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September 13, 2000
NMP1L 1538

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

Gentlemen:

Pursuant to 10 CFR 50.55a(a)(3), Niagara Mohawk Power Corporation (NMPC) hereby requests NRC approval of an alternative to the test requirements of the American Society of Mechanical Engineers (ASME) Code Section XI, 1989 Edition, Subarticles IWA-5214(e), IWB-5221(a) and IWA-7530(a), for Nine Mile Point Unit 1 (NMP1).

ASME Section XI, 1989 Edition, Subarticle 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 to the pressure test of IWA-5214. Since the pump seal flange is a code part, and will be replaced, a pressure test and VT-2 examination will be required.

Specifically, this alternative would allow NMP1 to replace Recirculation Pump seals during the upcoming fall non-refueling outage without having to perform the system pressure test for pump seal package replacements that include pressure retaining parts. This test is required by ASME Section XI, 1989 Edition, IWA-5214(e) at not less than the nominal pressure associated with 100 percent rated reactor power, as required by IWB-5221(a). In lieu of performing this test, NMP1 proposes to use a combination of pressure tests and visual examinations (VT-2), to verify integrity of the mechanical joint.

The proposed alternative testing will include a bench test performed at 1050 psig, to expose the seal flange and seal flange cap screws to the nominal pressure associated with 100 percent rated reactor power, as required by IWB-5221(a). At that time, a visual examination (VT-2) will be performed to verify pressure integrity of the seal flange portion of the mechanical joint.

Additionally, during the normal drywell closeout inspection following seal cartridge installation on the pump, another visual examination (VT-2) of the mechanical joint will be performed at a reduced reactor pressure, between 750 and 850 psig, while the mode switch is in Startup.

This alternative is being requested pursuant to 10CFR50.55a(a)(3)(i), the proposed alternative provides an acceptable level of quality and safety.

NMPC requests an expedited NRC review of the alternative testing method to support the restart of NMP1 from its planned fall non-refueling outage, currently scheduled to be completed by October 1, 2000. The attachment to this letter contains the written request for authorization for the alternative testing method, by performing visual examinations (VT-2) during bench testing and normal drywell closeout inspection, in lieu of a normal system leakage test at 1030 psig (nominal pressure for 100 percent rated reactor power).

Very truly yours,



Richard B. Abbott
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RBA/SHC/jlb
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

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 external

Inservice Pressure Testing Program Plan

Basis for Relief:*(continued)*

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.

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.

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 a reduced reactor pressure between 750 and 850 psig, while the Mode Switch is in Startup.