AUG 16 2007

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10 CFR 50.90

U S Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Prairie Island Nuclear Generating Plant Unit 1
Docket 50-282
License No. DPR-42

License Amendment Request (LAR) to Increase the Unit 1 Emergency Diesel Generators' (EDG) Monthly Test Load

References: 1) Supplement to License Amendment Request (LAR) For Extension Of Technical Specification (TS) 3.8.1, "AC Sources-Operating," Emergency Diesel Generator Completion Time (TAC Nos. MC9001 and MC9002), dated May 10, 2007, Accession No. ML071310108.

Pursuant to 10 CFR 50.90, the Nuclear Management Company, LLC (NMC) hereby requests an amendment to the Technical Specifications (TS) for the Prairie Island Nuclear Generating Plant (PINGP) Unit 1 to revise Surveillance Requirement (SR) 3.8.1.3 to require testing at or above 2500 kW. This LAR fulfills the commitment made in Reference 1 to submit an LAR by August 31, 2007 which will require the Unit 1 monthly Emergency Diesel Generators load test (SR 3.8.1.3) to be performed at or above 90% of the diesel generator's continuous power rating. NMC has evaluated the proposed changes in accordance with 10 CFR 50.92 and concluded that they involve no significant hazards consideration.

The enclosure to this letter contains the licensee's evaluation of the proposed changes.

NMC requests approval of this LAR within one calendar year of the submittal date. Upon NRC approval, NMC requests 90 days to implement the associated changes. In accordance with 10 CFR 50.91, NMC is notifying the State of Minnesota of this LAR by transmitting a copy of this letter and enclosure to the designated State Official.

If there are any questions or if additional information is needed, please contact Mr. Dale Vincent, P.E., at 1-651-388-1121, extension 4107.

Summary of Commitments

This letter contains no new commitments and no revisions to existing commitments. This LAR fulfills a commitment made in Reference 1.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on AUG 16 2007

Michael D. Wadley
Site Vice President, Prairie Island Nuclear Generating Plant Units 1 and 2
Nuclear Management Company, LLC

Enclosure: Evaluation of Proposed Changes

cc: Administrator, Region III, USNRC
Project Manager, Prairie Island, USNRC
Resident Inspector, Prairie Island, USNRC
State of Minnesota

ENCLOSURE

Evaluation of the Proposed Changes

License Amendment Request (LAR) to Increase the Unit 1 Emergency Diesel Generators' (EDG) Monthly Test Load

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ATTACHMENTS:

1. Technical Specification Pages (Markup)
2. Bases Pages (Markup) (For information only)
3. Technical Specification Pages (Retyped)

1. SUMMARY DESCRIPTION

This LAR is a request to amend Operating License DPR-42 for Prairie Island Nuclear Generating Plant (PINGP) Unit 1.

The Nuclear Management Company, LLC (NMC) requests Nuclear Regulatory Commission (NRC) review and approval of proposed revisions to Technical Specification (TS) 3.8.1, "AC Sources-Operating", Surveillance Requirement (SR) 3.8.1.3 which will increase the Unit 1 EDG's test load to 2500 kW. The Technical Specifications, with the revisions proposed in this LAR, meet applicable regulatory guidance.

2. DETAILED DESCRIPTION

2.1 Proposed Changes

Brief descriptions of the associated proposed TS changes are provided below along with discussions of the justification for each change. The specific wording changes to the TS are provided in Attachments 1 and 3 to this enclosure.

> **TS 3.8.1, "AC Sources-Operating":** This LAR proposes to revise SR 3.8.1.3 to require testing the Unit 1 EDGs at or above 2500 kW. This change is acceptable because this test load is consistent with the guidance of Regulatory Guide (RG) 1.9, "Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants" (RG 1.9), is greater than the calculated load these diesel generators would be challenged with during a Unit 1 design basis loss of coolant accident coincident with a loss of offsite power, and is less than the continuous rating of these EDGs.

Although Bases changes are not a part of this LAR, Attachment 2 to this enclosure includes marked up Bases pages for information. The changes proposed in Attachment 2 are directly related to the changes proposed to TS 3.8.1.

In summary these changes are acceptable because they are consistent with current regulatory guidance.

2.2 Background

Currently SR 3.8.1.3 requires the Unit 1 EDGs to be tested every 31 days at or above 1650 kW which is below the calculated load these diesel generators would be challenged with during a Unit 1 design basis loss of coolant accident coincident with a loss of offsite power and is not consistent with current regulatory guidance. In Reference 1, NMC committed to submit an LAR to increase the Unit 1 EDG TS-required minimum monthly test load at or above 90% of the continuous rating which is

consistent with regulatory guidance. This LAR is submitted in fulfillment of the NMC commitment.

With the TS changes proposed in this LAR the plant will continue to operate safely and the health and welfare of the public is protected.

3. TECHNICAL EVALUATION

PINGP is a two unit plant located on the right bank of the Mississippi River approximately 6 miles northwest of the city of Red Wing, Minnesota. The facility is owned by Northern States Power Company (NSP) and operated by NMC. Each unit at PINGP employs a two-loop pressurized water reactor designed and supplied by Westinghouse Electric Corporation. The initial PINGP application for a Construction Permit and Operating License was submitted to the Atomic Energy Commission (AEC) in April 1967. The Final Safety Analysis Report (FSAR) was submitted for application of an Operating License in January 1971. Unit 1 began commercial operation in December 1973 and Unit 2 began commercial operation in December 1974.

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

Unit 1 EDG Description

The Unit 1 EDGs, D1 and D2, are Fairbanks-Morse opposed piston EDGs which provide onsite standby power sources for the 4160 Volt safeguards buses 15 and 16. These EDGs are each rated at 2750 kW continuous (8750 hour basis), 0.8 power factor, 900 rpm, 4160 Volt, three phase, 60 Hertz, synchronous generators. The 1000 hour rating of each EDG is 3000 kW. The 30 minute rating of each unit is 3250 kW maximum.

Current TS Requirements and Basis

SR 3.8.1.3 requires that every 31 days:

> Verify each DG [diesel generator] is synchronized and loaded and operates for $\geq$ 60 minutes at a load:
>
> a. Unit 1; $\geq$ 1650 kW; and
> b. Unit 2; $\geq$ 5100 kW and $\leq$ 5300 kW.

The Unit 1 EDG test load was established in license amendments 91 and 84 for PINGP Units 1 and 2, respectively, dated October 27, 1989. The LAR dated March 17, 1986 which provided the basis for these license amendments stated, "The requirement to load the engine to 1650 kW will conform to the manufacturer's recommendation to load

the engine to at least 60% of rated load . . ." Prior to 1989, the TS required the monthly load test for the Unit 1 EDGs to be performed at a lower load.

Proposed Changes

This LAR proposes to revise SR 3.8.1.3 to require testing every 31 days as follows:

> Verify each DG is synchronized and loaded and operates for ≥ 60 minutes at a load:
>
> a. Unit 1; ≥ 2500 kW; and
> b. Unit 2; ≥ 5100 kW and ≤ 5300 kW.

The proposed test load of 2500 kW is greater than 90% of the 2750 kW continuous rating of the Unit 1 EDGs.

Technical Basis for Change

This LAR proposes to increase the TS-required monthly test load to 2500 kW which is slightly greater than 90% of the Unit 1 EDG continuous rating of 2750 kW. This test load is consistent with the guidance of RG 1.9, Revision 4, Section C, Regulatory Position 2.2.3, "Load Run (Load Acceptance) Test", which states:

> Clause 7.5.2 of IEEE Std 387-1995 should be supplemented as follows:
>
> This test involves demonstrating 90–100 percent of the continuous rating of the emergency diesel generator, for an interval of not less than 1 hour and until attainment of temperature equilibrium. This test may be accomplished by synchronizing the generator with offsite power. The loading and unloading of an emergency diesel generator during this test should be gradual and based on a prescribed schedule that is selected to minimize stress and wear on the diesel generator.

This test is also consistent with RG 1.9, Revision 4, Table 1, which shows that this test should be performed monthly. The changes proposed in this LAR do not involve system modifications involving the plant EDGs. Although this LAR is consistent with the RG 1.9, Revision 4, guidance for Unit 1 EDG monthly test loading, this LAR does not commit to compliance with the provisions of RG 1.9, Revision 4.

In Reference 1, NMC committed to submit an LAR to increase the Unit 1 EDG monthly test load to greater than or equal to 90% of the continuous rated load. Since the continuous rated load of the Unit 1 EDGs is 2750 kW, the proposed minimum test load of 2500 kW meets this commitment.

The TS changes proposed in this LAR will increase the TS required minimum monthly test load for the Unit 1 EDGs. Since current plant procedures require testing at or above the proposed 2500 kW test load, this TS change does not change the actual

load at which the Unit 1 EDGs are tested and does not cause an additional testing burden on the plant.

Conclusions

This LAR proposes TS changes which will require the Unit 1 EDGs to be tested at or above 2500 kW which is above 90% of their continuous rated loading. This change is consistent with current regulatory guidance and plant testing procedures. Operation and maintenance of the Prairie Island Nuclear Generating Plant with the proposed TS revisions will continue to protect the health and safety of the public.

4. REGULATORY SAFETY ANALYSIS

4.1 Applicable Regulatory Requirements/Criteria

Title 10 Code of Federal Regulations 50.36, "Technical specifications":

> (c) Technical specifications will include items in the following categories:
>
> 3) *Surveillance requirements*. Surveillance requirements are requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met.

This license amendment request proposes to increase the required test load for Unit 1 emergency diesel generators in the monthly Surveillance Requirement for load testing. With these changes, the Technical Specifications will continue to assure that the necessary quality of these systems and their components is maintained and the limiting conditions for operation of these systems will continue to be met.

Thus with the changes proposed in this license amendment request, the requirements of Title 10 CFR 50.36 continue to be met.

General Design Criteria

The construction of the Prairie Island Nuclear Generating Plant was significantly complete prior to issuance of 10 CFR 50, Appendix A, General Design Criteria. The Prairie Island Nuclear Generating Plant was designed and constructed to comply with the Atomic Energy Commission General Design Criteria as proposed on July 10, 1967 (AEC GDC) as described in the plant Updated Safety Analysis Report. AEC GDC proposed Criterion 39 provides design guidance for the operating capability of systems to control gaseous radioactive effluents.

Criterion 39 - Emergency Power For Engineered Safety Features

Alternate power systems shall be provided and designed with adequate independency, redundancy, capacity, and testability to permit the functioning required of the engineered safety features. As a minimum, the onsite power system and the offsite power system shall each, independently, provide this capacity assuming a failure of a single active component in each power system.

AEC GDC Criterion 39 is partially met through the redundant source of emergency power from four emergency diesel generators installed at the plant. This license amendment request proposes changes to the Technical Specifications which will increase the monthly required test load for the Unit 1 emergency diesel generators which assures that these diesel generators have the capacity to perform their required function. With these changes, the AEC GDC stated above will continue to be met when the plant is operated with the plant Technical Specifications revised as proposed. Thus with the changes proposed in this license amendment request, the requirements of AEC GDC 39 continue to be met and the plant Technical Specifications will continue to provide the basis for safe plant operation.

Regulatory Guide 1.9, "Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants", Revision 4

Regulatory Guide 1.9, Revision 4, describes methods acceptable to the NRC Staff for implementing the requirements of NRC regulations with respect to emergency diesel generators. Section C, Regulatory Position 2.2.3 and Table 1 of this Regulatory Guide provide guidance that monthly load tests should be performed between 90% and 100% of the emergency diesel generator continuous rated load. This license amendment request proposes to revise the Prairie Island Nuclear Generating Plant Technical Specifications for Unit 1 to be consistent with the monthly emergency diesel generator test load guidance of this Regulatory Guide.

With these changes, the monthly test load for the Unit 1 emergency diesel generators is consistent with the loading and scheduling guidance of Regulatory Guide 1.9, Revision 4.

4.2 Precedent

The Nuclear Regulatory Commission previously increased the Technical Specification required test load for the Prairie Island Nuclear Generating Plant emergency diesel generators, D1 and D2, in license amendments 91 and 84, for Units 1 and 2 respectively, issued October 27, 1989, Accession Number ML022210226.

4.3 Significant Hazards Consideration

The Nuclear Management Company 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

This license amendment request proposes Technical Specification Surveillance Requirement changes which will increase the monthly test load for the Unit 1 emergency diesel generators to a load greater than 90% of their continuous rated load which is consistent with the guidance of Regulatory Guide 1.9, "Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants", Revision 4.

The emergency diesel generators are not accident initiators and therefore, these changes do not involve a significant increase the probability of an accident. The proposed changes increase the test load requirements, are consistent with current regulatory guidance for testing emergency diesel generators, and will continue to assure that this equipment performs its design function. Thus these changes do not involve a significant increase in the consequences of an accident.

Therefore, the proposed changes do not involve a significant increase in the probability or consequences of an 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

This license amendment request proposes Technical Specification Surveillance Requirement changes which will increase the monthly test load for the Unit 1 emergency diesel generators to a load greater than 90% of their continuous rated load which is consistent with the guidance of Regulatory Guide 1.9, "Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants", Revision 4.

The changes proposed for the emergency diesel generators do not change any system operations or maintenance activities. Testing requirements will be revised and will continue to demonstrate that the Limiting Conditions for Operation are met and the system components are functional. The revised test load is consistent with current plant procedures and practices. These changes do not create new failure modes or mechanisms and no new accident precursors are generated.

Therefore, the proposed changes do 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

This license amendment request proposes Technical Specification Surveillance Requirement changes which will increase the monthly test load for the Unit 1 emergency diesel generators to a load greater than 90% of their continuous rated load which is consistent with the guidance of Regulatory Guide 1.9, "Application and Testing of Safety-Related Diesel Generators in Nuclear Power Plants", Revision 4.

Current plant procedures require the Unit 1 emergency diesel generators to be load tested above 90% of their continuous rated load each month. This license amendment request proposes to make testing above 90% of the Unit 1 emergency diesel generator's continuous rated load a Technical Specification requirement. Since this change is an increase in the test requirements and the change is consistent with current regulatory guidance, this change does not involve a significant reduction in a margin of safety.

Therefore, the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above, the Nuclear Management Company concludes that the proposed amendment does not involve a 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.

4.4 Conclusions

In conclusion, based on the considerations discussed in 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.

5. ENVIRONMENTAL CONSIDERATION

A review has determined that the proposed amendment would change a requirement with respect to installation or 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.

6. REFERENCES

1. Supplement to License Amendment Request (LAR) For Extension Of Technical Specification (TS) 3.8.1, "AC Sources-Operating," Emergency Diesel Generator Completion Time (TAC Nos. MC9001 and MC9002), dated May 10, 2007, Accession Number ML071310108.

ENCLOSURE, ATTACHMENT 1

Technical Specification Pages (Markup)

3.8.1-7

1 page follows

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	----------NOTES---------- 1. DG loadings may include gradual loading in consideration of manufacturer's recomendations. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.6. ---------- Verify each DG is synchronized and loaded and operates for $\geq$ 60 minutes at a load: a. Unit 1; $\geq$ 2500~~1650~~ kW; and b. Unit 2; $\geq$ 5100 kW and $\leq$ 5300 kW.	31 days
SR 3.8.1.4	Verify fuel oil level above lower limit switch in each day tank.	31 days
SR 3.8.1.5	Verify the fuel oil transfer system operates to transfer fuel oil from storage tank to the day tank.	31 days

ENCLOSURE, ATTACHMENT 2

Bases Pages (Markup)

(For Information Only)

B 3.8.1-17

1 page follows

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.2 and SR 3.8.1.6 (continued)

Since SR 3.8.1.6 requires a 10 second start, it is more restrictive than SR 3.8.1.2, and it may be performed in lieu of SR 3.8.1.2. This is the intent of Note 1 of SR 3.8.1.2.

The 31 day Frequency for SR 3.8.1.2 and the 184 day Frequency for SR 3.8.1.6 provide adequate assurance of DG OPERABILITY, while minimizing degradation resulting from testing.

SR 3.8.1.3

This Surveillance verifies that the DGs are capable of synchronizing with the offsite electrical system and accepting loads greater than or equal to 90% of the continuous rating of the DG~~the manufacturer's recommended loads~~ (Ref. 2). The Unit 1 and Unit 2 diesel generators have different loading requirements since their individual loads are different. As an example, the Unit 2 diesel generators supply emergency power to the cooling water pump whereas the Unit 1 diesel generators do not. A minimum run time of 60 minutes is required to stabilize engine temperatures, while minimizing the time that the DG is connected to the offsite source.

The 31 day Frequency for this Surveillance is consistent with SR 3.8.1.2.

This SR is modified by four Notes. Note 1 indicates that diesel engine runs for this Surveillance may include gradual loading, as recommended by the manufacturer, so that mechanical stress and wear on the diesel engine are minimized. Note 2 states that momentary transients, because of changing loads or system

ENCLOSURE, ATTACHMENT 3

Technical Specification Pages (Retyped)

3.8.1-7

1 page follows

SURVEILLANCE REQUIREMENTS (continued)

SURVEILLANCE		FREQUENCY
SR 3.8.1.3	----------NOTES---------- 1. DG loadings may include gradual loading in consideration of manufacturer's recomendations. 2. Momentary transients outside the load range do not invalidate this test. 3. This Surveillance shall be conducted on only one DG at a time. 4. This SR shall be preceded by and immediately follow without shutdown a successful performance of SR 3.8.1.2 or SR 3.8.1.6. ---------- Verify each DG is synchronized and loaded and operates for $\geq$ 60 minutes at a load: a. Unit 1; $\geq$ 2500 kW; and b. Unit 2; $\geq$ 5100 kW and $\leq$ 5300 kW.	31 days
SR 3.8.1.4	Verify fuel oil level above lower limit switch in each day tank.	31 days
SR 3.8.1.5	Verify the fuel oil transfer system operates to transfer fuel oil from storage tank to the day tank.	31 days