

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

# LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Oconee Nuclear Station, Unit One	DOCKET NUMBER (2) 05000 269	PAGE (3) 1 OF 5
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TITLE (4)  
Technical Specification Not Met Due To Deficient Procedures

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	NAME	DOCKET NUMBER(S)
01	15	97	97	01	01	02	17	97	Oconee, Unit Two	05000 270
									Oconee, Unit Three	05000 287

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	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	
	20.405(a)(1)(iii)			x 50.73(a)(2)(i) (B)			50.73(a)(2)(viii)(A)			Abstract below and	
	20.405(a)(1)(iv)			50.73(a)(2)(ii)			50.73(a)(2)(viii)(B)			in Text, NRC Form	
20.405(a)(1)(v)			50.73(a)(2)(iii)			50.73(a)(2)(x)			366A)		

LICENSEE CONTACT FOR THIS LER (12)										
NAME R. W. Vassey, Safety Review Group							TELEPHONE NUMBER			
							AREA CODE (864)		885-3169	

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 December 15, 1996, Units 1 and 2 were at cold shutdown and Unit 3 was in a refueling outage. A System Engineer was preparing a test procedure when he recognized that no administrative controls were in place to control the Low Pressure Injection outlet temperature above the minimum temperature (70 F) shown on the Technical Specification (TS) heatup and cooldown curves. Procedural guidance permitted operation at temperatures lower than the operating region defined by TS curves. On January 15, 1997, a past operability evaluation concluded that the minimum temperature shown on the curves is not a limiting value for flow into the reactor vessel. The evaluation indicated that the analyzed minimum temperatures are 40 F for Unit 1 and 2 and 50 F for Unit 3. The root cause of this event is deficient Written Communication; Technical Inaccuracies. Corrective actions included revising Operations procedures to assure the current limits are met. Also, a revision to the TS is planned.

## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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### BACKGROUND:

The Low Pressure Injection (LPI) [EIIS:BP] system is the Decay Heat Removal (DHR) system during shutdown when Reactor Coolant [EIIS:AB] System (RCS) conditions are less than 350 psig and 250 F. The LPI system takes suction from the RCS, and flows through the LPI Pumps and LPI Coolers back to the Reactor Vessel. Temperature instrumentation exists in the LPI pump suction pipe and at the LPI Cooler outlets. The LPI Coolers reject heat to the Low Pressure Service Water [EIIS:BI] system, which circulates lake water. Lake water inlet temperatures are assumed to range from approximately 40 F to 80 F. Recorded data indicates that the inlet temperature from the lake has not dropped below 45 F since at least 1989.

Technical Specification (TS) 3.1.2.1 specifies that Heatup and Cooldown rates and allowable combinations of pressure and temperature are limited in accordance with Tables 3.1-1 and 3.1-2 and Figures 3.1.2 1A, 1B, 1C and 3.1.2 2A, 2B, 2C. Both tables specify that, when LPI is in use, the applicable RCS temperature is the LPI Cooler outlet temperature.

TS 1.2.1 and 1.2.6 define Cold Shutdown and Refueling Shutdown using pressure and temperature as part of the definition. TS 1.2.1 references RCS Tave ( $\leq 200$  F) while TS 1.2.6 references LPI pump suction temperature ( $\leq 140$  F). Both state that allowable pressure is defined by TS. 3.1.2 (thereby indirectly referencing LPI Cooler outlet temperature).

### EVENT DESCRIPTION:

On December 15, 1996, a System Engineer was preparing for the Emergency Power Engineered Safeguards Function test when he recognized that a potential existed for limits in Technical Specification 3.1.2 Figures 2A, 2B and 2C to be exceeded. These figures indicate a minimum reactor coolant inlet temperature of 70 F. A review of some Operations procedures indicated that 70 F is the minimum temperature that can be injected into the reactor vessel. However, when compared to the Technical Specification limit, the procedure limit is not compensated for instrument inaccuracy. As a result, a Problem Investigation Report was generated and an evaluation was initiated.

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On January 15, 1997, a past operability evaluation was completed. The evaluation concluded that the 70 F temperature limit specified in the Technical Specification 3.1.2 Figures 1A, 1B, 1C, 2A, 2B and 2C is not the limiting value for injection into the reactor vessel. The actual limiting value is 40 F for Units 1 and 2 and 50 F for Unit 3. The evaluation concluded that these limiting values have been met in the past. However, no administrative controls were in place in the past to assure meeting the current minimum temperature of 70 F in the Technical Specification figures.

A review of past history of operating procedures indicated that operating procedures, practices, and training focused on Low Pressure Injection (LPI) Pump suction temperature for controlling Reactor Coolant System temperature on Decay Heat Removal. The controlling procedures require that the LPI Pump suction temperature be maintained between 60 F and 140 F. After the Shutdown Protection Plan was implemented in 1992, limits and precautions established an intent to maintain temperature as low as possible within this range to increase the time to boiling should a loss of Decay Heat Removal event occur. In November 1996, Operations noted the importance of the minimum temperature (70 F) and it was added to the Periodic Instrument Surveillance procedure.

### CONCLUSIONS:

The root cause of this event is deficient Written Communication; Technical Inaccuracies. Operating procedures placed emphasis on the Low Pressure Injection (LPI) suction temperature for valid technical reasons. However, operating procedures did not include adequate consideration and emphasis on the applicability of the Technical Specification (TS) 3.1.2 temperature limits when cooldown and heatup activities were not in progress. Therefore, the applicability of monitoring LPI Cooler outlet temperature as a controlling parameter was omitted. Operations procedure PT/0/A/600/01 contained a minimum temperature which could have allowed Low Pressure Injection (LPI) to enter the vessel at a temperature lower than allowed by TS. Other Operations procedures required that the LPI Pump suction temperature be maintained between 60 degrees F and 125 degrees F

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when the reactor vessel head is removed. If the Operations procedures had contained the proper guidance, this event could have been prevented.

A historical search of reportable events over the last two years indicated that no events have occurred involving Technical Specification safety limits being exceeded and a procedural deficiency. Therefore, this event is considered to be non-recurring.

This event did not involve an equipment failure and is not NPRDS reportable. There were no radiological overexposures, radioactive releases, or personnel injuries associated with this event.

**CORRECTIVE ACTIONS:**

**Immediate**

1. Operations increased Low Pressure Injection Cooler Outlet Temperature to 81 F until instrument inaccuracies could be determined.

**Subsequent**

1. Operations procedures were revised to provide controls to assure the Technical Specification minimum temperature limit is met. This is currently accomplished by specifying operation at greater than 75 F at the Low Pressure Injection Cooler Outlet.
2. A Technical Specification Interpretation was written to explain that the cooldown limits and minimum temperature limit in Figures 3.1.2 1A, 1B, 1C, 2A, 2B and 2C are not applicable when the head is off and the core defueled.

NRC FORM 388A		U.S. NUCLEAR REGULATORY COMMISSION(4-95)		APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/98	
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Planned

1. Evaluate submitting a change to Technical Specification 3.1.2 Figures 1A, 1B, 1C, 2A, 2B and 2C to extend the curve to include the new minimum temperatures.

Subsequent corrective action 1 is the only item in this report considered to be an NRC commitment.

**SAFETY ANALYSIS:**

This event involved the potential for not meeting the minimum temperature of 70 F in the Technical Specifications. An evaluation concluded that the 70 F temperature value in the Technical Specification 3.1.2 Figures 1A, 1B, 1C, 2A, 2B and 2C is not the limiting value for injection into the reactor vessel. The actual limiting value is 40 F for Units 1 and 2 and 50 F for Unit 3. A review of plant data indicated that Condenser Cooling Water [EIIS:BS] (CCW) temperatures from 1989 to 1996 have not been lower than 46 F. CCW temperatures are indicative of Low Pressure Service Water temperature which cools the Low Pressure Injection Coolers. Therefore, it is concluded that operation slightly below the Technical Specification limit had a negligible impact on the structural integrity of the reactor vessels.

There were no releases of radioactive material involved with this incident. The health and safety of the public were not affected.