UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 21, 1992

Docket No. 50-220

Mr. B. Ralph Sylvia
Executive Vice President, Nuclear
Niagara Mohawk Power Corporation
301 Plainfield Road
Syracuse, New York 13212

Dear Mr. Sylvia:

SUBJECT: CHANGE TO THE BASES FOR TECHNICAL SPECIFICATION 3.5.3 FOR NINE MILE POINT NUCLEAR STATION UNIT NO. 1 (TAC NO. M84488)

By letter dated September 9, 1992, Niagara Mohawk Power Corporation proposed a change to the Bases for Nine Mile Point Unit No. 1 Technical Specification (TS) 3.5.3 (Extended Core and Control Rod Drive Maintenance). The proposed change revises the description of the sequence of bypassing the refueling interlock for control rods located in offloaded fuel cells.

TS 3.5.3.a. permits bypassing of the refueling interlock input signal from a withdrawn control rod only after the fuel assemblies in the cell containing the subject control rod have been removed from the reactor core. The present Bases for TS 3.5.3 describe bypassing of this interlock after the fuel assemblies in the subject cell have been removed from the reactor core but prior to withdrawal of the control rod. This description is inconsistent with recommendations from the reactor vendor (General Electric) and with the intent of TS 3.5.3.a. which are that the refueling interlock should not be bypassed until the subject control rod has been withdrawn. Bypassing of the interlock prior to control rod withdrawal relies on administrative controls rather than the interlock to prevent the simultaneous withdrawal of more than one control rod. It is necessary to bypass the interlock for the withdrawn control rod since otherwise the One-Rod-Out interlock would prevent further withdrawal of any other control rods. The proposed change would clarify the Bases, would make the Bases consistent with the intent of TS 3.5.3.a., and consistent with General Electric's recommendations. The NRC staff has reviewed the proposed change to the Bases for TS 3.5.3 and offers no objection.

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Enclosed is a copy of the revised Bases page 184c. All NRC staff activities related to TAC No. M84488 are considered completed.

Sincerely,

Donald S. Brinkman

Donald S. Brinkman, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosure:
As stated

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BASES FOR 3.5.3 EXTENDED CORE AND CONTROL ROD DRIVE MAINTENANCE

The intent of this specification is to permit the unloading of a significant portion of the reactor core for such purposes as removal of temporary control curtains, control rod drive maintenance, in-service inspection requirements, examination of the core support plate, etc. When the refueling interlock input signal from a withdrawn control rod is bypassed, administrative controls will be in effect to prohibit fuel from being loaded into that control cell.

These operations are performed with the mode switch in the "Refuel" position to provide the refueling interlocks normally available during refueling. In order to withdraw more than one control rod, it is necessary to bypass the refueling interlock on each withdrawn control rod. The requirement that the fuel assemblies in the cell controlled by the control rod be removed from the reactor core before the interlock can be bypassed insures that withdrawal of another control rod does not result in inadvertent criticality. Each control rod essentially provides reactivity control for the fuel assemblies in the cell associated with the control rod. Thus, removal of an entire cell (fuel assemblies plus control rod) results in a lower reactivity potential of the core.

The SRM's are provided to monitor the core during periods of station shutdown and to guide the operator during refueling operations and station startup. Requiring two operable SRM's, one in and one adjacent to any core quadrant where fuel or control rods are being moved, assures adequate monitoring of that quadrant during such alterations. The requirement of 3 counts per second provides assurance that neutron flux is being monitored.

A spiral unloading pattern is one by which the fuel in the outermost cells (four fuel bundles surrounding a control blade) is removed first. Unloading continues by removing the remaining outermost fuel by cell. The last cell removed will be adjacent to a SRM. Spiral reloading is the reverse of unloading. Spiral unloading and reloading will preclude the creation of flux traps (moderator filled or partially filled cells surrounded on all sides by fuel).

During spiral unloading, the SRM's shall have an initial count rate of 3 cps with all rods fully inserted. The count rate will diminish during fuel removal. After all the fuel is removed from a cell and after withdrawing the corresponding control rod, the refueling interlock will be bypassed on that rod. After withdrawal of that rod, one licensed operator and a member of the reactor analysis staff will verify that the interlock bypassed is on the correct control rod. Once the control rod is withdrawn, it will be valved out of service.

Under this special condition of complete spiral core unloading, it is expected that the count rate of the SRM's will drop below 3 cps before all of the fuel is unloaded. Since there will be no reactivity additions, a lower number of counts will not present a hazard. When all of the fuel has been removed to the spent fuel storage pool, the SRM's will no longer be required. Requiring the SRM's to be operational prior to fuel removal assures that the SRM's are operable and can be relied on even when the count rate may go below 3 cps.

Enclosed is a copy of the revised Bases page 184c. All NRC staff activities related to TAC No. M84488 are considered completed.

Sincerely,

Original signed by:

Donald S. Brinkman, Senior Project Manager
Project Directorate I-1
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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As stated

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