



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO DENIAL OF AMENDMENT TO FACILITY OPERATING LICENSE NO. NPF-21
WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397

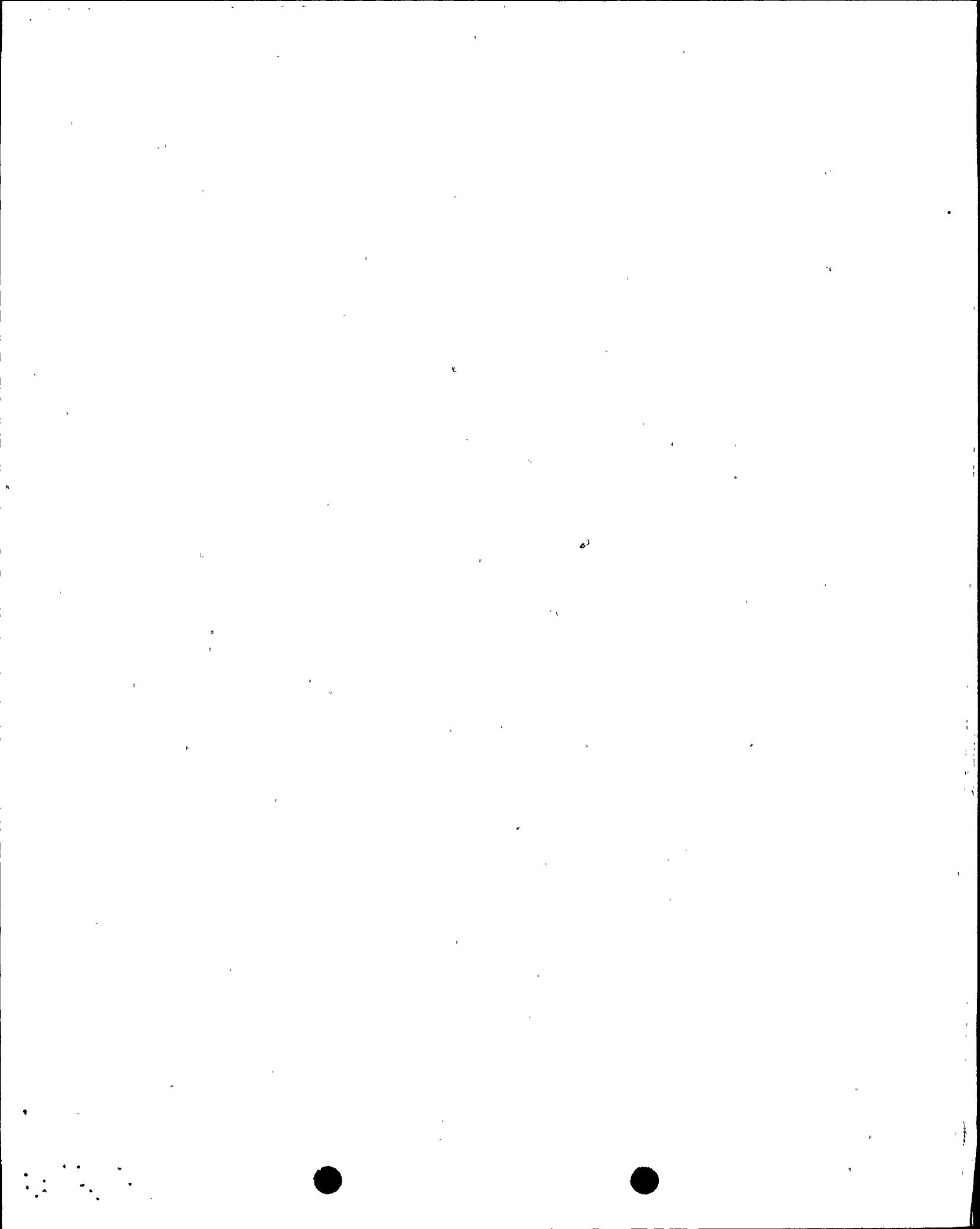
1.0 INTRODUCTION

On September 23, 1993, the Washington Public Power Supply System (the licensee) identified an unanalyzed high-energy line break (HELB) during a programmatic engineering review of HELBs for Washington Nuclear Project No. 2 (WNP-2). The condition was reported in Licensee Event Report (LER) 93-028-00 dated October 25, 1993. The licensee stated in a letter dated December 3, 1993, that they had determined the proposed permanent resolution constituted an unreviewed safety question. The licensee therefore requested, pursuant to 10 CFR 50.55a(a)(3) and 10 CFR 50.91, an amendment to the operating license for exclusion of a postulated HELB in the reactor water cleanup (RWCU) line for WNP-2.

2.0 EVALUATION

The licensee's current licensing basis for analysis of HELBs is stated in Section 3.6.1.1.2 of the WNP-2 Final Safety Analysis Report (FSAR). This basis would require postulation of complete circumferential severance breaks at terminal ends of pressurized portions of the American Society of Mechanical Engineers (ASME) Section III Class 2 and 3 piping. The licensee had not previously considered such a break at a terminal end at valve RWCU-FCV-33 and therefore did not meet the current design basis for this break. The licensee proposed, in its December 3, 1993 letter, a permanent resolution of this problem that would require modification of this current design basis. The licensee proposed that the design basis be modified to conform to a HELB design methodology for postulating breaks in accordance with the licensee's interpretation of Branch Technical Position MEB 3-1 in Standard Review Plan Section 3.6.2.

The licensee's interpretation of the BTP appeared to allow consideration of stress calculations for analysis of postulated breaks at terminal ends. The licensee incorrectly interpreted the BTP regarding consideration of stress levels at terminal ends. The staff's position, as discussed in Generic Letter 87-11, "Relaxation of Arbitrary Intermediate Pipe Rupture Requirements," is that consideration of stress levels is only allowed at intermediate pipe locations between terminal ends. The staff has not changed



its position in the SRP regarding the need to postulate pipe breaks at terminal ends, regardless of stress levels. This is consistent with the licensee's quotation from BTP MEB 3-1 that states that breaks in ASME Section III Class 2 and 3 piping should be postulated at (a) terminal ends (note this does not include discussion of stress calculations) and (b) intermediate locations (note this does discuss consideration of stress calculations). The staff intended that this BTP reflect its conclusions, as stated in the "BACKGROUND" discussion quoted by the licensee, that terminal ends of a piping system are considered high-stress and fatigue locations. Thus, the staff's intent was that consideration of pipe stress calculations is only appropriate in evaluation of intermediate pipe locations.

3.0 CONCLUSION

Based on this information, the staff finds no basis for eliminating postulated pipe breaks at terminal ends based on stress calculations and denies the licensee's request to amend the license pursuant to 10 CFR 50.90. The staff concludes that a pipe break at the terminal end in the RWCU line at valve RWCU-FCV-33 is required to be postulated, consistent with the WNP-2 licensing basis and that the potential resulting environmental impacts on the reactor building must be appropriately evaluated.

The staff has considered the need for immediate action by the licensee to address this issue. The staff reviewed the information provided in the licensee's December 3, 1993, letter. The licensee stated that a field walkdown of the subject piping confirmed that the installation is consistent with the design drawings. In addition, the licensee stated that nondestructive examination of the piping determined that the piping is within ASME defined limits. On this basis, the staff considers interim operation, until the end of the 1995 refueling outage, acceptable while the licensee performs the necessary analysis of the HELB and resultant environmental conditions, and any necessary plant modifications.

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Date: July 7, 1994

