



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
SUPPORTING AMENDMENT NO. 20 TO PROVISIONAL OPERATING LICENSE NO. DPR-45
DAIRYLAND POWER COOPERATIVE
LA CROSSE BOILING WATER REACTOR (LACBWR)
DOCKET NO. 50-409

1.0 INTRODUCTION

By letter dated April 1, 1980 (Reference 1), Dairyland Power Cooperative (DPC) requested an amendment to Provisional Operating License No. DPR-45. The amendment would modify the Technical Specifications for the LaCrosse Boiling Water Reactor (LACBWR) for a second extension to the current Cycle 6 operation by increasing the allowable fuel depletion on the lead Allis Chalmers fuel assembly by changing the Technical Specifications from 15,600 MWD/MTU on the lead fuel assembly to 15,600 MWD/MTU for any non-peripheral fuel assembly.

2.0 DISCUSSION

NRC approval for the first Cycle 6 extension is documented in License Amendment No. 19 dated February 4, 1980 (Reference 2). In Reference 2, the NRC staff noted that the turbine trip and generator load rejection pressurization transients with postulated failures of the bypass valves had not been performed. Since it was thought that these transients might produce limiting differences in critical power ratios (Δ CPRs) or primary system pressure increases at, or near, the End of Cycle-All Rods Out (EOC-ARO) conditions, DPC and the NRC staff agreed to preclude operation near EOC-ARO conditions by limiting the average exposure of the lead burnup fuel assembly to 15,600 MWD/MTU until DPC provided analyses showing that the pressurization transients would not penetrate the Cycle 6 approved operating MCPRs or produce unacceptable pressure increases in the system.

3.0 EVALUATION

Results of the DPC analyses provided in Reference 1 show that the Δ CPRs produced by the postulated turbine trip/generator load rejection pressurization transient without bypass are smaller than the Δ CPRs previously calculated for the control rod withdrawal transient. Therefore, the control rod withdrawal transient remains the controlling transient with respect to the operating limit minimum CPRs which are currently in the LACBWR Technical Specifications. The analyses also showed that the maximum primary system pressure during the postulated transients were below a conservative relieving pressure for the safety valves.

Based on results of the analysis of the turbine trip without bypass pressurization transient at the EOC-ARO conditions, DPC also requested that LACBWR Technical Specifications be changed so that the 15,600 MWD/MTU exposure limit would apply only to fuel assemblies in the interior of the core, and that the exposure limit on peripheral assemblies be deleted.

4.0 SUMMARY

Our review of the information and analysis provided by DPC reveals that precipitous deterioration of the fuel should not occur during extended Cycle 6 operation. Fuel rod clad deterioration that might allow fission gas to be released from the plenum and fuel matrix should be apparent at an early stage due to increases in the measured reactor coolant and off-gas radioactivity. The Technical Specification limits approved in Reference 2 provide assurance that the LACBWR fuel assemblies will not exhibit unacceptable degradation prior to reactor shutdown for core refueling.

Therefore, the staff finds both the operating limit MCPRs approved in Reference 3, and the proposed changes to the Technical Specifications which would allow operation of LACBWR beyond the current Cycle 6 exposure limit (References 1 and 2) acceptable, based on the reduced reactor coolant and off-gas radioactivity limits approved by License Amendment No. 19 (Reference 2)

5.0 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.

6.0 CONCLUSION

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.

7.0 REFERENCES

1. F. Linder (DPC) letter to D. Ziemann (NRC), LAC-6846, April 1, 1980.
2. D. Ziemann (NRC) letter to F. Linder (DPC), transmitting Amendment No. 19 approving first Cycle 6 Extension at LACBWR, February 4, 1980.
3. D. Ziemann (NRC) letter to F. Linder (DPC), transmitting Amendment No. 16 approving Cycle 6 Operation at LACBWR, May 25, 1979.

Date: May 13, 1980