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DUKE POWER

October 16, 1991

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Subject: McGuire Nuclear Station Unit 2
Docket No. 50-370
Licensee Event Report 370/91-09

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report 370/91-09 concerning a missed Technical Specification Surveillance. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(i). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

A handwritten signature in cursive script that reads "T. L. McConnell".

T. L. McConnell

ADJ/cbl

Attachment

xc: Mr. S. D. Ebneter
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Mr. P. K. Van Doorn
NRC Resident Inspector
McGuire Nuclear Station

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PDR ADOCK 05000370
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Handwritten initials "IE22" and the date "11/11" written vertically.

LICENSEE EVENT REPORT (LER)

FACILITY NAME(1) McGuire Nuclear Station, Unit 2										DOCKET NUMBER(2) 05000 370		PAGE(3) 1 OF 5	
TITLE(4) Missed Technical Specification Surveillance Due To A Possible Inappropriate Action													
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)		
9	16	91	91	09	0	10	16	91			05000		
OPERATING MODE(9)		1		THIS REPORT IS SUBMITTED PURSUANT TO REQUIREMENTS OF 10CFR (Check one or more of the following)(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 (Specify in Abstract below and in Text)	
				20.405(a)(1)(iii)		X 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)(ix)					

LICENSEE CONTACT FOR THIS LER(12)										TELEPHONE NUMBER			
NAME Alan R. Sipe, Chairman, McGuire Safety Review Group										AREA CODE 704		875-4183	

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT(13)														
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPSDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPSDS					
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 September 16, 1991, Operations Periodic Test Group personnel were performing procedure PT/2/A/4400/02C, Nuclear Service Water Valve Verification. During the performance of the procedure, Operations Periodic Test Group personnel noticed valve 2RN-279B, Auxiliary Building Ventilation Return Isolation, was not listed in the procedure. Further investigation also revealed that valve 2RN-299A, Auxiliary Building Ventilation Return Isolation, had not been listed in procedure PT/2/A/4400/02C from December 16, 1985 until May 31, 1988. The omission of valves 2RN-299A and 2RN-279B from procedure PT/2/A/4400/02C resulted in a missed Technical Specification surveillance. This event is assigned a cause of a Possible Inappropriate Action. The actual cause could not be determined from the available information. Operations Periodic Test Group personnel initiated a procedure change to add valve 2RN-279B to procedure PT/2/A/4400/02C. Unit 2 was in Mode 1 (Power Operation) at 100 percent power at the time of discovery.

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EVALUATION:

Background

The Nuclear Service Water (RN) System [EII:BI] provides assured cooling water for various Auxiliary Building [EII:NF] and Reactor [EII:RCT] Building heat exchangers [EII:HX] during all phases of station operation. Each unit has two trains of RN. Each train is comprised of one pump [EII:P], one suction strainer [EII:STR], associated valves [EII:V], piping, and instrumentation necessary to ensure proper operation of the system. Each unit also has two redundant essential headers serving two trains of equipment necessary for safe station shutdown, and a non-essential header serving equipment not required for safe station shutdown. In conjunction with the Ultimate Heat Sink [EII:BS], comprised of Lake Norman and the Standby Nuclear Service Water Pond (SNSWP), the RN System is designed to meet flow rates and heads for normal station operation and also those flow rates and heads required for safe station shutdown normally or as a result of a postulated Loss of Coolant Accident (LOCA). The system is further designed to tolerate a single failure following a LOCA, seismic event causing loss of Lake Norman, and/or a station blackout. The RN System also provides an assured water source for the Spent Fuel Pool (SFP), Component Cooling Water (CC) System [EII:CC], Diesel Generator Engine Cooling Water (KD) System [EII:LB], and Auxiliary Feedwater (CA) System [EII:BA].

Description of Event

On the morning of September 16, 1991, Operations (OPS) Periodic Test Group (PTG) personnel were performing the RN System valve verification procedures on Units 1 and 2. While performing Unit 2 procedure PT/2/A/4400/02C, Nuclear Service Water Valve Verification, OPS PTG Person A noticed that valve 2RN-279B, Auxiliary Building Ventilation Return Isolation, was not listed on the procedure. OPS PTG Person A compared procedure PT/2/A/4400/02C to the Unit 1 procedure and found that valve 1RN-279B was listed on the Unit 1 procedure. OPS PTG Person A finished performing procedure PT/2/A/4400/02C and initiated a procedure change to have valve 2RN-279B added to procedure PT/2/A/4400/02C. Upon returning to the OPS PTG area, OPS PTG Person A reported the omission of valve 2RN-279B to the OPS Coordinator in charge of procedures. The OPS Coordinator instructed OPS PTG Person A to investigate the omission and determine if valve 2RN-279B had been omitted during a recent rewrite of procedure PT/2/A/4400/02C or if it had ever been listed in procedure PT/2/A/4400/02C. A review of master file records by OPS PTG Person A revealed Nuclear Station Modification (NSM) MG-2-420 had been implemented on November 1, 1985. NSM MG-2-420 had changed valves 2RV-151A and 2RV-152B to 2RN-299A and 2RN-279B, respectively. NSM MG-2-420 was implemented to more accurately reflect the true function of valves 2RV-152B and 2RV-151A as part of the RN System. Valve 2RN-299A had been added to procedure PT/2/A/4400/02C on May 31, 1988, during a procedure rewrite, but valve 2RN-279B had never

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been added to the procedure.

On September 18, 1991, OPS PTG Person A reported these findings to the OPS Coordinator and wrote an Operation Incident Report (OIR) for resolution of the problem. OPS PTG Person A then delivered the OIR to the OPS Shift Supervisor for review and it was determined that a Problem Investigation Report (PIR) should have been written. OPS personnel contacted Compliance personnel and confirmed a PIR should be written. On September 19, 1991, OPS PTG Person A wrote PIR 2-M91-0157. The subsequent investigation of PIR 2-M91-0157 by the McGuire Safety Review Group (MSRG) determined both trains of the RN System had been technically inoperable from November 1, 1985 until May 31, 1988. This was reported to Compliance personnel and the appropriate NRC notification was made at 1445 on September 24, 1991.

Conclusion

Procedure PT/2/A/4400/02C is required to be performed once every 31 days to ensure compliance with Technical Specification (TS) 3.7.4. TS 3.7.4 surveillance requirement 4.7.4a requires each valve (manual, power-operated, or automatic) servicing safety-related equipment that is not locked, sealed, or otherwise secured to be verified in its correct position at least once per 31 days. Valves 2RN-299A and 2RN-279B receive a safety signal to automatically assume their safety positions; therefore, only their power supplies need to be verified available by procedure PT/2/A/4400/02C to meet the intent of TS surveillance 4.7.4a. Contrary to the requirement of TS surveillance 4.7.4a, valves 2RN-299A and 2RN-279B power supplies were not verified available from December 16, 1985 until May 31, 1988. Failure to comply with TS surveillance 4.7.4a rendered both trains of the RN System technically inoperable during this time. On May 31, 1988, procedure PT/2/A/4400/02C was performed by OPS personnel. A recent rewrite of procedure PT/2/A/4400/02C had added valve 2RN-299A to the procedure checklist but valve 2RN-279B had not been added. Therefore, the TS surveillance requirement for RN Train A was satisfied on May 31, 1988 which made RN Train A operable. No documentation could be found as to why valve 2RN-299A was added to procedure PT/2/A/4400/02C. The OPS PTG person that prepared the procedure rewrite was contacted but could not remember any details of the rewrite. Because valve 2RN-279B had not been added to procedure PT/2/A/4400/02C, RN Train B remained technically inoperable until September 16, 1991 at which time it was added to procedure PT/2/A/4400/02C.

This event is assigned a cause of Possible Inappropriate Action because the need to add valves 2RN-299A and 2RN-279B to procedure PT/2/A/4400/02C was not recognized or the requirement to add valves 2RN-299A and 2RN-279B was omitted. The actual underlying cause could not be determined from the information available. This investigation revealed that on December 9, 1985, Projects personnel issued a memorandum to OPS personnel. The

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memorandum requested OPS personnel to review NSM MG-2-420 and to revise any procedures and/or station directives the NSM may effect. A review of the memorandum revealed procedure OP/2/A/5400/06, Nuclear Service Water was the only procedure revised. PT/2/A/4400/02C was not revised at this time. When the OPS person that verified the review was contacted, it could not be determined if the OPS person that verified the review had actually evaluated the Periodic Test procedures for the required revisions or if this responsibility had been given to the PTG Supervisor. The PTG Supervisor is no longer employed by Duke Power and could not be contacted to give any additional information.

On September 16, 1991, procedure PT/2/A/4400/02C was being performed for the first time since a recent rewrite. The procedure rewrite had rearranged the valves in procedure PT/2/A/4400/02C so the valves were now checked on the main control board [EIS:MCBD] in a horizontal direction instead of a vertical direction. This change in direction lead OPS PTG Person A to notice valves 2RN-299A and 2RN-279B were in series on the main control board and only valve 2RN-299A was listed on procedure PT/2/A/4400/02C. This lead to the identification of the event. This action should be pointed out as an example of attention to detail.

A review of the Operating Experience Program Data Base for the 24 months prior to this event revealed 10 events involving TS violations in which the cause was an Inappropriate Action. Two of the events identified were due to missed TS surveillances. The events were documented in LER 369/90-21 and LER 369/90-19. LER 369/90-21 documented one event in which a TS surveillance was missed because the wrong procedure was used to perform the required surveillance. LER 369/90-19 documented one event in which a TS surveillance was missed because a procedure step had been omitted during a procedure rewrite. The corrective actions identified in LER 369/90-21 would not have prevented this event from occurring. The corrective actions identified in LER 369/90-19 may have prevented valve 2RN-279B from being omitted during the rewrite of procedure PT/2/A/4400/02C in May, 1988, if they had been in place at the time. None of the corrective actions identified would have prevented the omission of valves 2RN-299A and 2RN-279B in December, 1985 when NSM MG-2-420 was implemented. No LERs were identified in which a TS surveillance was missed due to the implementation of an NSM. Therefore, this event is considered not recurring. Prior LERs and an Inplant Review have identified NSM reviews as a weakness in the NSM process and corrective measures are currently being evaluated by station management.

This event caused no significant operational problems or difficulties.

This event is not Nuclear Plant Reliability Data System (NPRDS) reportable.

There were no personnel injuries, radiation overexposures, or uncontrolled releases of

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radioactive material as a result of this event.

CORRECTIVE ACTIONS:

Immediate: 1) OPS PTG personnel verified power was available to valve 2RN-279B.

- 2) OPS PTG personnel changed procedure PT/2/A/4400/02C, Nuclear Service Water Valve Verification, to add valve 2RN-279B to the power availability checklist.

Subsequent: 1) OPS personnel notified the NRC in accordance with procedure RP/0/A/5700/i0, NRC Immediate Notification Requirements.

- 2) OPS PTG personnel verified the same problem did not exist in Unit 1 procedure PT/1/A/4400/02C, Nuclear Service Water Valve Verification.

Planned: 1) OPS PTG personnel will review all periodic test procedures, used to verify valve position for TS surveillance, to ensure all required valves are listed in the procedure valve checklist.

SAFETY ANALYSIS:

Motor [EIIS:MO] operated isolation valves [EIIS:ISV] 2RN-299A and 2RN-279B close on a safety injection or blackout signal to divert flow to the Containment Ventilation Coolers [EIIS:CLR] and prevent run out of the RN pumps. These valves isolate the safety from the non-safety related portion of the RN System. Both of these valves power supplies were not verified as a result of this event which made both trains of the RN System inoperable. At no time were these valves incapable of performing their design function as a result of this event. As a routine practice, Control Room [EIIS:NA] Operators walk down the main control boards to check for burned out light bulbs each 12 hour shift. If one or both of these valves had been de-energized, it would have been detected and corrected by the Control Room Operators. Additionally, these valves are stroke time tested by Performance personnel on a quarterly basis. If there had been a problem with either of these valves, it would have been detected during performance of the quarterly tests.

At no time was the health and safety of the public or McGuire personnel affected as a result of this event.