

April 22, 1997

Mr. J. E. Cross  
President - Generation Group  
Duquesne Light Company  
Post Office Box 4  
Shippingport, PA 15077

SUBJECT: CHANGE TO BASES OF BEAVER VALLEY POWER STATION, UNIT NO. 2 TECHNICAL SPECIFICATION 3/4.1.2 (TAC NO. M97409)

Dear Mr. Cross:

By letter dated October 10, 1996, Duquesne Light Company (DLC) provided the Beaver Valley Power Station, Unit No. 2 (BVPS-2) Cycle 7 reload design and Core Operating Limits Report (COLR). That letter also provided notification that a change to the Bases for technical specification (TS) 3/4.1.2 would be required and would be forwarded by separate letter following verification of the appropriate value. The required Bases change was provided by DLC letter dated November 29, 1996. The change increases the required volume of 2000 ppm borated water in the refueling water storage tank (RWST) from 58,965 gallons to 100,000 gallons. DLC stated that the increased volume (100,000 gallons) reflects the expected upper bound for the amount of 2000 ppm borated water from the RWST that is required to satisfy the maximum cycle shutdown margin requirements at the beginning-of-cycle from full power peak xenon conditions. We note that the new, increased volume remains bounded by the requirement of TS 3.1.2.8 which requires a minimum volume of 859,248 gallons in the RWST. Therefore, we have no objection to the proposed change.

A copy of revised Bases page B 3/4 1-3 is enclosed for your use.

Sincerely,

(original signed by)

Donald S. Brinkman, Senior Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure: BVPS-2 TS Bases  
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cc w/encl: See next page

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

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Sincerely,

A handwritten signature in cursive script, reading "Donald S. Brinkman".

Donald S. Brinkman, Senior Project Manager  
Project Directorate I-2  
Division of Reactor Projects - I/II  
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure: BVPS-2 TS Bases  
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cc w/encl: See next page

J. E. Cross  
Duquesne Light Company

Beaver Valley Power Station  
Units 1 & 2

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REACTIVITY CONTROL SYSTEMSBASES3/4.1.2 BORATION SYSTEMS (Continued)

The OPERABILITY of the Refueling Water Storage Tank (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 either a LOCA or a steamline break. 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, 2) the reactor will remain subcritical in the cold condition (68 to 212 degrees-F) following a small break LOCA assuming complete mixing of the RWST, RCS and ECCS water volumes with all control rods inserted except the most reactive control rod assembly (ARI-1), 3) the reactor will remain subcritical in the cold condition following a large break LOCA (break flow area > 3.0 ft<sup>2</sup>) assuming complete mixing of the RWST, RCS, ECCS, chemical addition tank, containment spray system piping, and other water volumes that may eventually reside in the sump Post-LOCA with all control rods assumed to be out (ARO), 4) long term subcriticality following a steamline break assuming ARI-1 and to preclude fuel failure.

The maximum allowable value for the RWST boron concentration forms the basis for determining the time (post-LOCA) at which operator action is required to switch over the ECCS to hot leg recirculation in order to avoid precipitation of the soluble boron.

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 below 350°F 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 below the setpoint of the overpressure protection system.

The boration capability of either system is sufficient to provide a SHUTDOWN MARGIN from all operating conditions of 1.77%  $\Delta k/k$  after xenon decay and cooldown to 200°F. The maximum boration capability requirements occur at BOL from full power peak xenon conditions and requires 13,390 gallons of 7000 ppm borated water from the boric acid storage tanks or 100,000 gallons of 2000 ppm borated water from the refueling water storage tank.

With the RCS temperature below 350°F, one boron injection flow path is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the additional restrictions prohibiting CORE ALTERATIONS and positive reactivity change in the event the single injection system becomes inoperable.