



June 16, 2005

NRC-05-075
10 CFR 50.90

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Kewaunee Nuclear Power Plant
Docket 50-305
License No. DPR-43

License Amendment Request 216 To The Kewaunee Nuclear Power Plant Technical Specifications: Containment Cooling System Suction Flow Path

Pursuant to 10 CFR 50.90 Nuclear Management Company, LLC (NMC) requests Nuclear Regulatory Commission (NRC) expeditious review and approval of a proposed license amendment request (LAR) for the Kewaunee Nuclear Power Plant. NMC proposes a Technical Specification (TS) change to modify the containment spray pump suction flow path requirements. The proposed change revises TS 3.3.c.1.A.1.(ii), "Containment Cooling System." NMC has evaluated this proposed change in accordance with 10 CFR 50.92 and concluded that the change involves a no significant hazards consideration.

Enclosure 1 provides a detailed description of the proposed change, background and technical analysis, No Significant Hazards Consideration Determination, and Environmental Review Consideration. Enclosure 2 provides the revised TS page reflecting the proposed change. Enclosure 3 provides the annotated TS page showing the change proposed. No changes are necessary to the TS Bases pages for TS Section 3.3.

NMC requests approval of the proposed amendment by July 18, 2005. The license amendment will be implemented upon approval.

In accordance with 10 CFR 50.91, NMC is notifying the State of Wisconsin of this LAR by transmitting a copy of this letter and attachments to the designated state official.

Summary of Commitments

This letter contains no new commitment and no revisions to existing commitments.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on June 16, 2005.



Michael G. Gaffney
Site Vice President, Kewaunee Nuclear Power Plant
Nuclear Management Company

Enclosures (3)

cc: Administrator, Region III, USNRC
Senior Resident Inspector, Kewaunee, USNRC
Project Manager, Kewaunee, USNRC
Public Service Commission of Wisconsin

ENCLOSURE 1

NUCLEAR MANAGEMENT COMPANY, LLC, EVALUATION OF LICENSE AMENDMENT REQUEST 216 TO KEWAUNEE NUCLEAR POWER PLANT, OPERATING LICENSE NO. DPR-43, DOCKET NO. 50-305

- 1.0 DESCRIPTION
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- 3.0 BACKGROUND
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- 6.0 ENVIRONMENTAL CONSIDERATION

1.0 DESCRIPTION

This license amendment request (LAR) is to amend Operating License DPR-43 for the Kewaunee Nuclear Power Plant (KNPP).

The Nuclear Management Company, LLC (NMC) requests Nuclear Regulatory Commission (NRC) review and approval of the proposed change to Technical Specifications (TS) 3.3.c.1.A.1.(ii), "Containment Cooling System." This proposed change removes the requirement that the containment spray pumps must be capable of taking a suction from the containment sump. Containment Spray capability during the recirculation phase is no longer required in response to the large-break loss of coolant accident (LOCA) Design Basis Accident (DBA).

2.0 PROPOSED CHANGE

A brief description of the proposed TS change is provided below along with a discussion of the justification for the change. The specific change to the TS is provided in Enclosures 2 and 3.

NMC is requesting the following change be made to the KNPP TS for the containment cooling system:

TS 3.3.c.1.A.1.(ii): Delete the words "and from the containment sump" from the last sentence.

This change will allow the containment spray function to be terminated following the post-LOCA emergency core cooling system (ECCS) injection phase. This change is

necessary to prevent postulated residual heat removal pump (RHR) runout if the containment spray pump continues to run during the post-LOCA recirculation phase.

The KNPP TS Bases do not provide detail regarding the suction options for the containment spray pumps. Therefore, the TS Bases for Section 3.3 do not require revision.

In summary, this TS change provides a clarification of the operability requirements for the containment spray pumps based on the current design and licensing basis.

3.0 BACKGROUND

The containment spray system provides three functions in response to a design basis large break LOCA: iodine removal; pH control; and containment cooling. The containment spray system delivers water from the Refueling Water Storage Tank (RWST) mixed with the contents of the Caustic Addition Tank to “scrub” the containment atmosphere of iodine and particulates. Caustic is added to neutralize the sump mixture for chloride stress corrosion concerns. The caustic addition is accomplished during the RWST injection phase. The containment spray system also functions to maintain containment pressure and temperature within design limits during the large break LOCA DBA. The peak pressure and temperature in containment following a large break LOCA occurs very early in the transient and does not require containment spray during the recirculation phase to suppress peak values.

The post-LOCA emergency core cooling is provided by the safety injection (SI) system which comprises high head safety injection provided by the SI pumps and low head safety injection (LHSI) provided by the RHR pumps. During the post-LOCA recirculation phase, the RHR pumps are capable of taking suction from the containment sump and providing suction to the SI pumps and the containment spray pumps.

The TS issued with the original plant operating license in December 1973, did not contain any specific requirements for the supply source of the containment spray pumps. In February 1983, the NRC requested that Wisconsin Public Service Corporation (WPSC) (WPSC was the KNPP operating entity prior to 2001 when NMC became the operating entity) perform an evaluation of their TS compared to the Standard Technical Specifications (STS), NUREG-0452, Revision 4. WPSC responded on May 24, 1983 and stated that KNPP was consistent with the Westinghouse STS but that they would revise portions of their TS to incorporate the STS instruction to eliminate certain ambiguities. In 1985, the NRC issued TS Amendment 63 which restated the containment spray operability requirements which specifically included a flow path from the containment sump.

On May 15, 1990 WPSC submitted an LAR to implement more stringent availability criteria for the containment spray pumps. This LAR was in response to results from the 1989 Control Room Habitability Study which credited iodine removal by containment

spray in order to achieve acceptable dose results. On October 16, 1990, the NRC issued TS Amendment 88 which required both containment spray pumps to be operable for the purpose of iodine removal. Prior to this amendment, no credit for scrubbing of the post-LOCA containment atmosphere had been taken in the radiological accident analyses.

On March 19, 2002, NMC submitted an LAR to incorporate the Alternate Source Term (AST) methodology from Regulatory Guide 1.183 into the licensing basis for KNPP. The application was supported by a Westinghouse Engineering Report which evaluated the radiological consequences of the KNPP DBAs. In the report, the containment spray assumptions for the large-break LOCA evaluation were based on minimum safeguards and no credit was taken for recirculation of containment spray. This LAR did not request any specific TS changes, however, the supporting Westinghouse Engineering Report did state that the report supported various changes to the KNPP design and operation; one of these changes was the "Removal of the requirement for recirculation sprays in containment following a large break LOCA, for radiological concerns." (The term "recirculation sprays" refers to operation of the containment spray system during the post-LOCA recirculation phase.)

On March 17, 2003, the NRC issued TS Amendment 166 approving the NMC request to apply AST methodology. In the supporting Safety Evaluation (SE), the NRC acknowledged the use of minimal safeguards in the large-break LOCA evaluation and that the containment spray pumps were manually aligned to the containment sump for recirculation when the RWST reached its pre-set low level. The NRC also specifically acknowledged "...The licensee assumed fission product removal by the CSS [containment spray system] during only initial spray operation and conservatively assumed no fission product removal during recirculation phase." The resulting radiological effects (doses) were all within the relevant criteria specified in 10 CFR 50.67 and Standard Review Plan (SRP) 15.0.1, and were concluded to be acceptable.

Finally, on May 22, 2003, NMC submitted an application to the NRC for stretch power rating for KNPP. The DBAs were re-analyzed to support the power uprate effort. As with the AST submittal, the radiological consequences of the large break LOCA were conservatively determined with minimum safeguards (only one containment spray pump) and no credit taken for containment spray capability during the recirculation phase. The stretch power rating was approved by the NRC on February 27, 2004 with the issuance of TS Amendment 172. Per the LOCA analysis inputs, no credit for fission product removal was taken for containment spray in the recirculation phase. This was again acknowledged in the NRC Safety Evaluation for Amendment 172.

Containment cooling is accomplished by means of four (4) fancoil units and two (2) containment spray trains. The Updated Safety Analysis Report (USAR) states that adequate cooling during the injection phase of a large break LOCA can be achieved by either:

- All 4 fancoil units,

- One train of containment spray and two fancoils.

The USAR also states that normally the containment spray system is not used in recirculation mode after the injection phase. The USAR states that after the injection phase, two fancoil units are adequate to maintain containment below its design pressure and temperature in the post-LOCA condition. Containment spray aligned in the recirculation mode is not required by LOCA containment integrity analyses; however, it may be used provided LHSI throttling capability is available.

4.0 TECHNICAL ANALYSIS

KNPP is a single unit plant located on the west bank of Lake Michigan approximately 10 miles from Kewaunee, Wisconsin. The facility is owned by WPSC and Wisconsin Power and Light Company and operated by the Nuclear Management Company (NMC). The unit at KNPP employs a two-loop pressurized water reactor designed and supplied by Westinghouse Electric Corporation. The initial KNPP application for a Construction Permit and Operating License was submitted to the Atomic Energy Commission (AEC) in August 1967. The Final Safety Analysis Report (FSAR) was submitted for application of an Operating License in January 1971. KNPP began commercial operation in December 1973.

The KNPP was designed and constructed to comply with WPSC's understanding of the intent of the AEC General Design Criteria (GDC) for Nuclear Power Plant Construction Permits, as proposed on July 10, 1967. KNPP was not licensed to NUREG-0800, "Standard Review Plan (SRP)."

Containment Spray System Design

The containment spray system, whose components operate in sequential modes, provides adequate containment cooling and caustic addition. These modes are:

- a. A portion of the contents of the RWST and the caustic additive standpipe are sprayed into the containment atmosphere using the containment spray pumps in the injection phase.
- b. Water is recirculated through the containment spray pumps by diverting a portion of the recirculation flow from the discharge of the RHR heat exchangers to the suction of the containment spray pumps after injection from the RWST has been terminated.

The principal components of the containment spray system, which provide containment cooling and iodine removal following a loss-of-coolant accident, are two pumps, spray ring headers and nozzles, caustic additive standpipe, and the necessary piping and valves. The containment spray pumps are located in the Auxiliary Building and take suction directly from the RWST and the caustic additive standpipe.

The containment spray system also utilizes the two RHR pumps, two RHR heat exchangers, and associated valves and piping of the SI system during long-term recirculation.

The containment spray system is actuated by the coincidence of three sets of one out of two hi-hi containment pressure signals. This starting signal will start the pumps; open the discharge valves to the spray headers and open the caustic standpipe discharge valves. If required, the operator can manually actuate the system from the control room, and periodically, the operator can actuate system components to demonstrate operability.

The 300 gallons of 30 % by weight NaOH solution is located in a standpipe alongside the RWST. Redundant valve trains provide alternative flow paths for the caustic solution. Redundant level indicators are also provided with one of the trains providing a level readout located in the control room so that flow can be monitored. A gravity feed arrangement is used to assure caustic flow under all operating conditions.

The system design conditions were selected to be compatible with those of the low-pressure injection system, since both of these systems can be inter-tied in the recirculation mode of safety injection.

Current TS, Licensing Basis and Problem Definition

The current KNPP TS 3.3.c.1.A.1.(ii) requires:

“An OPERABLE flow path consisting of all valves and piping associated with the above (containment spray) train of components and required to function during accident conditions. This flow path shall be capable of taking suction from the Refueling Water Storage Tanks and from the containment sump.”

However, it has been determined that without the ability to limit low head safety injection flow from the RHR pump following a large break LOCA, a runout condition on the RHR pump might occur if run concurrently with containment spray system in the recirculation mode. This condition would only occur if the ability to throttle the injection flow were lost by the failure of a Class II control system to the RHR heat exchanger Flow Control valves (RHR-8A/B). Although the containment spray system is not required in the recirculation mode, the requirement that it must be available, coupled with the fact that it is potentially detrimental to the LOCA accident response, is imposing an operability challenge in TS. Procedure changes would remove the potential detrimental scenario regarding the containment spray pumps but currently such changes are not consistent with the existing verbiage in TS 3.3.c.1.A.1.(ii). The proposed solution is to remove reference to the containment spray suction from the containment sump consistent with the current large break LOCA licensing basis.

The containment spray system recirculation mode would still be available for use as long as the RHR-8A/B valves were available to throttle RHR pump injection flow prior to supplying suction to the containment spray pumps.

Proposed TS and Licensing Basis Changes and Problem Resolution

NMC's review of the containment spray system performance identified only one issue which requires resolution, that is, the potential runout of a RHR pump while performing the low head safety injection function and providing suction to a containment spray pump during the post-LOCA recirculation phase.

Runout Protection

NMC determined that runout protection in this case can be accomplished within the RWST changeover procedures by prohibiting the use of the containment spray system in the recirculation mode if the ability to throttle the flow being injected into the RCS loops is lost. This is an acceptable resolution since containment spray is not required (by analysis) to be used for fission product scrubbing during recirculation. Analysis has also determined that the containment spray system is not needed for pressure or temperature control after the RHR suction has been switched to the containment sump.

Conclusions

NMC has determined that the proposed TS change will assure that the RHR pumps will remain available to perform their required low head safety injection design safety function. Operation of the Kewaunee Nuclear Power Plant with the revised TS will continue to protect the health and safety of the public.

5.0 REGULATORY SAFETY ANALYSIS

5.1 No Significant Hazards Consideration

The Nuclear Management Company, LLC proposes a Technical Specification change to modify the containment cooling system containment spray operability requirements. The proposed change is to Technical Specification 3.3.c.1.A.1.(ii).

NMC has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

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

Response: No.

The proposed amendment does not involve a significant increase in the probability of an accident previously evaluated. The proposed change is associated with the containment spray system, which is not an initiator of any accident previously evaluated.

The proposed amendment does not involve a significant increase in the consequences of an accident previously evaluated. The mitigation functions assumed in the design basis accident analyses will continue to be performed.

Therefore, operation of the facility in accordance with the proposed amendment would not involve a significant increase in the probability or consequences of any accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

No system modifications or new systems are associated with the proposed amendment. Therefore, no new failure modes or effects are introduced. The removal of the requirement to have a containment spray flow path from the containment sump during containment sump recirculation is consistent with the approved accident analysis. Therefore, the possibility that a new or different kind of accident would be created either with the containment spray system or the related residual heat removal system does not exist.

Therefore, operation of the facility in accordance with the proposed amendment does not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No.

The proposed amendment does not alter the intended functions of the containment spray system as defined in the current approved accident analysis. The margins associated with the evaluation of the radiological consequences of the large break loss of coolant accident are unchanged since the proposed change is consistent with the approved analysis assumptions.

Therefore, the proposed amendment does not involve a significant reduction in a margin of safety.

Based on the evaluation above, NMC concludes that the proposed amendment presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

5.2 Applicable Regulatory Requirements/Criteria

10 CFR 50.36

10 CFR 50.36 (c)(2) provides the following criteria for items which must be included in the plant Technical Specifications:

(ii) A technical specification limiting condition for operation of a nuclear reactor must be established for each item meeting one or more of the following criteria:

(A) *Criterion 1.* Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.

(B) *Criterion 2.* A process variable, design feature, or operating restriction that is an initial condition of a design basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

(C) *Criterion 3.* A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.

(D) *Criterion 4.* A structure, system, or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

This license amendment request proposes to remove the Technical Specification requirement that the containment spray pumps must be capable of taking a suction from the containment sump. The containment spray system is an Engineered Safety Features system which mitigates the consequences of design basis accidents.

The containment spray system does not detect degradation of the reactor coolant pressure boundary and therefore, Criterion 1 does not apply to the changes proposed in this license amendment request.

The containment spray system is not a process variable, design feature or operating restriction that is an initial condition of a design basis accident and

therefore, Criterion 2 does not apply to the changes proposed in this license amendment request.

The containment spray system is a system that is part of the primary success path and which functions or actuates to mitigate a design basis accident. With the changes proposed in this license amendment request, the Technical Specifications will continue to require two trains of containment spray to be operable with an operable flow path capable of taking suction from the refueling water storage tank for each train.

Since operation of the containment spray system while taking suction from the containment sump is not credited in the safety analyses, the current Technical Specification requirement to provide containment spray pump suction from the containment sump is not part of the primary success path to mitigate a design basis accident. Therefore, the current Technical Specification requirement is, in accordance with the requirements of Criterion 3, not required to remain in the Technical Specifications.

The remaining Technical Specification requirements assure that the containment spray function credited in the accident safety analyses continues to be provided. Thus the Criterion 3 Technical Specification requirements are met without the flow path from the containment sump.

The Technical Specification requirement that the containment spray pumps must be capable of taking a suction from the containment sump is not a system or component which operating experience or probabilistic risk assessment has shown to be significant to public health or safety and therefore, Criterion 4 does not apply to the changes proposed in this license amendment request.

With the changes proposed in this license amendment request, the requirements of 10 CFR 50.36 are met.

General Design Criteria Evaluation

The US Atomic Energy Commission (AEC) issued their Safety Evaluation (SE) of the Kewaunee Nuclear Power Plant on July 24, 1972, with supplements dated December 18, 1972 and May 10, 1973. The AEC's SE, Section 3.1, "Conformance with AEC General Design Criteria," described the conclusions the AEC reached associated with the General Design Criteria (GDC) in effect at the time. The AEC stated:

The Kewaunee plant was designed and constructed to meet the intent of the AEC's General Design Criteria, as originally proposed in July 1967. Construction of the plant was about 50% complete and the Final Safety Analysis Report (Amendment No. 7) had been filed with the Commission before publication of the revised General Design Criteria in February 1971 and the present version of the

criteria in July 1971. As a result, we did not require the applicant to reanalyze the plant or resubmit the FSAR. However, our technical review did assess the plant against the General Design Criteria now in effect and we are satisfied that the plant design generally conforms to the intent of these criteria.

As such the appropriate AEC General Design Criteria from the Final Safety Analysis (Amendment 7), which has been updated and now titled the Updated Safety Analysis Report (USAR) are listed below.

The containment spray system is an Engineered Safety Feature system at the Kewaunee Nuclear Power Plant. AEC GDC 37 and 41 provide design guidance for emergency core cooling system capability.

AEC GDC 37 - Engineered safety features shall be provided in the facility to back up the safety provided by the core design, the reactor coolant pressure boundary, and their protection systems. Such engineered safety features shall be designed to cope with any size reactor coolant piping break up to and including the equivalent of a circumferential rupture of any pipe in that boundary, assuming unobstructed discharge from both ends.

Answer: The Containment System, the Containment Isolation System, the Emergency Core Cooling System, the Special Zone Ventilation Systems, the Containment Vessel Internal Spray System, the Auxiliary Feedwater System, the diesel generators, and the station batteries comprise the Engineered Safety Features for the facility. These systems and their supporting systems (Component Cooling System and Service Water System) are designed to cope with any size reactor coolant pressure boundary break, up to and including rupture of the largest reactor coolant pipe.

Specifically, the Technical Specification changes proposed in this license amendment assure that the residual heat removal pumps will continue to perform their post loss-of-coolant-accident safety functions. Depending on the accident assumptions, the residual heat removal pumps may be required to provide low head safety injection or provide suction to the safety injection pumps for high head injection during the post accident recirculation phase. The proposed changes remove the Technical Specification requirement to also provide suction to the containment spray pumps which may challenge the capability of the residual heat removal pumps under some conditions. With these changes continued operation of the residual heat removal pumps is assured. Analyses do not credit operation of the containment spray pumps during the recirculation phase, thus the safety function of the containment spray system also continues to be performed. With the

changes proposed in this license amendment request, the requirements of this Criterion continue to be met.

AEC GDC 41 - Engineered safety features, such as the emergency core cooling system and the containment heat removal system, shall provide sufficient performance capability to accommodate the failure of any single active component without resulting in undue risk to the health and safety of the public.

Answer: All engineered safety features including the low head safety injection and containment spray systems provide sufficient performance capability to accommodate any single failure of an active component and still function in a manner to avoid undue risk to the health and safety of the public. The Technical Specification changes proposed in this license amendment request will assure that the emergency core cooling system will continue to provide its required cooling function during the post loss-of-coolant- accident recirculation phase. The containment spray system safety function is completed prior to the recirculation phase and thus the containment spray system will also continue to perform its required safety function. With the changes proposed in this license amendment request, the requirements of this Criterion continue to be met.

Based on the review of the applicable general design criteria, the safety injection system and containment spray system, as modified, continue to meet these general design criteria.

NUREG-0800, Standard Review Plan

Although the Kewaunee Nuclear Power Plant is not committed to NUREG-0800, the plant-specific containment spray system designs were evaluated against NUREG-0800, "Standard Review Plan," for applicable guidance. Specifically, the containment spray system design was evaluated against the following NUREG-0800 sections: "Standard Review Plan," Section 6.5.3, "Fission Product Control Systems and Structures." The Nuclear Management Company concluded that the proposed Technical Specification change for the containment spray system does not contradict the intent of NUREG-0800 guidance.

Improved Standard Technical Specification Comparison

NMC has not converted the Kewaunee Nuclear Power Plant Technical Specifications to conform to the format and guidance of NUREG-1431, Standard Technical Specifications, Westinghouse Plants, (ISTS). However, NUREG-1431 was consulted for applicable guidance. The ISTS Section 3.6.6A, "Containment Systems," is the corresponding ISTS section to the KNPP TS 3.3.c.1.A.1.(ii) for

the containment spray system. NMC concluded that the proposed Technical Specification change for the containment spray system does not contradict the intent and guidance of NUREG-1431.

Regulatory Requirements/Criteria Conclusions

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

6.0 ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would remove a requirement with respect to use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluent that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

ENCLOSURE 2

**NUCLEAR MANAGEMENT COMPANY, LLC,
MARKED UP TS PAGE FOR LICENSE AMENDMENT REQUEST 216 TO
KEWAUNEE NUCLEAR POWER PLANT, OPERATING LICENSE NO. DPR-43,
DOCKET NO. 50-305**

Marked Up TS Page:

TS 3.3-4

1 page follows

c. Containment Cooling Systems

1. Containment Spray and Containment Fancoil Units

A. The reactor shall not be made critical unless the following conditions are satisfied, except for LOW POWER PHYSICS TESTS and except as provided by TS 3.3.c.1.A.3.

1. Two containment spray trains are OPERABLE with each train comprised of:

(i) ONE containment spray pump.

(ii) An OPERABLE flow path consisting of all valves and piping associated with the above train of components and required to function during accident conditions. This flow path shall be capable of taking suction from the Refueling Water Storage Tank ~~and from the containment sump.~~

2. TWO trains of containment fancoil units are OPERABLE with two fancoil units in each train.

3. During power operation or recovery from inadvertent trip, any one of the following conditions of inoperability may exist during the time intervals specified. If OPERABILITY is not restored within the time specified, then within 1 hour action shall be initiated to:

- Achieve HOT STANDBY within the next 6 hours.
- Achieve HOT SHUTDOWN within the following 6 hours.
- Achieve COLD SHUTDOWN within an additional 36 hours.

(i) One containment fancoil unit train may be out of service for 7 days provided the opposite containment fancoil unit train remains OPERABLE.

(ii) One containment spray train may be out of service for 72 hours provided the opposite containment spray train remains OPERABLE.

(iii) The same containment fancoil unit and containment spray trains may be out of service for 72 hours provided their opposite containment fancoil unit and containment spray trains remain OPERABLE.

ENCLOSURE 3

**NUCLEAR MANAGEMENT COMPANY, LLC,
AFFECTED TS PAGE FOR LICENSE AMENDMENT REQUEST 216 TO
KEWAUNEE NUCLEAR POWER PLANT, OPERATING LICENSE NO. DPR-43,
DOCKET NO. 50-305**

Affected TS Page:

TS 3.3-4

1 page follows

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A. The reactor shall not be made critical unless the following conditions are satisfied, except for LOW POWER PHYSICS TESTS and except as provided by TS 3.3.c.1.A.3.

1. Two containment spray trains are OPERABLE with each train comprised of:
 - (i) ONE containment spray pump.
 - (ii) An OPERABLE flow path consisting of all valves and piping associated with the above train of components and required to function during accident conditions. This flow path shall be capable of taking suction from the Refueling Water Storage Tank.
2. TWO trains of containment fancoil units are OPERABLE with two fancoil units in each train.
3. During power operation or recovery from inadvertent trip, any one of the following conditions of inoperability may exist during the time intervals specified. If OPERABILITY is not restored within the time specified, then within 1 hour action shall be initiated to:
 - Achieve HOT STANDBY within the next 6 hours.
 - Achieve HOT SHUTDOWN within the following 6 hours.
 - Achieve COLD SHUTDOWN within an additional 36 hours.
 - (i) One containment fancoil unit train may be out of service for 7 days provided the opposite containment fancoil unit train remains OPERABLE.
 - (ii) One containment spray train may be out of service for 72 hours provided the opposite containment spray train remains OPERABLE.
 - (iii) The same containment fancoil unit and containment spray trains may be out of service for 72 hours provided their opposite containment fancoil unit and containment spray trains remain OPERABLE.