NRC FORM 366 (6-89) 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), U7.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)
Susquehanna Steam Electric Station - Unit 2	0 5 0 0 0 3 8 8	1 OF 0 4

TITLE (4)
Operation Prohibited By The Technical Specification (Inoperable Excore Monitor)

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)
0 1	3 0	9 5	9 5	— 0 0 1	— 0 0	0 3	0 1	9 5		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 1 : (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
Richard R. Wehry - Compliance Engineer	AREA CODE 7 1 7 5 4 2 - 3 6 6 4

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS		CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
X YES (If yes, complete EXPECTED SUBMISSION DATE)	NO		1 2	0 1	9 5

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

On January 30, 1995 at 2130 hours, with Unit 2 in Condition 1 at 100% power, the Excore Neutron Flux Channel 'B' log power range indicator was found to be reading upscale. The "B" channel was declared inoperable and LCO 3.3.7.5 Action statement was entered. PP&L completed all reasonable efforts to identify the cause and correct the condition to enable restoring the indicator to OPERABLE status, including obtaining guidance from the original equipment manufacturer. However, these efforts were unsuccessful in correcting the situation before a shutdown of Unit 2 would be required. A Notice of Enforcement Discretion was granted by the NRC on February 6, 1995 at 1500 hours to avoid the shutdown and any accompanying potential safety consequences or operational risks which might be inappropriate for the current plant condition. Although testing and component replacement has not corrected the condition, it has provided credible evidence that the root cause may be a faulty detector or a cable / connection problem inside primary containment. An emergency Technical Specification change request has been submitted (PLA-4263) to allow continued operation with one excore instrument inoperable and, should the remaining channel become inoperable, to allow continued operation for 7 days to restore the inoperable channel. This change to the Technical Specifications will be in effect until the first unit shutdown which allows for containment entry of sufficient duration to evaluate and correct the condition, not to exceed the seventh refueling outage scheduled to begin September 1995. The results of the root cause investigation and actions taken to prevent recurrence will be provided in a supplement to this report.

DESCRIPTION OF EVENT

On January 30, 1995 at 2130 hours, with Unit 2 in Condition 1 at 100% power, the Excore Neutron Flux Channel 'B' log power range indicator (EIIS Code: IG) was found to be reading upscale. The 'B' channel was declared inoperable and Technical Specification Limiting Condition for Operation (LCO) 3.3.7.5 Action statement was taken.

CAUSE OF EVENT

PP&L completed all reasonable efforts to identify the cause of the inoperable condition, including obtaining troubleshooting guidance from the original equipment manufacturer (OEM). However, all testing and component replacement has not resulted in the correction of the inoperable condition, but has provided credible evidence that the root cause of this inoperable condition may be a faulty detector or a cable / connection problem inside primary containment. A shutdown of Unit 2 which allows for containment entry of sufficient duration to properly evaluate and correct the impaired condition will be required to ascertain the root cause for the condition. The root cause of this event will be provided in a supplemental report.

REPORTABILITY / ANALYSIS

This event was determined to be reportable per 10CFR50.73(a)(2)(i)(B) in that Susquehanna Unit 2 was in a condition prohibited by the Technical Specifications when the Excore Neutron Flux Channel 'B' log power range indicator was inoperable and could not be restored within 7 days as required by Technical Specification LCO 3.3.7.5, which would require a unit shutdown. Enforcement Discretion was granted by the NRC at 1500 hours on February 6, 1995 to exercise discretionary enforcement from compliance with LCO 3.3.7.5 to avoid an undesirable plant shutdown as a result of having to comply with the license condition and to avoid any potential safety consequences and operational risks which might be inappropriate for the current plant condition.

This condition does not result in any safety consequences or compromise to public health or safety. The ex-core monitoring system provides the neutron flux monitoring requirements of Regulatory Guide (RG) 1.97. It is comprised of two redundant and separate channels, and each channel has four detectors which are located inside containment outside the biological shield. This system provides only indication and alarm functions. For the Safety Parameter Display System (SPDS) it provides log power input, and for the plant computer, it provides log power and low power countrate inputs. The control room ex-core monitoring readouts indicate log power, low power countrate and period. In addition, the countrate information is also displayed at the Excore Neutron Shutdown Monitor.

The post-accident neutron flux monitoring function at SSES can be accomplished by the source range monitors (SRMs), the intermediate range monitors (IRMs), the local power range monitors (LPRMs), and the average power range monitors (APRMs) (all EIIS Code: IG). The APRMs and the LPRMs receive their power from the reactor protection system bus (EIIS Code: JC) and the IRMs and SRMs receive power form 24 volt DC power supplies (EIIS Code: EJ). Also, the SRMs and APRMs have input to the SPDS.

The Boiling Water Reactor Owner's Group (BWROG) issued a report, NEDO-31558, "Position on NRC Regulatory Guide 1.97, Revision 3, Requirements for Post-Accident Neutron Monitoring System," dated April 1, 1988, which provided alternate requirements for post-accident instrumentation to those stated in RG 1.97. The NRC staff's evaluation indicated that the staff had evaluated the BWROG's scenarios to determine the consequences of neutron flux monitoring unavailability and concluded that the failure of this instrument will not prevent the operator from determining appropriate reactor power levels. This is because multiple alternate parameter status will be available from which reactor power may be inferred and from which the operator will be able to make operational decisions.

CORRECTIVE ACTIONS

PP&L completed all reasonable efforts to identify the cause and correct the inoperable condition to enable restoring the channel to OPERABLE status, including obtaining troubleshooting guidance from the original equipment manufacturer (OEM). The testing and component replacement did not result in the correction of the inoperable condition, but did provide credible evidence that the root cause of this inoperable condition may be a faulty detector or a cable / connection problem inside primary containment. An entry into the Unit 2 primary containment is required to identify the root cause and to effect its repair and return to OPERABLE status.

Enforcement Discretion from compliance with Technical Specification 3.3.7.5, and hence, an undesirable plant shutdown, was granted by the NRC on February 6, 1995, to allow Unit 2 to operate until the next forced shutdown which allows for containment entry of sufficient duration to evaluate and repair the condition, not to exceed the seventh refueling outage, scheduled for September 1995. An emergency request for a change to Unit 2 Technical Specifications pursuant to the enforcement discretion was submitted to the NRC on February 7, 1995 (PLA-4263).

Three additional compensatory actions were implemented:

1. An inventory to ensure on-site availability of parts that could potentially be required for corrective maintenance on the "A" Channel was completed.

2. The surveillance procedure for the Excore monitoring system was revised to be consistent with the Enforcement Discretion.

3. Operator training was conducted on the current situation (inoperable "B" channel) and to re-emphasize the availability of the alternate means of reactivity indication.

The investigation into the root cause for this event and for continuing problems with the Excore Neutron monitoring system is continuing. The results of the investigation and actions taken to prevent recurrence will be provided in a supplement to this report.

ADDITIONAL INFORMATION

Failed Component Identification: This information will be provided once the final determination of the impaired condition is completed.

Previous Similar Events: There have been no previous LERs for the station reporting failures of Excore Neutron Flux monitors.