March 15, 1999

Mr. Oliver D. Kingsley, President
Nuclear Generation Group
Commonwealth Edison Company
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: TECHNICAL SPECIFICATION BASES CHANGE - QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2 (TAC NOS. MA4595 AND MA4596)

Dear Mr. Kingsley:

By letter dated January 21, 1999, Commonwealth Edison Company (ComEd, the licensee) submitted a change to Facility Operating License Nos. DPR-29 and DPR-30, Appendix A - Technical Specifications (TS) Bases Sections 3/4.10.K, "Residual Heat Removal [RHR] and Coolant Circulation - High Water Level" and 3/4.10.L, "Residual Heat Removal and Coolant Circulation - Low Water Level." The licensee made administrative changes to these bases sections to provide clarity and consistency with the RHR Shutdown Cooling system design and with the TS footnote (e) of Section 3/4.5.A and footnote (a) of Section 3/4.5.B.

This Bases change clearly identifies that the RHR Shutdown Cooling system is not designed to be throttled sufficiently to maintain the reactor coolant temperature, and this system is considered OPERABLE if the system can be manually aligned either remotely or locally.

These changes provide clarity to Bases Sections 3/4.10.K and 3/4.10.L and consistency with the TS. The staff has no objections to this Bases change.

Sincerely,

ORIG. SIGNED BY
Robert M. Pulsifer, Project Manager
Project Directorate III-2
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-254 and 50-265

Enclosure: Revised Bases Page

cc w/encl: See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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3/4.10.I Single Control Rod Removal

3/4.10.J Multiple Control Rod Removal

These specifications ensure that maintenance or repair of control rods or control rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirements for simultaneous removal of more than one control rod are more stringent since the SHUTDOWN MARGIN specification provides for the core to remain subcritical with only one control rod fully withdrawn.

Refueling interlocks restrict the movement of control rods and the operation of the refueling equipment to reinforce operational procedures that prevent the reactor from becoming critical. These interlocks prevent the withdrawal of more than one control rod. Under these conditions, since only one control rod can be withdrawn, the reactor core will always be shut down even with the highest worth control rod withdrawn if adequate SHUTDOWN MARGIN exists. Verification that all the other control rods are fully inserted is required to assure the SHUTDOWN MARGIN is within the limits. Verification that the five-by-five array of control rods are inserted and disarmed while the scram function for the withdrawn control rod is not available is required to ensure that the possibility of criticality remains precluded.

During refueling operations, no more than one control rod is permitted to be withdrawn from a core cell containing one or more fuel assemblies. When all four fuel assemblies are removed from a core cell, the control rod may be withdrawn with no restrictions. With no fuel assemblies in the core cell, the associated control rod has no reactivity control function and is not required to remain inserted. Prior to reloading fuel into the core cell, the associated control rod must be inserted to ensure that an inadvertent criticality does not occur.

3/4.10.K Residual Heat Removal and Coolant Circulation - High Water Level

3/4.10.L Residual Heat Removal and Coolant Circulation - Low Water Level

The requirement that at least one shutdown cooling mode loop of the residual heat removal (RHR) system be OPERABLE or that an alternate method capable of decay heat removal be demonstrated ensures that sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during REFUELING. The RHR Shutdown Cooling subsystem configuration was not designed to be throttled to sufficiently maintain constant reactor coolant temperature. Continuous or intermittent operation of one subsystem can maintain and reduce the reactor coolant temperature as required. Each RHR shutdown cooling subsystem is considered OPERABLE if it can be manually aligned either remotely or locally in the shutdown cooling mode.

The requirement to have two shutdown cooling mode loops of the RHR system OPERABLE when there is less than 23 feet of water above the reactor pressure vessel flange ensures that a single failure of the operating loop will not result in a complete loss of shutdown cooling capability. With the reactor vessel head removed and 23 feet of water above the reactor pressure vessel flange a large heat sink is available for core cooling. Thus, in the event of a failure of the operating shutdown cooling loop, adequate time is provided to initiate alternate methods capable of decay heat removal or emergency procedures to cool the core.