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 GIESLER, C.W. Wisconsin Public Service Corp.
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SUBJECT: Forwards Rev 1 to 830506 proposed change to Tech Specs
 correcting potential deficiency re containment cooling sys
 operability.

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WISCONSIN PUBLIC SERVICE CORPORATION


P.O. Box 1200, Green Bay, Wisconsin 54305

May 27, 1983

Director of Nuclear Reactor Regulation
 Attention: Mr. S. A. Varga, Chief
 Operating Reactors Branch No. 1
 Division of Licensing
 U.S. Nuclear Regulatory Commission
 Washington, D.C. 20555

Dear Mr. Varga:

Docket 50-305
 Operating License DPR-43
 Kewaunee Nuclear Power Plant
Containment Cooling System Operability

- References:
- 1) Letter to C. W. Giesler of WPSC from S. A. Varga of the NRC dated March 7, 1983
 - 2) Letter to All Power Reactor Licensees from D. G. Eisenhut of the NRC dated April 10, 1980
 - 3) Letter to D. G. Eisenhut of the NRC from E. R. Mathews of WPSC dated December 23, 1980
 - 4) Letter to S. A. Varga of the NRC from C. W. Giesler of WPSC dated May 6, 1983

Reference 1 transmitted an NRC evaluation which proposed a change to the Kewaunee Nuclear Power Plant (KNPP) Technical Specifications (TS 3.3.b.2) to correct a potential deficiency in regards to containment cooling system operability. After reviewing our response to your letter in more detail (reference 4) we discovered an error in our stated interpretation of the KNPP Technical Specifications. However, this error does not change the conclusion reached in our earlier response (no deficiency exists). Please find our revised response attached.

Very truly yours,

A handwritten signature in cursive script that reads "Carl W. Giesler".

C. W. Giesler
 Vice President - Nuclear Power

js
 Attach.

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cc - Mr. Robert Nelson, US NRC

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Attachment to Letter from C. W. Giesler
To S. A. Varga

Dated May 27, 1983

Containment Cooling System Operability
Revision 1

Containment Cooling System Operability

On March 7, 1983, we received an NRC evaluation which proposed a change to the KNPP Technical Specifications (TS 3.3.b.2) to correct a potential deficiency in regards to containment cooling system operability. This evaluation stated:

This Technical Specification is deficient in that it allows taking a fan-coil out of service for 7 days, and not demonstrating operability of the remaining fan-coils or the containment spray pumps. It also allows taking a containment spray (sic) out of service while one fan-coil is out of service with no demonstration of the operability of the remaining spray pump. With one fan-coil and one spray pump out of service and the single failure of the remaining spray pump, the plant is left with only 3 fan-coils to prevent overpressurization of the containment. This is not in accordance with the design basis as stated in the UFSAR.

This raises the issue of the definition of the term OPERABLE and how it applies to the single failure criterion for safety systems, which was previously addressed in references 2 and 3.

The KNPP Technical Specifications (TS 1.0.e) define the term "operable" as:

A system or component is operable when it is capable of performing its intended function within the required range. The system or component shall be considered to have this capability when: (1) it satisfies the Limiting Conditions for Operation defined in Specification 3, and (2) it has been tested periodically in accordance with Specification 4 and has met its performance requirements.

The containment cooling systems at the KNPP were designed to satisfy the single failure criterion as were the support and interconnected systems (10CFR50, Appendix A, Criterion 38, "Containment Heat Removal").^{1, 2} The Limiting Condition for Operation (LCO) specified in TS 3.3.b.1 preserves this criterion by requiring all of the system components to be operable (i.e., capable of performing their intended function).

TS 3.3.b.2 does allow one containment spray pump and one containment fan coil unit to be out-of-service at the same time. However, the application of the single failure criterion during this period is inappropriate. Reference 2 states, in part:

When the required redundancy is not maintained, either due to equipment failure or maintenance outage, action is required, within a specified

¹UFSAR Section 6.3.3

²UFSAR Section 6.4.4

time, to change the operating mode of the plant to place it in a safe condition. The specified time to take action, usually called the equipment out-of-service time, is a temporary relaxation of the single failure criterion, which, consistent with overall system reliability considerations, provides a limited time to fix equipment or otherwise make it OPERABLE.

Therefore, sufficient heat removal capability, three containment fan coil units and one containment spray pump, is still considered to be available which is in accordance with the design basis as stated in the UFSAR.

It should also be noted that the existing Technical Specifications for the containment cooling systems are more conservative than Standard Technical Specifications which allow one containment spray pump and two containment fan coil units to be out-of-service at the same time.

The objective of the surveillance requirements in Sections 4.1 and 4.5 of the Technical Specifications is to ensure that the containment cooling systems will respond and perform their design function, if required. The operability of the Containment Spray System is demonstrated by periodic tests. A complete system test cannot be performed during reactor operation because it requires both trains to be temporarily taken out-of-service. Therefore, operability is assured by performing system tests during refueling outages and more frequent component tests (monthly or quarterly) during reactor operation. In particular, the containment spray pumps are tested on recirculation flow monthly during power operation and within one week after the plant is returned to power if the test was not performed during a plant shutdown.

During reactor operation, at least three of the four fan coil units in the Containment Air Cooling System are normally running.³ Therefore, they are continuously monitored for satisfactory performance. In addition, each fan coil unit is tested quarterly to verify the proper operation of the motor-operated service water outlet valves.

These testing frequencies ensure, with a high reliability, that the systems will function properly if required to do so. This is shown historically by the low failure rate of the system components. WPSC believes that more frequent testing would not significantly increase the reliability of these systems but would unnecessarily challenge them resulting in increased wear over a long period of time.

Based on the above evaluation, we conclude that no deficiency exists in the containment cooling systems specification and that no modifications are required. However, a revised Containment Cooling Systems Technical Specification which will be consistent with Standard Technical Specifications will be submitted as a part of Proposed Amendment No. 55.

³UFSAR Section 6.3.2