UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO.136TO FACILITY OPERATING LICENSE NO. NPF-21

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

NUCLEAR PROJECT NO. 2

DOCKET NO. 50-397

1.0 INTRODUCTION

By application dated April 1, 1993, the Washington Public Power Supply System (WPPSS or the licensee) requested changes to the Technical Specifications (TS) (Appendix A to Facility Operating License NPF-21) for the WPPSS Nuclear Project No. 2. The proposed changes would revise TS 3.8.1, "A.C. Sources" by increasing the minimum required level of diesel generator fuel storage capacity. This change is based on testing and revised calculations that demonstrated that the existing levels of DG fuel storage were inadequate to meet the post-loss of coolant accident (LOCA) fuel consumption requirements for seven days of operation.

2.0 EVALUATION

TS 3.8.1, "A.C. Sources" currently requires that a minimum of 53,000 gallons of fuel be stored in the fuel storage system for diesel generators (DGs) 1 and 2 and 33,000 gallons be stored for DG-3. In addition, 1400 gallons of fuel are required to be stored in the day fuel tanks for each DG. These limits are based on the licensee's commitment to ANSI Standard N195-1976 "Fuel Oil Systems for Standby Diesel Generators" which states that one method for determining on-site storage requirements is by calculating for continuous operation of each diesel generator for at least seven days while satisfying post-LOCA maximum loading.

An Electrical Distribution System Functional Inspection (EDSFI) was conducted at WNP-2 in January and February 1992 (IR 50-397/92-01). The inspectors found that the licensee's calculations of diesel fuel oil consumption rate were not completely conservative. The inspectors also reviewed the 1983 on-site fuel oil consumption test and found that the test was not conducted under worst case conditions. In particular, the licensee did not account for the temperature of the intake air, the temperature of the fuel oil, the EDG room temperature and the specific gravity of the fuel oil during the tests.

In response to the team's findings, the licensee performed calculations and tests using new methodology that is in line with current industry standards, vendor data, service data, and qualification testing. The licensee determined that the current minimum stored fuel requirements for DG-1 and DG-2 are 1,852 gallons short of the quantity required to support seven days operation at full electrical design rating. The licensee found that the original calculation had not considered the lowest heating value for the fuel as allowed by the TS and the Final Safety Analysis Report (FSAR), the temperature of the stored fuel, intake air temperature, or DG room temperature. Because of the shortfall, administrative controls were taken to increase the required storage by 2000 gallons. The EDSFI team found this value to be conservative.

The licensee completed testing in July 1992 to verify the calculated consumption rate. The fuel consumption rates determined by testing were smaller for DG-1 and greater for DG-2 than those used in the calculations. However, the increase in fuel consumption for DG-2 did not challenge the previously set administrative limit. The same testing and evaluation was performed for DG-3 with the conclusion that no changes were necessary to the fuel storage requirement for DG-3.

The licensee now proposes to revise the TS by increasing the minimum required fuel in the fuel storage systems by 2,500 gallons for DG-1 and DG-2. The revised TS would require a minimum of 55,500 gallons of fuel in the fuel storage system for DG-1 and DG-2. This change would make the TS consistent with the current operating practice and administrative controls. The proposed TS requirement provides sufficient margin above the new calculated value to accommodate the results of future revisions to the calculation. This change preserves the assumptions in the safety analysis by satisfying the recommendations of ANSI N195-1976 and is acceptable.

3.0 STATE CONSULTATION

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

4.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. 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 occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (58 FR 28065). Accordingly, the amendments meet 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 amendment.

5.0 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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

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Date: April 25, 1995