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

December 14, 1979

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

Subject: Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2
Zion Station Units 1 and 2
Containment Venting and Purging
During Normal Operation
NRC Docket Nos. 50-237/249/254/265/295/304

References(a): T. A. Ippolito letter to D. L. Peoples dated October 22, 1979.

(b): D. L. Ziemann letter to D. L. Peoples dated October 23, 1979.

(c): A. Schwencer letter to D. L. Peoples dated October 23, 1979.

(d): D. L. Peoples letter to D. G. Eisenhut dated November 14, 1979.

Dear Mr. Denton:

References (a), (b), and (c) requested information for Dresden Units 2 and 3, Quad Cities, and Zion documenting that we are pursuing purge and vent valve operability verification on an expedited basis and have committed to operate the purge and vent system in conformance with an interim position provided in the References.

As indicated in Reference (d), we have initiated valve qualification programs for the vent and purge valves at the subject stations. Results have already been submitted for your review in our September 25, 1979, letter to H. R. Denton for the vent valves at Zion 1 and 2. Qualification programs for the remaining valves are in progress by original valve manufacturers, consulting engineers, and original NSSS vendors. Preliminary, conservative analyses performed by our consulting engineer for the Dresden and Quad Cities butterfly valves indicate that the valves will close adequately regardless of degree of opening. This has been confirmed by a generic response from the valve manufacturer. Complete confirmatory analyses addressing all the concerns expressed in the

A034
S 1 1

September 27, 1979, letter to all Light Water Reactors may not be available, however, for 30 to 40 weeks. We are attempting to improve this schedule in discussions with the valve manufacturer and will provide an updated schedule when it becomes more firm. These commitments to perform qualification programs supercede any previous commitments for valve testing or analysis.

Until the confirmatory analyses are complete, we will operate the vent and purge valves in accordance with the interim position identified in References (a), (b), and (c). The method of compliance with the interim position is identified in Attachment 1 for Dresden Units 2 and 3 and Quad Cities Units 1 and 2 and in Attachment 2 for Zion Units 1 and 2.

Please address any questions you may have concerning this matter to this office.

One (1) signed original and seventy-nine (79) copies of this transmittal are provided for your use.

Very truly yours,

Robert F. Janecek

for D. L. Peoples
Director of Nuclear
Licensing

ATTACHMENT 1

Dresden Station Units 2 and 3
Quad Cities Station Units 1 and 2

Response to NRC interim position, Item 1:

Existing operating instructions already direct the operators to limit purging and venting times to as low as achievable for the containments. The existing operating instructions include the provisions specified in paragraph 1 of the NRC Interim Position, while ensuring compliance with the Technical Specifications for inerting, deinerting, maintaining oxygen concentration, and maintaining the drywell to suppression chamber differential pressure.

Response to NRC interim position, Item 2:

a. Containment purge and vent butterfly valves greater than 3" nominal diameter will be limited to less than fifty degrees (50°) travel in the open direction, or remain closed except when the reactor is in the cold shutdown or refueling mode. Preliminary, conservative analyses performed by our consulting engineer indicate that the valves will close adequately regardless of degree of opening. This has been confirmed a generic response from the valve manufacturer. The limited travel of less than 50° adds additional conservatism to ensure valve closure until confirmatory analyses are complete.

   The only exception to the above commitment concerns the 1601-55 butterfly valves at Dresden Units 2 and 3. These valves are 4" nominal diameter and are used for nitrogen inlet to the containment for inerting and compressor suction line isolation for the drywell/torus pump-back system (for maintaining drywell/torus ΔP). If restricted to 50° opening, the valves could cause sufficient flow restriction to cause the compressors to trip on low suction pressure. In addition to the previously mentioned analyses for unlimited travel, we do not believe that the valves need to be restricted for the following reasons:

   1. Due to the small diameter of the valve, any loads imposed by a LOCA condition would be small and not expected to cause damage or prevent operation.

   2. All piping and components outboard from these valves have pressure capabilities greater than maximum containment pressure. The pump-back compressor piping is a closed loop returning to the containment. Since these closed systems would not be over pressurized by

the LOCA pressures, no uncontrolled escape to the environment would occur and high flows through the valves would not exist. Therefore, valve operation is not expected to be compromised.

b. The design of the isolation logic of the vent and purge valves is segregated. Either low reactor water level or high drywell pressure will initiate the desired isolation. If one of these two signals is reset, the other will provide the required protective action if needed. Neither of these initiation signals are blocked nor overridden during normal reactor operation. Therefore, no modifications are deemed necessary.

ATTACHMENT 2

Zion Station Units 1 and 2

References (a): C. Reed letter to Messrs. A. Schwencer, D. Ziemann, and T. Ippolito dated January 2, 1979.

(b): C. Reed letter to H. R. Denton dated July 2, 1979.

(c): D. L. Peoples letter to H. R. Denton dated September 25, 1979.

(d): D. L. Peoples letter to H. R. Denton dated October 4, 1979.

(e): A. Schwencer letter to D. L. Peoples dated October 23, 1979.

(f): D. L. Peoples letter to D. G. Eisenhut dated November 14, 1979.

Response to NRC interim position, Item 1:

In reference (b) Commonwealth Edison stated that purging would be limited to an absolute minimum, not to exceed 90 hours per year per unit. (Other Administrative Controls currently in effect prohibit purging when the reactor is critical.) It was also stated that venting would be restricted to only those operations required to comply with the Technical Specifications that limit containment pressure. Commonwealth Edison re-affirms those statements at this time, and considers this position to be in conformance with the NRC interim position.

Response to NRC interim position, Item 2:

a. In reference (b) Commonwealth Edison Company stated that analysis of the closure capability of the purge and vent valves would be performed. That commitment was re-affirmed in reference (f). Results of the vent valve analysis, which showed that these valves would close properly under accident flow loading, were transmitted in reference (c). In addition, an in-situ test was performed on the vent valves in which the valves successfully closed against a flow loading that simulated accident conditions. In view of these results, Commonwealth Edison Company feels that the vent valves may be operated under the provisions of the NRC interim position, without limiting valve travel in the open direction.

Results of the analysis on the purge valves have not yet been obtained. In the interim, the purge valves will be maintained closed whenever the reactor is not in the cold shutdown or refueling mode, in accordance with the NRC interim position.

b. In reference (a) Commonwealth Edison Company stated that there were no bypass or override features on the purge and vent valves for which adequate administrative controls did not exist. Consequently, no design changes were proposed. At a subsequent site visit and in an NRC Staff Meeting held on June 28 and 29, 1979, the NRC Staff indicated that there were no Staff Concerns with regard to this item. Commonwealth Edison re-affirmed this position in reference (d).

Since the NRC interim position does not allow for the use of administrative controls to govern the operation of the purge and vent valve override switches, Commonwealth Edison Company will modify the override feature to meet the requirements of the NRC interim position. Pending completion of these modifications, the override switches have been temporarily removed from the valve actuating circuit.