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October 20, 1995

AEP:NRC:1213A

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  
TECHNICAL SPECIFICATION CHANGE REQUEST, SECTION 4.7.1  
(TURBINE CYCLE - SAFETY VALVES)

This letter and its attachments constitute an application for a revision to the amendment to the technical specifications (T/Ss) for the Donald C. Cook Nuclear Plant Units 1 and 2 requested in submittal AEP:NRC:1213. Specifically, we are proposing to add an exemption to T/S 4.0.4 in the surveillance requirements for the main steam safety valves.

This exemption is required because T/S 3.7.1.1, Main Steam Safety Valves, is applicable in MODE 3, but Surveillance 4.7.1.1, which measures safety valve lift setpoints, must be performed while in MODE 3. In order to demonstrate the required lift setpoint for the main steam safety valves, steam pressure must be in the normal operating range corresponding to primary temperature above the P-12 setpoint. Therefore, secondary pressure for this test must be above approximately 800 psig for which saturation temperature is well above the 350°F MODE 3 boundary. If the surveillance interval has been exceeded during an extended or unexpected plant shutdown, there is no way to correct the situation without a power ascension to MODE 3.

All attachments provided previously in submittal AEP:NRC:1213 are included in this submittal for your convenience. Attachments 1 through 3 contain identical language to submittal AEP:NRC:1213, except for the addition of documentation supporting the exemption to Specification 4.0.4. 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

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changes. Attachment 3 contains the proposed T/S pages. Attachment 4 contains a copy of the Westinghouse NSAL 94-001.

We believe the proposed changes will not result in (1) a significant change in the types of any effluent that may be released offsite, nor (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.

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*

E. E. Fitzpatrick  
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 20th DAY OF October 1995

Rita L. Hill  
Notary Public

My Commission Expires: 6-28-99

slc

Attachments

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

11/11/77  
C. S. E. L. C.

ATTACHMENT 1 TO AEP:NRC:1213A

DESCRIPTION AND JUSTIFICATION OF CHANGES

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

A. DESCRIPTION OF CHANGES

The proposed amendment to technical specification (T/S) 3.7.1.1 makes the following specific changes to Cook Nuclear Plant units 1 and 2 T/Ss:

1. Table 3.7-1 is to be modified to reflect the corrected values for the neutron flux high setpoints (setpoints) to be used in the event that one or more main steam safety valves (MSSVs) are determined to be inoperable, as provided in Westinghouse Nuclear Safety Advisory Letter (NSAL) 94-001. A copy of this letter is provided as Attachment 4.
2. The bases for Section 3.7.1.1 are to be modified to reflect the corrected methodology for developing the setpoints.
3. The ACTION statement of the T/S is to be revised to clarify what actions are required in MODES 1, 2, and 3 when main steam safety valves are declared inoperable. Specifically, ACTION a. will apply only to MODES 1 and 2 and will refer the reader to ACTION b. when the requirements for continued operation in MODES 1 and 2 cannot be met. ACTION statement b. is modified to allow 3 or 4 loop operation in MODE 3. It also clarifies that the unit should be in HOT SHUTDOWN (instead of COLD SHUTDOWN) when the other required actions are not accomplished.
4. An exemption to Specification 4.0.4 is to be added as item 4.7.1.2

B. REASONS FOR CHANGES AND JUSTIFICATION FOR CHANGES

## CHANGES TO TABLE 3.7-1 AND BASES FOR 3.7.1.1

We were notified by Westinghouse in Nuclear Safety Advisory Letter (NSAL) 94-001 that the present methodology for calculating the setpoints when one or more MSSVs are inoperable is not conservative. The present methodology includes an assumption that the maximum allowable initial power level is calculated based on a linear function of the available MSSV relief capacity. Under certain conditions, and with typical safety analysis assumptions, a loss of load/turbine trip transient at part-power conditions may result in overpressurization of the main steam system when operating in accordance with the setpoints calculated by this methodology.

The revised methodology presented by Westinghouse in the NSAL was used to determine conservative setpoints. This guidance provides a method to calculate the maximum power level that will provide sufficient heat removal capability during operation with the given

number of inoperable MSSVs. These new setpoints, along with the revised methodology, are to replace the existing text in Table 3.7-1 and the bases for Section 3.7.1.1 in the Cook Nuclear Plant T/Ss.

#### CHANGES TO ACTION STATEMENT

As presently written, the ACTION statements of T/S 3.7.1.1 require that the power range neutron flux high setpoint be reduced (to account for decreased heat removal capability) when one or more of the MSSVs is declared inoperable in MODES 1, 2, and 3. The neutron flux high setpoint is not a proper constraint for MODE 3 operation, since no operation at power can take place during this MODE. Therefore, ACTION a. has been rewritten to provide requirements for operation only in MODES 1 and 2 with four reactor coolant loops.

As currently written, ACTION b. permits continued operation with inoperable MSSV's provided the reactor trip breakers are opened; however, the wording is such that this provision is specifically provided only for the case of three reactor coolant loops in operation. The purpose of the MSSVs is to remove energy such that an overpressurization of the secondary side does not occur. With the breakers open, the principal concern is the removal of decay heat. Because energy removal capability is enhanced with additional reactor coolant loops in operation, the T/Ss (as presently written) are overly restrictive. We are proposing to modify ACTION b. to allow operation with inoperable MSSVs in MODE 3 with a minimum of three reactor coolant loops in operation. This change corrects an oversight in the present version of the T/Ss.

Both ACTION a. and ACTION b. presently require the applicable unit to be in COLD SHUTDOWN (MODE 5) if the requirements of the ACTION are not met. This requirement in ACTION a. has been changed to note that a transition from ACTION a. to ACTION b. is required if other specified actions are not taken. ACTION b. has been revised to require the unit to ultimately be in HOT SHUTDOWN (MODE 4) if the other actions are not taken. Technical Specification 3.7.1 applies only in MODES 1, 2, and 3; therefore, the current direction to go to COLD SHUTDOWN (MODE 5) is considered to be inappropriate.

#### EXEMPTION TO SPECIFICATION 4.0.4

The proposed 4.0.4 exemption is necessary to make the T/Ss accurately reflect the limitation associated with conduct of the surveillance in Mode 3. Additionally, the change is needed to address the fact that unscheduled outages can and do occur and, when they do, surveillances can expire with no way to correct the situation until the unit returns to power.



C. 10 CFR 50.92 CRITERIA

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

1. involve a significant increase in the probability or consequences 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

Correction of the setpoint methodology does not represent a credible accident initiator. The new methodology reduces the allowable power level setpoints and is conservative compared to the presently evaluated setpoints. The consequences of any previously evaluated accident are not adversely affected by this action because the decrease in the setpoints resulting from the new calculational methodology will ensure that the MSSVs are capable of relieving the pressure at the allowable power levels. Based on these considerations, it is concluded that the changes do not involve a significant increase in the probability or consequences of an accident previously evaluated.

Correcting the overly restrictive action statements of T/S 3.7.1 does not involve a significant increase in the probability of an accident. The proposed changes modify existing text to more accurately reflect the intention of the restrictions imposed by the action statements. The changes do not create any situation that would initiate a credible accident sequence.

The proposed 4.0.4 exemption is necessary to make the T/Ss accurately reflect limitations associated with conduct of the surveillance in Mode 3. Additionally, the change is needed to address the fact that unscheduled outages can and do occur and, when they do, surveillances can expire with no way to correct the situation until the unit returns to power. Since the purpose of the 4.0.4 exemption is to allow surveillances to be conducted after an extended period of reactor shutdown, the decay heat to be removed by the MSSVs will be less than (and therefore conservative compared to) the conditions experienced when the surveillances are already allowed by the T/Ss. These allowed conditions include conduct of the surveillance during power operation or immediately after shutdown. Therefore, we believe that any increase in the probability of occurrence or consequences of an accident previously analyzed would be insignificant.

Criterion 2

The change in Table 3.7-1 reduces the allowable power levels that can be achieved in the event that one or more main steam safety valve(s) is inoperable. This change is a result of vendor guidance to correct an error in the existing methodology used to determine the setpoints for the power level. Changing the methodology used to determine the setpoints, and lowering the setpoints themselves, do not create a new condition that could lead to a credible accident. Therefore, it is concluded that the proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated.

The action statements remain in effect to perform the intended function of protecting the plant's secondary side when the main steam safety valves are inoperable. They have only been modified to correct the overly restrictive language that specifies when, in each mode, specific actions must be taken. Therefore, the proposed change does not create a new or different type of accident.

Because the proposed 4.0.4 exemption requires neither, physical changes to the plant nor changes to the safety analyses, we believe that they will not create the possibility of a new or different kind of accident from any previously evaluated.

Criterion 3

The margin of safety presently provided is not reduced by the proposed change in the setpoints. The change will correct the limiting power levels that are to be implemented when MSSVs are inoperable. This action does not adversely affect the margin that was previously allocated for the ability of the MSSVs to relieve secondary side pressure. Based on these considerations, it is concluded that the changes do not involve a significant reduction in a margin of safety.

The margin of safety is also not significantly reduced by the proposed change to the action statements of the T/S. The proposed revision clarifies when specific actions are to be taken in response to inoperable main steam safety valves. The changes do not decrease the effectiveness of the actions to be taken; therefore, they do not significantly reduce any margin of safety.

The margin of safety is not adversely affected by the proposed exemption to T/S 4.0.4, since the surveillance conditions allowed by the exemption are bounded by the normal surveillance conditions seen immediately after shutdown or during power operation.