NRC/ Form 368 * (9-83)			LIC	ENSEE EVE	NT RE	PORT	(LER)	U.S. NU A E	CLEAR REGULA PPROVED OME N XPIRES 8/31.85	ORY COM	HISSION 04
FACILITY NAME	1)							DOCKET NUMBER	(2)	PAC	SE (3)
Catawb	a Nuclear	Station.	Unit 1	8				0 15 10 10	1014111	3 1 OF	014
Auto S	tart of N	lotor Driv	on Auvi	fary Food	Takaw	D					
EVENT DAT		LER NUMBER	(6)	REPORT DAT	E(7)	Pumps	OTHER	FACILITIES INVO	LVED (8)		
MONTH DAY	YEAR YEAR	SEQUENTIAL	REVISION NUMBER	MONTH DAY	YEAR		FACILITY NA	MES	DOCKET NUMBE	R(S)	
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OPERATING	THIS RI	EPORT IS SUBMITT	ED PURSUANT	TO THE REQUIREME	8 4 1	CFR \$: 10	Check one or more	of the following) (1)	0 1910 10	101	
MODE (9) POWER LEVEL (10) 0	4 20 20 0 0 0 20 20 20 20 20).402(b)).405(a)(1)(i)).405(a)(1)(ii)).405(a)(1)(iii)).405(a)(1)(iv)).405(a)(1)(v)		20.40(i(c) 50.36(c)(1) 50.36(c)(2) 50.73(a)(2)(i) 50.73(a)(2)(ii) 50.73(a)(2)(iii)		X	50,73(e)(2)(iv) 50,73(e)(2)(v) 50,73(e)(2)(vii) 50,73(e)(2)(viii) 50,73(e)(2)(viii) 50,73(e)(2)(x)	A) B)	73.71(b) 73.71(c) 0THER (St below and 1 366A)	wecify in Abi n Taxt, NR(rbact : Form
AME			L	ICENSEE CONTACT	FOR THIS	LER (12)					
Roger	W. Ouelle	tte, Assi	stant Er	gineer - I	Licen	sing		AREA CODE 7 1014	3 7 3 T	1715	310
CAUSE SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPROS	EACH COMPONENT	CAUSE	SYSTEM	COMPONENT	MANUFAC- TURER	REPORTABLE TO NPRDS	<i></i>	
								1.1.1			
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- 1		SUPPLEM	INTAL REPORT	EXPECTED (14)	-			EXPECTE	D MONTH	DAY	YEAR
On Oc Pumps both 1 the C. (Hot 3 The Un (S/G) feedwa 25 sec flow 5 Auxil: The ca valve this 5	tober 24, 1A and 1 Main Feed A System Standby). A System Standby. A Sy	1984, at B started water (CF) in standby lear Contr to a low 1 to rapidl e demand f y decrease ow alarm, water Pump his incide was not ca low transi	0635 ho due to Pumps. readin col Oper level de y incre for feed causing os. ent is c pable o ent. e action	urs, Motor an emergen Unit 1 w ess, in pr ator (NCO) viation al ase. Af water wa CF Pumps an automa lassified f respondi was to tr een re-est	Driv bey lo vas in epara bega arm (fee disco recei tic s as a ng fa ip bo ablis	ven Au w such Mode ition in fee 5% lo eding entinu ved a itart Desig st en th Mo hed f	xiliary tion flo 4 (Hot for ente ding Ste w level) S/G 1C fo ed, caus trip si of both 1 n Deficio ough to o tor Drive or the C	Feedwater w signal Shutdown) ring Mode am Generat , causing or approx: ing feedwa gnal, due Motor Driv ency, beca compensate en CA Pump F pumps.	(CA) from with 3 tor imately ater to a yen ause e for		
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LICENSEE EVENT RE	PORT (LER)	TEXT (CONTINUATION
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U.S. NUCLEAR REGULATORY COMMISSION

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TY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)	840E (2)
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Catawba Nuclear Station, Unit 1 more space is required, use additional NRC Form 386A's/ (17)	0 5 0 0 4 1 3	8 4 - 0 1 7 - 0 0	0 2 OF (
The Condensate (CM), Feedwater (supply the Steam Generator's sec	CF) and Auxiliary Fee ondary sides with wat	edwater (CA) Systems	
The CM System takes condensate f reheats it to improve thermal cy CF System through the Hotwell Pur	rom the Condenser Hot cle efficiency, and o mps and Booster Pumps	wells, purifies it, lelivers it to the	
The CF System supplies feedwater temperature, pressure, and flow levels. The two trip signals per Flow (3000 GPM Per CF Pump) and both of which have five second de	to the four Steam Ger required to maintain rtinent to this incid Emergency Low Suction elays.	erators (S/G) at the proper S/G water lent are Emergency Such Pressure (275 psig),	tion
The CA System assures sufficient of loss of the CM/CF Systems. Th start in the event of:	feedwater supply to he Motor Driven CA Pu	the S/Gs in the event mps will automatically	,
 Loss of offsite power Trip of both CF Pumps Safety injection signal Low low S/G water level 			
There are several sources of wate source is non-safety, condensate supply water is the Nuclear Servi have low suction pressure for fiv automatically, in which case, the RN System.	er available to the C quality water. The ice Water (RN) System we seconds, they will by will automatically	A Pumps. The preferre assured source of . If the CA Pumps trip unless started swap over to the	d
Prior to this incident, the CA Sy in preparation for entering Mode and windmilling while a Hotwell P the necessary flow through the CF At lease one CF Pump must be take it, prior to aligning the CA Syst a low demand of feedwater to the by recirculating feedwater throug to the upper surge tank dome. Th for Valve 1CM-127 (CM-CF Cleanup maintains the selected condensate	stem had been placed 3 (Hot Standby). Bo Jump and a Condensate Pumps, keeping them out of the tripped em for standby readin 3/G's, a flow of 7,00 h the high pressure of is flow was regulated Flow Control) to 7,00 flow by throttling of	in Standby Readiness th CF Pumps were reset Booster Pump supplied in a reset condition. condition by resettin ness. Since there was DO GPM was being maint condensate cleanup lin i by setting the selec DO GPM. A controller valve 1CM-127.	g ained e tor
Valve 1CA-151 (S/G 1C CF BYP to C the Control Room and work request S/G 1C, valve 1CF-051 (S/G 1C CF to enter into the S/G 1C Main Feed Technicians were working on valve bypassed the Instrument Control A supply directly to the diaphram. manipulated valve 1CA-151 for the	A Nozzle) was incapab 12326-OPS was issued Cont. Isol.) was oper d Nozzle. Between 02 1CA-151 per chis wor ir Regulator and conr The Unit 1 Nuclear C Technicians throughd	ole of being opened from to fix it. To feed and to allow feedwater 200 and 0615 hours, the request. A Technic dected a temporary air Control Operators (NCO but their troubleshoot:	om ian 's) ing.

NRC Form 366A +

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U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OM8 NO. 3150-0104 EXPIRES 8/31/85

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		YEAR SEQUENTIAL REVISION NUMBER NUMBER		
Catawba Nuclear Station, Unit 1	0 15 10 0 0 14 1 1 3	814 - 01117 - 010	01 3 OF 014	
TEXT (If more space is required, use additional NRC Form 366A's) (17)	And the stand of the stand		931-1014	

No problem was found with this valve, other than a slow response time. Therefore, the Technicians discontinued troubleshooting and returned the air supply to the regulator. The NCO's began using valve ICA-151 to feed S/G IC. When the Technician returned the air supply back to the regulator, valve ICA-151 closed, isolating feedwater to S/G IC.

Twenty minutes later, S/G 1C had a Low Level Deviation (5% low level) Alarm. An NCO immediately opened valve 1CF-051. Valve 1CF-048 (S/G 1C CF BYP Control) was then throttled to provide feedwater to S/G 1C. The condensate flow increased to approximately 9,200 GPM causing valve 1CM-127 to begin throttling closed to reduce the flowrate back to the selected setpoint (7,000 GPM). When the feedwater demand to S/G 1C discontinued, valve 1CF-051 closed, reducing the condensate flowrate to approximately 4,500 GPM. Since both CF Pumps require a minimum of 3,000 GPM suction flow each, and are in parallel, an emergency low flow alarm was initiated for the pumps. After a five second time delay, the CF Pumps received a trip signal causing both Motor Driven CA Pumps to start, on loss of both CF Pumps.

CA Pump 1A started 12 seconds after CA Pump 1B. When CA Pump 1B initially started, a loss of normal suction alarm to both CA Trains was initiated. This alarm returned to normal within 2 seconds, but because the B Train Five Second Delay was incorrectly set on zero, the B Train suction swapped over to the Nuclear Service Water (RN) System, by opening valves 1CA-18B and 1RN310B.

When another NCO recognized that the Feedwater System was still maintaining condensate flow by means of a Hotwell Pump and Booster Pump, he manually tripped both Motor Driven CA Pumps. CA Pump 1A restarted and had to be manually tripped a second time.

A Temporary Station Modification has been completed per work request 12365-OPS to allow a higher instrument air pressure to be supplied to valve 1CA-151 so that it will operate properly. A Station Problem Report will be initiated to have this problem permanently resolved.

Valve ICM-127 is not capable of responding quickly enough to prevent the CF Pumps from tripping under these conditions. The cause of this incident is classified as a Design Deficiency, and a Station Problem Report will be initiated to provide assured minimum flow protection for the CF Pumps independent of the Selector/Controller for valve ICM-127.

Auxiliary Feedwater System Temporary Test, TT/a/A/1250/04, was performed or November 14 and 15, 1984, to verify the response time for both Motor Driven CA Pumps. The response time for both pumps was within 2 to 3 seconds. It is not known why Train A responded 12 seconds later than Train B. NRC Form 366A

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

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CORRECTIVE ACTION

A Unit 1 NCO tripped CA Pumps 1A and 1B when he recognized normal suction flow had been regained.

All timing relays effected were subsequently calibrated and the CA auto start circuitry was retested.

Drawing CNEE-0147-03.03 will be revised to reflect the five second relay setting.

A Station Problem Report will be initiated to provide the CF Pumps an independent, minimum flow protection.

Station Problem Report will be initiated to modify the instrument air supply to valve 1CA-151.

SAFETY ANALYSIS

Unit 1 was in Mode 4 (200°F Mode 4 350°F) prior to initial criticality. No residual heat was present or being removed at the Steam Generators. Steam Generator 1C heat removal capacity was never compromised. The health and safety of the public were uneffected by this incident.

PUKE POWER COMPANY P.O. BOX 33189 CHARLOTTE, N.C. 28242

HAL B. TUCKER VICE PRESIDENT NUCLEAR PRODUCTION

November 30, 1984

TELEPHONE (704) 373-4531

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

Subject: Catawba Nuclear Station, Unit 1 Docket No. 50-413

Gentlemen:

Pursuant to 10 CFR 50.73 Section (a) (1) and (d), attached is Supplement 1 to Licensee Event Report 413/84-17 concerping the auto start of motor driven auxiliary feedwater pumps. This event was considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

The B. Lecker

Hal B. Tucker

RWO:s1b

Attachment

cc: Mr. James P. O'Reilly, Regional Administrator U. S. Nuclear Regulatory Commission Region II 101 Marietta Street, NW, Suite 2900 Atlanta, Georgia 30323

> INPO Records Center Suite 1500 1100 Circle 75 Parkway Atlanta, Georgia 30339

> NRC Resident Inspector Catawba Nuclear Station

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cc: Robert Guild, Esq. P. 0. Box 12097 Charleston, South Carolina 29412

> Mr. Jesse L. Riley Carolina Environmental Study Group 854 Henley Place Charlotte, North Carolina 28207

Mr. James *. Kelley, Chairman Atomic Safety and Licensing Board Panel U. S. Nuclear Regulatory Commission Washington, D. C. 20555

Dr. Paul W. Purdom 235 Columbia Drive Decatur, Georgia 30030

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