July 19, 1994

Docket No. 50-440

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Mr. Robert A. Stratman
Vice President Nuclear - Perry
Centerior Service Company
P. O. Box 97, S270
Perry, Ohio 44081

Dear Mr. Stratman:

SUBJECT: CORRECTION TO AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. NPF-58 (TAC NO. M89870)

On July 15, 1994, the Commission issued Amendment No. 63 for the Perry Nuclear Power Plant in response to your application dated July 14, 1994. Two lines were inadvertently omitted from the Safety Evaluation Report. The correction does not affect the Technical Specification page issued.

The complete SER is enclosed. Please accept our apologies for any inconvenience this error may have caused.

Sincerely,

Original Signed By:

Jon B. Hopkins, Senior Project Manager
Project Directorate III-3
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Enclosure:
Safety Evaluation Report

cc w/enclosures:
See next page

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

July 19, 1994

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Vice President Nuclear - Perry
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Jon B. Hopkins, Senior Project Manager
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Enclosure:
Safety Evaluation Report

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See next page

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Centerior Service Company

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. NPF-58

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY, ET AL.

PERRY NUCLEAR POWER PLANT, UNIT NO. 1

DOCKET NO. 50-440

1.0 INTRODUCTION

By letter dated July 14, 1994, the Cleveland Electric Illuminating Company, et al. (licensees), proposed a change to the Technical Specifications (TSs) for the Perry Nuclear Power Plant (PNPP), Unit No. 1, on an emergency basis. This amendment allows the licensee to change from OPERATIONAL CONDITION 4 to OPERATIONAL CONDITION 2 or 3 or between OPERATIONAL CONDITIONS 1, 2, and 3 with one main steam isolation valve (MSIV) leakage control system (LCS) subsystem inoperable. This amendment adds a footnote to the APPLICABILITY statement for TS 3.6.1.4. The footnote states, "The provisions of Specification 3.0.4 are not applicable from the effective date of this amendment until the completion of Operating Cycle 5." This is slightly different from the wording originally requested by the licensee, which was "The provisions of Technical Specification 3.0.4 are not applicable during Cycle 5 operation." The revised wording clarification was agreed to by both the licensee and the NRC staff during a telephone call on July 15, 1994.

2.0 EVALUATION

The NRC staff has reviewed the change to the TS 3.6.1.4 regarding the addition of the exception to TS 3.0.4 for the duration of Operating Cycle 5. The current requirement requires two independent MSIV LCS subsystems for OPERATIONAL CONDITIONS 1, 2, and 3. The ACTION statement allows one inoperable MSIV LCS subsystem for 30 days, if the subsystem becomes inoperable after entering the applicability statement. Without a stated exception to TS 3.0.4, both MSIV LCS subsystems must be OPERABLE prior to entering OPERATIONAL CONDITIONS 1, 2, or 3. One LCS subsystem processes the leakage between the MSIVs. The second LCS subsystem processes leakage downstream of the outboard MSIV.

As a result of an extensive review of the MSIV containment isolation leakage criteria and postulated accident scenarios, the licensee identified a potential pathway for unfiltered leakage. To meet the design requirement to have all MSIV leakage filtered through the LCS, a modification was installed during the current outage to cap the pipe that connected the piping between the two MSIVs to the main condenser. The piping served to drain moisture that can condense during power operation at less than 50% power, and be carried downstream toward the turbine. However, there are drain connections downstream of the outboard MSIVs which will drain condensate to the condenser during power operation. Therefore, no damage to the turbine will result from

any condensed water. Also, MSIV performance will not be affected by the accumulated condensation. The modification to cap the line to the condenser was the best solution available without an extensive analysis including system walk downs and modifications to justify that the condenser can serve as a filter and to ensure that the extensive piping runs to the condenser are designed and supported to withstand a design basis earthquake.

The LCS is isolated during power operation. The function of the LCS is to provide a pathway to ensure leakage is filtered only after a postulated recirculation line break loss-of-coolant accident (LOCA). However, the licensee recently postulated that at power levels less than 50 percent, the inboard LCS subsystem will isolate post-accident due to the accumulated condensation. Therefore, the inboard LCS is considered inoperable for power levels less than 50 percent. There would be no affect on the other LCS subsystem since the leakage past the second MSIV would be within TS limits and therefore, significant quantities of condensation would not be produced. The licensee also evaluated the effects of moisture carry-over on the LCS blowers and blow-down effects on the annulus. They determined design parameters for blower operation and annulus pressurization would not be affected if the LCS control circuitry was not changed. Additionally, the LCS is only necessary to mitigate the recirculation line break LOCA based on analyses that assume extremely conservative source term assumptions of Regulatory Guide 1.3. Actual emergency core cooling system (ECCS) analyses were performed in accordance with 10 CFR Appendix K that show that no fuel damage would occur as the result of this postulated accident.

The licensee requested the exception from the requirements from TS 3.0.4 because once power is increased above 50 percent, both LCS subsystems will be operable. The ACTION statement for TS 3.6.1.4 allows 30 days to restore an inoperable LCS subsystem, if a subsystem was discovered to be inoperable while the plant operated in OPERATIONAL CONDITIONS 1, 2, and 3. A change from OPERATIONAL CONDITION 4 to 50 percent power can be accomplished in less than 30 days.

By making the recent modification, the licensee has eliminated an unanalyzed path for secondary containment bypass leakage. The condensation that accumulates at low power levels can be handled by drains downstream of the MSIVs. The length and requirement of the TS ACTION statement remains the same resulting in plant shutdown, if the inoperable LCS can not be restored within 30 days. Therefore, based on the above, the NRC staff finds the change to be acceptable.

3.0 EMERGENCY CIRCUMSTANCES

An extensive review of the MSIV containment isolation leakage criteria and postulated accident scenarios was performed by the licensee to ensure a modification to provide air to the outboard MSIV actuators, initiated and installed in the current refueling outage, had no documented effect on the plant design basis. As a result of that review, the licensee identified a potential pathway for unfiltered leakage that was part of the original design

and not introduced as part of the modification. After identification, the licensee explored all options available and decided to modify the plant to eliminate the unfiltered leakage pathway while concurrently performing and documenting the potential impact of that modification. Recently, the licensee identified that the modification could affect the operability of one of the MSIV LCS subsystems, and requested the emergency TS change on July 14, 1994. The staff has concluded that an emergency situation exists in that failure to act in a timely way will prevent resumption of operation and that the licensee could not avoid this emergency situation.

4.0 BASIS FOR FINAL NO SIGNIFICANT HAZARDS CONSIDERATION DETERMINATION

As required by 10 CFR 50.91(a), the licensee has provided its analysis of the issue of no significant hazards consideration. The NRC staff has reviewed the licensee's analysis against the standards of 10 CFR 50.92(c). The staff's review is presented below.

The amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated because the ACTION statement for one inoperable LCS subsystem remains the same, and MSIV performance is not affected by the accumulated condensation.

This change does not create the possibility of a new or different kind of accident from any accident previously evaluated because the downstream drains will remove the condensation that accumulates at low power levels, and MSIV performance will not be affected by the condensation.

This change does not involve a significant reduction in a margin of safety. Allowing entry into the ACTION statement when leaving OPERATIONAL CONDITION 4 (and entering OPERATIONAL CONDITION 1, 2, or 3) does not significantly reduce the margin of safety, since the duration allowed for remaining in the ACTION statement is not increased.

Based on this review, the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has determined that the amendment request involves no significant hazards consideration.

5.0 STATE CONSULTATION

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

6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20 or changes surveillance requirements. The NRC 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 made a final no significant hazards consideration finding with respect to this amendment. Accordingly,

the 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 or environmental assessment need be prepared in connection with the issuance of the amendment.

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

Principal Contributor: Jon Hopkins

Date: July 15, 1994