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October 18, 2000

C1000-09
10 CFR 50.90

Docket Nos.: 50-315
50-316

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555-0001

**Donald C. Cook Nuclear Plant Units 1 and 2
TECHNICAL SPECIFICATION CHANGE REQUEST
VALVE POSITION FOR AUTOMATIC VALVES IN THE
AUXILIARY FEEDWATER SYSTEM**

Pursuant to 10 CFR 50.90, Indiana Michigan Power Company (I&M), the Licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2, proposes to amend Appendix A, Technical Specifications (T/S), of Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to revise T/S 3/4.7.1.2, "Auxiliary Feedwater System [AFW]," to change the description in a T/S surveillance requirement of the position for each automatic valve in the system from the "fully open" position to the "correct" position. Nuclear Regulatory Commission (NRC) approval of the proposed change would allow subsequent changes to the actual position of automatic valves in the AFW system via 10 CFR 50.59, "Changes, tests and experiments."

Attachment 1 provides a detailed description and safety analysis to support the proposed change. Attachments 2A and 2B provide marked up T/S pages for Unit 1 and Unit 2, respectively. Attachments 3A and 3B provide the proposed T/S pages with the change incorporated for Unit 1 and Unit 2, respectively. Attachment 4 describes the evaluation performed in accordance with 10 CFR 50.92(c), which concludes that no significant hazard is involved. Attachment 5 provides the environmental assessment. There are no new commitments made in this letter.

I&M requests approval of this request by November 29, 2000, to support entry into Mode 3 during restart of CNP Unit 1.

ADD1

No previous submittals affect AFW system T/S pages that are submitted in this request. If any future submittals affect these T/S pages, then I&M will coordinate changes to the pages with the NRC Project Manager to ensure proper T/S page control when the associated license amendment requests are approved.

Copies of this letter and its attachments are being transmitted to the Michigan Public Service Commission and Michigan Department of Environmental Quality, in accordance with the requirements of 10 CFR 50.91.

Should you have any questions, please contact Mr. Wayne J. Kropp, Director of Regulatory Affairs, at (616) 697-5056.

Sincerely,


R. P. Powers
Vice President

/dmb

Attachments

c: J. E. Dyer
MDEQ - DW & RPD
NRC Resident Inspector
R. Whale

AFFIRMATION

I, Michael W. Rencheck, being duly sworn, state that I am Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

Indiana Michigan Power Company


M. W. Rencheck
Vice President Nuclear Engineering

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 18th DAY OF October, 2000

Pamela J. Schmaltz
Notary Public

My Commission Expires _____ **PAMELA J. SCHMALTZ**
Notary Public, Berrien County, MI
My Commission Expires Oct 2, 2004



ATTACHMENT 1 TO C1000-09

DESCRIPTION AND SAFETY ANALYSIS FOR THE PROPOSED CHANGE

A. Summary of the Proposed Change

Indiana Michigan Power Company (I&M), the Licensee for Donald C. Cook Nuclear Plant (CNP) Units 1 and 2, proposes to amend Appendix A, Technical Specifications (T/S), of Facility Operating Licenses DPR-58 and DPR-74. I&M proposes to revise T/S 3/4.7.1.2, "Auxiliary Feedwater System [AFW]," to change the description in a T/S surveillance requirement (SR) of the position for each automatic valve in the system from the "fully open" position to the "correct" position. Nuclear Regulatory Commission (NRC) approval of the proposed change would allow subsequent changes to the actual position of automatic valves in the AFW system via 10 CFR 50.59, "Changes, tests and experiments."

The proposed change is described in detail in Section E of this attachment. T/S pages that are marked to show the proposed change are provided in Attachments 2A and 2B for Unit 1 and Unit 2, respectively. The proposed T/S pages, with the change incorporated, are provided in Attachments 3A and 3B for Unit 1 and Unit 2, respectively.

B. Description of the Current Requirement

T/S 3.7.1.2 requires, in part, operability of at least three independent steam generator AFW pumps and associated flow paths. Operability is demonstrated, in part, by T/S SR 4.7.1.2.d, which periodically verifies that each automatic valve in the flowpath is fully open whenever the AFW system is placed in automatic control or when above 10% of rated thermal power. This requirement is not applicable to portions of the AFW system being used intermittently to maintain steam generator water level.

C. Bases for the Current Requirements

The original CNP Units 1 and 2 T/S and original issue of NUREG-0452, "Standard Technical Specifications," were consistent in describing the surveillance requirement for positions of AFW system automatic valves as the "correct" position. In June 1978, the NRC revised NUREG-0452 to change the description of the position of the automatic valves to "fully open." This description remained for three revisions until NUREG-0452 was superseded by NUREG-1431, "Standard Technical Specifications," in 1991. Although the words in the NUREG-0452 T/S had changed, a corresponding change to the bases of NUREG-0452, describing the reason for the change from "correct" to "fully open," was not made.

On April 23, 1985, I&M requested changes to the CNP T/S to conform with NUREG-0452, Revision 4. One of the proposed changes addressed the position of the automatic valves in the AFW system. I&M stated that the fully open position is not always the correct position for the

valves. For example, during startup and during accident conditions, it is appropriate to run the AFW pumps and regulate the flow by adjusting the valves. I&M proposed the "fully open" position for the valves only when above 10 % power with the pumps in automatic control. The NRC issued these changes on December 31, 1985, in Amendments 92 and 77 to DPR-58 and DPR-74, respectively. In the Safety Evaluation Report (SER), the NRC approved the change with agreed-upon alternative wording that exempted the "fully open" position for only those portions of the AFW system being used to maintain steam generator level. The revised requirement, which is still in place, was found to be acceptable because the verification of automatic valve position was required for the portions of the system that were in automatic control. The conditions where fully open valves were not correct were limited to only portions of the system. I&M did not change the T/S Bases to describe the valves as "fully open," or to describe the exceptions. Based on a review of the 1985 submittal and resulting SER, I&M concludes that the valve position description of "fully open" was adopted simply to conform with NUREG-0452. Since I&M could not comply with the NUREG-0452 verbiage verbatim, additional changes were made.

Verifying the correct alignment for automatic valves in the AFW system by performing T/S SR 4.7.1.2.d provides assurance that the proper flow paths will support AFW system operation. The surveillance does not require any valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the fully open position. The AFW system flow requirements are based on certain accident analyses and correspond to the valves in the flowpath being fully open. The accident analyses where decay heat removal is of interest, such as a loss of normal feedwater event, conservatively model minimum AFW flow rates by assuming conditions such as degraded pump performance or postulated pump failure. The analysis of radiological consequences following a steam generator tube rupture (SGTR) conservatively models minimum AFW system flow, which would limit dilution of primary coolant with the water from the condensate storage tank. The accident analyses where excessive cooldown is expected, such as a main steam line break, conservatively assume maximum AFW flow rates to maximize the reactivity transient.

D. Need for Revision of the Requirement

The current SGTR analysis only considered radiological consequences. During reviews of industry operating experience performed as part of the CNP expanded system readiness review, a concern for steam generator overfill following a SGTR was identified. I&M has recognized the potential for fully-open automatic valves in the AFW system flowpath to result in a steam generator overfill condition following a SGTR in CNP Unit 1. Manual operator actions to prevent overfilling the affected steam generator create a burden for the control room operators. I&M is currently exploring several alternatives to reduce this burden. One solution involves a change to the AFW system valve configuration to specify an intermediate position for certain automatic valves in the flowpath. The intermediate position would reduce the operator burden and continue to meet all other AFW design objectives and accident analysis assumptions.

However, an intermediate valve position is precluded by the current language describing automatic valves in T/S SR 4.7.1.2.d. A T/S change is necessary to ensure that the literal wording of the T/S continues to be met in the event a valve configuration change becomes necessary. The technical issue is not a concern for Unit 2 due to the larger secondary volume of the Unit 2 steam generators. Therefore, the Unit 2 T/S change is made for consistency.

E. Description of the Proposed Change

I&M proposes to revise T/S SR 4.7.1.2.d to describe the required position of each automatic valve in the AFW system flow path as the "correct" position rather than the "fully open" position.

F. Bases for the Proposed Change

The proposed change meets the bases of the SR without specifying the position for the automatic valves in the AFW system flowpath. Describing the required position of the valves as their "correct" position is consistent with the accident analyses. The revision would allow future changes to the physical valve position to be made via 10 CFR 50.59, "Changes, tests and experiments."

The proposed change would also make the CNP T/S internally consistent. For example, T/S SR 4.7.1.2.e addresses required valve positions of the same automatic valves as the "correct" positions. Similarly, in T/S 3/4.5.2, "Emergency Core Cooling Systems," SR 4.5.2.b describes automatic valves in the emergency core cooling system flowpath as required to be in the "correct" position.

Finally the proposed change is consistent with NUREG-1431, Revision 1. In the development of NUREG-1431 from NUREG-0452, the description of the position for automatic valves in the AFW system flowpath was similarly changed from the "fully open" position to the "correct" position. This permits licensees to control the positions of AFW system automatic valves in an owner-controlled document and to make changes in accordance with 10 CFR 50.59.

G. Discussion of Risk

The proposed change does not affect any accident initiators or precursors. As such, the proposed change does not increase the probability of an accident. The proposed change does not affect the ability of the AFW system to mitigate the consequences of an accident.

Accordingly, the proposed change does not adversely impact risk.

H. Impact on Previous Submittals

No previous submittals affect AFW system T/S pages that are submitted in this request. If any future submittals affect these T/S pages, then I&M will coordinate changes to the pages with the NRC Project Manager to ensure proper T/S page control when the associated license amendment requests are approved.

ATTACHMENT 2A TO C1000-09

**TECHNICAL SPECIFICATIONS PAGE
MARKED TO SHOW PROPOSED CHANGE**

**REVISED PAGE
UNIT 1**

3/4 7-6

SURVEILLANCE REQUIREMENTS (Continued)

- 4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5 by:
- a. Verifying that each motor driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head.
 - b. Verifying that the turbine driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
 - c. Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position.
 - d. Verifying that each automatic valve in the flow path is in the ~~fully-open~~ correct position whenever the auxiliary feedwater system is placed in automatic control or when above 10% RATED THERMAL POWER. This requirement is not applicable for those portions of the auxiliary feedwater system being used intermittently to maintain steam generator water level.
 - e. Verifying at least once per 18 months during shutdown that each automatic valve in the flow path actuates to its correct position upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - f. Verifying at least once per 18 months during shutdown that each auxiliary feedwater pump starts as designed automatically upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - g. Verifying at least once per 18 months during shutdown that the unit cross-tie valves can cycle full travel. Following cycling, the valves will be verified to be in their closed positions.

ATTACHMENT 2B TO C1000-09

**TECHNICAL SPECIFICATIONS PAGE
MARKED TO SHOW PROPOSED CHANGE**

**REVISED PAGE
UNIT 2**

3/4 7-6

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

- 4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5 by:
- a. Verifying that each motor driven auxiliary feed pump's developed head at the test flow point is greater than or equal to the required developed head.
 - b. Verifying that the turbine driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
 - c. Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position.
 - d. Verifying that each automatic valve in the flow path is in the fully open **correct** position whenever the auxiliary feedwater system is placed in automatic control or when above 10% RATED THERMAL POWER. This requirement is not applicable for those portions of the auxiliary feedwater system being used intermittently to maintain steam generator level.
 - e. Verifying at least once per 18 months during shutdown that each automatic valve in the flow path actuates to its correct position upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - f. Verifying at least once per 18 months during shutdown that each auxiliary feedwater pump starts as designed automatically upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - g. Verifying at least once per 18 months during shutdown that the unit cross-tie valves can cycle full travel. Following cycling, the valves will be verified to be in their closed positions.

ATTACHMENT 3A TO C1000-09

PROPOSED TECHNICAL SPECIFICATIONS PAGE

**REVISED PAGE
UNIT 1**

3/4 7-6

SURVEILLANCE REQUIREMENTS (Continued)

- 4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5 by:
- a. Verifying that each motor driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head.
 - b. Verifying that the turbine driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
 - c. Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position.
 - d. Verifying that each automatic valve in the flow path is in the correct position whenever the auxiliary feedwater system is placed in automatic control or when above 10% RATED THERMAL POWER. This requirement is not applicable for those portions of the auxiliary feedwater system being used intermittently to maintain steam generator water level.
 - e. Verifying at least once per 18 months during shutdown that each automatic valve in the flow path actuates to its correct position upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - f. Verifying at least once per 18 months during shutdown that each auxiliary feedwater pump starts as designed automatically upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - g. Verifying at least once per 18 months during shutdown that the unit cross-tie valves can cycle full travel. Following cycling, the valves will be verified to be in their closed positions.

ATTACHMENT 3B TO C1000-09

PROPOSED TECHNICAL SPECIFICATIONS PAGE

**REVISED PAGE
UNIT 2**

3/4 7-6

SURVEILLANCE REQUIREMENTS

- 4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5 by:
- a. Verifying that each motor driven auxiliary feed pump's developed head at the test flow point is greater than or equal to the required developed head.
 - b. Verifying that the turbine driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
 - c. Verifying that each non-automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in its correct position.
 - d. Verifying that each automatic valve in the flow path is in the correct position whenever the auxiliary feedwater system is placed in automatic control or when above 10% RATED THERMAL POWER. This requirement is not applicable for those portions of the auxiliary feedwater system being used intermittently to maintain steam generator level.
 - e. Verifying at least once per 18 months during shutdown that each automatic valve in the flow path actuates to its correct position upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - f. Verifying at least once per 18 months during shutdown that each auxiliary feedwater pump starts as designed automatically upon receipt of the appropriate engineered safety features actuation test signal required by Specification 3/4.3.2.
 - g. Verifying at least once per 18 months during shutdown that the unit cross-tie valves can cycle full travel. Following cycling, the valves will be verified to be in their closed positions.

ATTACHMENT 4 TO C1000-09

NO SIGNIFICANT HAZARDS CONSIDERATION EVALUATION

Indiana Michigan Power Company (I&M) has evaluated this proposed amendment and determined that it does not involve a significant hazard. According to 10 CFR 50.92(c), a proposed amendment to an operating license involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not:

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

I&M proposes to revise Technical Specification (T/S) 3/4.7.1.2, "Auxiliary Feedwater System [AFW]," to change the description of the position in a T/S surveillance requirement for each automatic valve in the system from the "fully open" position to the "correct" position. Nuclear Regulatory Commission approval of the proposed change would allow subsequent changes to the actual position of automatic valves in the AFW system via 10 CFR 50.59, "Changes, tests and experiments." The determination that the criteria set forth in 10 CFR 50.92 are met for this amendment request is indicated below.

1. Does the change involve a significant increase in the probability of occurrence or consequences of an accident previously evaluated?

The proposed change does not affect any accident initiators or precursors. As such, the proposed change does not increase the probability of an accident. The proposed change does not affect the ability of the AFW system to mitigate the consequences of an accident. By ensuring the required flowrates are preserved, accident consequences are not increased.

Therefore, the probability of occurrence or consequences of accidents previously evaluated are not significantly increased.

2. Does the change create the possibility of a new or different kind of accident from any accident previously analyzed?

The proposed change does not involve a physical alteration in the AFW system or a change to the way the system is operated; however, such changes would be permitted under 10 CFR 50.59, as described above. Consequently, no new failure modes, malfunctions, or system interactions are created.

Therefore, the possibility of a new or different kind of accident from any accident previously analyzed is not created.

3. Does the change involve a significant reduction in a margin of safety?

The AFW system is used after certain accidents to remove decay heat and reduce reactor coolant system temperature to less than 350°F, when the residual heat removal system may be placed into operation. This function mitigates the consequences of an accident that could result in overpressurization of the reactor coolant pressure boundary. The proposed change does not affect the ability of the AFW system to perform this function. Future changes would be allowed via 10 CFR 50.59, as described above. Changes to the position of the automatic AFW system valves would impact AFW system flow following an accident. Requiring AFW system valves to be in the correct position ensures flow is provided in a manner consistent with the accident analyses assumptions.

The proposed change does not impact the ability of the AFW system to mitigate the consequences of an accident. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

In summary, based upon the above evaluation, I&M has concluded that the proposed amendment involves no significant hazards consideration.

ATTACHMENT 5 TO C1000-09

ENVIRONMENTAL ASSESSMENT

Indiana Michigan Power Company (I&M) has evaluated this license amendment request against the criteria for identification of licensing and regulatory actions requiring environmental assessment in accordance with 10 CFR 51.21. I&M has determined that this license amendment request meets the criteria for a categorical exclusion set forth in 10 CFR 51.22(c)(9). This determination is based on the fact that this change is being proposed as an amendment to a license issued pursuant to 10 CFR 50 that changes a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or that changes an inspection or a surveillance requirement, and the amendment meets the following specific criteria.

- (i) The amendment involves no significant hazards consideration.

As demonstrated in Attachment 4, the amendment does not involve a significant hazards consideration.

- (ii) There is no significant change in the types or significant increase in the amounts of any effluent that may be released offsite.

The proposed change involves a revision to the description of automatic valve positions in the auxiliary feedwater system in Technical Specification surveillance requirement 4.7.1.2.d. Physical changes to system configuration or operation are not being proposed; however, such changes would be permitted via 10 CFR 50.59, as described above. Therefore, there will be no significant change in the types or significant increase in the amounts of any effluents released offsite.

- (iii) There is no significant increase in individual or cumulative occupational radiation exposure.

The proposed change will not result in significant changes in the operation or configuration of the facility. There will be no change in the level of controls or methodology used for processing of radioactive effluents or handling of solid radioactive waste, nor will the proposal result in any change in the normal radiation levels within the plant. Therefore, there will be no significant increase in individual or cumulative occupational radiation exposure resulting from this change.