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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION III  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

June 24, 1997

EAs 96-530 & 96-531

Commonwealth Edison Company  
ATTN: Mr. E. Kraft  
Site Vice President  
Quad Cities Station  
22710 206th Avenue North  
Cordova, Illinois 61242

SUBJECT: NOTICE OF VIOLATION AND PROPOSED IMPOSITION OF CIVIL PENALTY  
- \$50,000  
(NRC Routine Inspection Report 50-254/365/96017(DRP) and NRC  
Special Inspection Report 50-254/265/96019(DRP))

Dear Mr. Kraft:

This refers to the two inspections conducted from October 27 through December 6, 1996, at the Quad Cities Nuclear Power Station. One of the issues reviewed during the routine resident inspection (Report 50-254/365/96017(DRP)) was the potential inoperability of the control room emergency ventilation system. Special inspection (Report 50-254/365/96019(DRP)) evaluated the reactor building interior and external damage caused by high winds. The results of the inspections were discussed with your staff on November 26 and December 6, 1996. The inspection reports were issued on February 4, 1997. A predecisional enforcement conference to discuss the issues was held on February 27, 1997.

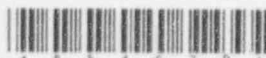
Based on the information developed during the inspection and the information that your staff provided during the conference, the NRC has determined that violations of NRC requirements occurred. These violations are cited in the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice). The circumstances surrounding each violation are described in detail in the subject inspection report.

On May 10, 1996, corrugated steel siding on the interior and exterior of the upper portion of the reactor building sustained wind damage. Your staff's initial evaluation concluded that the interior siding was required for the integrity of secondary containment, and the function of the exterior sidings was cosmetic. Based on this evaluation, your staff repaired the interior siding and elected to delay repairs to the exterior siding. The plant on-site review committee concurred with this course-of-action.

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An NRC inspection team concluded that the reactor building interior and exterior siding are an integral part of the secondary containment and both are required to contain radiological releases in the event of a design basis accident. This conclusion was supported in several sections of the Quad Cities Updated

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Safety Analysis Report (USAR) and eventually acknowledged by your staff. Each section of the interior siding was attached with explosive bolts that fail at a predetermined differential pressure of 7 inches water-gauge across the panels. This design feature protects the reactor building superstructure during a design basis accident. During the inspection, the team determined that many of the explosive bolts had been damaged at some time before the May 10, 1996, storm. The team reached this conclusion because the remains of damaged bolts had been painted over. As a result, the differential pressure that would cause the intact explosive bolts to fail was sufficiently below the design differential pressure specified for the structure. In addition, the team found two 1½ inch air line pipes rigidly attached to the interior siding. Subsequent review determined that the piping was installed without a modification package or an evaluation to analyze whether the installation affected the interior siding.

The findings discussed above indicated that your staff did not fully understand the functional design of the interior and exterior reactor building siding. In addition, they failed to translate the design into surveillance tests to ensure the structure remained operable.

Part I of the Notice includes three violations pertaining to your staff's failure to maintain the integrity of the reactor building interior and exterior siding. The first violation involves the failure of your design engineering group to adequately translate the design of the reactor building interior siding into procedures and instructions. Specifically, the installation of piping on the interior siding of the reactor building was done without the benefit of a design modification and was never adequately analyzed to determine if the modification affected the design function of the internal siding. The second violation involves the failure to develop appropriate surveillance procedures to periodically inspect reactor building interior siding blow-out panels and associated "explosive" bolts. The third violation involves the failure to adequately evaluate and correct degraded exterior reactor building siding.

These violations are significant because your staff did not fully understand the functional design of the interior and exterior reactor building siding. In addition, your staff failed to translate the design into surveillance tests to ensure the structure remained operable. Therefore, these violations are classified in the aggregate in accordance with the "General Statements of Policy and Procedure for NRC Enforcement Actions" (Enforcement Policy), NUREG-1600, as a Severity Level III problem.

In accordance with the Enforcement Policy, a base civil penalty in the amount of \$50,000 is considered for the Severity Level III problem. Because your facility has been the subject of escalated enforcement actions within the last 2 years<sup>1</sup>, the NRC considered whether credit was warranted for *Identification* and *Corrective Action* in accordance with the civil penalty assessment process in Section VI.B.2 of the Enforcement Policy.

*Identification* credit was not warranted because site managers and the on-site review committee reviewed and approved the inadequate safety evaluation that permitted the delayed replacement of the external reactor building siding. The functional requirements of the internal and external reactor building siding were not realized until the NRC inspection team specifically questioned the USAR description of the reactor building siding. In addition, it was the team's inspection of the internal siding that identified the unauthorized and unanalyzed installation of the air lines and the damaged explosive bolts.

*Corrective Action* credit was warranted based on the corrective actions implemented and discussed at the enforcement conference. Several of the corrective actions included: (1) the repair of all damaged bolts, (2) painting working labels on all blow-out panels to prevent unauthorized modifications, (3) routine inspections of the bolts and blow-out panels, (4) training to personnel on the importance of the blow-out panels and bolts, (5) training engineering supervisors on design basis requirements, (6) communicating the lessons learned to other Commonwealth Edison stations, (7) training the plant on-site review committee members on design basis requirements, and (8) revising operability determination procedures clarifying the process for evaluating reduced design margins.

Therefore, to emphasize the need to understand the functional design of a safety-related system and the significance of your staff's limited questioning attitude when high winds damaged the reactor building siding, I have been authorized, after consultation with the Director, Office of Enforcement, to issue the enclosed Notice of Violation and Proposed Imposition of Civil Penalty (Notice) in the base amount of \$50,000 for the Severity Level III problem.

Part II of the Notice includes two Severity Level IV violations pertaining to the inoperability of the control room emergency ventilation system. The inoperability was the result of your staff's failure to translate the control room design specification into surveillance tests to ensure the continued operability of the control room emergency ventilation system. The severity level of each violation was based on your analysis (which was confirmed by the

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A Severity Level III violation and \$50,000 civil penalty was issued on June 13, 1996, for failure to implement corrective action to restore design margins to the structural steel for the low pressure coolant injection corner rooms (EA 96-114). A Severity Level III violation and \$50,000 civil penalty was issued on January 2, 1996, for failure to promptly correct the potential for 480 VAC motor control centers to trip on a current overload (EA 95-241).

Mr. E. Kraft

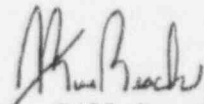
-4-

NRC) that the projected dose to the control room staff, during an accident and based on the "as found" configuration, would never have exceeded the 10 CFR 20, "Standards for Protection Against Radiation," allowable dose limit. These violations were identified as the result of discussions between the Dresden and Quad Cities staffs when the Dresden staff identified testing problems with their control room ventilation. The communication between the two sites and the reviews by the Dresden site staff is commendable. However, the Quad Cities staff should have identified the testing deficiencies during their review of the system configurations before implementing restructured technical specifications. It is the NRC's expectation that your staff will communicate the lessons learned from these violations to the other Commonwealth Edison nuclear power plants so that similar problems can be avoided when implementing restructured technical specifications.

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. The NRC will use your response, in part, to determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosure(s), and your response will be placed in the NRC Public Document Room (PDR).

Sincerely,



A. Bill Beach  
Regional Administrator

Docket Numbers: 50-254; 50-265  
License Numbers: DPR-29; DPR-30

Enclosure: Notice of Violation and Proposed  
Imposition of Civil Penalty

See Attached Distribution:

E. Kraft

-5-

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-6-

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