



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 55 TO FACILITY OPERATING LICENSE NO. NPF-62

ILLINOIS POWER COMPANY, ET AL.

CLINTON POWER STATION, UNIT NO. 1

DOCKET NO. 50-461

1.0 INTRODUCTION

By letter dated June 30, 1989, the Illinois Power Company (IP), et al. (the licensees), requested eight amendments to the Technical Specifications for Clinton Power Station, Unit 1. The fourth of the proposed amendments would revise the values for the heat energy required to be dissipated from the heaters for the Standby Gas Treatment (VG) System and the Control Room Ventilation (VC) System as provided in Technical Specifications 4.6.6.3.d.5 and 4.7.2.e.6. The sixth of the proposed amendments would revise Technical Specification Table 3.3.7.4-2 to add a note which removes the OPERABILITY requirements for the Remote Shutdown (RS) system controls for valves 1E12-F052A/B and 1E12-F026A. The sixth proposed amendment was supplemented by letter dated October 9, 1990 to add a fourth valve (1E12-F011A) to the change. The supplement was within the scope of the original amendment request, as noticed in the Federal Register, and was determined not to have affected the staff's proposed determination that the request involved no significant hazards determination.

2.0 EVALUATION

The heaters used for the VG and VC systems are designed in accordance with ANSI N509-1976 which requires that the heaters be sized with the capability of reducing the relative humidity of the entering air-steam mixture from approximately 100% to approximately 70% between the moisture separator and the prefilter stage at system design flow rates. Heater operation at or above the minimum value specified in the current Technical Specifications satisfies this requirement. The heaters themselves are simple resistance heaters. Therefore, the heat dissipation rate is roughly proportional to the electric current through the heater. The nominal rating for each heater is based on the manufacturer's rating for each heater with an assumed bus voltage of 460 volts. However the nominal bus voltage at Clinton is 480 VAC. Allowing the 10% variance on bus voltage, the possible peak voltage of 528 VAC could cause the heaters to exceed the Technical Specification allowed maximum heat dissipation. The basis for the minimum heat dissipation rate is clearly to satisfy the design requirements. However, there does not appear to be a basis for an upper limit. The heat dissipation rate is determined by the voltage across the heaters which could not be adjusted without

a design modification so there is no concern for a miscalibration and an overtemperature cutout is provided to deenergize the VC and VG system heaters if high temperatures are detected. Therefore, based on the above, the change to the required heat dissipation rates for the VC and VG heaters from a nominal range to a required minimum is acceptable.

The Residual Heat Removal (RHR) system at Clinton is capable of operating in several possible modes. These modes are: Low Pressure Coolant Injection, Containment Spray, Suppression Pool Cooling, Shutdown Cooling, and Steam Condensing. The steam condensing mode of RHR system operation was designed to control reactor pressure when the main condenser is unavailable as a heat sink. During this mode of operation, the RHR heat exchangers operate as direct reactor steam condensing units. Reactor steam is processed through the heat exchangers after the primary steam system is isolated from the main condenser by closing the main steam isolation valves. However, due to concerns over the operational control of the steam condensing mode, in a letter to the NRC dated June 3, 1987, the licensee committed not to use that mode. The NRC accepted that position provided that appropriate administrative and procedural controls were implemented to prevent operation of the RHR system in the steam condensing mode. The licensee has established the appropriate controls. Although the licensee has committed not to use the steam condensing mode of the RHR system, certain valves used for that mode of operation were included in the list of controls required to be operable on the Remote Shutdown (RS) system. Since these valves would only be operated during operation of the RHR system in the steam condensing mode and this mode of operation is prohibited by Clinton procedures, the licensee contends that it is inappropriate to require these controls to be operable to consider the RS system operable. The staff agrees with this position and finds the change to the RS specification, adding a note to delete the operability requirement for the specified valves, to be acceptable.

### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change to 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 or a change to a surveillance requirement. The staff has determined that the amendment involves 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets 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 nor environmental assessment need be prepared in connection with the issuance of this amendment.

### 4.0 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; and (2) 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.

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Dated: December 7, 1990