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SUBJECT: Application for amends to Licenses PDR-58 & DPR-74,modifying Tech Spec 3.3.2.1 Tables 3.3-3,3.3-4,3.3-5 & 4.3-2.

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10 CFR 50.90

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
TECHNICAL SPECIFICATION CHANGE: SAFETY INJECTION
AND CONTAINMENT SPRAY MANUAL ACTUATION SIGNALS

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

Attn: T. E. Murley

March 14, 1989

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 to modify T/S 3.3.2.1 (Engineered Safety Feature Actuation System Instrumentation) Tables 3.3-3, 3.3-4, 3.3-5 and 4.3-2 so that they more accurately reflect the design of the ESF manual actuation functions, and reference more appropriate surveillance and action requirements for manual actuations with respect to the Westinghouse Standard T/Ss. Attachment 1 to this letter contains the reasons for the changes and our analyses concerning significant hazards consideration. Attachment 2 contains the proposed revised T/S pages.

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 and will be reviewed by the Nuclear Safety and Design Review Committee 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. George Bruchmann of the Michigan Department of Public Health.

A001

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

Sincerely,

M. P. Alexich
Vice President

ldp

Attachments

cc: D. H. Williams, Jr.
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:1030

REASONS AND 10 CFR 50.92 ANALYSES FOR

CHANGES TO THE DONALD C. COOK NUCLEAR PLANT

UNITS 1 AND 2 TECHNICAL SPECIFICATIONS

The purpose of this submittal is to clarify and correct Technical Specification (T/S) 3/4.3.2.1 (Engineered Safety Features Actuation System Instrumentation). Specifically, we are proposing to modify Tables 3.3-3, 3.3-4, and 4.3-2 to more accurately reflect the design of the ESF manual actuation channels as delineated in T/S Table 3.3-5 and to more closely resemble the surveillance requirements of the Standard T/Ss (STS). We are also proposing a modification to T/S Table 3.3-5 so that it more accurately reflects the design of the ESF manual actuation channels. The specific problems and associated changes are described below.

Change No. 1 (Editorial): Misleading Description of Functions

T/S Tables 3.3-3, 3.3-4, and 4.3-2 describe the following specific manual actuation channels:

Functional Unit	Description
1.a Manual	Safety injection (and associated actuations)
2.a Manual	Containment spray
3.a.1 Manual	Containment Phase "A" isolation
3.b.1 Manual	Containment Phase "B" isolation
3.c.1 Manual	Containment Purge and exhaust isolation
4.a Manual	Steam line isolation

The way in which these six functional units noted above are listed in T/S Tables 3.3-3, 3.3-4, and 4.3-2 implies that there are separate manual switches for each. However, due to one manual switch actuating more than one function in certain cases, there are effectively only four functional units. These four are discernible by the way in which they are currently listed in T/S Table 3.3-5, which describes them as follows:

Initiating Signal and Function	Description
1. Manual	
a.	Safety injection (ECCS) Feedwater isolation Reactor trip (SI)

Initiating Signal and Function	Description
	Containment isolation-Phase "A" Containment purge and exhaust isolation
	Auxiliary feedwater pumps Essential service water system Containment air recirculation fan
b.	Containment spray Containment isolation-Phase "B" Containment purge and exhaust isolation
c.	Containment isolation-Phase "A" Containment purge and exhaust isolation
d.	Steam line isolation

In order to make the function descriptions consistent between T/S tables, we have created a Functional Unit 9 in Tables 3.3-3, 3.3-4, and 4.3-2, which lists the manual actuation functions consistent with Table 3.3-5. (Note, however, that the manual start of the containment air recirculation fans will be placed with group b [containment spray and related functions] rather than group a. This is consistent with a proposed change to T/S Table 3.3-5 described under "Change No. 5"). The information for the present functional units (1.a, 2.a, 3.a.1, 3.b.1, 3.c.1 and 4.a) in Tables 3.3-3, 3.3-4, and 4.3-2 has been replaced with the words "See Functional Unit 9." This change is administrative in nature, intended only to make the T/S description of the manual functions more accurate.

Presently, T/S Table 3.3-3 Function 3 (Purge and Exhaust Isolation Functions) has a footnote which states that the requirements are only applicable during purge. The footnote is applied to all three parts of the function, i.e., manual, containment radioactivity - high Train A and containment radioactivity - high Train B. As delineated in Table 3.3-5, the manual circuitry providing purge and exhaust isolation also provides other functions, such as safety injection, which are still applicable at times other than during purge. Therefore, we have relocated the footnote designator such that it only applies to the high containment radioactivity functions.

Change No. 2 (Editorial): Misleading Description of Equipment in Table 3.3-3

There are inconsistencies in the T/S Table 3.3-3 descriptions of the number of channels which exist and the number of channels required to trip for the manual initiations described above. These are described below.

a. Functional Unit 1.a, Safety Injection Manual Actuation

T/S Table 3.3-3 Functional Unit 1.a indicates that there are a total of two safety injection (SI) and related function manual actuation channels, with one of the two channels required for an SI actuation. This functional unit, which corresponds in the actual plant design to Functional Unit 1.a of T/S Table 3.3-5, does not make it clear that the above is true for each train of the function. There actually are four switches for this function, two redundant switches per train. Closing either one of the two SI manual switches per train will initiate that train of SI. To avoid confusion, we are proposing to describe these in our proposed Functional Unit 9.a for T/S Table 3.3-3 as follows:

Total No. of Channels	Channels To Trip	Minimum Channels Operable
2/train	1/train	2/train

b. Functional Unit 2.a (Containment Spray, Manual), 3.a.1 Containment Isolation, Phase A, Manual), 3.b.1 (Containment Isolation, Phase B, Manual), and 3.c.1 (Containment Isolation, Purge and Exhaust, Manual)

The above four functional units* correspond in the actual plant design to functions 1.b (Containment Spray, Containment Isolation, Phase B, and Purge and Exhaust Isolation) and 1.c (Containment Isolation, Phase A, and Purge and Exhaust Isolation) of T/S Table 3.3-5. Each of these two function groups has one switch per train. Closing the switch initiates only that train's functions. However, T/S Table 3.3-3 describes functional unit 2.a (containment spray) and 3.b.1 (Phase "B" isolation) as each having two channels, with both channels required to trip. To avoid confusion, we are proposing to describe the manual channels in our proposed functional units 9.b and 9.c for T/S Table 3.3-3 as follows:

*See Change No. 5 for a related change.

Total No. of Channels	Channels To Trip	Minimum Channels Operable
1/train	1/train	1/train

c. Functional Unit 4.a (Steam Line Isolation, Manual)

There is one main steam stop valve in each of the four main steam lines at the Cook Nuclear Plant. Fast closure of the main steam stop valves is accomplished by dump valves. There are two dump valves for each stop valve (i.e., 8 dump valves), and one switch per dump valve (i.e., 8 switches). Actuation of either one of the two dump valves per stop valve will result in closure of the stop valve. To be consistent with the changes we have proposed for the other manual actuation switches, the following description for the new Functional Unit 9.d of T/S Table 3.3-3 is being proposed:

Total No. of Channels	Channels To Trip	Minimum Channels Operable
2/steam line (1 per train)	2/steam line (1 per train)	2/steam line (1 per train)

The above Item 2 changes to our manual actuation functional descriptions in T/S Table 3.3-3 are administrative in nature, intended only to make the T/S description more accurate and to be consistent with T/S Table 3.3-5. No requirements with regard to operability were lessened.

Change No. 3 (Technical): Inconsistency Between Surveillance Requirements

T/S Table 4.3-2 requires that both trains of manual actuation circuitry, with the exception of the switches, be tested monthly. The switches, per Note 1 of Table 4.3-2, are required to be tested every 18 months. With the exception of steam line isolation, the manual switches input directly into their associated trains solid state protection system (SSPS). The monthly testing that is performed for the manual actuation circuitry (except steam line isolation) is completely encompassed by the automatic actuation logic testing of the SSPS, which per T/S Table 4.3-2 is to be performed every 31 days on a staggered train basis, essentially bimonthly . The different testing frequencies for the same equipment appears to be an inconsistency in our T/Ss, which is not found in Revision 4 of the STS. Rev. 4 of the STS does not

require monthly channel functional testing of the manual circuitry. Rather, it requires that a "Trip Actuating Device Operational Test" be performed every 18 months. This is defined by the STS as follows:

> A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock, and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device such that it actuates at the required setpoint within the required accuracy.

The inconsistency in our T/S required testing frequency for the portion of the circuitry not involving the manual switches is believed to be an error, which was corrected in later versions of the STS by adopting the "Trip Actuating Device Operational Test" described above. To correct the inconsistency in our T/Ss, we are proposing to adopt the STS requirement for the manual switches, and to apply the monthly testing of the balance of the circuitry only to steam line isolation. The term "Trip Actuating Device Operational Test" is proposed for the Definition Section (1) of the T/Ss and to T/S 4.3.2.1.1.

Monthly testing of the automatic actuation logic has shown the SSPS at the Cook Nuclear Plant to be extremely reliable. Therefore, we believe that the frequency for testing the manual circuitry (except for steam line isolation) can be made consistent with the other SSPS test requirements without endangering public health and safety.

Change No. 4 (Technical): Action Requirements for Manual Steam Line Isolation

This change proposes a modification to functional unit 4.a (Steam Line Isolation-Manual) of T/S Table 3.3-3, for the purpose of achieving greater consistency with the STS.

As currently written, the action statement for functional unit 4.a (Action 18) requires the unit to be placed in Mode 3 within 54 hours if the number of operable channels is one less than the total. This differs from the STS requirement, which requires that the steam line stop valve associated with the inoperable manual channel be declared inoperable if the cause of the channel inoperability is not corrected within 48 hours. The action requirement of T/S 3.7.1.5 (Steam Generator Stop Valves) is then followed. For operation in Mode 1, operation with one inoperable but open stop valve can proceed for four hours. If the cause of

the inoperability is not corrected, power must be reduced below five percent of rated thermal power within the next two hours. For Modes 2 and 3, operation may continue provided the stop valve is maintained closed.

We are proposing to change the action requirements for T/S Table 3.3-3 functional unit 4.a to be consistent with the STS. The action requirement is changed from the current action 18 to a new action 20, which is consistent with the STS requirement. The proposed change provides internal consistency within the T/Ss by making the action requirements for the steam line manual actuation circuitry consistent with those for the associated stop valves. The change also provides consistency with the STS.

Change No. 5 (Editorial)

This change proposes to correct an error in T/S Table 3.3-5 regarding functions 1.a and 1.b. As previously written, the manual start of the containment air recirculation fans is grouped with the safety injection and related functions. The start of the fans actually is associated with the switches of functional group 1.b (containment spray and related functions). Therefore, we are proposing to move the function from function 1.a to function 1.b. This change is also reflected in our proposed functional unit 9 for T/S Tables 3.3-3, 3.3-4 and 4.3-2, which was described in Change No. 1 above.

10 CFR 50.92 Evaluation

Per 10 CFR 50.92, a proposed amendment will not involve a significant hazards consideration if the proposed amendment 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 analyzed or evaluated, or

(3) involve a significant reduction in a margin of safety.

Criterion 1

Change Nos. 1, 2 and 5 are administrative in nature. They involve rewriting the T/Ss regarding ESF manual actuations so that the functions are more accurately portrayed in the document, or so

that the document is internally consistent. Change No. 3, involving the ESF manual circuitry testing will reduce the frequency of the portion involving the SSPS from once every month to once every other month. This change corrects an inconsistency in our T/Ss between the requirements for the manual circuitry and the SSPS requirements which was recognized and corrected in later versions of the STS. Our review of the surveillance test history of the monthly SSPS tests 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. Change No. 4, to the manual steam line isolation circuitry, provides internal consistency in our T/Ss by making the action requirements for the manual actuation circuitry consistent with the associated stop valves. The change is consistent with the STS. 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, nor do they involve a significant reduction in a margin of safety.

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

See Criterion 1, above.

Lastly, we note that the Commission has provided guidance concerning the determination of significant hazards by providing certain examples (48 FR 14870) of amendments considered not likely to involve significant hazards consideration. The first of these examples refers to changes which are administrative in nature: for example, changes to achieve consistency throughout the T/Ss, correction of errors, or changes in nomenclature. Change Nos. 1, 2 and 5 are in this category in that they clarify the T/Ss and make them more internally consistent. The sixth example refers to changes which may result in some increase to the probability or consequences of a previously analyzed accident, but where the results of the change are clearly within acceptable limits. This example is relevant to change Nos. 3 and 4 since the changes are consistent with the STS. Based on the discussion above, we conclude that the examples cited are relevant and that the changes should not require significant hazards consideration.