



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 150 TO FACILITY OPERATING LICENSE NO. NPF-3

TOLEDO EDISON COMPANY

AND

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

DAVIS-BESSE NUCLEAR POWER STATION, UNIT NO. 1

DOCKET NO. 50-346

1.0 INTRODUCTION

By letter dated August 5, 1988 (Serial No. 1492), as supplemented by letter dated September 1, 1988 (Serial No. 1583), the Toledo Edison Company (TE) proposed an amendment to the Davis-Besse Nuclear Power Station, Unit No. 1, Operating License. This proposed amendment revises a small portion of the Technical Specifications (TSs). Specifically, the proposed amendment would revise the name of Instrument No. 7 in Table 3.3-9, Remote Shutdown Monitoring Instrumentation, and Table 4.3-6, Remote Shutdown Monitoring Instrumentation Surveillance Requirements, from the present designation as Control Rod Position Limit Switches to the correct designation as Control Rod Position Switches. Additionally, TE requested that the requirement set forth in Table 4.3-6, to perform a channel calibration of these switches every 18 months, be deleted. An additional change requested in the August 5, 1988 application regarding deletion of a footnote in Table 4.3-6 that is no longer applicable, was implemented in Amendment No. 135.

2.0 DISCUSSION

The safety function of the trip portion of the Control Rod Drive Control System (CRDCS) is to trip the shim-safety Control Rod Drive Mechanisms (CRDMs) whenever it receives an automatic trip command from either the Reactor Protection System (RPS), the Anticipatory Reactor Trip System (ARTS), or a manual trip command from the operator. The CRDCS trip logic is designed such that the removal of power to the CRDMs results in a free-fall gravity insertion of the control rods.

The function of the non-trip portion of the CRDCS is to provide for withdrawal and insertion of groups of Control Rod Assemblies (CRAs) to produce the desired reactor power.

In the CRDCS, two methods of position indications are provided. The relative position indicator (RPI) consists of a small pulse-stepping motor, driven from the rod drive motor power supply, coupled to a potentiometer. The absolute position indicator (API) consists of a series of 48 equally spaced reed switches, enclosed in a fiberglass housing and mounted on the outside of the upper motor tube of each CRDM.

The Control Rod Position Limit Switches provide "inlimit" and "outlimit" signals to the CRDCS to ensure that regulating rods are not withdrawn until the safety group rods are fully withdrawn, and to prohibit further inward motion of a rod group that is fully inserted.

3.0 EVALUATION

This license amendment request proposes that Table 3.3-9 of Technical Specification 3.3.3.5 and Table 4.3-6 of Surveillance Requirement 4.3.3.5 be revised to refer to one set of instruments as the Control Rod Position Switches, rather than identifying them as the Control Rod Position Limit Switches, and to delete the requirement for channel calibration every 18 months. Changing the name of these subject instruments in the affected tables to Position Switches will correctly identify the instruments and will make the Technical Specifications consistent with the Vendor manual and other site documentation. The Position Limit Switches have an indication on the Diamond Panel, but no remote readout is provided. The Control Rod Position Limit Switches are presently stated in Table 3.3-9 of the Technical Specifications to have a readout at System Logic Cabinet #4 of the CRDCS. The indication at this cabinet, however, is actually provided by the Control Rod Position Switches, rather than the Position Limit Switches. The Measurement Range attributed to the Position Limit Switches (0%, 25%, 50%, 75%, and 100%) actually applies to the Position Switches. Therefore, the affected tables should be revised to correctly refer to the Control Rod Position Switches.

Table 4.3-6 of Surveillance Requirement 4.3.3.5 requires a calibration of the Control Rod Position Limit Switches every 18 months. The design of the Position Limit Switches, as well as the Position Switches, is such that calibration is not required following initial installation. The only adjustment possible is lowering or raising the fiberglass tube containing the switches at the CRDM. The operability of the Position Switches is presently established by verifying that the 0% position lights indicate when the control rods are fully inserted per Surveillance Requirement 4.3.3.5 and the other position lights are verified as the CRAs are withdrawn. The reed switches are permanently fixed within the fiberglass tube and their relative positions cannot be changed. Accordingly, a periodic calibration of the Position Switches is inappropriate.

The additional change requested in the application regarding deletion of a footnote in Table 4.3-6 that is no longer applicable has already been implemented in Amendment No. 135 which made numerous administrative and editorial changes throughout the Technical Specifications.

The NRC staff finds that the proposed name change to Instrument No. 7 (i.e., the Control Rod Position Switches) in the affected tables is administrative in nature, corrects a clerical error and does not affect safety. The proposed deletion of the requirement for an 18-month periodic channel calibration is acceptable in that Surveillance Requirement 4.3.3.5 actually establishes the operability of the Control Rod Position Switches.

Based on the above evaluations, the staff finds the proposed changes acceptable.

4.0 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 and 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.

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, 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: November 21, 1990