NORTHEAST UTILITIES

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Gentlemen:

AREA TEMPERATURE MONITORING - CS-01

This Special Report is being submitted within thirty days pursuant to Plant Technical Specifications 3.7.14b and 6.9.2. Plant Technical Specification 3.7.14b requires that a Special Report be submitted to the NRC if one or more areas exceeds the Containment Area CS-01 (inside crane wall) temperature limit of 120 degrees Fahrenheit, by less than 20 degrees, for a period greater than 8 hours. The specific areas being discussed are the Pressurizer Cubicle, monitored by temperature element TE-137 and the Regenerative Heat Exchanger Cubicle, monitored by TE-139.

On April 13, 1988 at 2300 hours, with the plant in Mode 3 (Hot Standby), 2250 psia and 547 degrees Fahrenheit temperature element TE-137 in Containment Area CS-01 (inside crane wall) indicated that the area temperature inside the Reactor Coolant System pressurizer cubicle was greater than 120 degrees for a duration greater than 8 hours. TE-137 was monitored and verified less than 140 degrees - the temperature at which equipment in the area must be declared inoperable in accordance with the plant's Technical Specifications. At 0850 hours on April 14, the temperature in the pressurizer cubicle went below 120 degrees. The maximum temperature experienced during the excursion was 122.4 degrees, at 2000 hours on April 13.

On April 15, at 0036 hours, at 2260 psia and 558 degrees in Mode 3, temperature elements TE-137 and TE-139 in Containment Area CS-01 indicated that the area temperatures inside the Pressurizer Cubicle and the Regenerative Heat Exchanger Cubicle exceeded 120 degrees for a duration exceeding 8 hours. TE-137 and TE-139 were monitored and verified less than the 140 degrees Technical Specification value for declaring equipment within the areas monitored by the temperature elements inoperable. At 0029 hours on April 16, TE-137 and TE-139 indicated that the temperatures of the areas being monitored were below 120 degrees. The highest temperature inside the Pressurizer Cubicle during the excursion was 132.9 degrees, at 0800 hours on April 15. The maximum temperature reached inside the Regenerative Heat Exchanger Cubicle was 123.2 degrees, on April 15 at 1656 hours.

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The temperature excursion inside the Pressurizer Cubicle was attributed to a packing leak from the Pressurizer Power Operated Relief Isolation Valve, 3RCS*MV8000B and slight leakage past the Pressurizer "C" Safety Valve, 3RCS*SV8010C.

The temperature excursion inside the Regenerative Heat Exchanger Cubicle was attributed to a body to bonnet leak on the Reactor Coolant System Loop 1 Letdown Isolation Valve, 3CHS*AV8146 and a packing leak from the Regenerative Heat Exchanger Outlet Charging Header Drain Valve, 3CHS*V66.

In both events, the leaks were believed to have been caused by the transient which occurred following the Reactor Trip on April 13, 1988. With the plant shutdown, maintenance was performed on the valves to correct the leakage.

The following is a list of Environmentally Qualified equipment affected by the temperature excursion:

For TE-137 (Pressurizer Cubicle):

3RCS*MV8000A - Pressurizer Power Operated Relief Isolation Valve
3RCS*MV8000B - Pressurizer Power Operated Relief Isolation Valve
3RCS*PCV455A - Pressurizer Power Operated Relief Valve
3RCS*PCV456 - Pressurizer Power Operated Relief Valve
3RCS*SV8095A - Reactor Vessel Head Vent Isolation Valve
3RCS*SV8095B - Reactor Vessel Head Vent Isolation Valve
3RCS*SV8096A - Reactor Vessel Head Vent Isolation Valve
3RCS*SV8096B - Reactor Vessel Head Vent Isolation Valve

For TE-139 (Regenerative Heat Exchanger Cubicle):

3CHS*AV8146 - Charging To RCS (Loop 1) Isolation Valve
3CHS*AV8147 - Charging To RCS (Loop 4) Isolation Valve
3CHS*AV8149A - Letdown Orifice Isolation Valve
3CHS*AV8149B - Letdown Orifice Isolation Valve
3CHS*AV8149C - Letdown Orifice Isolation Valve
3CHS*SV8146 - Charging To RCS (Loop 1) Isolation Valve Solenoid Valve
3CHS*SV8147 - Charging To RCS (Loop 4) Isolation Valve Solenoid Valve
3CHS*SV8149A - Letdown Orifice Isolation Valve Solenoid Valve
3CHS*SV8149B - Letdown Orifice Isolation Valve Solenoid Valve
3CHS*SV8149C - Letdown Orifice Isolation Valve Solenoid Valve
3RCS*AV8145 - Pressurizer Auxiliary Spray Valve
3RCS*LCV459(1) - RCS Fill and Vent Letdown Isolation Valve
3RCS*LCV459(2) - RCS Fill and Vent Letdown Isolation Valve
3RCS*SV8145 - Pressurizer Auxiliary Spray Valve Solenoid Valve

Revised thermal life calculations have been performed for affected equipment located inside the Pressurizer Cubicle. The results of these calculations indicate that there is no significant impact on the thermal life characteristics of the equipment as a result of the temperature excursions.

A Plant Technical Specification Change Request to Table 3.7-6 will be submitted to create a new environmental zone (CS-03) Containment Area Pressurizer Cubicle with a temperature limit of 130 degrees. The basis for this request is that a recalculation of the qualified life for the Environmentally Qualified equipment inside the Pressurizer Cubicle has demonstrated continued operability of this equipment at 130 degrees and that the original qualified life calculations were performed in an extremely conservative manner.

Thermal life calculations have also been performed for the affected equipment inside the Regenerative Heat Exchanger Cubicle which is monitored by TE-139. These calculations indicate that the operability of the equipment is maintained, in light of the maximum temperatures to which the equipment have been exposed and without significant impact on the thermal life characteristics of the equipment.

This Special Report is being submitted pursuant to Plant Technical Specifications 3.7.14b and 6.9.2. The licensee contact for this Special Report is Vere Joseph, who may be reached at (203) 447-1791, ext. 5398.

Very truly yours,

NORTHEAST NUCLEAR ENERGY COMPANY

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cc: W. T. Russell, Region I
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