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NMPE 1541

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

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

Subject: *Revised Request for Authorization to Use Alternative to ASME Code Section XI Testing Requirements (TAC #MA9965)*

Gentlemen:

By letter dated September 13, 2000, Niagara Mohawk Power Corporation (NMPC) submitted a request for use of an alternative to the American Society of Mechanical Engineers (ASME) code testing requirements. As a result of telephone conversations between NMPC and the Nuclear Regulatory Commission (NRC) on September 18 and 19, 2000, NMPC hereby submits a revised alternative to the test requirements of ASME Section XI, 1989 Edition, Subarticles IWA-5214(e), IWB-5221(a) and IWA-7530(a), for Nine Mile Point Unit 1 (NMP1).

The attached revised alternative has revision bars in the margin to denote where information was added or revised.

As stated in our submittal dated September 13, 2000, NMPC requests an expedited NRC review of the alternative testing acceptance criteria to support the restart of NMP1 from its planned fall non-refueling outage, currently scheduled to be completed by October 1, 2000.

Very truly yours,

Richard B. Abbott
Vice President Nuclear Engineering

RBA/SHC/kap
Attachment

xc: Mr. H. J. Miller, NRC Regional Administrator, Region I
 Ms. M. K. Gamberoni, Section Chief PD-I, Section 1, NRR
 Mr. G. K. Hunegs, NRC Senior Resident Inspector
 Mr. P. S. Tam, Senior Project Manager, NRR
 Records Management

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ATTACHMENT

Components: Reactor Recirculation Pumps 32-187, 32-188, 32-189, 32-190, 32-191

Code Class: 1

Examination Requirement: IWA-5214(e), IWB-5221(a) and IWA-7530(a), ASME Section XI, 1989 Edition

Basis for Relief: Relief is requested from ASME Section XI, IWA-5214(e), IWB-5221(a), and IWA-7530(a) as allowed by 10 CFR 50.55a(a)(3).

IWA-5214(e) allows a system pressure test of IWA-5211(a), (b), or (c) in lieu of the system hydrostatic test when only disassembly and re-assembly of mechanical joints are involved.

IWB-5221(a) requires that the system leakage test be conducted at a pressure not less than the nominal operating pressure associated with 100% rated reactor power.

IWA-7400(b)(2) exempts a pump seal package replacement from the requirements of IWA-7000, except that the requirements of IWA-7530 shall be met. IWA-7530(a) requires a preservice inspection in accordance with IWB-2200, including the joints that connect the item to the system. IWB-2200, "Preservice Examination" refers back to the pressure test of IWA-5214.

The seal cartridge assembly for the reactor recirculation pump contains, among other components, a seal flange and seal flange cap screws. These components are identified as pressure retaining parts. Replacing the seal cartridge assembly is performed under an ASME Section XI Replacement Plan since pressure-retaining parts are involved.

The reactor recirculation pumps are Class 1 components and as such ASME Section XI Subarticle IWB-5221(a) requires that the system leakage test be conducted at a pressure not less than the nominal operating pressure associated with 100% rated reactor power.

The seal cartridge assembly is bench tested prior to installation on the pump. The seal flange and the seal flange cap screws are exposed to 1050 psig during the bench test. The seal cartridge, including the mechanical joint (seal flange to test assembly), is examined for leakage during this test. The pump side of the mechanical joint is the only component lacking for this to be considered an equivalent VT-2 visual examination.

There are two methods that can be utilized to perform a system leakage test in accordance with Code requirements as follows:

- 1) An isolated system leakage test can be performed. Performing an isolated system leakage test at 1030 psig after seal cartridge installation on the pump requires closing the recirculation loop blocking valves, installation of test equipment and use of an

Inservice Pressure Testing Program Plan

Basis for Relief:
(continued)

external pressure source. In addition, the radiation dose to test personnel during this activity is approximately 200 mRem. This test represents an unnecessary burden to essentially verify the integrity of the O-ring seal.

- 2) The second method is to perform a normal system leakage test of the reactor coolant pressure boundary at 1030 psig. Performing this test is considered a special evolution, involving additional prerequisites, valve lineups and system configurations to be performed. During this test, for example, the reactor vessel is taken to a water solid condition, a temporary relief valve is installed, the reactor head safety valves are gagged, mechanical and electrical jumpers are installed and a 50 minute soak time is required to ensure thermal equilibrium. The radiation dose will be in excess of 200 mRem to accomplish this task.

Performing a Code required system leakage test following seal cartridge installation on the pump, in a non-refueling outage condition, to essentially test the integrity of the O-ring seal imposes a Code test requirement that is impractical and burdensome without a commensurate increase in the level of quality and safety.

Establishing test conditions consistent with IWB-5221(a), when not performing a normal system leakage test, would require a drywell entry to perform a VT-2 examination with Reactor power greater than 80 percent which would be prohibited by environmental and radiological concerns. Additionally, Technical Specifications require the drywell oxygen concentration to be less than 4 percent within 24 hours of placing the mode switch in RUN. Drywell inerting commences at approximately 20 percent reactor power and therefore, drywell entry at 80 percent power would be prohibited.

Alternate Examination:

Applicable during a non-refueling outage condition or when the refueling outage Class 1 System Leakage Test is not required to be performed (i.e., in the case of seal replacement during a refueling outage but following system leakage test completion).

In lieu of performing the system pressure test, for pump seal package replacements that include pressure retaining parts, required by ASME Section XI, IWA-5214 at the nominal pressure associated with 100% rated reactor power required by IWB-5221(a), a combination of visual examinations, VT-2, shall be performed.

Specifically, the bench test performed at 1050 psig shall be used to expose the seal flange and seal flange cap screws to the nominal pressure associated with 100% rated reactor power required by IWB-5221(a). At this time a visual examination, VT-2, shall be performed to verify pressure integrity for the seal flange portion of the mechanical joint.

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***Alternate
Examination:
(continued)***

Following seal cartridge installation on the pump, during the normal drywell closeout inspection, an additional VT-2 examination of the mechanical joint shall be performed at approximately 940 psig system pressure.