January 19, 2000

Mr. L. W. Myers
Senior Vice President
FirstEnergy Nuclear Operating Company
Post Office Box 4
Shippingport, PA 15077

SUBJECT: CHANGES TO THE BASES OF THE TECHNICAL SPECIFICATIONS, BEAVER VALLEY POWER STATION, UNIT 1 (TAC NO. MA6376)

Dear Mr. Myers:

By letter dated July 15, 1999 (L-99-097), Duquesne Light Company (DLC) submitted a change to the Bases of the Beaver Valley Power Station, Unit 1 Technical Specifications (TS). This change revises existing Bases Section 3/4.1.2 to be consistent with the Refueling Water Storage Tank minimum contained volume of 439,050 gallons as stated in TS 3.1.2.8. This letter acknowledges the change to the TS Bases section. TS Page B 3/4 1-2a for Unit 1 with the proposed change is enclosed, and B 3/4 1-2b is enclosed because of repagination.

Sincerely,

/RA/

Daniel S. Collins, Project Manager, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-334

Enclosure: TS pages B 3/4 1-2a and B 3/4 1-2b

cc w/encl: See next page

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

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Beaver Valley Power Station, Units 1 and 2

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BASES

3/4.1.2 BORATION SYSTEMS (Continued)

The minimum required volume of water for the Refueling Water Storage Tank (RWST) provides: 1) a source of water and Net Positive Suction Head (NPSH) for High Head Safety Injection and Low Head Safety Injection (LHSI), 2) adequate sump water for LHSI and Recirculation Spray Pump NPSH, and 3) water for containment Quench Spray. Specifically, the limiting case for defining the minimum RWST volume is derived from the containment analysis for subatmospheric peak pressure during a Reactor Coolant Pump suction Large Break Loss of Coolant Accident. The minimum volume corresponds to 439,050 total gallons as contained in the RWST. From this total volume, the analysis value of 430,500 gallons is considered to be delivered to the respective systems.

The OPERABILITY of the RWST as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA. The limits on RWST minimum volume and boron concentration ensure that 1) sufficient water is available within containment to permit recirculation cooling flow to the core, and 2) the reactor will remain subcritical in the cold condition following mixing of the RWST and the RCS water volumes with all control rods inserted except for the most reactive control assembly. These assumptions are consistent with the LOCA analysis.

The limitations for a maximum of one centrifugal charging pump to be OPERABLE and the surveillance requirement to verify all charging pumps except the required OPERABLE pump to be inoperable less than or equal to the enable temperature set forth in Specification 3.4.9.3 provides assurance that a mass addition pressure transient can be relieved by the operation of a single PORV. Substituting a low head safety injection pump for a charging pump in MODES 5 and 6 will not increase the probability of an overpressure event since the shutoff head of the low head safety injection pumps is less than or equal to the setpoint of the overpressure protection system.

Isolation of the primary grade water flow path during MODES 4, 5 and 6 precludes an unplanned boron dilution at these conditions since the sole source of unborated water to the charging pumps is isolated. This eliminates the design basis boron dilution event in MODES 4, 5 and 6. During planned boron dilution events, operator attention will be focused on the boron dilution process and any inappropriate blender operation would be readily identified through various indications which includes the output from the source range nuclear instrumentation.

BASES

3/4.1.2 BORATION SYSTEMS (Continued)

Closing either a) 1CH-90 or b) 1CH-91 and 1CH-93 will ensure that all possible flow paths are isolated from the Primary Grade Water System to the operating Reactor Coolant System flow path via the charging pumps, thus preventing any potential inadvertent boron dilution event by injection of unborated water.

The ACTION to suspend all operations involving positive reactivity changes or CORE ALTERATIONS is intended to provide assurance that no other activity will mask any potential unintentional boron dilution event. Maintaining the Primary Grade Water System isolated is necessary to ensure that the design basis boron dilution event is not credible. Thus, immediate corrective action is needed to restore positive isolation as soon as possible when not conducting planned boron dilution or makeup activities. Lack of continuous corrective action to restore the Limiting Condition for Operation (LCO) would then make a potential inadvertent boron dilution credible and require performing additional analysis to verify acceptable consequences if it should occur.

Verifying the SHUTDOWN MARGIN within one hour ensures that no unacceptable reduction of SHUTDOWN MARGIN occurred when the LCO requirements were not satisfied. The SHUTDOWN MARGIN need only be verified once since the cessation of any activities involving positive reactivity changes, CORE ALTERATIONS or use of the Primary Grade Water System with the Charging System will prevent any future potential injection of primary grade water into the Reactor Coolant System. The verification of SHUTDOWN MARGIN needs to be completed anytime that the ACTION is entered even if the LCO is subsequently satisfied before the verification is completed to ensure that no unacceptable reduction of SHUTDOWN MARGIN occurred when the LCO requirements were not satisfied.

The primary function of the surveillance is to ensure that the valve(s) used to isolate the Primary Grade Water System are locked, sealed or otherwise secured. The frequency of 31 days to ensure that the Primary Grade Water System is properly isolated is based on engineering judgment, and has proven to be acceptable. Operating experience has shown that the failure rate is so low that the 31 day frequency is justified. A time frame of 15 minutes provides a minimum reasonable time for an operator to isolate the Primary Grade Water System following a planned activity requiring its use.