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SUBJECT: Application for amends to licenses DPR-58 & DPR-74, modifying
 TS Table 4.3-2 to change main steam line isolation valve
 manual actuation sys surveillance frequency from monthly to
 quarterly.

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May 25, 1995

AEP:NRC:1200B

Docket Nos.: 50-315
50-316

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

Gentlemen:

Donald C. Cook Nuclear Plant Units 1 and 2
PROPOSED TECHNICAL SPECIFICATION CHANGE:
MAIN STEAM LINE ISOLATION VALVE MANUAL
ACTUATION SYSTEM SURVEILLANCE FREQUENCY

This letter and its attachments constitute an application for amendment of the technical specifications (T/Ss) for the Donald C. Cook Nuclear Plant units 1 and 2. Specifically, we are proposing to modify Table 4.3-2 to change the surveillance frequency for the manual actuation function for main steam line isolation. We are proposing to change the surveillance frequency from monthly to quarterly. This change will achieve consistency with the testing requirements for associated valves as specified in our ASME Section XI in-service testing program.

Attachment 1 provides a detailed description of the proposed changes, the justification for the changes, and our determination of no significant hazards consideration performed pursuant to 10 CFR 50.92. Attachment 2 contains the existing T/S pages marked to reflect the proposed changes. Attachment 3 contains the proposed revised T/S pages.

We believe the proposed changes will not result in (1) a significant change in the types 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 and the Nuclear Safety and Design Review Committee.

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

Sincerely,



E. E. Fitzpatrick
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 25th DAY OF May 1995



Notary Public

My Commission Expires: 6-28-99

plt

Attachments

cc: A. A. Blind
G. Charnoff
J. B. Martin
NFEM Section Chief
NRC Resident Inspector - Bridgman
J. R. Padgett

ATTACHMENT 1 TO AEP:NRC:1200B

DESCRIPTION, JUSTIFICATION, AND
10 CFR 50.92 ANALYSIS FOR CHANGES TO
THE DONALD C. COOK NUCLEAR PLANT
UNITS 1 AND 2 TECHNICAL SPECIFICATIONS

I. BACKGROUND

There is one main steam line isolation valve (MSIV) in each of the four steam lines for each unit at Cook Nuclear Plant. This valve is capable of closing rapidly in the event of a main steam line rupture occurring anywhere in the piping between the steam generator and turbine. The valves are designed to close against flow in either the normal or reverse direction. The MSIV design incorporates a piston which is attached to the valve stem. The steam above and below the piston is normally at line pressure. The cylinder volume above the piston is piped through a three-way valve into a pair of redundant, air operated dump valves. Upon receipt of a signal to close, the dump valves open and vent the steam from the cylinder. The steam pressure in the valve body below the piston forces the piston to move rapidly and close the valve.

The manual actuation for the MSIV is different from the other Engineered Safety Feature Actuation System (ESFAS) manual functions in that it bypasses the Solid State Protection System. Instead, the manual switch is basically an open/close control for the dump valves. When it is switched, the dump valve opens, causing the MSIV to close. In this manner, the functional testing of the manual ESFAS steamline isolation function becomes merely a stroke test of the dump valves.

Currently, the T/Ss require functional testing of the manual actuation function for the MSIVs on a monthly basis. During this testing, the three-way valve is positioned to isolate one dump valve at a time. One manual switch is tested at a time to ensure the dump valve opens (there are two switches per MSIV, one for each dump valve, eight total). Since the manual actuation circuitry involves only a manual switch and a solenoid coil, the monthly tests are basically valve stroke tests, which are redundant to the quarterly tests done per ASME Section XI.

II. DESCRIPTION OF CHANGES

We are proposing to modify Table 4.3-2 (Engineered Safety Actuation System Instrumentation Surveillance Requirements) functional unit 9(d) to relax the surveillance frequency on the MSIV manual actuation circuitry from monthly to quarterly. This involves changing the surveillance interval abbreviation in Table 4.3-2 9(d) from M(1) to Q. This change eliminates all references to footnote (1) in the table. Therefore, the footnote (1) description is deleted. It is labeled as deleted in order to clarify the sequential labeling of footnotes (2) and (3).

In conjunction with these changes, we are also proposing to delete footnotes associated with previous surveillance interval extensions from Unit 2 page 3/4 3-32.

III. JUSTIFICATION FOR CHANGE

The proposed T/S amendment request to increase the time between surveillance of the MSIV manual actuation system is justified for several reasons.

1. Based on previous test data, the system has proven itself to be reliable. Since 1988, over 1,300 tests have been conducted, with only 3 failures. These failures involved minor mechanical problems and were corrected expeditiously. Furthermore, the last such failure occurred in October 1991, indicating over 3 years of testing without failure. The excellent performance record of this system gives us confidence that quarterly testing is sufficient.
2. The change achieves consistency between the ASME Section XI requirements for the dump valves and the T/S required testing.
3. In February 1994, unit 2 tripped due to closure of one of the MSIVs. The trip occurred following return of a dump valve to service following maintenance to correct seat leakby. The dump valve actuator had been improperly recoupled to the valve, which ultimately resulted in closure of the MSIV.

Following the trip, a task force was formed to investigate the issues associated with the event. Although not the cause of the trip, one of the conclusions reached by the task force was that testing of the dump valves was being performed more frequently than necessary. The task force concluded that the testing should be performed quarterly, not monthly, because of the jeopardy placed on the plant each time testing is performed. It was concluded that monthly testing of the dump valves was not only unnecessary, but also risky for several reasons: (1) each cycling of the dump valve avails the valve to seat damage. This damage can then lead to seat leakby and subsequent maintenance which requires an LCO entry and involves further plant jeopardy; (2) test history has identified numerous incidents of MSIVs drifting off of their full open seats during testing; and (3) excessive leakage past the three-way valve could cause the MSIV to close, tripping the unit.

The modification of footnote (1) is considered to be an administrative change. The footnote states that the manual actuation switches are to be tested at least every 18 months, while the balance of the circuitry is to be tested at least once per 31 days. As discussed above, the channel functional testing is initiated with the manual switch. Thus, the manual switches are tested as part of the channel functional test, and therefore the footnote is not required. Since we are proposing to change the surveillance frequency from M(1) to Q, no reference to footnote (1) will exist in the table. It is therefore unnecessary to retain its description. We are replacing the footnote description with the word "deleted" in order to avoid confusion regarding the numbering of footnotes (2) and (3).

III. 10 CFR 50.92 CRITERIA

Per 10 CFR 50.92, a proposed change does not involve significant hazards consideration if the change does not:

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

Criterion 1

This change will reduce the frequency of the surveillance testing on the MSIV manual actuation circuitry from monthly to quarterly. Because of the risks involved in testing the dump valves, the reduction in test frequency may reduce the probability of an accidental unit trip and valve seat failure due to repeated cycling. Our review of the surveillance test history has shown that the system is highly reliable, and gives us confidence that the change in test frequency will not endanger public health and safety. Furthermore, the change to a quarterly surveillance interval is consistent with the testing performed for the dump valves per ASME Section XI. For these reasons, it is our belief that the proposed changes do not involve a significant increase in the probability or consequences of a previously evaluated accident.

Criterion 2

The changes will not introduce any new modes of plant operation, nor will any physical changes to the plant be required. Thus, the changes should not create the possibility of a new or different kind of accident from any accident previously analyzed or evaluated.

Criterion 3

This change will reduce the frequency of the surveillance testing on the MSIV manual actuation circuitry from monthly to quarterly. Our review of the surveillance test history has shown that the system is highly reliable, and gives us confidence that the change in test frequency will not endanger public health and safety. Furthermore, the change to quarterly surveillance is consistent with the testing performed for the dump valves per ASME Section XI. For these reasons, it is our belief that the proposed changes do not involve a significant reduction in a margin of safety.



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