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SUBJECT: Application for amends to Licenses DPR-58 & DPR-74,changing
 Tech Specs 4.6.1.1 & 4.6.1.2 to clarify potential
 deficiency in requirements for containment airlocks & making
 Unit 1 airlock surveillance consistent w/Unit 2.

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AEP:NRC:1145

Donald C. Cook Nuclear Plant Units 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
TECHNICAL SPECIFICATIONS CHANGE REQUEST;
REQUIREMENTS FOR CONTAINMENT AIR LOCKS

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

Attn: T. E. Murley

April 16, 1991

Dear Dr. Murley:

This letter and its attachments constitute an application for changes to the Technical Specifications (T/Ss) for Donald C. Cook Nuclear Plant Units 1 and 2 in accordance with 10 CFR 50.90. The proposed changes will clarify a potential discrepancy in the requirements for the containment air locks contained in T/Ss 1.8, 4.6.1.1 and 4.6.1.2. We are also proposing a change to make the Unit 1 air lock seal surveillance consistent with that of Unit 2 and the Standard Westinghouse T/Ss.

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

As a point of information, in an October 5, 1989 submittal, the Tennessee Valley Authority requested on behalf of its Sequoyah Nuclear Plant the identical changes that we are requesting in this submittal. That request was subsequently approved by the NRC on February 16, 1990.

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.

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The proposed changes have been reviewed by the Plant Nuclear Safety Review Committee and by 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 Mr. J. R. Padgett of the Michigan Public Service Commission and to the Michigan Department of Public Health.

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

Sincerely,



E. E. Fitzpatrick
Vice President

Attachments

cc: D. H. Williams, Jr.
A. A. Blind - Bridgman
J. R. Padgett
G. Charnoff
A. B. Davis - Region III
NRC Resident Inspector - Bridgman
NFEM Section Chief

Attachment 1 to AEP:NRC:1145

10 CFR 50.92 Analysis for Changes
to the Donald C. Cook Nuclear Plant
Units 1 and 2 Technical Specifications

1.0 SECTIONS TO BE CHANGED

Technical Specifications (T/Ss) Sections 1.8, 4.6.1.1.b, and 4.6.1.2.e for both Units 1 and 2. Technical Specifications Section 4.6.1.3.a for Unit 1.

2.0 EXTENT OF CHANGE

We propose to modify the definition of containment integrity given in T/S 1.8 and the surveillance requirements specified in T/Ss 4.6.1.1.b and 4.6.1.2.e for both Cook Nuclear Plant units. The proposed changes modify the requirements for containment air locks to be consistent with Revision 5 of NUREG-0452, "Standard Technical Specifications for Westinghouse Pressurized Water Reactors," (W STS).

In addition, we propose to delete Unit 1 T/S 4.6.1.3.a, which will make the Unit 1 T/Ss consistent with those of Unit 2 and with Revisions 4 and 5 of the W STS.

3.0 CHANGES REQUESTED

We are proposing to make the following changes to both the Unit 1 and Unit 2 T/Ss.

Revise the Definition of Containment Integrity

Currently, T/S 1.8, which is the definition of containment integrity, includes the following statement:

Each air lock is OPERABLE pursuant to Specification 3.6.1.3,
and

We are proposing to adopt the wording of Revision 5 of the W STS to define containment integrity (W STS 1.7), as follows:

Each air lock is in compliance with the requirements of
Specification 3.6.1.3, and

Revise T/S 4.6.1.1.b to Require Compliance Rather Than Operability

The current T/S reads as follows:

By verifying that each containment air lock is OPERABLE
per Specification 3.6.1.3.

We are proposing to modify it in accordance with Revision 5 of the W STS, as follows:

By verifying that each containment air lock is in compliance with
the requirements of Specification 3.6.1.3.

Revise T/S 4.6.1.2.e to Require Compliance Rather Than Operability

Currently T/S 4.6.1.2.e states:

Air locks shall be tested and demonstrated OPERABLE per Surveillance Requirement 4.6.1.3.

We are proposing to modify this as follows:

Each containment air lock shall be verified to be in compliance with the requirements of Specification 3.6.1.3.

Remove Unit 1 T/S 4.6.1.3.a Requirement for Visual Inspection of Airlock Seals

Currently T/S 4.6.1.3 states:

Each containment air lock shall be demonstrated OPERABLE:

- a. By visual inspection after each opening to verify that the seal has not been damaged.

We propose to delete this requirement and renumber the subsequent surveillance requirements.

4.0 DISCUSSION

System Description

The containment system is designed to ensure that acceptable limits for leakage to the environment of radioactive materials are not exceeded even in the improbable event of a gross rupture of a reactor coolant system pipe. Together with the engineered safety features, the containment system is designed to limit radiation doses under conditions resulting from the design basis accident (DBA) to less than 10CFR100 criteria at the site boundary and beyond. The DBA is defined in Chapter 5 of the UFSAR as a double-ended rupture of the largest pipe in the reactor coolant system.

The containment air locks, which are part of the containment pressure boundary, provide a means for personnel access during all modes of operation. The air lock doors have been designed and certified capable of withstanding a pressure in excess of the maximum peak pressure resulting from a DBA. Each door is provided with double gasket seals to provide pressure integrity. Consequently, closing one door establishes containment integrity.

To ensure that containment integrity is maintained, an air lock door mechanism prevents both doors from being opened simultaneously. In addition, control room indication is provided to alert the operator whenever an air lock door interlock mechanism is defeated.

Justification for Change

Technical Specification 3.6.1.1 states that primary containment integrity shall be maintained in Modes 1, 2, 3 and 4. The action statement of this T/S states that, without primary containment integrity, containment integrity must be restored within one hour or the unit must be in at least hot standby within the next six hours and in cold shutdown within the following 30 hours.

Surveillance Requirement 4.6.1.1.b requires that each containment air lock be operable per T/S 3.6.1.3. The action statement of T/S 3.6.1.3 states that, with an airlock inoperable, the airlock must be restored to operable status within 24 hours or the unit must be in at least hot standby within the next six hours and in cold shutdown within the following 30 hours.

The wording of T/S 4.6.1.1.b may lead to an interpretation that precludes the use of the action provisions given in T/S 3.6.1.3 when an air lock is inoperable but still within the allowed leakage limits of T/S 3.6.1.2. The wording in Revision 5 of the W STS allows the use of the action provisions given in T/S 3.6.1.3.

The 24-hour allowable out-of-service time given in T/S 3.6.1.3 is both reasonable and prudent for those cases in which air lock leakage renders the air lock inoperable but does not present a containment integrity problem. The 24-hour period provides time to repair the air lock before imposing a plant transient and plant shutdown. The 1-hour allowable out-of-service time given in the T/S 3.6.1.1 action statement is appropriate for those cases in which air lock leakage represents a containment integrity problem.

The current definition of containment integrity given in T/S 1.8 and the wording in T/S 4.6.1.2.e also contain the requirement that the containment air locks be operable. This wording, as well as that of T/S 4.6.1.1.b, is consistent with Revision 4 of the W STS. Westinghouse STSs (Revision 5) 1.7 (Cook Nuclear Plant T/S 1.8) and 4.6.1.1.b require compliance with T/S 3.6.1.3 for the containment air locks. Consequently, the approval of this T/Ss change request would make Cook Nuclear Plant T/Ss 1.8 and 4.6.1.1.b consistent with Revision 5 of the W STS.

The existing T/S 4.6.1.2.e is identical to that in Revision 5 of the W STS. However, we are proposing to change the word "operable" to "compliance" to allow the use of the action provisions contained in T/S 3.6.1.3. This wording was approved by the NRC for Sequoyah Nuclear Plant Units 1 and 2 on February 16, 1990.

The proposed changes to the containment integrity definition given in T/S 1.8, as well as the proposed changes to T/Ss 4.6.1.1.b and 4.6.1.2.e, clarify the requirements for air lock inoperability for those cases in which overall air lock leakage does not present a containment integrity problem. The proposed changes do not affect the overall containment leakage requirements imposed through T/Ss 3.6.1.1 and 3.6.1.2.

The existing Unit 1 T/S 4.6.1.3.a requires that a visual inspection be performed after each air lock door opening to verify that the seal has not been damaged. Neither the Unit 2 T/Ss nor Revisions 4 or 5 of the W STSS require a visual inspection. The visual inspection is a good practice and we plan to continue it even if our request to delete the requirement from the Unit 1 T/S is granted. In fact, although it is not required by the T/Ss, we currently perform visual inspections on Unit 2. However, having the requirement in the T/Ss puts us in jeopardy of a reportable event if we cannot provide documentation that the inspection was done. There are literally hundreds of entries into containment during Modes 1-4 and the burden of ensuring that visual inspections are completed and documented seems unnecessary and causes distractions to control room personnel.

5.0 NO SIGNIFICANT HAZARDS DETERMINATION

We have evaluated the proposed T/Ss change and have determined that it does not represent a significant hazards consideration based on the criteria established in 10CFR50.92(c). Operation of the Cook Nuclear Plant in accordance with the proposed amendment will not:

- (1) Involve a significant increase in the probability or consequences of an accident previously evaluated.

As described in Section 5.0 of the UFSAR, the containment structure is designed to ensure that an acceptable upper limit of leakage of radioactive material is not exceeded under design basis accident conditions. The containment air locks, which provide personnel access to both upper and lower containment, were designed and constructed and are tested to ensure that the allowable leakage limits for containment are maintained. The proposed changes to the definition of containment integrity and to T/Ss 4.6.1.1.b and 4.6.1.2.e are made to clarify the use of the action provisions of T/S 3.6.1.3. The actual acceptance criteria for primary containment and air lock leakage rates remain unchanged. The proposed change to T/S 4.6.1.3.a will make the T/Ss consistent between the units and with the W STSS. As such, the proposed changes are administrative in nature and serve to eliminate the potential for misinterpretation of the T/Ss requirements. The proposed changes do not increase the probability of a previously evaluated accident because the primary containment and air lock leakage rates are not associated with the initiation of any design basis accident. Because the acceptable limits on the primary containment and air lock leakage rates remain unchanged, the consequences of a previously evaluated accident are not increased.

- (2) Create the possibility of a new or different kind of accident from any previously analyzed.

As described above, the proposed changes to the definition of containment integrity and to T/Ss 4.6.1.1.b and 4.6.1.2.e are made to clearly allow the use of the action provisions of T/S 3.6.1.3. The proposed change to Unit 1 T/S 4.6.1.3.a will reduce the administrative requirements for Unit 1 and will make the requirements of Units 1 and 2 identical. The acceptance criteria for primary containment and air lock leakage rates remain unchanged. Thus, no radiological consequence analysis assumptions are changed. Therefore, the proposed changes will not create the possibility of a new or different kind of accident from any previously analyzed.

- (3) Involve a significant reduction in a margin of safety.

The proposed changes to the definition of containment integrity and to T/Ss 4.6.1.1.b and 4.6.1.2.e are made to clarify the use of the action provisions of T/S 3.6.1.3. The proposed change to Unit 1 T/S 4.6.1.3.a will remove an overly conservative documentation requirement that distracts control room personnel's attention from more important safety-related activities. The proposed changes are administrative in nature and serve to eliminate the potential for misinterpretation of the T/Ss requirements. The actual acceptance criteria for primary containment and air lock leakage rates are not changed. Therefore, the proposed changes do not reduce the margin of safety.

6.0 PENDING T/Ss PROPOSALS IMPACTING THIS SUBMITTAL

At the time that this submittal is made, no T/Ss change requests that would impact the T/Ss being proposed herein are pending NRC review.