

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)		DOCKET NUMBER (2)	PAGE (3)
VIRGIL C. SUMNER NUCLEAR STATION		0 5 0 0 0 3 9 5	1 OF 0 4

TITLE (4)
Out of Tolerance Main Steam Safety Valve Setpoints

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)				
1	0	0	6	8	5	8	5	0	3	0	0	5	0	0	0
1	0	0	6	8	5	8	5	0	3	0	0	5	0	0	0

OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)									
3		20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)			
POWER LEVEL (10)		20.405(a)(1)(i)		50.38(e)(1)		50.73(a)(2)(v)		73.71(c)			
0 0 0		20.405(a)(1)(ii)		50.38(e)(2)		50.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 366A)			
		20.405(a)(1)(iii)		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)(ix)					

LICENSEE CONTACT FOR THIS LER (12)

NAME		TELEPHONE NUMBER	
A. R. KOON, Jr., Assoc. Mgr., Regulatory Compliance		8 0 3 3 4 5 - 5 2 0 9	

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

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC
D	B	B	R	V	D	2	4	3	Y

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE)		XX NO		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR

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

On October 6, 1985, surveillance testing of the Main Steam Safety Valves revealed 10 of 15 with lift setpoints out of the $\pm 1\%$ tolerance allowed by Technical Specifications. Seven valves lifted high, three valves lifted low. Each of the out-of-tolerance safety valves was declared inoperable, setpoint adjusted, and post-adjustment lift tested satisfactorily within the four hours allowed by Technical Specifications.

On October 7, 1985, after plant cooldown, it was discovered that required post-test calibration verification on a pressure gage used to test XVS 2806K and L could not be accomplished. The gage had been dropped and broken. A new test gage was utilized to test the remaining thirteen valves. Test results for XVS-2806 K and L were invalidated and the valves scheduled for retesting during plant startup from second refueling. On December 13, 1985, both valves were satisfactorily tested.

The cause of this event is attributed to the complicated nature of the test procedure and the failure to utilize the most accurate test equipment available. On December 13, 1985, six main steam safety valves were successfully tested using a revised procedure and new test equipment. Licensee evaluation determined the safety valves would have performed their design function, protected Main Steam System components from pressure 110% design, in their as-found October 6, 1985 condition.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

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TEXT (If more space is required, use additional NRC Form 365A's) (17)

During plant shutdown for second refueling on October 6, 1985, surveillance testing of "Dresser" Main Steam Safety Valves revealed 10 of the 15 installed valves lifted outside the $\pm 1\%$ tolerance allowed by the Technical Specifications. With the plant in Hot Standby (temperature $> 350^\circ\text{F}$) and steam pressure being maintained between 900 and 1100 psig, three of the first five valves tested were out of setpoint tolerance. In accordance with ASME Boiler and Pressure Vessel Code, Section XI, and test procedure (STP-401.002), the scope of safety valve testing was expanded to include all 15 valves. Page 4 of this report is a chart of the test results.

All safety valves lifted to relieve pressure, however seven valves lifted high and three valves lifted low. Each out-of-tolerance valve was declared inoperable, adjusted and post adjustment lift checked satisfactorily. No valve required more than one adjustment and all were declared operable within the four hours allowed by Technical Specifications.

After lifting the first two relief valves (XVS 2806K and XVS 2806L), the test gage was dropped and broken. Because of the inability to perform the required post-test calibration verification on the broken test gage, the test results were declared invalid and both valves were declared inoperable. The remaining thirteen valves were tested with a new gage and satisfactory calibration verification was obtained. The test results for XVS 2806 K and L were invalidated on October 7, 1985, after the plant had been cooled down below the temperature where Technical Specifications require the safety valves to be operable. XVS 2806 K and L were satisfactorily tested during plant heatup on December 13, 1985.

Licensee investigation determined the cause of this event was a complicated test procedure that increased the potential for error. Also, the procedure required the determination of the pressure at which the valve begins to open as opposed to the pressure at which it is fully open. This pressure cannot be as accurately determined as the full open pressure leading to potentially inaccurate lift setpoint. In addition, test instrumentation had cumulative potential errors in excess of the Technical Specification $\pm 1\%$ tolerance.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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

Test procedure (STP-401.002) was revised to require full lifting of the valves to determine the setpoint. Accurate pressure transmitters and a graphic recorder were utilized as test measuring devices in lieu of gages. The transmitters and recorder increased testing accuracy. Additional procedure changes include (a) addition of a pre-test briefing for performers, (b) addition of tables to reduce the number of calculations and simplify determination of lift setpoint, (c) added requirement for quality control inspectors to observe and signoff key procedural steps, and (d) added guidance to adjust the lift setpoint near the low end of the specification, increasing the margin of safety. On December 13, 1985, six of the Main Steam Safety Valves were successfully lift tested using the new procedure and test equipment, therefore providing assurance that the remaining safety valves had been properly set.

Licensee Engineering Evaluation of the as-found setpoints determined the safety valves would have performed their design basis function. The safety valves are designed to pass 110% of the steam flow resulting from a turbine trip without a reactor trip at 100% reactor power. The limiting pressure of 1303.5 psig to any main steam component would not have been exceeded during the design basis accident with the safety valve setpoints in their October 6, 1985 as-found condition.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1) VIRGIL C. SUMMER NUCLEAR STATION	DOCKET NUMBER (2) 0 5 0 0 0 3 9 5 8 5 - 0 3 0 - 0 1 0 4 OF 0 4	LER NUMBER (6)			PAGE (3)		
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TEXT (If more space is required, use additional NRC Form 365A's) (17)

TABLE OF 10/06/85 AND 12/13/85
SURVEILLANCE TEST
V. C. SUMMER MAIN STEAM SAFETY VALVES

SYSTEM VALVE # XVS-	DRESSER SERIAL NUMBER	SET POINT NUMBER	TOLERANCE		INITIAL LIFT RESULTS	AMOUNT OUT OF TOLERANCE	RETEST AFTER ADJUSTMENTS
			+1%	-1%			
2806-A	BSO-3840	1176#	1188	1164	1174/1177	----	-----
2806-F	BSO-3841	1176#	1188	1164	1210/1192	+22#	1177/1172
** 2806-F	BSO-3841	1176#	1188	1164	1167/1170	----	-----
2806-K	BSO-3842	1176#	1188	1164	1175/1187	* ----	-----
** 2806-K	BSO-3842	1176#	1188	1164	1186/1186	----	-----
2806-B	BSO-3843	1190#	1206	1178	1183/1168	-10#	1195/1192
2806-G	BSO-3844	1190#	1206	1178	1187/1192	----	-----
** 2806-G	BSO-3844	1190#	1206	1178	1190/1191	----	-----
2806-L	BSO-3845	1190#	1206	1178	1235/1226	* +28#	1190/1187
** 2806-L	BSO-3845	1190#	1206	1178	1208/1207	+2#	1192/1190
2806-C	BSO-3846	1205	1217	1193	1226/1223	+9#	1198/1201
2806-H	BSO-3847	1205	1217	1193	1226/1226	+9#	1199/1204
2806-M	BSO-3848	1205	1217	1193	1172/1180	-21#	1198/1198
** 2806-M	BSO-3848	1205	1217	1193	1190/1178	-15#	1192/1193
2806-D	BSO-3849	1220	1232	1208	1226/1223	----	-----
2806-I	BSO-3850	1220	1232	1208	1220/1232	----	-----
2806-N	BSO-3851	1220	1232	1208	1182/1197	-16#	1224/1216
** 2806-N	BSO-3851	1220	1232	1208	1226/1220	----	-----
2806-E	BSO-3952	1235	1247	1223	1259/1259	+12	1236/1238
2806-J	BSO-3853	1235	1247	1223	1268/1259	+21	1226/1232
2806-P	BSO-3853	1235	1247	1223	1249/1249	+2	1240/1240

* Post Testing Data Review Declared Results Invalid.

** December 13, 1985, Test Results.



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Dan A. Nauman
Vice President
Nuclear Operations

December 20, 1985

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

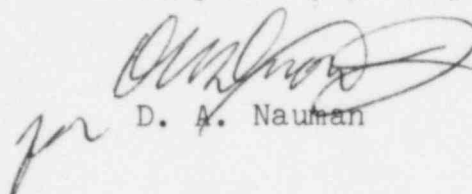
SUBJECT: Virgil C. Summer Nuclear Station
Docket No. 50/395
Operating License No. NPF-12
LER 85-030, Revision 1

Dear Sir:

Attached is Revision 1 to Licensee Event Report #85-030 for the Virgil C. Summer Nuclear Station. This revised report includes event cause, corrective action and evaluation, which the Licensee committed to provide in the initial report. This report is submitted pursuant to the requirements of 10CFR50.73(a)(2)(vii).

Should there be any questions, please call us at your convenience.

Very truly yours,


D. A. Nauman

PDL/DAN:dwf
Attachment

cc: V. C. Summer	C. L. Ligon (NSRC)
T. C. Nichols, Jr./O. W. Dixon, Jr.	K. E. Nodland
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