



**Commonwealth Edison**  
1400 Opus Place  
Downers Grove, Illinois 60515

December 03, 1993

U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Attention: Document Control Desk

**Subject:** Dresden Nuclear Power Station Units 2 and 3 Response to Notice of Violation; Inspection Report 50-237/93024; 50-249/93024  
NRC Docket Numbers 50-237 and 50-249

**Reference:** E. G. Greenman letter to M. D. Lyster, dated November 04, 1993, transmitting Inspection Report 50-237/93024; 50-249/93024.

Enclosed, as Attachment 1, is Commonwealth Edison Company's (CECo) response to the Notices of Violation as requested in the referenced letter. Attachment 2 to this response addresses the issue of operator biennial medical examinations, so as to clarify a statement in the body of the referenced inspection report.

If your staff has any questions concerning this letter, please refer them to Sara Reece-Koenig, Regulatory Performance Administrator at (708) 663-7250.

Sincerely,

D. Farrar  
Nuclear Regulatory Services Manager

attachments

cc: J. B. Martin, Regional Administrator Region III  
J. F. Stang, Project Manager, NRR  
M. N. Leach, Senior Resident Inspector, Dresden

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ATTACHMENT 1  
RESPONSE TO NOTICE OF VIOLATION  
NRC INSPECTION REPORT  
50-237/93024; 50-249/93024

**VIOLATION:**

10 CFR 50, Criterion XVI, Corrective Actions, requires that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, the corrective actions taken to re-establish containment cooling service water system train separation in October 1992 were inadequate to prevent the loss of train separation in June 1993.

**REASON FOR VIOLATION:**

The Control Room (CR) HVAC Train B Refrigeration Compressor has the capability to take emergency cooling water from either Unit 2 CCSW Loop A (Division I) through valve 1599-100, or Unit 2 CCSW Loop B (Division II) through valve 1599-101. The 2 1/2 inch supply line connected to the two loops of Unit 2 CCSW contains no automatic closing isolation valves (i.e., check valves) and the manual isolation valves from each loop were maintained in the normally open position as shown on the system drawings. This created an unisolated mechanical connection between redundant divisions of Unit 2 CCSW, a crosstie. Upon recognition of this condition in December 1992, the crosstie condition and lack of check valves was questioned. As an immediate action, the manual isolation valve 2/3-1599-100 was closed to achieve divisional separation. Tests showed that one CCSW loop could provide adequate flow to the CR HVAC Train B Refrigeration Compressor and its respective CCSW heat exchanger. Additionally, an assessment of the need for check valves was initiated by System Engineering.

Site Engineering and Construction (SEC) performed a review of this crosstie between the CCSW divisions and determined it to be of no safety significance. The review was documented in a draft whitepaper issued in March 1993 and issued final on June 7, 1993. Based on this review, the isolation valve was reopened to restore it to its normal valve position as shown on the system drawings. This review was based on the assumption that simultaneous LOOP/LOCA/SINGLE FAILURE was the most adverse combination of events. Communication with GE has demonstrated that this is a standard assumption used in BWR safety analyses. Based on this assumption only one loop would be operating with its discharge valve, 1501-3A(B), open and the other loop would be a closed volume. Therefore, there would not be any flow between divisions.

NRC Information Notice 93-17, "Safety Systems Response to Loss of Coolant and Loss of Offsite Power", was issued on March 8, 1993 alerting utilities that a design basis of simultaneous LOOP/LOCA/SINGLE FAILURE may not provide the most adverse condition. The Information Notice implies that all possible sequences of LOOP/LOCA/SINGLE FAILURE must be designed for. The historical design basis of safety-related systems is consistent with the intent of 10CFR50, Appendix A, "General Design Criteria", however, the criteria in Appendix A are based on conservative deterministic engineering and are not associated with any specific event sequences, i.e., they have been implemented by assuming LOOP and SINGLE FAILURE to occur concurrent with the initiating event (LOCA).

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**REASON FOR VIOLATION:** (Continued)

The BWR Owner's Group is presently developing a formal response disagreeing with the NRC's position in Information Notice(IN) 93-17. However, based on the guidance in NRC IN 93-17 that simultaneous LOOP/LOCA/SINGLE FAILURE may not be the most adverse combination of events, the NRC has questioned the reopening of isolation valve 2/3-1599-100 without the installation of check valves. Depending on the results of the BWR Owners Group discussion with the NRC additional actions may be necessary. As a prudent action until the issue is resolved, isolation valve 2/3-1599-100 will remain closed.

Commonwealth Edison Company (CECo) agrees that the current design should provide one manual valve in the closed position. In instances where there is a piping tie between redundant systems/divisions, check valves are generally provided. However, check valves were not provided in this case. It should be noted that if LOOP/LOCA/SINGLE FAILURE are assumed to be simultaneous, there is no safety significance to an open interconnection between the two divisions.

The most adverse sequence of events is for a single failure (i.e., Diesel Generator (DG) failure resulting in discharge valve 1501-3A(B) failing open with its CCSW loop not in operation) to occur at some point in time after the LOOP/LOCA with one CCSW train operating. CCSW is a manually initiated system. The probability of this sequence of events, i.e., a design basis event (Large LOCA) coupled with LOOP and a diesel generator starting and failing in a 24 hour period, is once in 1.33 E6 years. The NRC cited safety goal for core damage frequency is one event in 10,000 years(1.0 E4, ref. NUREG 0880, "Safety Goals for Nuclear Power Plants") and the screening criteria for important severe accident sequences is 1.0 E6 years (Generic Letter No. 88-20, "Individual Plant Examination For Severe Accident Vulnerabilities - 10 CFR 50.54").

**CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:**

Manual isolation valve 2/3-1599-100 on loop A was placed in the closed position in August, 1993. The closing of Valve 2/3-1599-100 eliminated the interconnection between CCSW Loop A and Loop B while maintaining the water supply to the Control Room HVAC Refrigeration Unit through CCSW Loop B. Loop B is the preferred loop because the electrical power supply to the Refrigeration Unit is from Division II, the same as Loop B. DOP 5750-05 was revised on November 5, 1993 to instruct the operator to realign the CR HVAC compressor water supply from CCSW loop B to the CCSW loop A if loop B is not available, i.e., close manual valve 2/3-1599-101 and open manual valve 2/3-1599-100. This preserves the redundancy of the CCSW supply while ensuring there is no open interconnection between divisions.

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**CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATION:**

1. A tail gate session will be held with all SEC personnel during January 1994 to discuss timing of single failures during safety analyses.
2. A Design Basis Document is being prepared to provide guidance regarding application of single failure criteria. The DBD is scheduled to be issued in the first quarter of 1994.
3. SEC reviewed the P&ID's to identify and evaluate other potential piping connections between redundant systems/divisions. This review was completed on November 5, 1993 and did not find any other concerns.
4. A modification to add check valves to the line is currently being proposed. The merits of the modification will be reviewed against the current configuration and the guidance for operations as contained in DOP 5750-05. This review is scheduled to be completed by January 31, 1994.
5. P&ID M-3121 will be revised by the end of the second quarter of 1994 to show valve 2/3-1599-100 in the normally closed position.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:**

Conservatism was obtained when valve 1599-100 was closed in August 1993 to isolate one division and eliminate the crosstie condition.

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**VIOLATION:**

10 CFR Part 55.21, states that a licensee shall have a medical examination by a physician every 2 years.

Contrary to the above, during the period from January 25 to August 30, 1993, ten operators, licensed pursuant to 10 CFR Part 55, did not receive the required medical examinations. During this period of time, several of the subject operators performed licensed duties at the Dresden Nuclear Station.

**REASON FOR VIOLATION:**

During an audit of Licensed Operator records at Dresden Station on August 30, 1993, it was determined that ten (10) Licensed Operators had exceeded their requirement for a biennial medical exam per 10 CFR 55.21 . The failure to adequately track and schedule the required medical examinations is attributed to the lack of procedural guidance delineating the requirements and process to follow for the scheduling and completion of medical examinations. All ten (10) individuals who exceeded the two year requirement for the medical exam had participated in the company administered Health Evaluation Program (HEP) in the May - June 1993 time period. This exam contains the essential elements of the NRC medical exam with the exception of the visual auditory, sensory touch, sensory smell and hernia exam.

**CORRECTIVE STEPS TAKEN AND RESULTS ACHIEVED:**

The immediate corrective action included scheduling and completing medical examinations for the ten (10) individuals by September 13, 1993. During the period of August 31, 1993 through September 13, 1993 each operating crew was verified to have assigned to it the Technical Specification minimum number of personnel with current medical examinations.

**CORRECTIVE STEPS TAKEN TO AVOID FURTHER VIOLATION:**

The Dresden Training Department has modified the Training Department Instruction for tracking and scheduling of medical examinations. This revision includes a requirement for periodic audits of the medical records as well as clearly stating the requirements and process to be utilized for ensuring timely completion of medical exams. The procedure change was implemented on November 15, 1993.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:**

Dresden Station is in full compliance.

ATTACHMENT 2  
RESPONSE TO NRC INSPECTION REPORT  
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CECo's current program to administer operator biennial medical exams is designed to ensure the physical capability of our operators. As discussed in Section 3.a of the Inspection Report, the event to which the medical exams are tied was initially discussed in the Zion Station Inspection Report 50-295/89040; 50-304/89036, and was the subject of escalated enforcement. The results of the Enforcement Conference, (EA 89-255), stated "We recognize that your program is set up to provide those examinations prior to the expiration of each two year requalification cycle as opposed to anniversary date of the last medical exam. At this time no violation will be issued; however, generic correspondence evaluating industry implementation of this requirement is being considered and corrective action may be necessary." Subsequent to this event, Information Notice (IN) 91-08, "Medical Examinations for Licensed Operators" was issued, but merely stated the "10 CFR 55.21 requires each applicant for an operator license to have a medical examination by a physician as a pre condition for licensing and every two years thereafter." No specific guidance was provided as to the event to which the two year timeclock corresponds, and as such CECo will continue in our current methodology of ensuring the physical capabilities of our operators. CECo welcomes the opportunity to discuss the issue further.