

J. L. Wilerin Vice President, Griguriyat *lucieur Plant

March 10, 1992

U.S. Nuclear Regulatory Commission ATTN: Document Control Desk Washington, D.C. 20555

Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR TLANT UNIT 1 - DOCKET NO. 50-327 - FACILITY OPERATING LICENS& DPR-77 - LICENSEE EVENT REPORT (LER) 50-327/92006

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The enclosed LER provides details concerning a failure to properly verify reactor coolant system flow. This event is being reported in accordance with 10 CFR 50.73(a)(2)(1) as an operation prohibited by technical specifications

Sincerely,

Wilsm

L. Wilson

Enclosure cc: Sec page 2

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U.S. Nuclear Regulatory Commission Page 2 March 10, 1992

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cc (Enclosure): INFO Records Center Institute of Nucleon wer Operations 1100 Circle 75 (rowa, Suite 1500 Atlanta, Georgia 30339

> Mr. D. E. LaBarge, Project Manager U.S. Nuclear Regulatory Commission One White Flint, North 11555 Rockville Fike Rockville, Maryland 20852

NRC Resident Inspector Sequoyah Nuclear Plant 2600 Igou Ferry Road 1 oddy-Daisy, Tennessee 37379

Mr. B. A. Wilson, Project Chief U.S. Nuclear Regulatory Commission Region II 101 Marietta Street, NW, Suite 2900 Atlanta, Georgia 30323 NRC Form 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

Approved OMB No. 3150-0104 Expires 4/30/92

LICENSEE EVENT REPORT (LER)

ACCLITY NAME (1)	DOCKET NUMBER (2) PAGE (3)
Sequoyah Nuclear Flant, Unit 1 LILE (4)	101010101012 12 17 11041 01 9
Failure to Properly Verify Reactor Coolant Sistem Flow Above	Technical Specification Limits
I I I I SEQUENTIAL I REVISIONI I	L 17) OTHER FACILITIES INVOLVED (8)
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MODE (Check one or more of the following)(11)	
(9) 11 20.402(b) 20.405(c)	50,73(a)(2)(17)73,71(b)
POWER 20.405(a)(1)(1) 50.36(c)(1)	[50.73(a)(2)(v)][73.7)(c)
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LICENSEE CONTACT FOR 1	(HIS LER (12)
NAME	TELEPHONE NUMBER
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On February 9, 1992, at approximately 1752 Eastern standard time, with Unit 1 in power operation at 100 percent, an operator traince performing a surveillance instruction (SI) determined reactor coolant system (RCS) indicated flow, as read from the main control room (MCR) panel gauges, was below the minimum required by technical specification (TS). Limiting Condition for Operation (LCO) 3.2.5 was entered. RCS flow was further evaluated by obtaining loop flow data directly from the reactor protection system (RPS) racks and found to be within TS limits. LCO 3.2.5 was exited. A review of Unit 1 MCR shift log SI performances from December 27, 1991 through February 10, 1992, identified numerous occurrences where the MCR shift log SI was inadequately performed relative to RCS flow data. The SI did not contain acceptance criteria on the data sheet. Operators had previously memorized the acceptance criteria and did not reference a supporting procedure, unaware of the change incorrectly believing that the acceptance criteria would only change if the related TS changed. Subsequent performances of the revised SI, after February 10, 1992, have shown RCS flow above TS limits. Units 1 and 2 SIs were revised to include the acceptance criteria and to obtain direct flow

verification using RPS rack data if the criteria was not met by MCR gauges.

NRC Form 306A (6-89)

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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Sequoyah Nuclear Plant Unit 1		I SEQUENTIA	C REVISION	1111	
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1. FLANT CONDITIONS

Unit 1 was in power operation at approximately 100 percont.

11. DESCRIPTION OF EVENT

A. Event:

At approximately 1752 Eastern standard time (EST) on February 9. 1992, an operator trainee performing the main control room (MCR) shiftly surveillances, 1-SI-OPS-000-002.0, "Shift Log," determined Unit 1 reactor coolant system (RCS) flow, as determined from the MCR panel gauges, to be below the minimum allowed by a supporting technical instruction (TI). The TI contained the acceptance criteria to ensure technical specification (TS) compliance with Limiting Condition for Operation (LCO) 3.2.5. The action provision of LCO 3.2.5 was entered at 1752 FST.

In accordance with administrative procedures, a deficiency notice was entered on the test deficiency log for the surveillance instruction (SI) performance and a problem evaluation report (PER) was initiated for resolution of the deficiency. The RCS flow was then further evaluated by obtaining loop flow data from the reactor protection system (RPS) (Eagle-21 man-machine-interface and analog test points) in accordance with the SI methodology for reactor roolant flow verification. The results of this evaluation indicated that the RCS flow was within TS limits, and LCO 3.2.5 was exited at 2041 EST.

Records of previous Unit 1 MCR shift log SI performances from December 27, 1991 through February 10, 1992, were obtained. Evaluation of the data identified numerous occurrences where the MCR shift log SI was inadequately performed relative to RCS flow data, i.e., data accepted which did not meet procedurally established criteria. Further, the TI had not contained the correct criteria from December 27, 1991 to January 18, 1992. Ten cases were identified where recorded flow did not meet currently established limits.

3. Inoperable Structures, Components, or Systems that Contributed to the Event:

None. However, inherent inaccuracies of reading indicated RCS flow from MCR panel gauges contribute to variations in recorded RCS total flow.

C. Pates and Approximate Times of Major Occurrences:

December 27, 1991 SJ for RCS flow verification was performed by Technical Support personnel in accordance with TS Surveillance Requirement (SR) 4.2.5.2 for the Unit 1 Cycle 6 period. A decision not to respan control room indicators resulted in a change to RCS flow acceptance criteria.

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U.S. NUCLEAR REGULATORY COMMISSION Approved OMB No. 3150-0104

Expires 4/30/92

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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1		January 18, 1992	An attachment to a TI revised RCG flow acce	was revised, promulgating the ptance criteria.	
		February 9, 1992 1752 EST	During routine perfor compliance with SR 4. that ROS flow did not in the referenced TL.	mance of the MCR shift log SI for 2.5.1, an operator trainse identified meet acceptance criteria contained LCO 3.2.5 was entered.	
		February 9, 1992 2110 EST	KCS flow was further LCO 7.2.5 was exited.	evaluated and found acceptable.	
		February 10, 1992	The acceptance criter incorporated in the M	ia for RCS flow was revised and CR shift log SI.	
	D.	Other Systems or Sec	condary Functions Affe	.ted:	
		None.			
	Ε.	Method of Discovery			
		The failure to properly perform the MCR shift log SI was discovered during investigation of the indicated RCS low flow occurrence.			
	F.	Operator Actions:			
		Operators immediate verification of ade	ly entered LCO 3.2.5. quate RCS flow.	Additionally, operators pursued	
	n.	Safety System Respon	ases /		
		Non applicable - no	safety system respons	es were required.	
	CAUS	SE OF THE EVENT			
	٨.	Immediate Cause:			
		Operators failed to	properly perform the	SI.	
В.		Root Cause:			
		Unit operators in the performance of the MCR shift log SI routinely did not refer to the RCS flow acceptance criteria contained in the referenced procedure.			

U.S. NUCLEAR REGULATORY COMMISSION

Approved CMB No. 3150-0104 Expires 4/30/92

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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C. Contributing Factors:

The operators believed that they knew the acceptance criteria, that it would not change without a TS change and, therefore, did not consider that it was necessary to refer to the TI for performance of the MCR shift log SI each shift.

The TI was revised three weeks after the new flow limit was determined by the RCS flow verification SI. This limit is used for compliance with SR 4.2.5.1, and the revision to the TI should have been processed immediately.

No procedural guidance was provided in the RCS flow verification SI to provide the tie between the procedures.

IV. ANALYSIS OF THE EVENT

RCS flow is one of the parameters used in accident analysis (Final Safety Analysis Reports 15.2.5 and 15.3.4) as an initial condition for other accidents in departure from nucleate boiling (DNB) analysis. The limits on the DNB-related parameters assure that each of the parameters are maintained within the normal steady-state envelope of operation assumed in the transient and accident analysis.

Flow verification using more accurate RPS tack data verified flow was geater than TS. Subsequent SI performances, after February 10, 1992, have also shown RCS flows above TS limits. Recognizing the potential inaccuracies in the past readings on MCR panel gauges and that nothing within the RCE flow path could have changed to increase flows to currently observed values, it is believed by engineering judgement, that RCS flows have always been above TS limits.

V. CORRECTIVE ACTIONS

A. Inmediate Corrective Actions:

- 1. Revisions to the Units 1 and 2 MCR shift log SIs were made to place the RCS flow acceptance criteria directly on the SI data sheet. The revision also provided guidance for the operator to request performance of a conditional RCS flow verification SI if the control board gauges indicated that the TS flow limit was not met.
- B. Corrective Action to Prevent Recurrence:
 - Each shift operations supervisor (SOS) will discuss this event with his crew reinforcing the expectation of procedural compliance. The Operations manager will communicate the expectation that operators are responsible for identification of incopropriate procedures and for requesting revision of those procedures.

NRC Form 3664 (6-80)

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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2. Sin will be reviewed to identify procedures that contain a reference to another document for acceptance criteria. These procedures will be evaluated for rovision.

V1. ADDITIONAL INFORMATION

A. Failed Components:

None.

8. Previous Similar Events:

A review of previous events identified LERs associated with missed SIs because of scheduling or personnel error, e.g., 327/90007, 90018, 90029, 328/89009. 89010. Additionally, LERs associated with inadequately performed 51s because of improper use of data, failure to follow procedures, or inadequate procedures were reviewed, e.g., 327/89032, 90011, 328/89004, 89011, 90009. The corrective actions of these LERs would not have prevented the occurence of the event described in this LER.

- VII. COMMITMENTS
 - 1. Each SOS will discuss this event with his crew reinforcing the expectation of procedural compliance. The Operations managar will communicate the expectation that operators are responsible for identification of inappropriate procedures and for requesting revision of those procedures. This action will be completed by April 1, 1992.
 - 2. SIs will be reviewed to identify procedures that contain a reference to another document for acceptance criteria. The SI procedures referencing other documents for acceptance criteria will be evaluated for revision by May 15, 1992.