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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

Entrance Into Technical Specification 3.0.C
During AMSAC Post Installation Testing

The Licensee Event Report for this occurrence is attached.

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

Monica Vik
for Thomas M Parker
Manager
Nuclear Support Services

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

Attachment

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NRC FORM 366 (5-89)

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)
Prairie Island Nuclear Generating Plant Unit 2	0 5 0 0 0 3 0 6	1 OF 0 6

TITLE (4) Entrance Into Technical Specification 3.0.C During AMSAC Post Installation Testing

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)
									Prairie Island Unit 1	0 5 0 0 0 2 8 2
1 0	0 9	9 0	9 0	0 1 1	0 0	1 1	0 8	9 0		0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	0 0 3	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)	XX 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
Arne A Hunstad	6 1 2 3 8 8 - 1 1 2 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)	XX NO				

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

On October 9, 1990 Unit 2 was at 3% power, in the process of increasing power to place the main generator on line after a refueling outage. Steam generators were being fed by one main feedwater pump, with steam generator level control in automatic. Testing of the AMSAC system was planned. At 1600, in accordance with an approved test procedure, selector switches for both auxiliary feedwater pumps were placed in the SHUTDOWN AUTO position to prevent unnecessary starting of the pumps during AMSAC turbine trip testing. At 1628 the test was complete and the switches were returned to AUTO. The evolutions described were all logged in the Unit 2 Reactor Log in accordance with the approved procedure.

Since the required test conditions placed the AFW system in a condition outside TS 3.5, the test procedure was written to include a voluntary entry into TS 3.0.C, which gives one hour to correct a degraded condition or initiate action to shut down. The test was estimated to take about half an hour. Concurrence in the test method and the voluntary entry into TS 3.0.C had been given by the Operations Committee (the on-site review committee).

EVENT DESCRIPTION

On October 9, 1990 Unit 2 was at 3% power, in the process of increasing power to place the main generator on line after the Cycle 13-14 refueling outage. Steam generators were being fed by one main feedwater pump, with steam generator level control in automatic. Testing of the ATWS Mitigating System Actuating Circuitry (AMSAC) system was planned. At 1515, in accordance with an approved test procedure, selector switches for both auxiliary feedwater pumps were placed in the SHUTDOWN AUTO position to prevent unnecessary starting of the pumps during AMSAC turbine trip testing.

Each auxiliary feedwater pump is operated from the control board using an AUTO/MANUAL/SHUTDOWN AUTO selector switch and a START/NORMAL/STOP control switch. When the selector switch is in AUTO with the control switch in NORMAL, the pump starts automatically on the following signals:

- A low-low level in either steam generator
- An undervoltage condition on the main feedwater pump buses (turbine-driven auxiliary feedwater pump only)
- A safety injection signal
- A trip of both main feedwater pumps (breakers open)
- An AMSAC signal

When the selector switch is in the SHUTDOWN AUTO position, the auxiliary feedwater pump start signals from "both main feedwater pumps tripped" and from AMSAC are blocked. All other start signals remain operable.

Complications arose from other concurrent testing such that the AMSAC test was delayed, so at 1545 the selector switches for the auxiliary feedwater pumps were returned to AUTO. At 1600, clearance was given for the AMSAC test to proceed, and the selector switches were again placed in SHUTDOWN AUTO. At 1628 the test was complete and the switches were again returned to AUTO. The evolutions described were all logged in the Unit 2 Reactor Log in accordance with the approved procedure.

Since the required test conditions placed the Auxiliary Feedwater Instrumentation in a condition not specifically addressed in Technical Specification Table 3.5-3, the test procedure was written to include a voluntary entry into Technical Specification 3.0.C, which gives one hour to correct a degraded condition or initiate action to shut down. The test was estimated to take about half an hour. The plant Operations Committee (the on-site review group) reviewed the AMSAC test procedure prior to performance and concurred with the test method and the voluntary entry into TS 3.0.C.

Following completion of the AMSAC testing it was concluded, based on specific guidance in Question 2.4 of NUREG-1022 Supplement No. 1, that the entry into Technical Specification 3.0.C for the AMSAC testing was reportable even though the condition was corrected within one hour.

CAUSE OF THE EVENT

Technical Specification 3.0.C establishes the shutdown action requirements that must be implemented when a Limiting Condition for Operation is not met and the condition is not specifically addressed by the associated action requirements.

Technical Specification Table 3.5-3 Item 3.c requires operability of the instrumentation which starts the auxiliary feedwater pumps as the result of the trip of both main feedwater pumps. If those start signals are inoperable, the action requirements of Table 3.5-3 requires the unit to be in hot shutdown. No timetable for reaching that condition is specified. The test conditions required for the performance of the AMSAC testing placed Prairie Island Unit 2 into the action statement for Item 3.c of Technical Specification Table 3.5-3. Since there is no timetable specified in Table 3.5-3 for placing the unit in hot shutdown, Technical Specification 3.0.C was entered for the period of time when both auxiliary feedwater pump selector switches were in the SHUTDOWN AUTO position.

ANALYSIS OF THE EVENT

The microprocessor unit for the Unit 2 AMSAC system was being replaced with one of a more reliable design during the Fall 1990 Unit 2 refueling outage. This work included moving all the electronics, including relays used for tripping the turbine into a new instrument rack. Since this work involved rewiring of relays, it was appropriate to perform testing to verify proper operation.

Performing turbine trip testing while shutdown was determined to be difficult due to the number of bypasses required to clear existing turbine trips, such as loss of vacuum, main steam isolation valve closure, etc. In general, the use of bypasses is deemed undesirable due to the introduction of potential for error. Likewise, the auxiliary feedwater pump start upon AMSAC actuation could have been prevented by lifting leads; however, the use of the SHUTDOWN AUTO mode was deemed appropriate for this one-time test, rather than lifting AMSAC actuation leads.

While performing the test, the procedure specifically required an operator to be designated to start auxiliary feedwater pumps in the event of loss of main feedwater. The procedure also required logging the time that the auxiliary feedwater pumps were placed in and taken out of SHUTDOWN AUTO to ensure proper administrative control and compliance with the requirements of Technical Specification 3.0.C.

Entry into Technical Specification 3.0.C for the AMSAC testing described above was well thought-out in advance and was strictly controlled by management and appropriate procedures. The Operations Committee reviewed and concurred with the test method and the voluntary entry into TS 3.0.C.

The Auxiliary Feedwater System is designed to provide high pressure water to the steam generators following an interruption of the main feedwater flow, maintaining the steam generators as the primary heat sink. During the period of time when the auxiliary feedwater pump selector switches were in the SHUTDOWN AUTO position, all but one of the auxiliary feedwater pump start signals required by Technical Specifications were operable, and an operator was designated to start the auxiliary feedwater pumps in the event of loss of all main feedwater. The remaining auxiliary auto start signals provided adequate assurance that auxiliary feedwater would have been provided to the steam generators to maintain the primary heat sink in the event of a loss of main feedwater. Additionally, if either auxiliary feedwater pump had failed to respond to a valid auto start signal, the pump(s) would have been manually started by the designated operator.

For these reasons, the health and safety of the public were not affected by the performance of the AMSAC testing or the entrance into Technical Specification 3.0.C.

Technical Specification 3.0.C allows one hour to prepare for an orderly shutdown of the unit before the shutdown has to commence. The AMSAC testing described above only placed the unit into Technical Specification 3.0.C for approximately 30 minutes. NUREG-1022 gives a paragraph-by-paragraph explanation of the LER Rule. In its discussion of reporting under the requirements of 10 CFR Paragraph 50.73(a)(2)(i), NUREG-1022 states that events must be reported where the licensee is required to shut down the plant because the requirements of the Technical Specifications are not met. NUREG-1022 goes on to say that if the condition requiring shutdown is corrected before the time limit for being shutdown (i.e., before completion of the shutdown), the event need not be reported. Based on this guidance, the entrance into Technical Specification 3.0.C for one half hour for performance of the AMSAC testing was not considered reportable at the time of the test.

However, as stated above, following completion of the AMSAC testing it was concluded, based on specific guidance in Question 2.4 of NUREG-1022 Supplement No. 1, that the entry into Technical Specification 3.0.C for the AMSAC testing was reportable even though the condition was corrected within one hour.

CORRECTIVE ACTION

The event has been further discussed by the Operations Committee; members are now aware of the implications of entry into Technical Specification 3.0.C. Further NRC guidance on the use of Technical Specification 3.0.C has also been obtained and reviewed.

A License Amendment Request will be submitted to clarify the action statements in the tables of Technical Specification 3.5. In the interim, a Technical Specification Interpretation will be written to clarify the Technical Specification Section 3.5 action statements. The interpretation will specify that the hot shutdown condition, required by many of the Section 3.5 action statements, shall be achieved using the one-hour and six-hour shutdown guidance provided throughout Section 3 of the Technical Specifications.

Further guidance on the use of Technical Specification 3.0.C and its potential reportability will be prepared.

FAILED COMPONENT IDENTIFICATION

None.

PREVIOUS SIMILAR EVENTS

A similar event occurred during the performance of the post installation testing on the Unit 1 AMSAC in early 1990. This event was not reported since Prairie Island was not aware of the reporting requirements associated with entry into Specification 3.0.C.