

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) Sequoyah, Unit 2		DOCKET NUMBER (2) 0 5 0 0 0 3 2 8 1	PAGE (3) OF 0 2
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TITLE (4)  
Rupture of Pressurizer Relief Tank (PRT) Disc

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)
08	20	84	84	013	00	09	18	84			0 5 0 0 0

OPERATING MODE (8) 1	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)									
POWER LEVEL (10) 100	<input type="checkbox"/> 20.402(b)	<input type="checkbox"/> 20.405(c)	<input checked="" type="checkbox"/> 50.73(a)(2)(iv)	<input type="checkbox"/> 73.71(b)						
	<input type="checkbox"/> 20.405(a)(1)(i)	<input type="checkbox"/> 50.36(c)(1)	<input type="checkbox"/> 50.73(a)(2)(v)	<input type="checkbox"/> 73.71(c)						
	<input type="checkbox"/> 20.405(a)(1)(ii)	<input type="checkbox"/> 50.36(c)(2)	<input type="checkbox"/> 50.73(a)(2)(vii)	OTHER (Specify in Abstract below and in Text, NRC Form 366A)						
	<input type="checkbox"/> 20.405(a)(1)(iii)	<input checked="" type="checkbox"/> 50.73(a)(2)(i)	<input type="checkbox"/> 50.73(a)(2)(viii)(A)							
	<input type="checkbox"/> 20.405(a)(1)(iv)	<input type="checkbox"/> 50.73(a)(2)(ii)	<input type="checkbox"/> 50.73(a)(2)(viii)(B)							
	<input type="checkbox"/> 20.405(a)(1)(v)	<input type="checkbox"/> 50.73(a)(2)(iii)	<input type="checkbox"/> 50.73(a)(2)(ix)							

LICENSEE CONTACT FOR THIS LER (12)		TELEPHONE NUMBER	
NAME Heyward R. Rogers, Compliance Engineer		AREA CODE 615	NUMBER 870-6146

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	
X	AB	RPD	B290	Y						

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)
<input checked="" type="checkbox"/> YES (If yes, complete EXPECTED SUBMISSION DATE)	<input type="checkbox"/> NO		MONTH DAY YEAR 1 20 84

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

During normal plant operations on 08/20/84, unit 2 experienced a rupture of the pressurizer relief tank (PRT) rupture disc at 1203 CST. This resulted in a containment ventilation isolation and the shutdown of the unit was initiated and the unit complied with the Radiological Emergency Plan for an unusual event. The PRT disc rupture was caused by a leaking pressurizer safety valve which relieves to the PRT.

Upon rupture of the PRT disc the containment radiation levels increased to the lower compartment setpoints and generated the signal for the CVI. Also, the containment pressure increased to 0.35 psid which exceeded LCO limits of 0.3 psid. The increase in pressure was reduced by the automatic opening of the ice condenser doors and starting of additional lower compartment fans by operator action.

After completion of unit shutdown, both PRT rupture discs and the leaking safety valve were replaced.

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## LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)  Sequoyah, Unit 2	DOCKET NUMBER (2)  0 5 0 0 0 3 2 8 8 4	LER NUMBER (6)			PAGE (3)	
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER		
		- 0	1 3	- 0 0	0 2	OF 0 2

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

Prior to the event, on 08/11/84, with unit 2 at 100% power (2235 psi and 578°F) one of the pressurizer safety valves (2-SRV-68-653) experienced some slight leakage across the seat. Relief from this safety valve is designed to flow to the PRT, which has two rupture discs, if the tank pressure exceeds 85 psig. During operation prior to the event, PRT and safety valve parameters were monitored by operations personnel to ensure safe operation of the plant. All parameters including level, temperature, and pressure in the PRT were being maintained within prescribed operation limits. On the date of the event, 08/20/84, with the PRT parameters within limits, one of the two PRT discs ruptured prematurely. The rupture resulted in a small increase in radiation levels in the lower containment causing a containment ventilation isolation initiated by radiation monitor RM-90-106. There was no purging activity at the time of the event, therefore, the only isolation valves that closed were those to the radiation monitor itself and no inadvertent releases were made. Operations personnel initiated shutdown of the unit and notified the NRC by phone of the event in accordance with SNP REP II'-2. Unit shutdown (mode 3-Hot Standby) was completed at 1556 CST on 08/20/84.

Repair work was initiated on the ruptured PRT disc and the failed disc sent to Westinghouse to determine the cause for its premature failure. The disc was supplied by Westinghouse, manufactured by Black, Sivalls, and Bryson, and was a Type BV with a manufacturer's range of 86-100 psi @ 200°F. The results of the Westinghouse tests will be provided in a supplementary report. An investigation and engineering evaluation is also being performed by TVA on the discs installed on SNP unit 1 and the results will be provided in that same report. Leakage from the safety valve and from a pressurizer spray valve stem leak-off line did result in minor fluctuations in PRT parameters, however, these are not considered to be the cause of the premature rupture of the disc.

The Crosby safety valve (model 6M6 HB-BP-86) has a design setpoint of 2485 psig. When it was removed and leak tested, it was found to have gross leakage @ 2300 psig. This leakage made the actual determination of the setpoint impossible, however, due to the design of the valve, the seat leakage would tend to make the valve relieve at a more conservative (lower) pressure. The valve deficiency is not considered to have degraded the safety of the plant during the time from the discovery of the leak until the valve was replaced, since the valve would have lifted and RCS integrity was not degraded.

Further investigation into drainage points to the PRT showed that a PRT spray valve (PCV-68-340D) stem leak-off line was leaking at the stem packing due to normal wear. During the shutdown, the valve was backseated. Full repairs will be made during the upcoming outage.

An evaluation of this event, its causes and effects was made to ensure plant safety before unit restart. After the replacement of the PRT rupture disc, safety valve, and backseating of the spray valve, the unit returned to power at 0432 CST on 08/30/84.

TENNESSEE VALLEY AUTHORITY

Sequoyah Nuclear Plant  
Post Office Box 2000  
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September 18, 1984

U.S. Nuclear Regulatory Commission  
Document Control Desk  
Washington, DC 20555

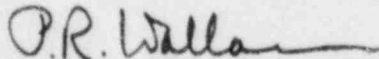
Gentlemen:

TENNESSEE VALLEY AUTHORITY - SEQUOYAH NUCLEAR PLANT UNIT 2 - DOCKET NO.  
50-328 - FACILITY OPERATING LICENSE DPR-79 - REPORTABLE OCCURRENCE REPORT  
SQRO-50-328/84013

The enclosed licensee event report provides details concerning the forced unit shutdown due to a rupture of the pressurizer relief tank relief disc. This event is reported in accordance with 10 CFR 50.73, paragraph a.2.i.A and a.2.iv.

Very truly yours,

TENNESSEE VALLEY AUTHORITY



P. R. Wallace  
Plant Manager

Enclosure  
cc (Enclosure):

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NRC Inspector, NUC PR, Sequoyah