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

October 21, 1992

Posted
Bases change to NPF-3

Docket No. 50-346

Mr. Donald C. Shelton
Vice President, Nuclear - Davis-Besse
Centerior Service Company
Toledo Edison Company
300 Madison Avenue
Toledo, Ohio 43652

Dear Mr. Shelton:

SUBJECT: BASES CHANGES TO TECHNICAL SPECIFICATIONS 3/4.5.2 AND 3/4.5.3 FOR FACILITY OPERATING LICENSE NO. NPF-3 (TAC NO. M80455)

By letter dated October 4, 1990, you submitted a proposed administrative change to the Davis-Besse Nuclear Power Station (DBNPS) Technical Specification (TS) Bases 3/4.5.2 and 3/4.5.3, "ECSS Subsystems." The purpose of the change is to add administrative wording to reflect that the Containment Emergency Sump Recirculation Valves DH-9A and DH-9B are de-energized during Modes 1, 2, 3 and 4 and that the valves may be energized on an intermittent basis under administrative controls.

As stated in 10 CFR 50.36(a), the bases for the specifications shall be included, but shall not become part of the Technical Specifications. Therefore, changes to the bases may be made separately from changes to the Technical Specifications.

Valves DH-9A and DH-9B are de-energized during Modes 1, 2, 3 and 4, as a result of a Toledo Edison Company decision in 1989, in order to resolve a fire protection issue concerning the postulated spurious opening of Valve DH-9A or DH-9B during a control room fire. The spurious opening of either of the valves would provide a direct flow path for draining of the borated water storage tank inventory to the containment emergency sump and, thereby, would disrupt plant shutdown.

De-energization of valves DH-9A and DH-9B as the method of resolving the specific control room fire scenario was discussed with the NRC staff and the NRC staff recommended that the de-energization of the valves be noted in

Technical Specifications. The proposed bases change accomplishes the purpose of the NRC staff recommendation and, therefore, is acceptable.

The revised TS Bases page number B 3/4 5-2 is enclosed with this letter.

Sincerely,

Original Signed By:
J. B. Hopkins

Jon B. Hopkins, Sr. Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosure:
Revised TS Page B 3/4 5-2

cc w/enclosure:
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Sincerely,

Jon B. Hopkins, Sr. Project Manager
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Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

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3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

BASES

3/4.5.1 CORE FLOODING TANKS

The OPERABILITY of each core flooding tank ensures that a sufficient volume of borated water will be immediately forced into the reactor vessel in the event the RCS pressure falls below the pressure of the tanks. This initial surge of water into the vessel provides the initial cooling mechanism during large RCS pipe ruptures.

The limits on volume, boron concentration and pressure ensure that the assumptions used for core flooding tank injection in the safety analysis are met.

The tank power operated isolation valves are considered to be "operating bypasses" in the context of IEEE Std. 279-1971, which requires that bypasses of a protective function be removed automatically whenever permissive conditions are not met. In addition, as these tank isolation valves fail to meet single failure criteria, removal of power to the valves is required.

The limits for operation with a core flooding tank inoperable for any reason except an isolation valve closed minimizes the time exposure of the plant to a LOCA event occurring concurrent with failure of an additional tank which may result in unacceptable peak cladding temperatures. If a closed isolation valve cannot be immediately opened, the full capability of one tank is not available and prompt action is required to place the reactor in a mode where this capability is not required.

3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS

The OPERABILITY of two independent ECCS subsystems with RCS average temperature $\geq$ 280°F ensures that sufficient emergency core cooling capability will be available in the event of a LOCA assuming the loss of one subsystem through any single failure consideration. Either subsystem operating in conjunction with the core flooding tanks is capable of supplying sufficient core cooling to maintain the peak cladding temperatures within acceptable limits for all postulated break sizes ranging from the double ended break of the largest RCS cold leg pipe downward. In addition, each ECCS subsystem provides long term core cooling capability in the recirculation mode during the accident recovery period.

With the RCS temperature below 280°F, one OPERABLE ECCS subsystem is acceptable without single failure consideration on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

The Surveillance Requirements provided to ensure OPERABILITY of each component ensures that, at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. The decay heat removal system leak rate surveillance requirements assure that the leakage rates assumed for the system during the recirculation phase of the low pressure injection will not be exceeded.

Surveillance requirements for throttle valve position stops and flow balance testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA. Maintenance of proper flow resistance and pressure drop in the piping system to each injection point is necessary to: (1) prevent total pump flow from exceeding runout conditions when the system is in its minimum resistance configuration, (2) provide the proper flow split between injection points in accordance with the assumptions used in the ECCS-LOCA analyses, and (3) provide an acceptable level of total ECCS flow to all injection points equal to or above that assumed in the ECCS-LOCA analyses.

Containment Emergency Sump Recirculation Valves DH-9A and DH-9B are de-energized during MODES 1, 2, 3 and 4 to preclude postulated inadvertent opening of the valves in the event of a Control Room fire, which could result in draining the Borated Water Storage Tank to the Containment Emergency Sump and the loss of this water source for normal plant shutdown. Re-energization of DH-9A and DH-9B is permitted on an intermittent basis during MODES 1, 2, 3 and 4 under administrative controls. Station procedures identify the precautions which must be taken when re-energizing these valves under such controls.

3/4.5.4 BORATED WATER STORAGE TANK

The OPERABILITY of the borated water storage tank (BWST) 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 BWST 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 BWST 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 bottom 4 inches of the borated water storage tank are not available, and the instrumentation is calibrated to reflect the available volume. The limits on water volume, and boron concentration ensure a pH value of between 7.0 and 11.0 of the solution sprayed within the containment after a design basis accident. The pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion cracking on mechanical systems and components.