria, and tolerances. This evaluation will be completed by February 29, 1992. At that time, if the results indicate a need for the TID, a development schedule will be established.

Date When Full Compliance Will be Achieved

Full compliance in testing Modification M12-2-88-05 Relay CR 2871/a Contact T1/M1 will be completed prior to the start-up of Unit 2. Procedure changes to ENC-QE-06 and ENC-QE-06.4 will be completed by April 30, 1992.

**ATTACHMENT B**

**RESPONSE TO NOTICE OF DEVIATION**

**NRC INSPECTION REPORT**

**50-237/91038-01 (DRS); 249/91042-01 (DRS)**

## RESPONSE TO NOTICE OF DEVIATION

### NRC INSPECTION REPORT

50-237/91038-01 (DRS); 249/91042-01 (DRS)

#### Deviation

During an NRC inspection conducted on December 2 through 6, 1991, a deviation of your Final Safety Analysis Report (FSAR) was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Action", 10 CFR Part 2, Appendix C (1991), the deviation is listed below:

FSAR Section 8.2.2.2 states, in part, that all protective circuit breakers are sized according to standard electrical industry practice where maximum current interrupting capabilities of circuit breakers exceed the available line-to-line or three (3) phase short circuit current taking into account the impedance of the generator, transformer and other electrical system components.

Contrary to the above, as of December 6, 1991, breakers in the 4kV system were sized such that a fault current condition could exceed their maximum current interrupting capability by up to 14 percent.

#### Discussion

As presented in our response to the Quad Cities EDSFI Inspection Report (Site Inspection Report No. 254/91011; 265/91007), Commonwealth Edison Company (CECo) acknowledges the underlying technical concerns of Deviation 50-237/91038-01 (DRS); 249/91042-01 (DRS) and has taken comprehensive actions to address those concerns.

Prior to both the Quad Cities and Dresden EDSFI Inspections, CEC Co self-identified circuit breaker overduty concerns with the 4 kV electrical distribution system. CEC Co discussed these issues with the EDSFI team and its plans for addressing the over-duty concern, including short and long term corrective actions.

Since the completion of the Dresden EDSFI, the Auxiliary Power System Enhancement Study has been completed. Based on the results of this study CEC Co is proceeding with the following with respect to the 4160 V-ac overduty concern.

- Refurbishment of non-safety related 350 MVA breaker cubicles at buses 21, 22, 31, and 32 at Dresden (buses 11, 12, 21, and 22 at Quad Cities) to increase their short circuit rating.
- Replacement of 250 MVA buses 23, 24, 33, and 34 at Dresden (buses 13, 14, 23, and 24 at Quad Cities) with 350 MVA equipment.

The current schedule for the refurbishment of the 350 MVA non-safety related breaker cubicles is:

- |                              |                     |
|------------------------------|---------------------|
| 1. Dresden Bus 31 and 32     | Completed           |
| 2. Quad Cities Bus 21 and 22 | Q2R11 (In Progress) |
| 3. Dresden Bus 21 and 22     | D2R13               |
| 4. Quad Cities Bus 11 and 12 | Q1R12               |

The main feature of the 4 kV system upgrade is to completely remove the existing non-diesel 250 MVA buses which presently experience the over-duty condition. This includes Dresden Unit 2 buses 23 and 24, Dresden Unit 3 buses 33 and 34, Quad Cities Unit 1 buses 13 and 14, and Quad Cities Unit 2 buses 23 and 24. Each set of switchgear would be replaced with 1E qualified switchgear rated at 350 MVA. This upgrade will resolve the overduty issue for each bus as it is replaced. Spare breakers and parts would also be purchased to accommodate a rotating maintenance program and to provide a sufficient future source of spare parts for the new switchgear.

The 250 MVA to 350 MVA equipment upgrade can be successfully implemented within ten week refueling outages. The proposed switchgear replacements would take place on a one bus per refueling outage schedule starting with D3R13 for Dresden and Q2R12 for Quad Cities. This staged replacement is required to accommodate the modifications within 10 week outages in the upcoming years. The first switchgear replacements would be bus 33 at Dresden and bus 23 at Quad Cities. The remaining bus upgrades would then occur in refueling outages after Station Blackout modifications are completed (scheduled for completion by the end of 1995).

In addition to the Station Blackout upgrade, both Dresden and Quad Cities have other resource intensive commitments with required implementation dates falling between 1992 and 1995. Examples of these items include Generic Letter 89-10 Motor Operated Valve upgrades and replacement of the Reactor Water Cleanup piping for Generic Letter 88-01. The strategy identified above for the 4KV bus replacements places most work beyond 1995. This strategy minimizes scheduler conflicts and allows for appropriate management of these resource intensive projects.