



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 37 TO FACILITY OPERATING LICENSE NO. NPF-41,
AMENDMENT NO. 24 TO FACILITY OPERATING LICENSE NO. NPF-51
AND AMENDMENT NO. 13 TO FACILITY OPERATING LICENSE NO. NPF-74
ARIZONA PUBLIC SERVICE COMPANY, ET AL.
PALO VERDE NUCLEAR GENERATING STATION, UNIT NOS. 1, 2 AND 3
DOCKET NOS. STN 50-528, STN 50-529 AND STN 50-530

1.0 INTRODUCTION

By letter dated March 16, 1988, as supplemented by letter dated July 6, 1988, the Arizona Public Service Company (APS) on behalf of itself, the Salt River Project Agricultural Improvement and Power District, Southern California Edison Company, El Paso Electric Company, Public Service Company of New Mexico, Los Angeles Department of Water and Power, and Southern California Public Power Authority (licensees), requested a change to the Technical Specifications for the Palo Verde Nuclear Generating Station, Units 1, 2 and 3 (Appendix A to Facility Operating License Nos. NPF-41, NPF-51 and NPF-74, respectively). The proposed change would revise Surveillance Requirement 4.5.2h which specifies flow requirements that the Low Pressure Safety Injection (LPSI) subsystem must meet during flow balance testing.

2.0 EVALUATION

The current requirement states that each LPSI injection loop must be capable of delivering a total flow equal to 4900 ± 100 gpm and that each injection leg shall be within 100 gpm of the other. The proposed change will revise the total injection loop flow to 4800 ± 200 gpm and the injection leg maximum deviation to 200 gpm.

The staff concluded in Section 6.3 of the CESSAR SER (NUREG-0852) that the ECCS proposed by CESSAR was acceptable. The LPSI pump design flow specified in Table 6.3-1 of the SER was 4,200 gallons per minute.

CESSAR Section 6.3.2.2.2 describes the LPSI pumps and their functions. One function is to inject large quantities of borated water into the Reactor Coolant System in the event of a large pipe rupture. Along with

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the high pressure safety injection system and the Safety Injection Tanks the LPSI system accomplishes the functional requirements of preventing significant alteration of core geometry, precludes core melting, limits the cladding metal-water reaction, removes the energy generated in the core, and maintains the core subcritical during the extended period of time following a LOCA. The second function described in CESSAR for the LPSI pumps is to provide shutdown cooling flow through the core and shutdown cooling heat exchangers for normal plant shutdown cooling operation or as required for long term core cooling.

The proposed change will not change the upper limit on LPSI flowrate of 5000 gpm. This will prevent a pump runout condition. The lower limit on LPSI flowrate will be changed from 4700 gpm to 4600 gpm. This flow rate is greater than the 4200 gpm specified in the CESSAR SER (NUREG-0852) and in CESSAR. The slightly reduced flow rate is sufficient to meet the existing ECCS-LOCA analysis in which a LPSI flow rate of approximately 4214 gpm was assumed. The proposed reduced flow rate will be sufficient to keep the reactor vessel downcomer annulus full and, therefore the conclusions from the ECCS-LOCA analysis remain valid.

The proposed change also changes the tolerance for the individual injection leg flow balances from ± 100 gpm to ± 200 gpm. The licensee states that the existing flow tolerance is difficult to obtain due to the normal electrical and mechanical variations with the 12 inch, motor operated, LPSI throttle valves. The proposed limit on flow balance will better accommodate variability in throttle valve position during flow balance testing. The change allows a slightly larger variation in LPSI flowrate. The LPSI pumps will still be operated within their design envelope.

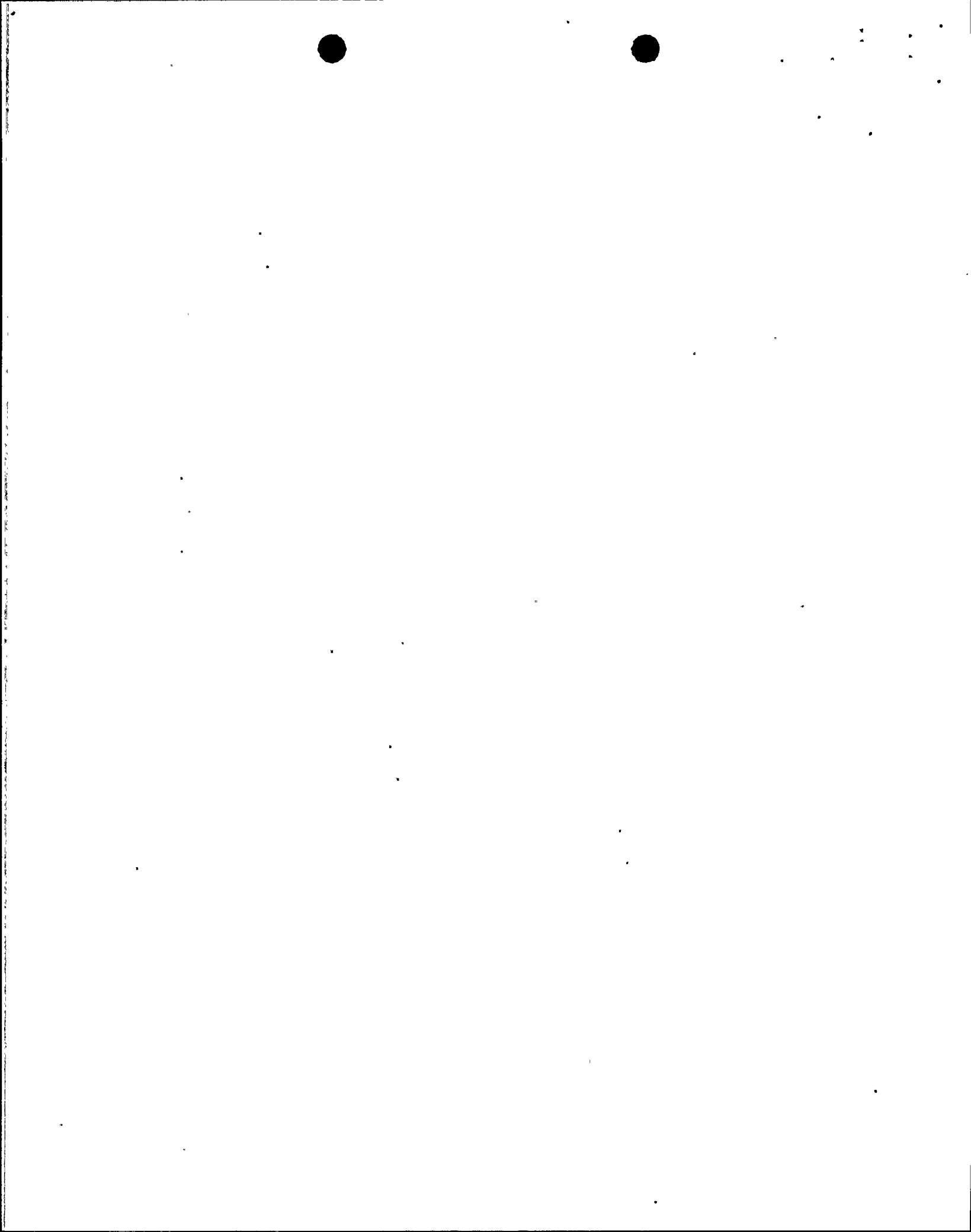
On the basis of the above evaluation, the staff concludes that the proposed change to Technical Specifications Surveillance Requirement 4.5.2.h is acceptable.

3.0 CONTACT WITH STATE OFFICIAL

The Arizona Radiation Regulatory Agency was advised of the proposed determination of no significant hazards consideration with regard to this change. No comments were received.

4.0 ENVIRONMENTAL CONSIDERATIONS

The amendments involve changes in the use of a facility component located within the restricted area as defined in 10 CFR Part 20 and a change in a surveillance requirement. The 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. 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 to be prepared in connection with the issuance of these amendments.

5.0 CONCLUSION

The staff 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 these amendments will not be inimical to the common defense and security or to the health and safety of the public. We therefore, conclude that the proposed changes are acceptable.

Principal Contributor: M. Davis

Dated: October 17, 1988

