Northern States Power Company

Prairie Island Nuclear Generating Plant

1717 Wakonade Dr. East
Welch, Minnesota 55089

June 1, 1995

10 CFR Part 50
Section 50.73

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Determination That Some Component Cooling System
Alignments Are Not Within the Intent of Technical Specifications

The Licensee Event Report for this occurrence is attached. In the report, we made one new NRC commitment:

> Component cooling pump preventive maintenance procedures will be revised prior to their next use.

Please contact us if you require additional information related to this event.

Mike Wadley for.

Roger O Anderson
Director
Licensing and Management Issues

c: Regional Administrator - Region III, NRC
NRR Project Manager, NRC
Senior Resident Inspector, NRC
Kris Sanda, State of Minnesota

Attachment

IE22

NRC FORM 366 (5-92) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB NO. 3150-0104
EXPIRES 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Prairie Island Nuclear Generating Plant U1	05000 282	1 OF 3

TITLE (4) Determination That Some Component Cooling System Alignments Are Not Within the Intent of Technical Specifications

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
5	5	95	95	-- 06 --	00	06	01	95	Prairie Island U2	05000 306
									FACILITY NAME	DOCKET NUMBER 05000

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)					
POWER LEVEL (10)	100	20.402(b)		20.405(c)		50.73(a)(2)(iv)	73.71(b)
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)	73.71(c)
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)	OTHER
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)	(Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iv)		50.73(a)(2)(ii)		50.73(a)(2)(viii)(B)	
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (Include Area Code)
Arne A Hunstad	612-388-1121

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE).	X	NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

The Technical Specifications require 3 of the 4 component cooling pumps to be operable for 2-unit operation. System operation discussion in the USAR and Technical Specifications indicate that any cross-tie configuration is permissible to account for a pump that is out of service. Normal past practice has been to cross-tie the trains on the same unit when one pump is taken out for maintenance.

A detailed engineering review of the component cooling system was being done recently in preparation for a future service water inspection (SWSOPI). The review revealed that a single failure could make both component cooling trains of one unit inoperable when both trains of that unit are cross-tied. The preferred option would be to cross-tie to the same train on the opposite unit; this configuration would meet single failure criteria.

EVENT DESCRIPTION

The Prairie Island Updated Safety Analysis Report (USAR) states that each unit's component cooling system "...consists of two pumps and two heat exchangers for 100% redundancy...." Discussing flexibility in operation of the component cooling system, the USAR further states, "The pumps are interconnected so that either pump from either unit can be manually aligned to serve any heat exchanger, and the capability of manually switching the pumps enables the two unit system to tolerate a loss of an additional pump with one already out of service." The USAR then summarizes the system operation by stating "...outage of one pump can be tolerated in the case of two unit operation. The conditions of permissible sustained outage are accordingly limited by the Technical Specifications."

The Technical Specifications require 3 component cooling pumps operable for 2-unit operation. There is no discussion in the Technical Specifications or Bases regarding required system cross-tie configuration. Normal past practice has been to cross-tie the trains on the same unit when one pump is taken out for maintenance.

A detailed engineering review of the component cooling system was being done recently in preparation for a future Service Water System Operational Performance Inspection. The various cross-tie options were evaluated. The review revealed that a single failure could make both component cooling trains of one unit inoperable when both trains of that unit are cross-tied. The preferred option would be to cross-tie to the same train on the opposite unit; this configuration would meet single failure criteria.

Review of the finding by the plant Operations Committee on May 3 resulted in the determination that it is reportable.

CAUSE OF THE EVENT

Lack of clear guidance in the USAR and Technical Specifications regarding component cooling system alignment resulted in improper implementation of the Technical Specifications.

ANALYSIS OF THE EVENT

Alignment of the component cooling system by cross-tying the two trains on the same unit placed the unit in a condition where it was vulnerable to a single failure of a component that could disable the entire system. The normal plant practice was to administratively minimize the amount of time in the cross-tied alignment which reduced the risk and the vulnerability. Manual alignment to the opposite unit component cooling system was always available and could have been implemented if necessary. Typical outage time for maintenance of any component cooling pump during one year is less than one week. The impact to the health and safety of the public was minimal.

The event is reportable pursuant to 10CFR50.73(a)(2)(i)(B) since the system alignment that normally existed with one pump out of service was outside the intent of Technical Specifications.

CORRECTIVE ACTION

Component cooling pump preventive maintenance procedures will be revised prior to their next use. The revisions will prevent improper cross-tie alignments.

All other procedures were reviewed to verify that there were no cases where the component cooling water pumps could be improperly cross-tied; no cases were found. Except for preventive maintenance, changes in component cooling system alignment are performed under the work control process.

A Technical Specification Interpretation was issued to clarify the cross-tie requirements for the component cooling pumps.

FAILED COMPONENT IDENTIFICATION

None.

PREVIOUS SIMILAR EVENTS

There have been no previous similar events reported at Prairie Island.