Commonwealth Edison
One First National Plaza, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690

July 7, 1980

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Subject: Zion Station Units 1 and 2
Additional Information Regarding
10 CFR 50, Appendix J. Exmeption
NRC Docket Nos. 50-295 and 50-304

Reference (a): September 26, 1975 letter from G. J. Pliml to K. R. Goller.

(b): January 31, 1977 letter from D. E. O'Brien to K. R. Goller.

(c): May 11, 1977 letter from R. L. Bolger to K. R. Goller.

Dear Mr. Denton:

In Reference (a), Commonwealth Edison Company requested certain exemptions from 10 CFR 50, Appendix J, for its Dresden, Quad-Cities and Zion Stations pursuant to 10 CFR 50, Section 50.12.

In Reference (b), Commonwealth Edison provided additional information regarding leak rate testing of the air lock seals at Zion Station.

In Reference (c), Commonwealth Edison requested additional valves to be exempted from the requirement to do type C leakage tests.

As a result of numerous discussions between Commonwealth Edison and NRC Staff personnel including conference calls on March 3 and April 23, 1980, Commonwealth Edison agreed to supply additional information in support of the above referenced requests. This information follows.

With regard to References (a) and (b), the modification to install a flowmeter with a high flow alarm on the penetration pressurization (PP) piping to the personnel air lock door seals has been completed. This flowmeter is sufficiently sensitive to detect a high leakage condition on the seals well before reaching the Zion Station Technical Specification limit on PP leakage. The setpoint of the alarm on the flowmeter is 0.6 SCFH. Also, there is a continuous supply of PP air to these seals. When either personnel

lock door is opened, the high flow alarm will annunciate. After the door is closed, the seals will repressurize to 3 psig and the high flow alarm will reset within 30 seconds.

With regard to Reference (c), the following additional information is being supplied to supplement the request for exemption of the valves listed below from the requirement for Type C leakage rate testing.

1. Valve AOV-CC9437:

This containment isolation valve on the component cooling water return line from the excess letdown heat exhanger isolates a closed system within the containment. The closed system does not communicate directly with the reactor coolant system (RCS) pressure boundary or the containment atmosphere. A portion of the system piping and equipment is inside the missile barrier and a portion is outside the missile barrier. The outside portion is missile protected by the barrier and the inside portion is also shielded from missiles because of its enclosure within concrete walls as can be seen on the attached drawings, M-128 and M-137. As indicated in Reference (c), the component cooling water system pressure of 100 psig is well above the containment post accident peak pressure of 47 psig, and thus any leakage past valve AOV-CC9437 and a ruptured component cooling line would be into the containment and not out. Therefore, no safety implications are involved. Since the valve is normally in the closed position, no provisions for leak testing are provided, nor required for the above reasons.

2. Valve AOV-RC8033:

This containment isolation valve on the nitrogen supply line to the pressurizer relief tank isolates a closed system within the containment. The closed system does not communicate directly with the RCS pressure boundary since the pressurizer safety and relief valves constitute the RCS pressure boundary as demonstrated by the system design classification change downstream of these valves, nor does it communicate directly with the containment atmosphere. The system piping and equipment is located outside the missile barrier and is therefore missile protected. As indicated in Reference (c), the nitrogen system pressure of 100 psig on the line to the PRT (pressurizer relief tank) is well above the post accident containment peak pressure of 47 psig, and thus any leakage past valve AOV-RC8033 would be into the containment and not out. Therefore, no safety implications are involved. Since the valve is normally in the closed position, no provisions for leak testing are provided, nor required for the above reasons.

3. Valve AOV-SI8880:

This containment isolation valve on the nitrogen supply line to the safety injection accumulators isolates a closed system within the containment. The closed system does not communicate directly with the RCS pressure boundary since the accumulator discharge line check valves constitute the RCS pressure boundary as demonstrated by the system design classification change downstream of these check valves, nor does it communicate directly with the containment atmosphere. The system piping and equipment is located outside the missile barrier and is therefore missile protected. As indicated in Reference (c), the nitrogen system pressure of 600 psig on the line to the SI (safety injection) accumulators is well above the post accident containment peak pressure of 47 psig, and thus any leakage past valve AOV-SI8880 would be into the containment and not out. Therefore, no safety implications are involved. Since the valve is normally in the closed position, no provisions for leak testing are provided, nor required for the above reasons.

4. Valve FCV-FP08:

This containment isolation valve on the fire protection supply header isolates a closed system within the containment. The closed system does not communicate directly with the RCS pressure boundary or the containment atmosphere. The system piping and equipment is located outside the missile barrier and is therefore missile protected as can be seen on the attached drawings M-130, 132, 133, 141, 143, 144 and 146. As indicated in Reference (c), this valve is in a closed position. Any leakage past valve FCV-FP08 would be into the containment and not out since the fire protection header pressure of 100 psig is well above the containment post accident peak pressure. Therefore, no safety implications are involved. Since the valve is not open to containment atmosphere, no provisions for leak testing are provided, nor required for the above reasons.

5. Valves MOV-RH8701 and MOV-RH8702:

The requirement for leakage testing of these inboard RHR pump suction line containment isolation valves is of little value and leakage is of no consequence. The RHR system is designed to operate during containment isolation and will take suction from the containment sumps during the recirculation phase. The water quality will be essentially the same as any potential valve leakage. Any leakage will either be contained within the RHR system or returned to the containment in the process. As indicated in Reference (c), these valves which are designed to handle LOCA fluid are on the RHR pump suction line and would normally be closed and filled with water under

post accident conditions. Any leakage past these valves, which are in series as containment isolation valves, would be returned to the RHR pump suction, and could remain within the closed RHR system. To leak test these valves would require taking both RHR pump systems out of service for several hours while the unit is shutdown, a maneuver which Commonwealth Edison does not consider prudent with regard to safety.

Please address any additional questions that you might have concerning this matter to this office.

One (1) signed original and thirty-nine (39) copies of this letter and one marked set of drawing are provided for your use.

Very truly yours,

Robert F. Janecek

for William F. Naughton
Nuclear Licensing Administrator
Pressurized Water Reactors

4860A