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

April 18, 1984

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

Subject: Quad Cities Station Units 1 and 2
Containment Inerting System
Inspection Response to General
Electric (G.E.) SIL 402
NRC Docket Nos. 50-254 and 50-265

Reference (a): P. L. Barnes letter to J. G. Keppler
dated February 10, 1984.

Dear Mr. Denton:

As requested by our NRC Project Manager, we are enclosing, in the form of an attachment to this letter, our response to the referenced G.E. SIL. That SIL was generated due to a recent event which resulted in a large crack in the torus vent header at another operating plant, attributed to brittle fracture caused by the inspection of cold nitrogen into the torus during inerting. Our review finds that that nitrogen inerting system design is such that the possibility of a similar event at Dresden Station is highly unlikely.

One signed original and forty (40) copies of this letter and its attachments are provided for your use.

Very truly yours,

B. Rybak

B. Rybak
Nuclear Licensing Administrator

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cc: NRC Resident Inspector - Quad Cities
R. Bevan - NRR

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QUAD CITIES STATION UNITS 1 and 2

Response to General Electric SIL 402

Evaluation of Inerting System Design

The drywell and suppression chamber are inerted utilizing liquid nitrogen that is vaporized and drawn into the containment using SBGTS or the Reactor Building Ventilation System. Liquid nitrogren from a bulk storage tank is normally vaporized by electric vaporizers, but steam vaporizer also exists. The vaporized nitrogen is piped via three-inch, four-inch, and eight-inch piping to an 18-inch header which will direct the nitrogen to either the drywell, or to the suppression chamber via a 20-inch line. A temperature monitor is located on this header, and alarms in the Control Room on a low temperature of 50°F. The 20-inch nitrogen purge line penetrates the suppression chamber at the top, which is located about seven feet above the vent header inside the suppression chamber. Based on our evaluation of the above design, the potential for introducing cold nitrogen into the suppression chamber is minimal.

Evaluation of Inerting System Operation

The electric vaporizers have been very reliable. Adequate temperature indication is provided. Work requests have been written to calibrate and functionally test the low nitrogen temperature alarm switches TS-1 and 2 - 8741-31. Procedures have been reviewed and found to be adequate; however, additional precautions will be added concerning the need to keep the nitrogen temperatures high so as not to introduce cold nitrogen into the containment.

Drywell/Wetwell Bypass Leakage Tests

In accordance with the Technical Specifications, a drywell-suppression chamber leak test is performed during each refueling outage. A satisfactory test was recently performed on Unit 2 in February 1984, and will be performed on Unit 1 prior to startup from the current refueling outage.

Inspection of Nitrogen Injection Line

The nitrogen purge piping has been visually inspected on both units. The inspection covered the piping runs from the vaporizer discharge lines in the 1/2 Diesel Generator Room to the drywell and suppression chamber nitrogen purge penetrations. No abnormalities were found during these inspections.

Inspection of Containment

In response to NRC I.E. Bulletin 84-01, the Unit 2 suppression chamber vent header was visually inspected. No abnormalities were identified. The same inspections will be conducted on Unit 1 during the current refueling outage.