ENTERGY

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July 18, 1994

U.S. Nuclear Regulatory Commission
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Subject: River Bend Station - Unit 1
Docket No. 50-458
License No. NPF-47
Licensee Event Report 50-458/94-017-00
File Nos.: G9.5, G9.25.1.3

RBG-40723

Gentlemen:

In accordance with 10CFR50.73, enclosed is a Licensee Event Report.

Very truly yours,

J. W. Leavines for

James J. Fisicaro
Director - Nuclear Safety

JJF/jcm
enclosure

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cc: U.S. Nuclear Regulatory Commission
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ATTN: Administrator

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

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

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
River Bend Station	050-00458	1 of 5

TITLE (4)
SEVEN TESTABLE CHECK VALVES NOT PROPERLY TESTED IN ACCORDANCE WITH ASME SECTION XI REQUIREMENTS

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
									N/A	05000
06	17	94	94	017	00	07	18	94	FACILITY NAME: N/A	DOCKET NUMBER: 05000

OPERATING MODE (9)	4	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR § (Check one or more (11))							
POWER LEVEL (10)	0		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)
T. W. Gates, Supervisor - Licensing	504-381-4866

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	MONTH	DAY	YEAR
X	YES (If yes, complete EXPECTED SUBMISSION DATE)		NO	SUBMISSION DATE (15)	11	30	94

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

On June 17, 1994 at 1300, with the plant in Operational Condition 4 (Cold Shutdown), seven testable check valves were discovered not properly tested in accordance with ASME Section XI requirements. These valves include five (5), 10-inch emergency core cooling system (ECCS) and two (2), 6-inch reactor core isolation cooling (RCIC) System testable check valves. The investigation revealed that applicable surveillance test procedures did not require that the force or torque required to reposition the valve be established, determined or noted.

Based on the information available, this condition appears to have existed since initial Inservice Testing (IST) program development. The cause of this event is indeterminate; however, there are two causal factors. First, there was a failure to implement a proper surveillance test method for manually exercising the testable check valves. Second, personnel failed to recognize the discrepancy between the test method described in ASME Section XI and the test method described in the applicable surveillance test procedures.

Corrective actions include revising the applicable surveillance test procedures to ensure proper testing and implementing an IST Improvement Plan to ensure that the existing IST program is technically and functionally adequate.

REPORTED CONDITION

On June 17, 1994 at 1300, with the plant in Operational Condition 4 (Cold Shutdown), seven testable check valves were discovered not properly tested in accordance with ASME Section XI requirements. An investigation of the identified condition determined that the surveillance test procedures for these valves did not quantify the force or torque applied when performing a check valve exercising test procedure denoted in ASME Section XI, IWV-3520. The River Bend Station (RBS) Technical Specification 4.0.5 requires that inservice testing of ASME Code Class 1, 2, and 3 pumps and valves be performed in accordance with ASME Section XI. This condition is reportable pursuant to 10CFR50.73 (a)(2)(i)(B) as operation prohibited by the Technical Specifications.

INVESTIGATION

The RBS ASME Section XI Inservice Testing (IST) Program includes seven testable check valves which are located in injection lines and serve as containment isolation, drywell isolation, and reactor coolant system pressure isolation valves. It was discovered that the these testable check valves were not properly tested in accordance with ASME Section XI requirements. These valves included:

(1) The reactor core isolation cooling (RCIC) head spray check valves, 1E51*AOVF066 and 1E51*AOVF065,

(2) The residual heat removal (RHR) low pressure coolant injection (LPCI) valves 1E12*AOVF041A, B, and C,

(3) The high pressure core spray (HPCS) injection valve, 1E22*AOVF005, and

(4) The low pressure core spray (LPCS) injection valve, 1E21*AOVF006.

The ASME check valve exercising test procedure, IWV-3522, "Test for Check Valves," indicates that normally closed valves that are required to open on reversal of pressure differential are tested by proving that the disk moves promptly away from the seat when closing pressure differential is removed and flow through the valve is initiated or when a mechanical opening force is applied to the disk. Confirmation that the disk moves away from the seat is performed by visual observation, by electrical signal initiated by a position indicating device, by observation of substantially free flow through the valve as indicated by appropriate pressure indications in the system, or by other positive means. This test may be made with or without flow through the valve. If it is made without flow through the valve, a mechanical exerciser is used to move the disk to ensure that the force or torque applied to these valves is limited. The force or torque delivered to the disk by the exerciser must be limited to:

(1) less than 10% of the equivalent force or torque represented by the minimum emergency condition pressure differential acting on the disk, or

(2) 200% of the actual observed force or torque required to perform the exercise on the valve when the valve is new and in good operating condition.

The seven testable check valves were originally designed with an air actuating cylinder for remote exercise testing. This design was modified on all the valves between 1987 and 1989 to remove the air actuating cylinders. Surveillance testing has since been performed by manually cycling the valves using a pipe wrench. The investigation revealed that applicable surveillance test procedures performed for both test methods did not require the force or torque to be established, determined or noted.

Our review to date indicates that one other valve exists with external exercise capability which may not have been tested in accordance with ASME Code requirements. However, this valve is a cross-connection between the standby service water and residual heat removal systems used only as an alternate flowpath for make-up to the suppression pool or the reactor vessel. It does not affect the safety function of either system and no credit is taken for the proper performance of this valve in the USAR safety analyses. This valve has been exercised quarterly through its full stroke using the external air test device. The use of the air test device is being evaluated for conformance with ASME Code test requirements.

ROOT CAUSE

Based on the information available, the cause of this event is indeterminate. Root cause analysis revealed the following causal factors:

* Failure to implement a proper surveillance test method for manually exercising the testable check valves. The improper surveillance test method applies to all exercise tests performed on the RCIC, LPCI, HPCS, and LPCS valves, whether exercised by the air actuating device or by manual cycling of these valves, since initial startup of the plant.

* Personnel did not recognize the discrepancy between the test method described in ASME Section XI and the test method described in the applicable surveillance test procedures. Previous changes to the design for exercising the valves and associated revisions to the applicable procedures did not result in detection of the error.

TEXT *(If more space is required, use additional copies of NRC Form 366A) (17)*

A review of previously submitted LERs revealed no similar occurrences to the condition described in this report.

The RBS IST program is undergoing a systematic review in accordance with the long term performance improvement plan (LTPIP), submitted to the NRC on March 28, 1994 (RBG-40428). The LTPIP includes corrective actions to address the performance issues associated with the adequacy of documented instructions, procedures, and drawings. Plans to clarify and communicate management expectations are included in those corrective actions and place emphasis on identifying and correcting procedural problems in addition to communicating a need to strictly follow procedures. This program establishes, in part, an IST Improvement Plan to upgrade the technical adequacy and functionality of the IST Program. The plan includes an EOI self-assessment to review the program from a design basis perspective and implement any needed corrective actions.

CORRECTIVE ACTIONS

The immediate corrective actions included (1) performance of a full flow test on the two RCIC valves and (2), obtaining acceptable torque values for the remaining five valves. This demonstrates full compliance with ASME Section XI, IWV-3520, and confirms the operability of these valves.

The remaining corrective actions for the reported condition and findings discussed in the root cause determination are summarized below.

(1) The applicable surveillance test procedures will be revised to perform testing in accordance with ASME Section XI requirements by September 20, 1994.

(2) The IST Improvement Plan has been implemented to ensure that the existing IST program is technically and functionally adequate. The IST Improvement Plan includes:

* A procedure upgrade for the IST Program.

* A re-verification of the current IST Program.

* A component-to-test cross reference database.

TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

* Training of all appropriate Operations and Systems Engineering personnel.

* Identification of plant instruments required for the IST Program.

* Revision of the IST Program for the second ten year interval.

These long-term plans will be completed in accordance with the schedules outlined in the LTPIP. This is currently scheduled for September 1995. Specifically, the re-verification of the current IST Program is scheduled for completion by September 1994. Additional issues associated with the adequacy of the current IST Program found during this re-verification process will be reviewed and evaluated for reportability. Similar reportable conditions that are identified as a result of this review will be documented in a supplemental report by November 30, 1994.

SAFETY ASSESSMENT

The safety function of these testable check valves is to ensure drywell, containment, and reactor pressure boundary isolation. These valves have been successfully exercised each refueling outage and have passed periodic local leak rate tests. The inadequate performance of the surveillance test would not prevent these valves from performing their intended safety function.

As stated previously, a full flow test was performed on the two RCIC valves and acceptable torque values were obtained for the remaining five valves. This demonstrates full compliance with ASME Section XI, IWV-3520, and confirms the operability of these valves. These test results, coupled with the successful exercise tests and local leak rate tests performed every refueling outage, provide confidence that the internal condition of the valves was such that the valves would have performed their intended safety functions.