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FACIL:50-263 Monticello Nuclear Generating Plant, Northern States 05000263
AUTH.NAME AUTHOR AFFILIATION
HAMMER,S. Northern States Power Co.
PARKER,T.M. Northern States Power Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-018-01:on 910823,determined that postulated line break of svc water line SW1-18"-JF could affect redundant trains of safety-related equipment.Caused by personnel error.Doors unlatched to provide draining.W/911204 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: S
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:NRR/LONG,W. 05000263

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EXTERNAL:	EG&G BRYCE,J.H	3	3	L ST LOBBY WARD	1	1
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Northern States Power Company

414 Nicollet Mall
Minneapolis, Minnesota 55401-1927
Telephone (612) 330-5500

December 4, 1991

Report Required by
10 CFR Part 50, Section 50.73

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

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Due to Non-conservative Assumptions in the Internal Flooding Analysis a Break in the Plant Service Water System may have Resulted in a Loss of Redundant Trains of Safety Related Equipment.

The revised Licensee Event Report for this occurrence is attached. This report is being submitted to reflect a revision to planned corrective actions.

This event was reported via the Emergency Notification System in accordance with 10 CFR Part 50, Section 50.72 on August 23, 1991.

Jacqueline Gilchrist
for Thomas M Parker
Manager
Nuclear Support Services

c: Regional Administrator - III NRC
Sr Resident Inspector, NRC
NRR Project Manager, NRC
MPCA
Attn: Dr J W Ferman

Attachment

IE22
1/1

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
MONTICELLO NUCLEAR GENERATING PLANT	0 5 0 0 0 2 6 3	1 OF 0 4

TITLE (4) Due to Non-Conservative Assumptions in the Internal Flooding Analysis a Break in the Plant Service Water System May Have Resulted in a Loss of Redundant Trains of Safety Related Equipment

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 NAMES	DOCKET NUMBER(S)
										0 5 0 0 0
0 8	2 3	9 1	9 1	— 0 1 8	— 0 1	1 2	0 4	9 1		0 5 0 0 0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
	N	20.402(b)	20.405(c)	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10)	1 0 0	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)	XX OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		20.405(a)(1)(iii)	50.73(a)(2)(i)	50.73(a)(2)(viii)(A)	
		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
	AREA CODE
Steve Hammer, Superintendent, Turbine Systems Engineering	6 1 8 2 9 5 - 1 1 3 0 0

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

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	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 fifteen single-space typewritten lines) (16)

On August 23, 1991 with the plant operating at 100% power it was determined that a postulated line break of Service Water line SW1-18"-JF could affect redundant trains of safety related equipment. The equipment affected was the 125VDC batteries or the 480V Essential Motor Control Centers, depending on the postulated location of the break. Immediate actions were taken to station a flood watch, revise plant procedures and to perform an analysis to determine if the line could be qualified to meet Seismic Category I requirements. The analysis determined that the line is equivalent to Seismic Category I equipment. The root cause of this event was a personnel error in the preparation and review of the evaluation for internal flooding. The following actions are being taken: Review of the Internal Flooding Design Bases document is continuing, the Q-List Extension and the piping inspection program are being updated, the support for SW-13 will be modified, and this event will be included in Engineering Technical Staff continuing training.

DESCRIPTION

On August 23, 1991 with the plant operating at 100% power it was determined that a postulated break in the Plant Service Water System (EIIS System: KG) could affect redundant trains of safety related equipment. This was discovered as part of the Individual Plant Evaluation (IPE). A break of the Class II Service Water line SW1-18"-JF passing through the East 931 elevation of the Turbine Building had the potential to cause a loss of both divisions of 125VD batteries (EIIS System: EJ) or both divisions of essential 480V Motor Control Centers (EIIS System: ED), depending on the postulated location of the break. This area is hereafter referred to as the area of concern. All systems supplied by the electrical systems affected by this line were considered operable at the time of the event.

This finding was initially reported under 10 CFR Part 50, Section 50.72(b)(1)(ii)(B). An analysis was performed to determine if the line met the requirements of Seismic Category I line. The analysis has shown that the Service Water line is equivalent to a Seismic Category I line. Postulated flooding breaks of Seismic Category I lines are not required to be considered, and a flooding analysis is not required.

Therefore, this event is not reportable. This report is being submitted voluntarily to document our resolution of the issue.

CAUSE

The root cause of this condition was personnel error. The original analysis dated August 24, 1973, from L.O. Mayer, Director Nuclear Support Services to Mr. D. Zieman of the AEC, for Internal Flooding used non-conservative assumptions. This was cognitive error during the performance of the Internal Flood Analysis by contract personnel. The contract personnel incorrectly assumed that a loss of offsite power or operator action would terminate the flooding condition before redundant safety related equipment was affected. To the best of our knowledge there were no unusual characteristics of the work location that directly contributed to the error. Information is not available regarding procedures that may have been used by the contractor.

ANALYSIS

The affect of this event on the public health and safety is insignificant.

The line was analyzed to see if it met the requirements of Seismic Category I line. Flooding from ruptures of Class I systems are not required to be evaluated per the "Guidelines for Protection From Flooding of Equipment Important to Safety", which were transmitted by the June 25, 1973 letter from D.L. Zieman of the AEC to L.O. Mayer, NSP. The analysis determined that the line meets Seismic Category I stress allowables for all piping and supports within the area of concern with the exception of one support, SW-13. The analysis was performed again with the assumption that the over stressed support failed. This analysis showed the system could meet Code stress allowables even following a postulated failure of this support. Therefore, the line is equivalent to a Class I system.

Some piping and supports in non-seismic I portions of the Service Water System were determined not to meet code allowables but were determined to meet Seismic II/I criteria. These portions of the system are outside the area of concern.

CORRECTIVE ACTIONS

An engineering analysis was performed to verify that the Service Water line SW1-18"-JF met Seismic Category I criteria. While the analysis was being performed the following interim actions were implemented:

1. An operator was stationed as a flood watch to alert the control room immediately in the event of flooding due to a break in the Service Water line so the Service Water Pumps could be removed from service.

2. Plant procedures were revised to provide guidance to the operating crews in the event of flooding from the Service Water line.

3. Doors were unlatched to provide drainage from the East 931 foot elevation of the Turbine Building area to prevent flooding of the 125VDC Battery rooms in the event of the postulated line break.

These actions were terminated upon completion of the analysis on August 27, 1991.

The following additional actions will be performed:

1. The Service Water line SW1-18"-JF will be added to the piping inspection program.

2. The Q-list Extension will be updated to identify Service Waterline SW1-18"-JF as Seismic Category I.

3. Support SW-13 will be modified to insure that it meets Code allowable stresses during a seismic event.

4. The review of the Internal Flooding Design Bases document and associated field walkdowns is continuing to assure that any remaining problems with the original analysis will be identified.

5. This event will be reviewed in Engineering/Technical Staff Continuing Training.

Additional Information

Failed Component Identification:

None

Previous Similar Events:

None