



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 53 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 March 19, 1991, the Cleveland Electric Illuminating Company, et al. (licensees), proposed changes to the Technical Specifications (TSs) for the Perry Nuclear Power Plant, Unit No. 1. The proposed changes would modify TS Table 3.3.3-1, "Emergency Core Cooling System Actuation Instrumentation." Specifically, the proposed amendment would correct inconsistencies between the Action statements associated with the table, and the as-built configuration of the automatic depressurization system (ADS).

Under certain accident conditions, it might be necessary to rapidly depressurize the reactor vessel. To accomplish this depressurization, ADS logic is installed for either automatic or manual actuation. When ADS is actuated, the eight associated main steam safety/relief valves are opened, relieving the reactor vessel pressure. The actuation logic for ADS is designed with two divisions of actuation logic (or trip systems). If either trip system is actuated, all eight ADS valves will open.

2.0 EVALUATION

The licensee has proposed to make several changes to TS Table 3.3.3-1 in order to correct differences between the Action statements associated with the table and the as-built configuration of ADS. The licensee proposed changes to the wording of Action statements 30 and 33 to clarify the actions to be taken for ADS and to make the words in these Action statements consistent with Action statement 31. The licensee also proposed to change the action to be taken for an inoperable ADS inhibit switch from Action statement 33 to Action statement 31.

The proposed revision to Action statement 30 would read:

- ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement:
- With one channel inoperable, place the inoperable channel in the tripped condition within one hour or declare the associated ADS trip system or ECCS inoperable.
 - With more than one channel inoperable, declare the associated ADS trip system or ECCS inoperable.

The proposed revision to Action statement 33 would read:

ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ADS trip system or ECCS inoperable.

Action statements 30 and 33 are referred to for action for both the ECCS systems and ADS in TS Table 3.3.3-1, "Emergency Core Cooling System Actuation Instrumentation." For ECCS, if one division of actuation instrumentation (referred to in TS as a trip system) is inoperable, as evidenced by "the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function," the automatic initiation of the associated ECCS will not occur. The Action statement therefore requires the licensee to declare the associated ECCS inoperable. However, the actuation logic for ADS is designed differently than the actuation logic for ECCS. If one trip system for ADS is inoperable, the other trip system is still capable of initiating ADS and opening all of the ADS valves. Therefore, if one trip system for ADS is inoperable it is not appropriate to declare the entire ADS inoperable. Rather, the affected trip system should be declared inoperable. The licensee would then refer to Action c. of Limiting Condition for Operation 3.3.3 for further actions. Because of the differences in the design of the logic for the ADS and ECCS actuation logic, it is appropriate for the Action statements for an inoperable trip system to differ for ADS and ECCS.

The present Action statement 30 would require the licensee to declare the ADS inoperable even though it was capable of performing its design function through the OPERABLE trip system. The TS would then require the licensee to place the plant "in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 100 psig within the following 24 hours." Such a shutdown would be unnecessary and could be contrary to plant safety since ADS would still be capable of performing its design function. Therefore the proposed change to Action Statement 30 is acceptable.

With respect to ADS, the present Action statement 33 tells the licensee to declare the associated ADS valve inoperable. Since all eight ADS valves are associated with both trip systems, this Action statement in effect, tells the licensee to declare all of the ADS valves inoperable. This is inappropriate when only one ADS trip system is inoperable as discussed above. Therefore, the proposed change to Action statement 33 is acceptable.

The licensee also proposed to change the action to be taken for an inoperable ADS inhibit switch from Action statement 33 to Action statement 31. An inhibit switch is installed in each trip system to allow the licensee to block the actuation of ADS under certain conditions as described in the emergency procedures. The present TS refers the licensee to Action statement 33 for an inoperable inhibit switch. The Action statement would allow the licensee eight hours to repair an inoperable inhibit switch before taking any further action. This is the same action taken for inoperable manual initiation logic

in one trip system. If the manual initiation logic in one trip system is inoperable, the automatic initiation logic for that trip system is still available. In addition, the licensee can open the ADS valves using each valve's individual control switches. It is appropriate to allow the licensee time to restore the manual initiation logic to an operable status under these circumstances. However, depending on the failure mechanism, an inoperable inhibit switch may prevent the operation of both the manual and automatic initiation logic for the associated ADS trip system. Therefore, it is not appropriate to wait eight hours before declaring that trip system inoperable. The proposed change would require the licensee to declare the associated ADS trip system inoperable as soon as an inoperable inhibit switch for that trip system was identified. This action is conservative and consistent with the action required for other failures that render a trip system inoperable. Therefore, the proposed change in the action required for an inoperable inhibit switch is acceptable.

During the review for this amendment request, an editorial discrepancy was noted in Action statement 32. With the agreement of the licensee during a discussion on November 5, 1993, this amendment is being issued with the words "required by" inserted in Action statement 32 to make it consistent with the wording of Action Statements 30 and 33. This is a minor editorial change that did not change the initial proposed no significant hazards consideration determination.

3.0 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.

4.0 ENVIRONMENTAL CONSIDERATION

This amendment changes 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 changes 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 (56 FR 22480). 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 or environmental assessment need be prepared in connection with the issuance of this amendment.

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 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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Date: December 17, 1993