NIAGARA MOHAWK

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September 17, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. Domenic B. Vassallo, Chief
Operating Reactors Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Nine Mile Point Unit 1
Docket No. 50-220
DPR-63

Dear Mr. Vassallo:

As previously discussed with members of your staff, Niagara Mohawk has completed the recommendations of I.E. Bulletin 84-01, "Cracks in Boiling Water Reactor Mark I Containment Vent Headers" and General Electric Service Information Letter (SIL) Number 402, "Wetwell/Drywell Inerting." Our responses to recommendations contained in these documents are presented in Attachment 1.

Sincerely,

NIAGARA MOHAWK POWER CORPORATION

C. V. Mangan
Vice President
Nuclear Engineering and Licensing

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ATTACHMENT 1

Specific Actions To Address
I.E. Bulletin 84-01 "Cracks in Boiling Water
Reactor Mark I Containment Vent Headers" and
General Electric Service Information Letter (SIL)
Number 402, "Wetwell/Drywell Inerting"

I. - I.E. Bulletin 84-01, "Cracks and Boiling Water Reactor Mark I Containment Vent Headers."

A. Recommendation:

"Although not a requirement of this bulletin, Boiling Water Reactor plants that are currently operating which have Mark I type containments should review their plant data on differential pressure between the wetwell and drywell for anomalies that could be indicative of cracks. Any such anomalies should be reported to the NRC in accordance with 10CFR50.72 and 10CFR50.73."

Response:

Following receipt of the bulletin, the Plant Technical Staff evaluated plant data as requested. Chart recordings of drywell and wetwell pressures during the past several years were reviewed. The results of that evaluation indicated no anomalies.

II. General Electric Service Information Letter (SIL) Number 402, "Wetwell/Drywell Inerting."

A. Recommendation 1 - Evaluate Inerting System Design:

"Evaluate the design of the nitrogen inerting system. Investigate the potential for introducing cold (less than 40°F) nitrogen and the orientation of the nitrogen port relative to the vent header, downcomers, or other equipment in the wetwell and drywell which may be in the path of the injected nitrogen. Assure that the temperature monitoring devices, the low temperature shutoff valve, and overall system design are adequate to prevent the injection of cold nitrogen into the containment."

Response:

A system evaluation was performed by a consultant. The evaluation was performed to determine the system's ability to prevent an inadvertent discharge of liquid nitrogen into the containment and included a review of operating and maintenance experience. The evaluation included all nitrogen lines penetrating the primary containment.

Containment Make-up and Atmosphere Dilution System

The results of this evaluation indicated that, the system design has no automatic means of shutting off nitrogen flow. But, low temperature alarms alert the control room operators of system abnormal conditions.

The report further evaluated system performance using minimum normal ambient conditions and the system design flow rate of 100 scfm. It showed the heat transferred to the nitrogen from surrounding ambient air and containing pipe would maintain nitrogen temperature above 40°F for approximately twenty-two (22) minutes.

The evaluation further recommended adding the capability to shut off nitrogen flow in these lines upon detection of low temperature either automatically or with administrative controls. This recommendation is currently under review.

Nitrogen Inerting System

This system is designed to inert the primary containment atmosphere during start-up operations. The system evaluation indicated that the system design has neither automatic means of shutting off nitrogen flow or low temperature alarms. The usual practice of continuously monitoring the nitrogen temperature locally at the nitrogen panel during inerting operation has been incorporated in the operating procedure for the system. The operator is instructed to secure via a manual valve nitrogen flow if the indicated temperature falls below 50°F. The report concludes that this operational procedure is sufficient to safeguard against injection of cold nitrogen into the containment during containment inerting.

Other Lines

The report indicated nitrogen flows in the other lines were low enough that low nitrogen temperature effects were negligible, but recommended monitoring the temperature of the nitrogen used for purging and operating the Traveling In Core Probe system to confirm this conclusion. This monitoring is unnecessary because the nitrogen purge of the Traveling In Core Probe tubing within the primary containment is supplied from gaseous nitrogen bottles and therefore no cold nitrogen is present. Finally, although the liquid nitrogen system is used to purge the Traveling In Core Probe cabinets located in the reactor building, the system is vented so there is low probability of liquid nitrogen reaching the containment penetration.

Recommendation 2 - Evaluate Inerting System Operation:

"Review the operating experience of the inerting system to assure that the vaporizer, the low temperature shutoff valve and the temperature indicators have functioned properly. Evaluate the plant calibration, maintenance and operating procedures for the inerting system. Assure that cold nitrogen injection would be detected and prevented."

Response:

In addition to the system evaluation discussed above, plant applicable data was reviewed by the Plant Technical Staff. No abnormal maintenance or operational activities were noted.

Recommendation 3 - Test for Drywell/Wetwell Bypass Leakage:

"Perform a bypass leakage test as soon as convenient to confirm the integrity of the vent system. This test should be conducted during plant operation following normal plant procedures. If no procedures exist, the following is a general guide for preparing your procedure: pressurize the drywell to approximately 0.75 psi above the wetwell pressure, maintain this drywell pressure and measure the pressure buildup in the wetwell. Any bypass leak area can then be calculated (and is limited by Technical Specifications on many plants) from the wetwell pressure and the drywell-wetwell pressure difference. This will provide an indication that the vent system integrity is intact and that no gross failure exists."

Response:

See Bulletin 84-01 response I.A. above.

Recommendation 4 - Inspect Nitrogen Injection Line:

"Conduct an ultrasonic test (UT) as soon as convenient of all accessible welds in the nitrogen injection line from the last isolation valve to the wetwell and drywell penetrations. Also UT the containment penetrations and the containment shell within 6 inches of the penetration. UT is recommended because cracks would be most likely to initiate on the inside of the pipe or on the side of the metal in contact with cold nitrogen."

Response:

Ultrasonic tests of accessible welds in the nitrogen injection line from the last isolation valve to the wetwell and drywell penetrations were performed during the 1984 refueling outage. No cracks were found.

Recommendation 5 Inspect Containment:

"During the next planned outage, perform a 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. The vent header should be inspected on the outside and the inside. Also inspect the containment shell or steel liner for at least 6 inches around the nitrogen penetration."

Response:

A visual inspection of the vent header was performed during the 1984 refueling outage. This inspection included the inside and outside of the vent header and the containment shell around the nitrogen penetration. No cracks were found.