



October 18, 1996

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

Attention: Document Control Desk

Subject: Commonwealth Edison Reply to Notice of Violations in NRC Inspection  
Report Number 50-295/304-96008;  
Zion Nuclear Power Station Units 1 and 2;  
NRC Docket Numbers 50-295 and 50-304

Reference: J. L. Caldwell letter to J. H. Mueller dated September 16, 1996

Attached is the Commonwealth Edison (ComEd) response to the Notice of Violations (NOV) transmitted by the referenced letter and discussed in the subject inspection report. The NOV cited five severity level IV violations, with one violation containing two examples. On October 15, 1996, an extension in the period allowed to respond to this violation was granted in a telephone call between Mr. Mark Dapas, USNRC Region III, and Mr. Dennis Farrar, ComEd.

I agree that the examples cited in the inspection report indicate that we lack attention to detail in our daily activities at Zion Station. This inattention to detail has contributed to a sequence of errors and operational events which by industry standards is considered unacceptable. I am committed to taking action to correct this situation by clearly taking ownership of our problems and fixing them.

On October 8, 1996, I directed a general work stoppage at Zion. Based on my judgement, this work stoppage was necessitated by our apparent inability to properly control work activities as evidenced by the continuation of errors. I will continue to take additional management actions until we can be successful in operating Zion Station safely and without errors or plant events. On October 14, 1996, I authorized the resumption of work activities after I had reasonable assurance that my expectations were understood by management and first line supervision.

Furthermore, some examples cited in the subject inspection report confirm our inability to always identify problems in a timely manner. It is essential that the plant staff meet this expectation. To stress its importance, I met with all department heads and followed up with a

ZOSR\129-96.OSR

9610230043 961018  
PDR ADOCK 05000295  
Q PDR

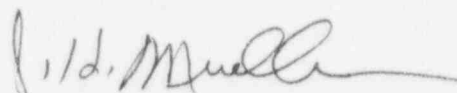
JED 11

letter to all station personnel, dated September 5, 1996, describing my expectations for problem identification. I explained that immediate initiation of Problem Identification Forms (PIFs) is fundamental to the corrective action process. As a result of this and continual communication of these expectations at various meetings and in other forums, the number of PIFs generated by the plant staff on a daily basis has increased dramatically.

Corrective actions to address the specific root causes associated with the violations are discussed in the attachment to this letter.

If you have any questions or require additional information, please contact Mr. Dennis Farrar, Regulatory Assurance Manager, at (847) 746-2084, extension 3353.

Sincerely,



J. H. Mueller  
Site Vice President  
Zion Station

Attachment A: Summary of Commitments  
Attachment B: Response to the Notice of Violations

cc: A. B. Beach, Regional Administrator, Region III  
C. Y. Shiraki, Zion Project Manager, NRR  
Acting Senior Resident Inspector, Zion Station  
Office of Nuclear Facility Safety - IDNS

## ATTACHMENT A

### Summary of Commitments identified in this Violation Response:

- 1) The Zion Training Manager will discuss violation 50-295(304)-96008-02 with the other ComEd Training Managers to ensure they are fully aware of the circumstances surrounding this violation. This action will be completed during the next Nuclear Training Team meeting currently scheduled for November 22, 1996.
- 2) Zion will prepare a special UFSAR update submittal to revise the appropriate sections in the UFSAR to reflect the analyses done as a result of the SFP re-rack. This submittal will be completed and submitted to the NRC by November 30, 1996.
- 3) A line by line UFSAR conformance review of the remaining sections of the UFSAR will be performed. This project will involve a significant engineering effort, and is currently scheduled to be completed by December 31, 1997.
- 4) During the review of violation 50-295(304)-96008-03, it was concluded that additional controls need to be established over the processes that are followed when drilling holes in ventilation ductwork for testing access. Future activities that lead to drilling holes in ventilation ductwork will be controlled via the design change process. The required procedures changes needed to control this process will be completed by November 30, 1996.

**ATTACHMENT B**  
**Notice of Violation Response**

**VIOLATION: 50-295(304)-960C8-02**

During an NRC inspection conducted on June 8 through July 26, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 95 FR-1592, June 29, 1995, the violation is listed below:

10 CFR 50.54(l), "Conditions of Licenses," requires, in part, that the licensee shall designate individuals, licensed as senior operators pursuant to Part 55, to be responsible for directing the licensed activities of licensed operators.

10 CFR 55.53(e), "Conditions of Licenses," requires in part, that to maintain active status, the licensee licensed operator shall actively perform the functions of an operator or senior operator on a minimum of seven 8-hour or five 12-hour shifts per calendar quarter.

10 CFR 55.4, "Definitions," defines actively performing the functions of an operator or senior operator to mean that an individual has a position on the shift crew that requires the individual to be licensed as defined in the facility's technical specifications, and that the individual carries out and is responsible for the duties covered by that position.

10 CFR 55.53(f) requires, in part, that if paragraph 55.53(e) is not met then before resumption of functions authorized by a license issued under this part an authorized representative of the facility licensee shall certify that the licensee has completed a minimum of 40 hours of shift functions under the direction of an operator or senior operator as appropriate and in the position to which the individual will be assigned.

Contrary to the above, during the first, second, and fourth quarters of 1994, the licensee designated individuals to be responsible for directing the licensed activities of licensed operators, who were not licensed as senior operators pursuant to 10 CFR Part 55, in that they had not maintained active status (i.e., actively performed the functions of an operator or senior operator a minimum of seven 8-hour or five 12-hour shifts per calendar quarter).

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

**ATTACHMENT B**  
**Notice of Violation Response**

**REASONS FOR THE VIOLATION**

ComEd acknowledges the violation. The reason for the violation was a management system deficiency. It is believed based upon an extensive review that this violation only occurred with two licensed operators in 1994. Operations management at that time incorrectly concluded that assignment to an outage Out-Of-Service (OOS) team counted toward meeting the regulatory requirements for watchstanding time for the quarter. Assignment to an Outage OOS team is not described in Zion Station's Technical Specifications as a position that requires a license, and therefore the licensed individuals were inappropriately allowed to maintain their active license status.

**CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED**

To determine the number of situations where credit was taken for active licensed duty by watchstanding in support positions, a detailed review of Zion training records was performed. This review confirmed that this practice only occurred with two licensed senior operators in 1994.

To further reinforce knowledge of this event, the circumstances surrounding it were discussed and expectations reinforced with both the operating and the training management personnel involved with maintaining the licensed operator program at Zion Station. The regulatory requirements are now clearly understood and are correctly applied at Zion Station.

While this event appears to have been a unique occurrence, to avoid any similar violations, the definition of actively performing the functions of an operator or senior operator, per 10CFR55.4, were incorporated into the applicable station procedure for licensed operator training requirements.

**CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

The Zion Training Manager will discuss this event with the other ComEd Training Managers to ensure they are fully aware of the circumstances of this violation. This action will be completed during the next Nuclear Training Team meeting currently scheduled for November 22, 1996.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Zion Station is currently in full compliance.

**ATTACHMENT B**  
**Notice of Violation Response**

**VIOLATION: 50-295(304)-96008-03**

During an NRC inspection conducted on June 8 through July 26, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 95 FR-1592, June 29, 1995, the violation is listed below:

10 CFR 50, Appendix B, Criterion 16, requires, in part, that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, the system engineer did not take prompt action to address and correct a puncture hole in the exhaust ventilation duct from the holdup tank room, until prompted by the inspectors on July 8.

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

**REASONS FOR THE VIOLATION**

ComEd acknowledges the Violation. The reason for the violation was that the System Engineer (SE) inappropriately relied on engineering judgement and experience in the engineering and maintenance departments at Zion to conclude the potential leakage was insignificant. As a result, he failed to thoroughly investigate the situation and to write a Problem Identification Form (PIF) in a timely manner when an NRC Resident Inspector discovered on June 21, 1996, that three small unplugged holes existed in exhaust ventilation ducts in the fuel building.

A contributing cause to this violation was inadequate communications between the system engineer and a station laborer supervisor. On June 21, 1996, the station laborer supervisor informed the system engineer (SE) that the NRC Resident had discovered the holes. The SE misinterpreted where the holes in the ventilation ducts were located. He incorrectly concluded that all three identified holes were flow testing taps in the supply ventilation duct. Because that duct is at a positive pressure to the fuel building, the holes would not have safety significance. The SE instructed the station laborer supervisor to plug the holes with neoprene plugs, and this was accomplished on June 21, 1996.

During a subsequent walkdown with an NRC Resident Inspector on July 1, 1996, the SE realized that one of the previously identified holes was actually in an exhaust ventilation duct from the holdup tank room (HUT), and that the hole created a potential for a small unfiltered bypass flow path around the charcoal filters. At that time, based on engineering judgement



**ATTACHMENT B**  
**Notice of Violation Response**

and simplified bounding calculations, the system engineer concluded that the amount of bypass flow was insignificant and was bounded by the bypass flow rate leakage limit. Knowing that holes allowed only minor leakage and were in any event plugged on June 21, 1996, the SE inappropriately decided not to initiate an action request, an engineering request, or a problem identification form (PIF).

After subsequent discussions with the NRC Resident Inspector, the SE agreed that the hole should be permanently repaired. He initiated an action request on July 3, 1996 to permanently repair the hole. The SE also decided after subsequent discussions with the NRC Resident Inspector that a documented engineering evaluation needed to be performed to confirm his evaluation that the potential unfiltered bypass flow around the charcoal filters was bounded by the bypass flow rate leakage limit. He initiated an engineering request on July 8, 1996 for the evaluation. On July 12, 1996, the SE wrote a PIF to document the circumstances surrounding this event.

**CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED**

The SE initiated an action request on July 3, 1996 to permanently repaired the HUT ventilation duct hole. The hole was permanently repaired on July 12, 1996.

The SE initiated an engineering request on July 8, 1996 to confirm that the potential for unfiltered bypass flow around the charcoal filters was bounded by both the bypass flow rate leakage limits and charcoal filter efficiency. The engineering request confirmed that the bypass flow created by the hole in the duct was between 2.5 - 5.0 standard cubic feet per minute (scfm) and was bounded by the appropriate design limits.

The SE involved in the event was counseled by the System Engineering Supervisor so as to stress the importance of initiating a PIF in a timely manner when a problem is identified, and to stress the importance of clear communications when problems are discussed with plant staff. The Regulatory Assurance Manager also met with the system engineer on October 11, 1996, to reinforce these expectations.

On September 5, 1996, the Site Vice President issued a letter to all station personnel describing his expectations for problem identification. The letter explained the importance of the corrective action process and that immediate initiation of Problem Identification Forms (PIFs) is fundamental to the corrective action process.

**ATTACHMENT B**  
**Notice of Violation Response**

On September 6, 1996, the Site Engineering Manager and the Station Manager held a standdown for all engineering personnel. One of the topics emphasized at the standdown was the need to more thoroughly communicate and investigate degraded conditions and promptly resolve them and report them in accordance with existing discrepancy identification systems.

**CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

In the review of this event, it was concluded that additional controls need to be established over the processes that are followed when drilling holes in ventilation ductwork for testing access. Future activities that lead to drilling holes in ventilation ductwork will be controlled via the design change process. The required procedures changes needed to control this process will be completed by November 30, 1996.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Zion Station is currently in full compliance.



**ATTACHMENT B**  
**Notice of Violation Response**

**VIOLATION: 50-295(304)-96008-05**

During an NRC inspection conducted on June 8 through July 26, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 95 FR-1592, June 29, 1995, the violation is listed below:

10 CFR 50.71(e)(4) requires, in part, that revisions of the Final Safety Analysis Report (FSAR) must be filed annually or 6 months after each refueling outage and the revisions must reflect all changes up to a maximum of 6 months prior to the date of filing.

Contrary to the above, the licensee changed the spent fuel pool arrangement described in section 15.7.4.1 of the UFSAR in August 1993 and had not incorporated this change into the UFSAR as of August 30, 1996, which was greater than six months after the refueling outage immediately subsequent to the change.

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

**REASONS FOR THE VIOLATION**

ComEd acknowledges the violation. The reason for the violation was confusion involving the overlapping and concurrent analyses that were being performed for the Vantage5 Fuel License Amendment Request (LAR) and the spent fuel pool (SFP) re-rack LAR.

Both LARs involved significant UFSAR design basis changes. The design engineer and Nuclear Fuel Services (NFS) engineer responsible for preparing the SFP re-rack UFSAR update package incorrectly believed that the Westinghouse Vantage5 UFSAR update incorporated the fuel handling accident in the fuel building (FHA-FB) analysis along with the fuel handling accident in containment (FHA-C) analysis. The system engineer responsible for approving and submitting the UFSAR change package also did not identify this discrepancy before submitting the package to Regulatory Assurance for the next UFSAR update.

**CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED**

The system engineer initiated a PIF documenting the UFSAR update discrepancy on July 16, 1996.

**ATTACHMENT B**  
**Notice of Violation Response**

**CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS**

Zion will prepare a special UFSAR update submittal to revise the appropriate sections in the UFSAR to reflect the analyses done as a result of the SFP re-rack. This submittal will be completed and submitted to the NRC by November 30, 1996.

Zion Station Engineering assembled a team in June, 1996, to perform a detailed UFSAR conformance review of three sections of the UFSAR. Because of the number of discrepancies identified during this review, a decision has been reached to conduct a line by line re-review of the remaining sections of the UFSAR. This project will involve a significant engineering effort, and is currently scheduled to be completed by December 31, 1997.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Zion Station will be in full compliance when the revised changes to the UFSAR are submitted to the NRC as an UFSAR update. This submittal will be completed and submitted to the NRC by November 30, 1996.

**ATTACHMENT B**  
**Notice of Violation Response**

**VIOLATION: 50-295(304)-96008-08**

During an NRC inspection conducted on June 8 through July 26, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 95 FR-1592, June 29, 1995, the violation is listed below:

10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," requires that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings.

- a. Zion Administrative Procedure 900-02, "Fire Protection System Impairments," Revision 2, required a Barrier Impairment Permit when fire protection equipment was impaired.

Contrary to the above, on July 1, no Barrier Impairment Permit was initiated when the carbon dioxide (CO<sub>2</sub>) fire suppression system for the 1A emergency diesel generator room was made inoperable during replacement of a discharge timer in the system.

- b. Zion Administrative Procedure, ZAP 700-08, "Problem Identification Process," Revision 10, required that a problem identification form (PIF) be generated within 48 hours of discovering an equipment status control discrepancy.

Contrary to the above, fire protection personnel did not generate a PIF within 48 hours (by July 3) after discovering an equipment status control discrepancy, namely, a Barrier Impairment Permit for the CO<sub>2</sub> timer replacement work or for the practice of rendering the CO<sub>2</sub> system inoperable when issuing the CO<sub>2</sub> lockout key.

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

**REASONS FOR THE VIOLATION**

Example A:

ComEd acknowledges the violation.

**ATTACHMENT B**  
**Notice of Violation Response**

The reason for violation example A is a series of personnel errors. A work analyst failed to include the requirement for a Fire Marshall electronic signoff in the work instruction, as required by Zion Administrative Procedure (ZAP) 400-16D "Work Request Package Assembly". The original work request to replace the CO<sub>2</sub> discharge timer had contained the direction to "contact the Fire Marshall or designee prior to starting work." This direction was overlooked when the work request was transferred to the electronic work control system (EWCS). Instead, the work analyst gave direction to follow the paper work request instructions, rather than designating in the electronic (EWCS) portion of the package that a Fire Marshall or designee signature was required.

Also, a Maintenance Supervisor did not identify the need for a fire barrier impairment permit in his review of the work request because ZAP 400-16H "Performing Work on an Approved Work Request (EWMS)," does not require that review. The ZAP directed a review for fire hazards only and did not clearly direct him to identify any need for a Impairment Permit.

Finally, A Shift Engineer, who was the Fire Marshall designee on shift, failed to identify the need to generate a fire protection impairment permit when the carbon dioxide (CO<sub>2</sub>) fire suppression system for the 1A emergency diesel generator (EDG) was inoperable. As a result, the Shift Engineer subsequently approved beginning work in accordance with the work package without conducting a Fire Marshall review as indicated in the instructions in the original work package.

**Example B:**

The reason for violation example B is personnel error by the fire protection staff who were aware of the event. Fire protection staff failed to write a Problem Identification Form in a timely manner when they became aware that the impairment permit was not issued as required.

**CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED**

**Example A:**

The Shift Engineer involved in the event was counseled by the Administrative Operating Engineer so as to stress the importance of understanding the requirements for Fire Marshall review and for fire barrier impairment permit generation requirements. In addition, a copy of this violation and specific instructions for dealing with these situations were distributed to all Shift Engineers by the Assistant Superintendent of Operations.

To clarify the requirements of fire barrier impairments for CO<sub>2</sub> system maintenance, ZAP

**ATTACHMENT B**  
**Notice of Violation Response**

900-02 was revised to require the initiation of a fire protection impairment permit when making CO<sub>2</sub> systems inoperable.

To further clarify the requirements for fire barrier impairment permits on CO<sub>2</sub> systems, labels for the CO<sub>2</sub> lockout keys and placards for the EDG rooms were made and posted to indicate that a fire barrier impairment permit is required if the lockout keys are used.

To strengthen the work analyst's and first line supervisor's knowledge of this event, the circumstances surrounding this event were discussed and expectations reinforced with work analysts and maintenance department first line supervisors.

All of the fire protection related open or pending work requests were reviewed to ensure that the requirement for a signature from the Fire Marshall was included in the work request, as required by ZAP 400-16D. Any discrepant packages found during this review were corrected.

To clarify the requirements of fire barrier impairment permit reviews for first line supervisors, ZAP 400-16H was revised to require a review for both fire hazards and fire barrier impairment permit requirements.

**Example B:**

The Fire Protection staff was counseled by the Administrative Operating Engineer so as to stress the importance of initiating a PIF in a timely manner when a problem is identified.

On September 5, 1996, the Site Vice President issued a letter to all station personnel describing his expectations for problem identification. The letter explained the importance of the corrective action process and that immediate initiation of Problem Identification Forms (PIFs) is fundamental to the corrective action process.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Zion Station is currently in full compliance.

**ATTACHMENT B**  
**Notice of Violation Response**

**VIOLATION: 50-295(304)-96008-09**

During an NRC inspection conducted on June 8 through July 26, 1996, a violation of NRC requirements was identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 95 FR-1592, June 29, 1995, the violation is listed below:

Technical Specification 6.2.2.A requires, in part, that radiation control procedures be prepared and implemented, which are consistent with the requirements of 10 CFR 20.

Zion Administrative Procedure 620-03, "Transportation, Conditional, and Unconditional Release of Radioactive Materials," Revision 2, requires that any item removed from a contaminated area shall be properly packaged to prevent the spread of contamination or surveyed to ensure it is not contaminated.

Contrary to the above, on July 9, 1996, chemistry technicians removed materials from the primary sample room, a contaminated area, without performing a contamination survey of the material and without packaging the material to prevent the spread of contamination.

This is a Severity Level IV Violation (Supplement IV).

**REASONS FOR THE VIOLATION**

ComEd acknowledges the violation.

The reason for the violation was a management deficiency. Chemistry and Radiation Protection management failed to identify and correct a long standing practice of transporting chemistry samples via an elevator between the primary sampling room (a posted contaminated area) and the chemistry laboratory "hot lab" (a non-contaminated area), without surveying the materials for surface contamination.

**CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED**

The practice of transporting chemistry samples from a posted contaminated area into a non-contaminated area without performing a survey for surface contamination has been abolished.

Zion Chemistry Procedure (ZCP) 600-01 "General Sampling Procedure," has been revised to



**ATTACHMENT B**  
**Notice of Violation Response**

require a smear for surface contamination to be performed by a qualified individual before sample bottles are released to the chemistry laboratory "hot lab".

Chemistry management reviewed the new requirements of ZCP 600-01 with the chemistry technicians to ensure the requirements were clearly understood.

**DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED**

Zion Station is currently in full compliance.