WOLF CREEK
NUCLEAR OPERATING CORPORATION

John A. Bailey
Vice President
Operations

September 11, 1992

NO 92-0273

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Station P1-137
Washington, D. C. 20555

Subject: Docket No. 50-482: Licensee Event Report 92-013-00

Gentlemen:

The attached Licensee Event Report (LER) is being submitted pursuant to 10 CFR 50.73(a)(2)(i) concerning a Technical Specification violation.

Very truly yours,

John A. Bailey
Vice President
Operations

JAB/jra

Attachment

cc: A. T. Howell (NRC), w/a
J. L. Milhoan (NRC), w/a
G. A. Pick (NRC), w/a
W. D. Reckley (NRC), w/a

IE22
1/1

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1): Wolf Creek Generating Station

DOCKET NUMBER (2): 0 5 0 0 0 4 8 2

PAGE (3): 1 OF 0 6

TITLE (4): Shunt Trip Contacts For Manual Reactor Trip Breakers Not Tested In Accordance With Technical Specification Results In Technical Specification Violation

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR		DOCKET NUMBER (S)
0 8	1 4	9 2	9 2	- 0 1 3	- 0 0	0 9	1 1	9 2		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more of the following) (11)			
POWER LEVEL (10)	1 0 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 (Specify in Abstract below and in Text, NRC Form 366A)
		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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER AREA CODE
Kevin J. Moles - Manager Regulatory Services	3 1 6 - 6 4 - 8 8 3 1

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 fifteen single-space typewritten lines) (16)

On August 14, 1992, at approximately 1130 CDT, after a review of industry operating experience and discussions with a plant similar to Wolf Creek Generating Station, it was determined that surveillance procedure STS IC-215, "Trip Actuating Device Operational Test Manual Reactor Trip, Bypass Breaker UV Trip and Reactor Trip, P-4," did not properly test a single set of contacts in the manual actuation function of the reactor trip breakers in accordance with Technical Specification Surveillance 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip), Note 11 requirements. This required both channels of the manual reactor trip function to be declared inoperable and required entry into Technical Specification 3.0.3. Technical Specification 3.0.3 was exited following verbal authorization of a Temporary Waiver of Compliance by the Nuclear Regulatory Commission.

The root cause of this event was personnel error during the procedure development and review process of surveillance procedure STS IC-215. Surveillance procedure STS IC-215 has been revised to include the blocking of the auto shunt trip feature during testing of the manual trip shunt trip contacts. A thorough technical review of all Technical Specification Surveillance requirements applicable to the reactor trip/bypass breakers and all reactor trip/Engineered Safety Features Actuation System manual actuation functions has been performed. No similar situations were discovered.

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

INTRODUCTION

On August 14, 1992, at approximately 1130 CDT, after a review of industry operating experience and discussions with a plant similar to Wolf Creek Generating Station (WCGS), it was determined that surveillance procedure STS IC-215, "Trip Actuating Device Operational Test Manual Reactor Trip, Bypass Breaker UV Trip and Reactor Trip, P-4," did not properly test a single set of contacts in the manual actuation function of the reactor trip breakers in accordance with Technical Specification Surveillance 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip), Note 11 requirements. This required both channels of the manual reactor trip function to be declared inoperable and required entry into Technical Specification 3.0.3. This event is being reported pursuant to 10 CFR 50.73(a)(2)(i) as a condition prohibited by the plant's Technical Specifications.

DESCRIPTION OF EVENT

Technical Specification 3.3.1 requires, in part, two operable manual reactor trip channels while in Mode 1, Power Operation, through Mode 5, Cold Shutdown. With only one operable channel while in Mode 1 or Mode 2, Startup, the inoperable channel must be restored to operable status within 48 hours or the unit placed in Hot Standby within the next six hours. With only one operable channel while in Mode 3, Hot Standby, through Mode 5, the inoperable channel must be restored to operable status within 48 hours or the reactor trip breakers must be opened within the next hour.

Technical Specification Surveillance 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip) requires the performance of the Trip Actuating Device Operational Test (TADOT) at least once per 18 months to independently verify the operability of the undervoltage and shunt trip circuits for the manual reactor trip function and verify the operability of the bypass breaker trip circuits. This surveillance requirement is accomplished by the performance of surveillance procedure STS IC-215.

On August 14, 1992, at approximately 1130 CDT, a review of industry operating experience and discussions with a plant similar to WCGS determined that surveillance procedure STS IC-215 did not totally meet Technical Specification Surveillance 4.3.1.1, Table 4.3-1, Functional Unit 1 (Manual Reactor Trip) Note 11 requirements for testing manual actuation of the reactor trip breakers. It was identified that the procedure independently tested the undervoltage trip functions to the breakers, but did not test the control room handswitch contacts for the shunt trip function. This required both channels of the manual reactor trip function to be declared inoperable and at 1133 CDT, Technical Specification 3.0.3 was entered which required that one inoperable channel be restored to operable status within one hour or the unit placed in Mode 3 within six hours. At 1415 CDT, verbal authorization was received from the Nuclear Regulatory Commission (NRC) to

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temporarily waive compliance with Technical Specification Surveillance Requirement 4.3.1.1, Table 4.3-1, Functional Unit 1 as it pertained to the manual trip function TADOT. At 1422 CDT, Technical Specification 3.0.3 was exited. A written Temporary Waiver of Compliance (TWOC) was received from the NRC on August 19, 1992. An amendment to Technical Specification 4.3.1.1, Table 4.3-1 was approved by the NRC on August 27, 1992. This amendment requires complete verification of operability of the manual reactor trip switch circuitry prior to startup from the first shutdown to Mode 3, Hot Standby, occurring after August 14, 1992.

The reactor trip breakers are tripped by de-energizing the undervoltage (UV) device or energizing the shunt trip device. During the performance of surveillance procedure STS IC-215, the manual reactor trip handswitch is placed in the trip position. One set of contacts associated with the handswitch open, which de-energizes the UV device and the auto shunt trip relay. De-energizing the auto shunt trip relay close other contacts which energize the shunt trip device and trip the reactor trip breaker. This circuit is also energized during an automatic reactor breaker trip and is referred to as the automatic shunt trip feature. A second set of contacts associated with the handswitch, when closed, completes a direct path to energize the shunt trip device and trip the reactor trip breaker. This circuit functions only in the event of a manual reactor trip. The surveillance test procedure did not conclusively test the manual reactor trip circuit. The surveillance test procedure placed the manual reactor trip handswitch in the tripped position and then verified that the UV device was de-energized and the shunt trip device was energized by taking voltage measurements across specific terminal blocks. To test the manual reactor trip circuit while holding the handswitch in the trip position, the "Block Auto Shunt Trip" pushbutton must be depressed which opens a contact in series with the contacts closed by the auto shunt trip relay. This blocks the actuation signal initiated via the auto shunt trip relay and ensures that the continuity of the handswitch contacts, which directly energize the shunt trip device, is verified. This portion of the test was omitted in the original and subsequent revisions of the surveillance test procedure [See Figure 1].

Generic Letter (GL) 85-09, "Technical Specification For Generic Letter 83-28," added the requirement to verify that the undervoltage and shunt trip features are independently activated from the manual trip handswitches to the WCGS Technical Specifications. GL 85-09 states that if testing is performed using voltage measurements, two precautions must be taken to ensure accurate results. The "Block Auto Shunt Trip" switch must be operated to preclude energizing the shunt trip coil via the automatic shunt trip feature. In addition, the red indicating light in parallel with the handswitch contacts would need to be removed to prevent ambiguous measurements. Neither of these precautions were included in the original procedure. However, the need to remove the red indicating light was incorporated into Revision 1 of surveillance procedure STS IC-215 prior to the issuance of GL 85-09 because of unrelated circumstances.

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ROOT CAUSE AND CORRECTIVE ACTIONS

The root cause of this event was personnel error during the procedure development and subsequent review process of surveillance procedure STS IC-215. Surveillance procedure STS IC-215, Revision 0 was originally written on August 30, 1984. At that time, the auto shunt trip circuitry was not a design requirement. Revision 1 of surveillance procedure STS IC-215 completely rewrote the procedure and used test jacks on the newly installed auto shunt trip panels to monitor UV trip voltage. This revision also incorporated steps which removed the main control board lamps.

Surveillance procedure STS IC-215 was revised on March 8, 1985 to incorporate a section to test the operability of the bypass breakers UV trip attachment. This revision was initiated following a review of a Technical Specification change by a similar plant which added requirements for the independent testing of the UV and shunt trip attachments on both the trip and bypass breakers. The Technical Specification change did not request changes to the manual trip function requirements. Wolf Creek Nuclear Operating Corporation requested Technical Specification changes required by GL 85-09 on June 26, 1987. This request was subsequently approved by the NRC and issued as Amendment 26, effective March 1, 1989. The amendment request was reviewed by Instrumentation and Controls personnel to determine if there was a need for procedure changes; however, it was determined that none were needed.

A Nuclear Network Message, which was issued to Instrumentation and Controls on July 31, 1992, was evaluated as part of the Industry Technical Information Program and described inadequate testing of the reactor manual trip switch shunt trip contacts. During this evaluation, surveillance procedure STS IC-215 was reviewed for content and compared against drawings which were considered applicable to the reactor manual trip switches. The drawings reviewed show the UV and shunt trip contacts of the manual reactor trip and manual safety injection switches. These drawings also show the reactor trip breaker connections for the UV and auto shunt trip panel shunt trip relay coils. It was not realized that the drawings reviewed did not show all of the auto shunt trip panel circuitry; specifically, the contact which closes to energize the shunt trip device when the shunt trip relay is de-energized. It was concluded by the evaluator that the drawings reviewed showed all applicable circuitry associated with the auto shunt trip feature although additional drawings were available which showed the auto shunt trip panel circuitry. These additional drawings were not considered necessary and were not reviewed. Therefore, no action was taken in response to the Nuclear Network Message.

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Surveillance procedure STS IC-215 has been revised to include the blocking of the auto shunt trip attachment during testing of the manual trip shunt trip contacts. A thorough technical review of all Technical Specification Surveillance requirements applicable to the reactor trip/bypass breakers and all reactor trip/Engineered Safety Features Actuation System manual actuation functions has been performed to ensure that no similar situations exist. No similar situations were discovered. This event has been discussed with Instrumentation and Controls personnel who perform technical reviews or evaluations to help place special emphasis on the importance of paying attention to detail. Also, a description of this event will be added to the industry events portion of Instrumentation and Controls annual requalification training.

ADDITIONAL INFORMATION

The unit was in Mode 1, Power Operation, at approximately 100 percent Reactor power when the testing deficiency for the manual reactor trip handswitches was discovered. Testing of the manual shunt trip feature was adequately performed during preoperational testing. Therefore, based on the testing history for the manual trip function, the design of the switch, and the periodic use of a manual trip switch for plant shutdowns and surveillance tests, there is a high degree of confidence that the manual trip circuitry is fully functional. There was no threat to the health and safety of the public. There was no damage to plant equipment or release of radioactivity as a result of this event.

Licensee Event Reports 85-080-00, 86-003-00, 86-067-00, 87-060-00, 89-006-00, 91-003-00, 91-007-00, and 92-005-00 discuss previous similar occurrences in which Technical Specification Surveillance Requirements were not incorporated into surveillance procedures.

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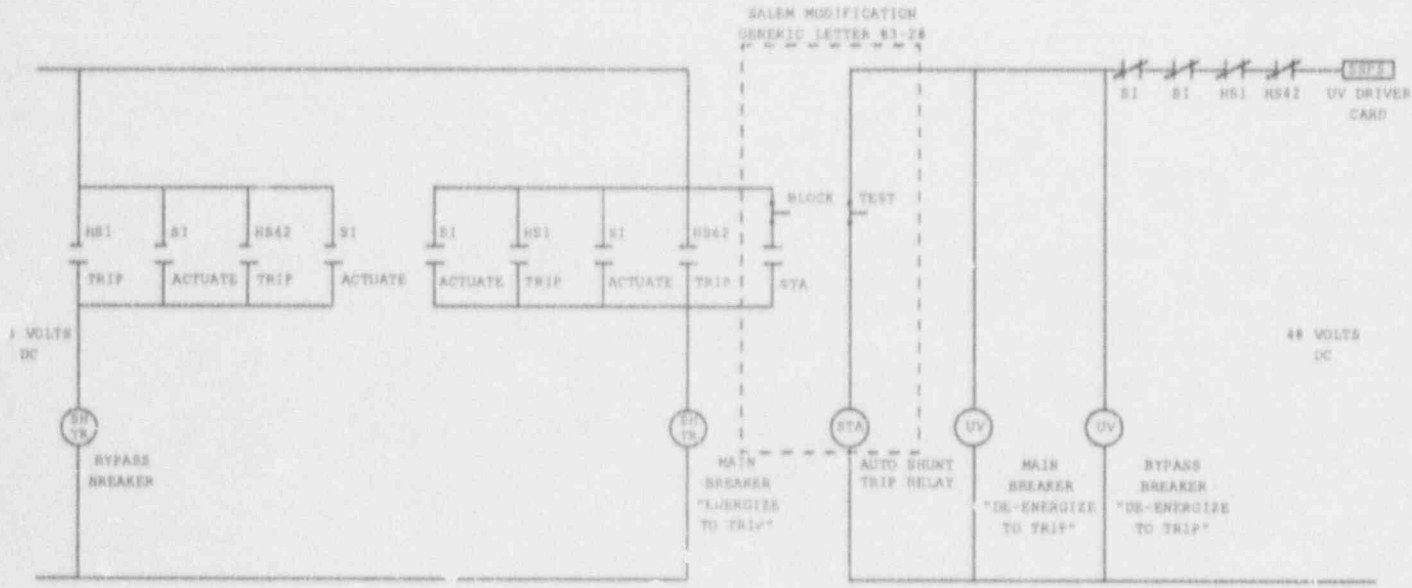
FIGURE 1 - AUTO/MANUAL REACTOR TRIP CIRCUIT



SSPS - SOLID STATE PROTECTION SYSTEM
UV - UNDERVOLTAGE
STA - SHUNT TRIP RELAY COIL
SI - SAFETY INJECTION HANDSWITCH
HS1 - MANUAL REACTOR TRIP HANDSWITCH
HS42 - MANUAL REACTOR TRIP HANDSWITCH

NOTE:
ALL HS1 CONTACTS OPERATE SIMULTANEOUSLY
ALL HS42 CONTACTS OPERATE SIMULTANEOUSLY
CONTACT "STA" CLOSES WHEN RELAY "STA" DE-ENERGIZES