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(KIDS)

December 3, 1990

Docket Nos. 50-454 and 50-455
License Nos. NPF-37 and NPF-66
EA 90-082

Commonwealth Edison Company
ATTN: Mr. Cordell Reed
Senior Vice President
Opus West III 1400 Opus Place
Downers Grove, Illinois 60515

Gentlemen:

SUBJECT: NOTICE OF VIOLATION
(NRC INSPECTION REPORT NO. 50-454/87027; 50-455-87027)
(NRC OFFICE OF INVESTIGATIONS REPORT NO. 3-87-019)

This refers to the NRC routine safety inspection conducted between July 7 and August 21, 1987 of activities authorized by NRC Licenses NPF-37 and NPF-66 at the Byron Nuclear Station. The report of inspection was mailed to you on January 14, 1988. This also refers to the subsequent investigation conducted by the NRC Office of Investigations (OI) and reported on April 16, 1990. A copy of the investigation report was mailed to you on June 20, 1990. A violation of NRC requirements was identified during the course of the inspection and investigation. An Enforcement Conference, attended by you and members of your staff, was held with me, and other members of the NRC staff, in the Region III Office on August 2, 1990. On August 10, 1990, a copy of the Enforcement Conference report was mailed to you. After further review, we have concluded that the events discussed constitute a violation of 10 CFR Part 50, Appendix B, Criterion III, which is different from that presented at the Enforcement Conference.

On December 4, 1986, an engineer, employed by the Sargent and Lundy Company (S&L), the architect/engineer for the Braidwood and Byron Nuclear Stations, identified a potential condition adverse to quality concerning the emergency diesel generators at the Braidwood and Byron Nuclear Stations. At that time, Braidwood Unit 1 was in the process of loading fuel and Braidwood Unit 2 was still under construction. This enforcement action is limited to the Byron Station since both Byron units held NRC operating licenses at the time of the violation and the safety impact of this matter was more significant at Byron.

The S&L engineer was conducting a classification review of various parts and components on December 4, 1986, when he identified a potential design error on the emergency diesel generator overspeed circuitry. The error was apparently caused when Cooper Industries, the supplier of the emergency diesel generators, erroneously placed components that were not seismically qualified into a safety-related circuit. In this instance, switches that were not seismically

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qualified and were only intended to actuate an alarm were shown on the construction drawing as being wired into the electrical overspeed trip circuitry for the emergency diesel generators. As a result of the drawing error, the nonqualified switches were actually wired into the trip circuitry of each of the emergency diesel generators. The failure of the switches during a seismic event would have either shut down the diesel generators if operating or prevented the emergency diesel generators from starting. After being notified of the EDG circuitry problem on December 17, 1986, Commonwealth Edison Company (CECo) station managers requested that the CECO corporate engineering organization determine the operability of the EDGs. At the same time, CECO initiated a parallel path hardware fix to bypass the unqualified switches. Repairs began at 6:54 p.m. At 8:00 p.m. all four EDGs were declared inoperable. However, two of the EDGs were already fixed, thus avoiding technical specification action statements regarding immediate plant shutdown. Repairs were completed by 8:55 p.m.

It is fortuitous that the S&L engineer identified these circumstances and his performance is to be commended. However, the performance of CECO and its contractors in the areas of initial design and design auditing was not acceptable. In addition, the NRC has additional regulatory concerns regarding the circumstances of this issue. Specifically, the potential significant safety problem was identified on December 4, 1986, but it was not until December 17, 1986, that the Byron Station was informed. Even then, it was NRC Region III, not CECO's organization, who informed the Byron Station of the problem. The NRC considers the period of time that was allowed to lapse between the identification of the potential problem on December 4, 1986, and the completion of repairs during the evening of December 17, 1986, lax in view of the potential safety significance of the problem and its impact on the timeliness of the determination of plant equipment operability. In addition, the NRC is concerned that a CECO engineer's performance in not pursuing resolution of an issue that could affect equipment operability was in part due to your failure to ensure that engineers in responsible positions are appropriately trained in technical specifications and operability concepts. Therefore, the NRC considers this violation to be a significant regulatory concern and has categorized it at Severity Level III. Specifically, the categorization is based on (1) the design failure in significant equipment, EDGs, and the possibility that the EDGs would not have operated during a seismic event; (2) the staff's concern regarding the flow of significant safety information within your organization, both at the vendor/contractor level and within your own organization to support operability decisions; and (3) the staff's concern that given the CECO engineer's background at the time of this event, that he was placed in a responsible position without proper training.

In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," (Enforcement Policy) 10 CFR Part 2, Appendix C (1986), a civil penalty is considered for a Severity Level III violation. However, after consultation with the Director, Office of Enforcement, the Deputy Executive Director for Nuclear Reactor Regulation, Regional Operations and Research, and the Commission, I have decided that a civil penalty will not be proposed in this case because of the age of the matter.

December 3, 1990

You are required to respond to this letter and should follow the instructions specified in the enclosed Notice of Violation (Notice) when preparing your response. In your response, you should document the specific actions taken and any additional actions you plan to prevent recurrence. This response should also address the issues of (1) assuring that the flow of potential significant safety information within the CECO organization, including its principal contractors, is adequate so that plant management is aware of pending issues that may have significant plant safety ramifications and (2) assuring that your engineers are properly trained for their positions. After reviewing your response to this Notice, including your proposed corrective actions and the results of future inspections, the NRC will determine whether further NRC enforcement action is necessary to ensure compliance with NRC regulatory requirements.

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

The responses directed by this letter and the enclosed Notice are not subject to the clearance procedures of the Office of Management and Budget as required by the Paperwork Reduction Act of 1980, Pub. L. No. 96-511.

Sincerely,

Original signed by
A. Bert Davis

A. Bert Davis
Regional Administrator

Enclosure: Notice of Violation

cc w/enclosure:

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PWR Operations
T. Kovach, Nuclear
Licensing Manager
R. Pleniewicz, Station Manager
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Counsel, State of Illinois Center

YES
RIII
[Signature]
Weil/db
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RIII
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Papeiello
11/30/90

RIII
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Davis
12/1/90

NEEDS APPROVAL
CONTRACTOR STAFF
REQUIREMENTS MET
SEE 10 CFR 2.790

Commonwealth Edison Company

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