



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 163 TO FACILITY OPERATING LICENSE NO. DPR-66
AMENDMENT NO. 43 TO FACILITY OPERATING LICENSE NO. NPF-73
DUQUESNE LIGHT COMPANY
OHIO EDISON COMPANY
PENNSYLVANIA POWER COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
THE TOLEDO EDISON COMPANY
BEAVER VALLEY POWER STATION, UNIT NOS. 1 AND 2
DOCKET NOS. 50-334 AND 50-412

1.0 INTRODUCTION

By letter dated May 14, 1991, the Duquesne Light Company (DLC) submitted a request for changes to the Beaver Valley Power Station, Unit Nos. 1 and 2 Technical Specifications (TS). The requested changes for Unit 1 would modify the Limiting Condition for Operation (LCO) and Action Statement for TS 3.6.2.3 to address operability requirements for the chemical addition system (CAS) on a subsystem level. The LCO requires two chemical injection subsystems to be operable vice four chemical injection pumps and modifies the Action Statement to address the inoperability of the CAS. Surveillance Requirements 4.6.2.3.b, 4.6.2.3.d.3, and 4.6.2.3.d.4 have been (1) modified to reflect a revised CAS pump flow requirement, (2) added to require verification that each chemical injection pump starts automatically upon a test signal, and (3) added to require verification at least once every 18 months that one chemical injection pump in each subsystem will stop on a signal from the cutback control valve, respectively. The amendment also adds Bases 3/4.4.6.3, Pressure Isolation Valve Leakage, to the Beaver Valley Unit 1 Bases.

The requested changes for Unit 2 would modify the LCO and Action Statement for TS 3.6.2.3 to address operability requirements for the CAS on a subsystem level. The LCO requires two chemical injection subsystems to be operable vice two chemical injection pumps and modifies the Action Statement to address the inoperability of the CAS. In addition, the amendment adds Surveillance Requirement 4.6.2.3.d.3 to verify that each chemical injection pump starts automatically on a test signal.

2.0 BACKGROUND

The NRC Resident Inspector performed a review of the Beaver Valley Unit 1 CAS including TS 3.6.2.3 and the Updated Final Safety Analysis Report (UFSAR). The review concluded that the surveillance testing was appropriate for the CAS, however, the surveillance requirements of the TS did not address the level of testing performed. Some potential enhancements for future TS changes were identified. After reviewing the Resident Inspector's conclusions, DLC determined that the changes proposed were appropriate for inclusion in the TS. DLC also determined that similar changes were appropriate for the Beaver Valley Unit 2 TS. This Safety Evaluation addresses the proposed CAS TS modifications for both Units 1 and 2.

3.0 EVALUATION OF UNIT 1 CAS MODIFICATIONS

Beaver Valley Unit 1 TS currently require 4700 gallons of between 19.5 and 20.0% by weight of NaOH solution and four chemical injection pumps capable of adding the solution to the quench spray pump flow. This TS does not provide a distinction between the two redundant subsystems (Engineered Safety Feature system trains powered by independent emergency electrical sources), nor does it require verification that each pump will start automatically on a test signal at least once per 18 months during shutdown consistent with other Engineered Safety Feature (ESF) system pump testing. Changing the LCO and action statement of TS 3.6.2.3 to address subsystems in lieu of pumps is consistent with the Beaver Valley UFSAR Section 6.4 and conforms with the safety philosophy applied to other ESF systems with redundant trains. Each subsystem will consist of two chemical injection pumps and the associated electrical systems; the subsystem will be operable when both pumps and the associated electrical systems are operable.

Adding Surveillance Requirement 4.6.2.3.d.3 to the Unit 1 TS verifies that the chemical injection pumps start automatically on a test signal at least once per 18 months during shutdown. This is consistent with the testing requirements applied to other ESF systems to ensure systems are capable of performing the required design function.

Adding Surveillance Requirement 4.6.2.3.d.4 to the Unit 1 TS ensures that in each subsystem when two chemical injection pumps are operating, one pump will stop following closure of the cutback control valve. This is consistent with the design of the system described in UFSAR Section 6.4 and is provided to ensure the pH of the quench spray is maintained within required limits. This surveillance requirement has not been added to the Beaver Valley Unit 2 TS since the Beaver Valley Unit 2 system uses only one chemical injection pump per subsystem.

Surveillance Requirement 4.6.2.3.b has been modified by changing the chemical injection pump flow requirements to reflect the results of a new analysis performed to ensure the containment sump and spray pH are maintained in

accordance with the criteria specified in the UFSAR. The analysis was updated to incorporate changes in applicable setpoints provided in Amendment No. 155 and to incorporate the Beaver Valley Unit 2 reference curve for determining pH based on the boric acid and NaOH concentrations. Amendment No. 155 revised the Reactor Protection System and Engineered Safety Features trip setpoints and allowable values based upon the results of a reanalysis of the instrument channel inaccuracies. The new chemical injection pump flow requirements of between 25 and 35 gpm are consistent with the loss-of-coolant accident (LOCA) analysis of UFSAR Section 14.3 and ensures adequate sump and spray pH for iodine removal and corrosion control.

The last paragraph of Beaver Valley Unit 1 Bases Section 3/4.4.6.2, Operational Leakage, has been moved from page B3/4 4-4 to page B3/4 4-3 to make room on page B3/4 4-4 to add Bases Section 3/4.4.6.3, Pressure Isolation Valve Leakage. TS 3.4.6.3, Pressure Isolation Valves, was added by NRC Order dated April 20, 1981, and a Bases section had not been added at that time. A Bases section similar to Beaver Valley Unit 2 Bases 3/4.4.6.3, Pressure Isolation Valve Leakage, has been added to describe the basis for the specification requirements.

The NRC staff has concluded, based on the above, that the changes to the Beaver Valley Unit 1 Technical Specifications are acceptable, and, therefore, are approved.

4.0 EVALUATION OF UNIT 2 CAS MODIFICATIONS

The Beaver Valley Unit 2 Chemical Addition System consists of one chemical injection pump in each of two independent subsystems. Changing TS 3.6.2.3 to address chemical injection subsystems vice chemical injection pumps is consistent with the Beaver Valley Unit 2 UFSAR Section 6.2 systems description and conforms with the safety philosophy applied to other Engineered Safety Feature systems with redundant trains. The change is administrative in nature and is consistent with the Beaver Valley Unit 1 Technical Specification modifications. Therefore the NRC staff finds it acceptable.

The addition of Surveillance Requirement 4.6.2.3.d.3 to the Beaver Valley Unit 2 TS adds a current surveillance procedure to the TS. Specifically, Surveillance Requirement 4.6.2.3.d.3 verifies that the chemical injection pumps start automatically on a test signal at least once per 18 months during shutdown. This additional Surveillance Requirement is consistent with Unit 1 and, therefore, the NRC staff finds it acceptable.

5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

6.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 and changes surveillance requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative radiation exposure. The Commission has previously issued proposed findings that the amendments involve no significant hazards consideration and there has been no public comment on such findings (56 FR 41580). Accordingly, the amendments meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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