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 RECIP. NAME RECIPIENT AFFILIATION
 MURLEY, T. E. Document Control Branch (Document Control Desk)

SUBJECT: Application for amends to Licenses DPR-58 & DPR-74,
 reflecting replacement of liquid radwaste effluent line
 monitor. Proposed revised Tech Spec pages encl. Fee paid.

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INDIANA & MICHIGAN ELECTRIC COMPANY

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August 7, 1987

AEP:NRC:0956D

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
REVISED RADIOACTIVE LIQUID EFFLUENT MONITORING
INSTRUMENTATION TECHNICAL SPECIFICATION CHANGE REQUEST

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Attn: T. E. Murley

Dear Dr. Murley:

This letter and its attachments constitute an application for amendment to the Technical Specifications (T/Ss) for the Donald C. Cook Nuclear Plant Units 1 and 2. Specifically, we are proposing changes to T/S 3.3.3.9, Table 3.3-12, and T/S 4.3.3.9.2, Table 4.3.8 to reflect the replacement of the liquid radwaste effluent line monitor. The reasons for the proposed changes and our analysis concerning significant hazards considerations are contained in Attachment 1 to this letter. The proposed revised Technical Specification pages are contained in Attachment 2.

In AEP:NRC:0956C, dated December 8, 1986, we submitted a T/S change request to reflect the replacement of the subject monitor. In that letter, the significant hazards considerations analysis was made on the basis that the change was purely administrative. In a letter from Mr. B. J. Youngblood to Mr. John Dolan, dated January 6, 1987, the NRC notified us that details were not provided on why the monitor was being changed, what enhancements were expected with the new monitor, or how the new monitor would meet the requirements at its location. This letter provides the additional information along with a revised significant hazards considerations analysis.

We are assessing potential difficulties with setpoints for the new monitor due to its increased sensitivity. Until these potential difficulties are resolved, we will continue to use the existing (R-18) instrumentation as specified in the proposed T/S changes.

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We believe that the proposed changes will not result in (1) a significant change in the types of effluents or a significant increase in the amounts of any effluent that may be released offsite, or (2) a significant increase in individual or cumulative occupational radiation exposure.

These proposed changes have been reviewed by the Plant Nuclear Safety Review Committee (PNSRC) and will be reviewed by the Nuclear Safety and Design Review Committee (NSDRC) at their next regularly scheduled meeting.

In compliance with the requirements of 10 CFR 50.91(b)(1), copies of this letter and its attachments have been transmitted to Mr. R. C. Callen of the Michigan Public Service Commission and Mr. G. Bruchmann of the Michigan Department of Public Health.

Pursuant to 10 CFR 170.12(c), we have enclosed an application fee of \$150.00 for the proposed amendments.

This document has been prepared following Corporate procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,



M. P. Alexich
Vice President

cm

Attachments

cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Bruchmann
G. Charnoff
NRC Resident Inspector - Bridgman
A. B. Davis - Region III

ATTACHMENT 1 TO AEP:NRC:0956D
REASONS AND 10 CFR 50.92 ANALYSIS FOR
CHANGES TO THE
DONALD C. COOK NUCLEAR PLANT UNIT NOS. 1 AND 2
TECHNICAL SPECIFICATIONS

The first proposed change is to T/S Table 3.3-12, Item 1.a. The current monitor, referred to as 1-R-18 in the Unit 1 T/S and 2-R-18 in the Unit 2 T/S, is being replaced by a new monitor, 12-RRS-1001.

The R-18 monitor has had a history of difficulty with background radiation masking the lower portion of its range. Actions taken to address this difficulty have been only partially successful. The first action taken involved moving the monitor from its original location, the Boric Acid Storage Tank Room, to outside the room's shield wall. This reduced the ambient background radiation; however, background interference continued to be a problem.

Subsequent investigation showed that, despite the customary flushing of the discharge line and the in-line monitor, the major source of background radiation was crud build-up on the interior surfaces of R-18's detection volume. Periodic disassembly and cleaning were found only temporarily effective in reducing the background; after a few batch releases, background would again increase. Due to the nature of waste liquid, build-up of background producing residue is unavoidable. This is compounded by the mechanical arrangement of R-18's detector assembly which causes it to be a natural crud trap. In addition, its connection and mounting detail make it difficult to remove for cleaning.

Several enhancements are expected with RRS-1001, which we believe will address problems encountered with R-18. RRS-1001's detector assembly uses a replaceable bowl-shaped liner provided with a low point drain. This shape discourages crud build-up and facilitates more effective flushing. If flushing in a particular instance is unsuccessful, the sample liner is easily replaced.

The new monitor is more sensitive to gamma emitters than R-18. This is largely attributed to differences in geometry between the monitors' measurement chambers. The greater sensitivity of the new monitor enhances our ability to monitor batch releases.

R-18's detector assembly is in-line and all the discharge flows through it. RRS-1001 requires a reduced flow, and therefore, it is connected such that about 10% of the main flow is diverted through its shielded sample liner. The sample line contains a flow meter with ancillary flow switches. A loss of sample flow will automatically terminate discharge.

The new monitor uses a microprocessor-based Data Acquisition Module (DAM), which performs the interpretation of detector output and electronically records the result. Sample flow and discharge flow signals are also input into the DAM for electronic recording in its computer memory. The DAM is integrated into our Eberline system; consequently, the Waste Disposal System (WDS) discharge information along with the new monitor's status is readily available for presentation.

Upon switching to RRS-1001 and its required support equipment, control room annunciation and indication will be via the Eberline System Control Terminals. The R-18 readout drawer in panel RMS and its associated Electrolarm and panel board annunciator will no longer be used.

The second proposed change is to Table 4.3-8, Instrument 1.a and its associated Table Notation. Specifically, we are proposing the addition of periodic Channel Functional Tests as a surveillance requirement. This additional surveillance requirement would demonstrate the operability of the sample line with regard to ensuring automatic isolation of the release pathway and ensuring control room annunciation, upon loss of sample flow.

The third proposed change is also to Table 3.3-12. While the physical installation of the new monitor is essentially complete, the monitor will not be capable of meeting T/S requirements until (1) the trip function is transferred from R-18, and (2) post-installation calibration and testing is complete. Therefore, we request that a footnote be added to allow the existing monitor (1-R-18/2-R-18) to fulfill the T/S requirements until the new monitor is declared operable.

The fourth proposed change is also to Table 3.3-12. We have added a footnote to the table to indicate that operability of flow switch RFS-1010 is required for operability of 12-RRS-1001.

Analysis of Significant Hazards

Per 10 CFR 50.92, a proposed amendment will involve no significant hazards considerations if the proposed amendment does not:

- (1) involve a significant increase in the probability or consequences of an accident previously analyzed,
- (2) create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated, or
- (3) involve a significant reduction in a margin of safety.

Our evaluation of the proposed change with respect to these criteria is provided below.

Criterion 1:

The new monitor will be able to support current T/S requirements and includes several enhancements over the old monitor. Design of the new monitor provides solutions to difficulties encountered with the old monitor. An additional T/S surveillance is proposed and is commensurate with the design of the new monitor. Thus, we are proposing a better monitor with appropriate surveillance requirements. Therefore, we believe the proposed change will not involve a significant increase in the probability or consequences of an accident previously analyzed.

Criterion 2:

The proposed change will not place the plant in a new or unanalyzed condition; therefore, it will not create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated.

Criterion 3:

We believe that the proposed change will not involve a significant reduction in a margin for safety for the reasons given in Criterion 1 above.

The Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14780) of amendments considered not likely to involve significant hazards considerations. We believe the proposed change is less likely than the sixth example in the above guidance to involve a significant hazards consideration. Specifically, we believe the proposed change will not result in an increase in the probability or consequences of a previously analyzed accident or reduce a safety margin, and is within all acceptable criteria with respect to the system design. Therefore, we believe this change does not involve a significant hazards consideration as defined in 10 CFR 50.92.