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April 17, 1984

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

Subject: Dresden Station Units 2 and 3
Containment Inerting System
Inspection Response to General
Electric (G.E.) SIL 402
NRC Docket Nos. 50-237 and 50-249

Reference (a): B. Rybak letter to H. R. Denton
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
Nuclear Licensing Administrator

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cc: NRC Resident Inspector - Dresden
R. Gilbert - NRR

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DRESDEN STATION UNITS 2 and 3

Response to General Electric SIL 402

Evaluation of Inerting System Design

The nitrogen port into the torus is a through a 1 1/2" nitrogen line connected to a 20" line which then penetrates the torus. This nitrogen connection is approximately 7' from the torus penetration. The entrance into the torus is approximately 7' from the vent header or any other equipment in the torus. The possibility of the introduction of cold nitrogen causing structural damage in the torus is unlikely.

The nitrogen line to the drywell is basically of the same design. A 4" nitrogen line connects to an 18" line which penetrates the drywell. The distance from the nitrogen entrance to the drywell penetration is approximately 8'. The penetration is located in the area where no major piping or equipment is nearby. Therefore, structural damage of the drywell and equipment located nearby is unlikely.

Evaluation of Inerting System Operation

The temperature monitoring device for the detection of a decreasing nitrogen temperature alarms at 75^{o}F decreasing. This monitor is very reliable and will be calibrated on a yearly basis. According to operator experience the nitrogen vaporizer is very reliable with little if any maintenance being required. Only once in the plant's operating history has the temperature monitoring device failed. Since that incident an operator has been stationed by the vaporizer to record temperatures every fifteen minutes to insure the nitrogen temperature doesn't fall below 80^{o}F. This monitoring is done when the vaporizer is in operation. Operating procedures contain specific limitations and actions for the operator if the nitrogen temperature should fall below 80^{o}F and month valve operability checks of the system are conducted to insure the system could be isolated if need be.

In conclusion, being that the location of the nitrogen entrance to the drywell and the torus in relationship to vent headers and other equipment is far enough away not to render any damage, the reliability and yearly calibration of the temperature monitoring devices along with procedural limitations and actions instituted and the monthly valve operability surveillance of the system the introduction of cold nitrogen (less than 40^{o}F) into the torus or drywell where it could cause damage is unlikely.

Drywell/Wetwell Bypass Leakage Tests

A bypass leakage test was conducted on Unit 3 on March 19, 1984 just prior to startup following its Fall 1983 Refueling Outage and yielded acceptable results giving indications that the vent system integrity is intact and that no gross failures exist. A bypass leakage test will be performed on Unit 2 during the next outage of sufficient length.

Inspection of Nitrogen Injection Line

As recommended, an ultrasonic test of all accessible welds in the nitrogen injection line on Units 2 and 3 from the last isolation valve to the torus and drywell penetrations and the torus shell at least 6" around the penetration will be completed by June 1, 1984. In addition, the feasibility and completion of the ultrasonic testing of the containment penetrations and the containment shell or steel liner for at least 6" around the nitrogen penetration will be accessed during the next refueling outage for each unit.

Inspection of Containment

The visual inspection of the vent header, downcomers and other equipment in the containment which might be expected to be affected by the injection of cold nitrogen was addressed in I.E. Bulletin 84-01. This bulletin was responded to for Unit 3 and the findings of this inspection showed no abnormalities. (See our response to I.E. Bulletin 84-01 dated February 10, 1984.) The visual inspection of the Unit 3 containment steel liner for at least 6" around the nitrogen penetrations was conducted on March 28, 1984 resulting in no indications of structural damage. The inspection of the Unit 2 containment steel liner and the areas addressed in I.E. Bulletin 84-01 will be completed during the next Unit 2 outage.

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