

July 12, 1996

**ComEd**

James Lieberman  
Director, Office of Enforcement  
U.S. Nuclear Regulatory Commission  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852-2738

SUBJECT:           Dresden Power Station Units 2 and 3;  
                      NRC Docket Number 50-237 and 50-249;  
                      NRC Inspection Report Numbers 50-237(249)/96005

                      Quad Cities Power Station Units 1 and 2;  
                      NRC Docket Number 50-254 and 50-265;  
                      NRC Inspection Report Numbers 50-254(265)/96005

References:       (a)     H. J. Miller letter to T. J. Maiman, dated June 13, 1996, Transmitting Notice of Violation and Imposition of Civil Penalty for Dresden Station.

                      (b)     H. J. Miller letter to T. J. Maiman, dated June 13, 1996, Transmitting Notice of Violation and Imposition of Civil Penalty for Quad Cities Station.

Enclosed is Commonwealth Edison's (ComEd) response to the Notice of Violation (NOV) transmitted with the referenced letters. The NOV cited one Severity Level III violation concerning timeliness of corrective actions and one Severity Level IV violation concerning failure to report a condition outside of the design basis within 30 days upon identification of the condition.

ComEd engineering management recognizes the need for strong policies that enforce the prioritization for resolving non-conforming conditions at our sites. Maintenance of the design basis and design control at the sites is critical for our support of plant operating personnel in the performance of their duties. Our response to the corner room steel issue did not satisfy expectations for our engineering organization.

To address the above issues, this letter includes the following commitments for corrective action:

- *Dresden Unit 3 will restore conformance of its corner room steel at the completion of the next scheduled refueling outage (D3R14, currently scheduled for September, 1996) as approved by License Amendment Number 144 to License No. DPR-25.*
- *Dresden and Quad Cities will perform a self-assessment of a plant system by October 31, 1996, to examine the design control process. Appropriate action will be taken based on the results of the self-assessment. Dresden has selected the Low Pressure Coolant Injection System/Containment Cooling Service Water System for this self-assessment; Quad Cities has selected the Residual Heat Removal System.*

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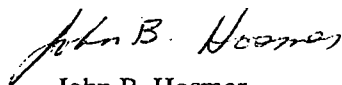
- Awareness training for non-conforming conditions was conducted for engineers at Dresden and Quad Cities. This training was expanded to include the other ComEd sites and has been completed at Byron and Braidwood. Training of the LaSalle, Zion and General Office engineers will be completed by August 31, 1996. This training will ensure that engineers are sensitized to what actions need to be taken with regards to the resolution of non-conforming conditions.

The reorganization of the Site and Corporate engineering staff and management team has helped strengthen the overall technical knowledge of ComEd's engineering organization. The hiring of significant numbers of experienced and capable staff members in the period June 1994 through the present has further assured that issues similar to corner room structural steel will be appropriately addressed. Continuing training of ComEd's engineering staff will improve the knowledge and capability of our engineers to challenge complex technical issues when they arise. Efforts toward acquiring and improving access to ComEd's design basis information, which are nearing completion, provide further assurances that our engineers are equipped with the technical information to identify and resolve potential non-conforming conditions.

ComEd concurs with the cited violations, as described in the response attached to this letter. Enclosed, please find two (2) checks in the amount of \$50,000 each for payment of the civil penalty.

If there are any other questions or comments concerning this letter, please refer them to this office.

Respectfully,



John B. Hosmer  
Vice President

Attachment: Response to Notice of Violation

cc: Document Control Desk

H. Miller, Regional Administrator, RIII

R. Pulsifer, Project Manager, NRR

J. Stang, Project Manager, NRR

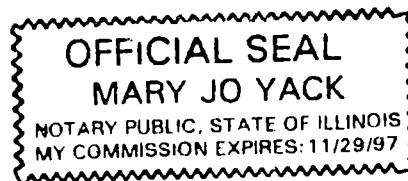
C. Müller, Senior Resident Inspector, Quad Cities

C. Vanderniet, Senior Resident Inspector, Dresden  
Office of Nuclear Facility Safety - IDNS

Signed before me on this 12<sup>th</sup> day,

of July, 1996.

By Mary Jo Yack  
Notary Public



**RESPONSE TO NOTICE OF VIOLATION**  
**INSPECTION REPORT Nos.**  
**50-237(249)/96005 and 50-254(265)/96005**

**VIOLATION ASSESSED A CIVIL PENALTY**

10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition. The identification of the significant condition adverse to quality, the cause of the condition, and the corrective action taken shall be documented and reported to the appropriate levels of management.

**Dresden:**

Contrary to the above, from 1991 until March 1996, the licensee failed to promptly identify and correct known deficiencies in Units 2 and 3 structural steel located in the low pressure coolant injection (LPCI) corner rooms. Certain beams and connections exceeded the allowable stresses for Class I building type structures specified in Dresden Updated Final Safety Analysis Report (UFSAR) Table 3.8-11, a significant condition adverse to quality. In 1991, the licensee's architect engineer identified that some of the structural steel connections in the LPCI corner rooms appeared above FSAR limits because the original 1966 design analysis had never been updated to include as-built piping loads. The structural steel deficiencies were not appropriately identified and tracked until the licensee committed to modify the Unit 3 structural steel during the next refuel outage (D3R14) in a letter to the NRC dated March 4, 1996. The Unit 2 structural steel modifications were completed during refuel outage D2R14 which was on-going in March 1996.

This is a Severity Level III violation (Supplement I).  
Civil Penalty - \$50,000.

**Quad Cities:**

Contrary to the above, from September 1991 until February 1996, the licensee failed to promptly identify and correct deficiencies in the Units 1 and 2 structural steel located in the low pressure coolant injection (LPCI) corner rooms. Certain beams and connections exceeded the allowable stresses for Class I building type structures specified in Quad Cities Updated Final Safety Analysis Report (UFSAR) Table 3.8-11, a significant condition adverse to quality. A letter dated September 10, 1991, from the licensee's architect engineer to the Quad Cities Engineering Supervisor documented that during walkdowns 34 pipe supports had been identified which were not included in existing calculations and that some structural steel repairs would be necessary in order to accommodate the structural steel load data that had been collected. The structural steel deficiencies were not appropriately identified and tracked until Problem Identification Form (PIF) No. 95-2256 was written on August 21, 1995, and an Operability Determination was completed on August 25, 1995. In February 1996 the licensee included the modifications to correct the structural steel deficiencies in the Unit 1 refuel outage following NRC expressing timeliness concerns.

This is a Severity Level III violation (Supplement I).  
Civil Penalty - \$50,000.

## **REASON FOR VIOLATION**

ComEd agrees with the violation with the following clarification. The information ComEd received from its architect engineer in 1991 was related to undocumented loads on corner room steel. While preliminary assessments from ComEd's architect engineer raised concerns about beam stresses and interaction coefficients, this information did not provide a conclusive determination that the corner room steel at Dresden or Quad Cities was outside of compliance with the tolerances permitted by the FSAR in 1991. However, ComEd agrees that we failed to aggressively pursue further fact finding or corrective actions as a result of this information in a more timely manner, as is discussed below.

ComEd's evaluation of this violation has identified two basic root causes:

1. Ineffective ComEd Processes for Transition to a Decentralized Organization - Several factors contributed to this basic root cause: Foremost was the multiple turnovers of cognizant engineers and plant leaders which occurred while processes for approving work were evolving. Some programs were deferred with open issues still pending, and there was an absence of accountability to close those issues. In addition, cognizant engineers were ineffective in managing multiple interfaces with architect engineering firms.
2. Design Control - Technical knowledge regarding corner room structural steel on-site was not sufficient to recognize complex problems and input from contractors was not always evaluated or challenged.

These root causes led to the failure to promptly identify and correct this design deficiency.

## **CORRECTIVE ACTIONS TAKEN AND RESULTS ACHIEVED**

ComEd has completed the following short-term corrective actions:

- The transition to a decentralized engineering organization has been completed and accountability for ComEd's current engineering organization has been defined. The key Engineering leaders have been placed on-site, with the Site Engineering Organizations accountable for setting priority, performing engineering production work, and being the Design Authority. The Corporate (Downers Grove) Engineering Organization serves in a support role by providing technical policy, training, tools, and oversight. More than 200 experienced engineers have been hired, with most being placed at the sites.
- ComEd Engineering Managers and Site Engineering Managers identified and reviewed other potentially significant issues. Although none were found to be similar to the LPCI corner room steel event, some issues were promptly addressed at Dresden and Quad Cities. The remaining issues have been added to the Nuclear Tracking System at the respective stations.
- Existing engineering backlogs, including such issues as operability assessments, pending engineering modifications and open questions from the UFSAR rebaseline, were reviewed for other UFSAR non-conformances. Significant UFSAR non-conformances have been addressed for both units at Dresden and Quad Cities Stations. Other lesser significant UFSAR non-conformances are being resolved through existing station processes.
- Awareness training for resolving non-conforming conditions was conducted for site and system engineers at Dresden and Quad Cities to avoid recurrence of issues similar to corner room steel.

- Dresden Administrative Procedure (DAP) 05-02, "Issues Management Program", was revised. The revision provides specific requirements for scheduling resolution of nonconforming conditions, such that the resolution does not exceed the next refueling outage. This procedure revision will preclude recurrence of issues similar to corner room steel from being addressed in an untimely manner.
- Quad Cities program controls, QCAP 0230-07, "Operability Determination", were effective at the time the issue was identified in that the modification for corner room steel was scheduled for implementation. However, to provide clarity, our program, QCAP 0230-07 has been revised to provide specific requirements for scheduling resolution of nonconforming conditions, such that the resolution does not exceed the next refueling outage.

### **ACTIONS TAKEN TO AVOID FURTHER VIOLATION**

ComEd has taken the following long-term corrective actions:

- Awareness training for non-conforming conditions was conducted for engineers at Dresden and Quad Cities. This training was expanded to include the other ComEd sites and has been completed at Byron and Braidwood. Training of the LaSalle, Zion and General Office engineers will be completed by August 31, 1996. This training will ensure that engineers are sensitized to what actions need to be taken with regards to the resolution of non-conforming conditions.
- ComEd's six Site Engineering Departments have implemented performance meetings for the purpose of managing performance and evaluating engineering backlogs to determine if issues similar to corner room steel are present. The frequency of these meetings will be assessed on an ongoing basis to determine frequency and/or continuation, as appropriate.
- Dresden and Quad Cities will perform a self-assessment of a plant system by October 31, 1996, to examine the design control process. Appropriate action will be taken based on the results of the self-assessment. Dresden has selected the Low Pressure Coolant Injection System/Containment Cooling Service Water System for this self-assessment; Quad Cities has selected the Residual Heat Removal System.

### **DATE OF FULL COMPLIANCE**

Quad Cities Unit 1 and Unit 2 are in full compliance.

Dresden Unit 2 is in full compliance. Dresden Unit 3 will restore conformance at the completion of the next scheduled refueling outage as approved by License Amendment Number 144 to License Number DPR-25.

## **VIOLATION NOT ASSESSED A CIVIL PENALTY**

10 CFR 50.73(a)(2)(ii)(B), requires that the licensee submit a Licensee Event Report within 30 days after discovery of any event or condition that resulted in a condition that was outside the design basis of the plant.

Dresden: Contrary to the above, as of April 1, 1996, the licensee failed to submit a Licensee Event Report within 30 days after discovery on January 6, 1994, that the structural steel in the Unit 2 and 3 LPCI corner rooms was outside the design basis of the plant.

Quad Cities: Contrary to the above, as of April 1, 1996, the licensee failed to submit a Licensee Event Report within 30 days after discovery on January 6, 1994, that the structural steel in the Unit 1 and 2 LPCI corner rooms was outside the design basis of the plant.

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

## **REASON FOR VIOLATION**

ComEd accepts this violation. The reportability guidance at the time of occurrence, NUREG 1022, Draft 1, did specify that an LER should have been submitted. However, ComEd personnel did not fully understand the importance of a nonconforming UFSAR condition as applied to the reportability of this issue.

## **ACTIONS TAKEN AND RESULTS ACHIEVED**

The Commonwealth Edison Reportability Manual is used to assist in making the reportability determination for site events. We reviewed the Reportability Manual to ensure that the most current NRC guidance was being used today. The NUREG 1022, Draft 2 guidance for reporting events where the plant is operated in a degraded or unanalyzed condition, which includes being in a condition outside the design basis, is incorporated into the Manual.

## **ACTIONS TAKEN TO AVOID FURTHER VIOLATION**

Awareness training for non-conforming conditions was conducted for engineers at Dresden and Quad Cities. This training was expanded to include the other ComEd sites and has been completed at Byron and Braidwood. Training of the LaSalle, Zion and General Office engineers will be completed by August 31, 1996. This training will ensure that engineers are sensitized to what actions need to be taken with regards to the resolution of non-conforming conditions and readily raise issues for senior site management review.

## **DATE OF FULL COMPLIANCE**

Dresden and Quad Cities are in full compliance.