



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 28 TO FACILITY OPERATING LICENSE NO. DPR-6

CONSUMERS POWER COMPANY

BIG ROCK POINT PLANT

DOCKET NO. 50-155

INTRODUCTION

By letter dated March 26, 1979, Consumers Power Company (CPC) (the licensee) proposed changes to the Technical Specifications for Big Rock Point Plant. The amendment would (1) implement an NRC fire protection position related to Shutdown Cooling system isolation, (2) revise requirements on use and testing of the fire suppression water system, and (3) delete outdated Technical Specifications pertaining to Emergency Core Cooling Systems for core spray nozzles.

EVALUATION

(1) Shutdown Cooling System Isolation

By letter of November 20, 1978, we requested CPC to take measures which would assure that a fire would not cause inadvertent opening of the shutdown cooling system isolation valves when the reactor pressure exceeds the 300 psig design pressure of the shutdown cooling system. Overpressurization of the shutdown cooling system could result in a breach in the system and a loss of primary coolant inventory. The isolation valves are interlocked to prevent opening when the reactor pressure exceeds 300 psig. However, a postulated hot short during a fire could override the interlock and cause inadvertent valve opening. CPC has proposed an administrative control change to require that the power breakers to these valves be open when reactor pressure is above 300 psig. Open power breakers would prevent inadvertent actuation of the isolation valves from fire damage. We have previously evaluated this revision to shutdown cooling system administrative control and on page 4-9 of the staff safety evaluation report supporting Amendment No. 25 dated April 4, 1979, we stated that interrupting the power supply and changing the technical specifications provides adequate measures to assure that fires will not cause inadvertent opening of the isolation valves in the shutdown cooling lines. The March 26, 1979 request, proposes a revised technical specification statement which would conform to the requirements and evaluation in Amendment No. 25 and is therefore acceptable from the viewpoint of fire protection. The power breakers which will be opened are located within containment. To actuate the shutdown cooling system, a

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person would have to be sent into containment to close the breakers. The change, in effect, converts the shutdown cooling system from a system that is capable of remote manual operation from the control room to a system requiring entry into containment to allow initiation. The licensee has stated that use of the shutdown cooling system is not necessary in the event of a local fire in the vicinity of the breaker or in the event of an accident which makes containment uninhabitable. Based on our prior reviews which accepted the shutdown cooling system as one not designed as an engineered safety feature, we agree with the licensee's statement. Therefore, on the basis of previous evaluations we find the change acceptable.

(2) Core Spray System Operability

Section 11.3.1.4.A of the Technical Specifications requires that the two core spray systems be operable whenever the plant is in a power operation condition and the original core spray be operable during the refueling operations. The two core spray systems would use the fire water system as the initial source of core cooling water during a loss of cooling accident. The system is designed such that with the worst single failure (containment spray system isolation valve failed open), the available water supply from the fire protection system is equal to that required for emergency core cooling. Water drawn from the fire suppression system during use or testing could reduce the water supply below that assumed in the design condition. One Technical Specification, Section 11.4.5.3.2, requires a monthly test of the emergency diesel generator using the electric fire pump as a load. This draws water from the fire system. In addition, the licensee draws water from the fire system for flushing of fire hydrants, tests of fire hose stations and fire brigade training. Some of this testing and training is normally done when the reactor is operating. CPC has requested that Section 11.3.1.4.A be revised to explicitly state that drawing water from the fire suppression system during normal use and testing is allowable.

Section 11.3.1.4.E states that if Section 11.3.1.4.A is not met, a normal orderly shutdown shall be initiated within 24 hours. It is implicit in this requirement that if corrective action is taken so that Section 11.3.1.4.A is met within 24 hours, shutdown need not be initiated and technical specifications would not be violated. However, the specification is not phrased as clearly as are specifications contained in Standard Technical Specifications for new plants.

In a telephone conversation on July 2, 1979, a representative of CPC stated that no firefighting uses or testing would draw water from the system for more than 24 hours. Therefore, the fire system could be used as necessary without violating the existing technical specifications

756 088

or requiring reactor shutdown. Limited use of the fire protection system during operation was considered in previous reviews. In addition an NRC position on concurrent fires and non-fire related plant accidents has been established in Appendix A to Branch Technical Position APCSB 9.5-1 which was sent to CPC by letter dated September 30, 1976. Appendix A states that "Postulated fires or fire protection system failures need not be considered concurrent with other plant accidents or the most severe natural phenomena."

However, in the July 2, 1979 and subsequent telephone conversations CPC stated that additional restrictions on use of the fire system were practical which would assure that the core spray system would conform to design conditions a higher percentage of the time than required by Technical Specification 11.3.1.4.E. Based on experience, the total time that the fire suppression system would be used for purposes such as hydrant flushing, testing and training would be less than 30 hours per year. (This does not include the 20 to 30 hours per year the suppression system was being tested with flow passing through a relief valve which is designed to close if core spray were initiated during testing.) In addition, all flushing, testing and training can be done with flows less than the flow which would be lost through an open containment spray isolation valve. With restrictions on flow and on hours per year the fire suppression system is used for flushing, testing and training, a LOCA concurrent with a limited core spray per supply is even more unlikely. Based on the above considerations we conclude that the percentage of the time that water supply would be diverted during power operation by use and testing of the fire suppression system is insignificant and that the proposed technical specifications as specified provide additional assurance of core spray operability. CPC has agreed to the modified specification.

(3) Deletion of Condensate System Requirements

Section 11.3.1.4.F, the last sentence of Section 11.4.1.4.A and the last paragraph of the bases portion of Section 11.3/4.1.4 were added to the Technical Specifications by Amendment No. 15 dated October 17, 1977. These sections were related to an exemption from Paragraph I.D.1 of 10 CFR Part 50 Appendix K, which was only in effect to the reload shutdown which began in February 1979. These technical specification sections added operability and surveillance requirements for the condensate system until such time as the spray effectiveness of the primary core spray nozzles had been proven. By Amendment No. 26 dated April 10, 1979, we issued an evaluation which found the core spray nozzles acceptable and added Sections to the Technical Specifications to assure adequate core spray. Therefore, the Sections of

756 089

the Technical Specifications to be deleted are no longer pertinent and their deletion is acceptable.

ENVIRONMENTAL CONSIDERATIONS

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and pursuant to 10 CFR §51.5(d)(4) that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

CONCLUSIONS

We have concluded, based on the considerations discussed above, that: (1) because the amendment does not involve a significant increase in the probability or consequences of accidents previously considered and does not involve a significant decrease in a safety margin, the amendment does not involve a significant hazards consideration, (2) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (3) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: July 26, 1979