



**Commonwealth Edison**

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DmB

May 23, 1985

Mr. James G. Keppler  
Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region III  
799 Roosevelt Road  
Glen Ellyn, IL 60137

Subject: Zion Nuclear Power Station Units 1 and 2  
I.E. Inspection Report No. 50-295/85-12  
and 50-304/85-13

Reference: April 23, 1985 letter from C. E. Norelius  
to Cordell Reed.

Dear Mr. Keppler:

This letter concerns the routine safety inspection of activities at Zion Station conducted from February 26 through April 1, 1985 by M. M. Holzmer and J. N. Kish. The referenced letter indicated that certain activities appeared to be in noncompliance with NRC requirements. Commonwealth Edison Company's response to the Notice of Violation is provided in the attachment to this letter.

The referenced letter also expressed concern regarding the heavy load that was moved over the spent fuel pool. Commonwealth Edison Company shares this concern. Zion Station has implemented additional training and increased the management control over the movement of heavy loads. These changes are discussed in more detail in the attachment.

With respect to the quality of the technical analyses that were performed in conjunction with the heavy load issue, Commonwealth Edison Company's opinion is that the work was intended to provide reassurance that the consequences of the postulated event would remain well within the 10 CFR 100 limits. This work relied heavily upon NUREG-0612 and initially upon another facility's SFP rack structural analysis. The above information, and the issues that were informally reviewed and subsequently not reported, could have been more fully explained to your office.

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J. G. Keppler

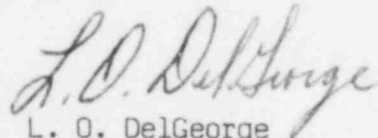
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For example, NUREG-0612 was consulted for both the consideration of SFP criticality and for the whole body dose due to noble gases. In both cases, the application of the generic guidance in NUREG-0612 to Zion Station indicated that there was substantial margin to the applicable limits. Thus, these analyses performed their intended function and their conclusions remain valid.

If you have any further questions regarding this matter, please direct them to Commonwealth Edison's Nuclear Licensing Department.

Very truly yours,



L. O. DelGeorge  
Assistant Vice-President

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Attachment

cc: NRC Resident Inspector - Zion

0157K

ATTACHMENT

ZION NUCLEAR POWER STATION UNITS 1 and 2

RESPONSE TO NOTICE OF VIOLATION

ITEM OF NONCOMPLIANCE:

1. 10 CFR 50, Appendix B, Criterion V, states in part, "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."

Contrary to the above:

- a. Zion Generating Station Maintenance Procedure P/M 003-1N, Revision 5, "Bench Testing Safety/Relief Valves," was inappropriate in that the procedure failed to distinguish between nozzle ring setting reference points for "standard" and "special" designs which are in use in the plant. In addition when making relief valve nozzle ring settings after a bench test, the procedure required that the nozzle ring be returned to the original setting. This would only be correct if the nozzle ring had been correctly set prior to the bench test.
- b. Zion Generating Station Maintenance Procedure P/M 003-1N, Revision 5, "Bench Testing Safety/Relief Valves", Step 6, states in part, "Restore nozzle ring to original setting...", and the "As Reset" location of the nozzle ring valve was at 120 notches whereas the original setting of the nozzle ring was at 255 notches.

Corrective Action Taken and Results Achieved:

- a. Additional work instructions are added to the work package along with temporary procedure changes to assure all safety/relief valve work is completed properly until the permanent changes are in place. Continued operation of Unit 2 has been evaluated. (Reference On Site Review OSR/016/85 and OSR/024/85)
- b. The proper zero reference point for these valves was determined and is clearly stated in the temporary procedure changes. Valves are being reset using these procedures.

Corrective Action to be Taken to Avoid Further Non-Compliance:

- a. Maintenance procedure P/M 003-1N, Revision 5, is currently being reviewed and revised. This revision will result in additional procedures being written to address specific types of safety/relief valves, i.e.: steam service, gas service, water service, standard, special, etc.

Individual procedures for each group of valves will assure that all rebuilding, setting, and testing are appropriate for that specific valve.

These procedures will be finalized prior to the September, 1985, Unit 2 Refueling Outage. This date is based on the real time involved to develop these procedures and the availability of consultants from the Crosby Valve and Gage Company.

The Unit 1 reliefs in questions will have been addressed prior to the Unit's return to service. (Reference On-Site Review OSR/024/85)

- b. The procedure changes mentioned above will clearly state the, zero reference setting required to properly set all relief valves. The statement, "Restore nozzle ring to original setting..." will be eliminated.

Date When Full Compliance Will Be Achieved:

- a. Prior to the September 1985 Unit 2 Refueling Outage.
- b. Prior to the September 1985 Unit 2 Refueling Outage.

ITEM OF NONCOMPLIANCE:

2. NRC Facility Operating Licenses No. DPR-39 and No. DPR-48, paragraph 2.C.(7).(b) states in part, "No loads heavier than the weight of a single spent fuel assembly plus the tool for moving that assembly shall be carried over fuel stored in the spent fuel pool."

Contrary to the above, on February 7, 1985, a section of the reactor coolant pump transport structure weighing approximately 3700 pounds was carried over the fuel in the spent fuel pool.

Corrective Action Taken and Results Achieved:

All mechanical maintenance and fuel handling personnel have been trained on safe load paths. These two work groups are the only ones involved in moving loads which are covered under the heavy loads analysis.

Corrective Action to be Taken to Avoid Further Non-Compliance:

Corrective action to preclude the movement of heavy loads outside of the defined safe load paths has been completed.

Site specific crane training which covers rigging, inspection, operation, control interlocks, special rigging i.e., reactor head, reactor internals etc., has been developed. All crane operators at Zion have completed this training. In addition, control of the interlock by-pass key is under the Master Mechanic and the Fuel Handling Foreman.

Date When Full Compliance Will Be Achieved:

The Station is in full compliance at this time.

ITEM OF NONCOMPLIANCE:

3. 10 CFR 50, Appendix B, Criterion XVI states in part, "Measures shall 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." Topical Report CE-1-A implements the quality assurance requirements of 10 CFR 50, Appendix B.
  - a. Quality Procedure, Q.P. 15-52, "Nonconforming Materials, Parts and Components for Operations - Deviation and Comments," requires that for deviations for which a Deviation Report (DVR) is initiated, an Investigative Report be prepared "which outlines the deviation, cause of the event, recommends corrective action, and provides for equipment trending."
  - b. Quality Procedure, Q.P. 10-51, "Inspection for Operations - Maintenance," states in part, "Perform in-process inspections and tests at designated points according to the maintenance procedure."

Contrary to the above:

- a. Following the discovery of an inoperable snubber (1CSRS 1015) on a containment spray system header on October 24, 1985, and completion of their corrective action investigation and review on November 21, 1984, the licensee failed to determine that the cause was due to the movement of the containment equipment hatch on September 13, 1984. At the request of the resident inspector, the licensee reopened the investigation and took additional corrective action.
- b. Maintenance procedure, P/M 003-1N, required that the relief valve nozzle ring be restored to the original setting after bench testing, and contained a Q.C. hold point for the "As Found" and "As Reset" nozzle ring settings on a section of the Valve Testing Record Sheet. The Q.C. inspector signed on the hold point despite the nozzle ring not being returned to its original setting and without initiating corrective action for the discrepancy. Failure to correct the discrepancy resulted in spilling approximately 10,000 gallons of component cooling water on the containment floor.



Corrective Action Taken and Results Achieved:

- a. At the request of the NRC Resident Inspector, the station reopened the investigation. It was then determined after extensive conversation, that the snubber was disconnected to facilitate removal of the containment equipment hatch on September 13, 1984. The appropriate procedures were changed to include signoffs to verify the proper reconnection of any safety related snubbers disconnected for maintenance work prior to a unit startup.
- b. The improper relief valve setting was due to a misinterpretation of the manufacturers zero reference of the ring setting. The valve was reset and verified as correct by Q.C. on WR #39741.

The Q.C. department was trained on the procedure revisions for P/M 003-1N on 3/28/85. Q.C. personnel are now aware of the proper zero reference and have verified proper ring setting for valves tested after the above date.

Corrective Action to be Taken to Avoid Further Non-Compliance:

- a. Investigation of Reportable Events was addressed at a subsequent Station Department Heads' meeting. The station manager stressed Zion Station's commitment to performing a thorough root cause investigation on all such events. He also stated that in the future, all departments will give full cooperation to the investigator. These steps should ensure more successful root cause investigations in the future.
- b. The training on the revisions to procedure P/M 003-1N should prevent recurrence of this event.

Date When Full Compliance Will Be Achieved:

- a. The Station is in full compliance at this time.
- b. The Station is in full compliance at this time.