

Tennessee Valley Authority, Post Office Box 2000, Spring City, Tennessee 37381

October 26, 2012

10 CFR 50.73

ATTN: Document Control Desk U.S. Nuclear Regulatory Commission Washington, D.C. 20555-0001

> Watts Bar Nuclear Plant, Unit 1 Facility Operating License No. NPF-90 NRC Docket No. 50-390

Subject: Licensee Event Report 390/2012-004, Automatic Reactor Trip due to Low-Low Steam Generator Level

The enclosed Licensee Event Report provides details concerning an automatic reactor trip that occurred due to low-low steam generator level. This report is being submitted in accordance with 10 CFR 50.73(a)(2)(iv)(A), a condition that resulted in automatic actuation of the reactor protection system and automatic actuation of the auxiliary feedwater system.

There are no regulatory commitments in this letter. Please direct any questions concerning this matter to Donna Guinn, WBN Site Licensing Manager, at (423) 365-1589.

Respectfully,

D. E. Grissette Site Vice President Watts Bar Nuclear Plant

Enclosure cc: See Page 2 U.S. Nuclear Regulatory Commission Page 2 October 26, 2012

Enclosure cc (Enclosure):

NRC Regional Administrator - Region II

NRC Senior Resident Inspector - Watts Bar Nuclear Plant

	NRC FOF	RM 366			U.S. NUCLE	AR RI	GULATOR	Y COMMI	SSION	APPRO	OVED BY OME	3: NO. 315	0-0104	1	EXPIRES:	10/31/2013
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consequences were identified, placed on administrative hold, and will be updated to ensure procedural	ABSTRA On A thern confi chan circu close react appro desig The t test e cons	CT (<i>Lin</i> Jugust al po gurationel, and it remo- ed and cor trip opriate gned. root ca equipn equer	aut to 1400 28, 20 wer, the on of te nd the o oved pool resulting and ini- e trip re ause of nent by nces we	this ev react	<i>i.e., approxim</i> 0332 hour or tripped ipment du I fuse and om the #2 oss of mai of the au e procedu vent is tha erienced to ntified, pla	ately : s with auto ring 1 l ups main n fee kiliary res a t proc echn ced o	h Watts matically testing o tream ci n feedwa dwater t y feedwa nd stabi	Bar Nu y on low of a Pres rcuit br ater reg to SG # lized th detail wa Proceden nistrativ	ewritten clear v-low ssuriz eaker julatir 2. Lo tem. e plai as ina ures f ve hol	Ines) Plant stear clear g val w-low Plant nt in I ndequ or cir d, and	t (WBN) L m genera ressure cl red on thi ve circuit w level in t personn Mode 3. uate to en cuit-intrus d will be u	Jnit 1 a tor (SG nannel is fault. ry, caus SG #2 el imme All safe sure co sive act updated	t 100 indu Los sing resu edia ty sy orrec ivitie	D percen level. Ir ced a fai ss of the the valve ulted in a tely ente ystems fu es with si ensure p	t rated acorrect ult into t upstrea to fail n autom red unctione milar rocedur	he m natic ed as f the al

This event is reported as an LER in accordance with 10 CFR 50.73(a)(2)(iv)(A) for the automatic actuation of the reactor protection system and the auxiliary feedwater system.

NRC F((10-2010	DRM 366A	LIC	ENSEE EV	/ENT REPO	DRT (LEI IEET		LEAR REGUL	ATORY COMMISSION				
		1. FACILITY NAME		2. DOCKET	6	. LER NUMBE	R	3. PAGE				
	Watt	s Bar Nuclear Plant, Unit	1	05000390	YEAR	SEQUENTIAL NUMBER	REV No.	2 OF 5				
					2012	004	0					
NAR	RATIVE											
I.	PLAN	IT CONDITIONS:										
	Watts	Bar Nuclear Plant (WBN	I) Unit 1 wa	s operating a	t 100 per	cent rated th	nermal po	ower.				
11.	DESC	CRIPTION OF EVENT:										
	Α.	Event:										
	B.	incorrect configuration fault into the channel. A upstream circuit breake #2 main feedwater regu closed which resulted i Low-low level in SG #2 feedwater system. The initiated. All safety sys	rformance of uration, the of circuit remove try, causing ator (SG) [El trip and actu- nd an event ntributed to	f 1-SI-68- channel fived powe the valve IIS code / iation of t investigat	6 induced a use and r from the to fail AB] #2. he auxiliary tion was							
	None.											
	C.	Dates and Approximate Times of Major Occurrences:										
		Date	Time (E	DT)		Eve	nt					
		August 28, 2012	Night s	hift Ins cor	trument M nmenced	laintenance performanc	personne e of 1-SI-	el 68-6.				
		August 28, 2012	03:30:4	49 Op ste and	erations t am/feedw I low SG	began receiv vater mismat level alarms	ving vario tch, low fe	us Loop 2 eedwater,				
		August 28, 2012	03:31:	32 Rea	actor trip	due to low-lo	ow SG lev	vel.				
	D.	Other Systems or Seco	ondary Fund	ctions Affecte	ed:							
		No other systems or se	econdary fu	nctions were	affected	by this even	t.					
	E.	Method of Discovery:										
		Control Room alarms a	alerted oper	ators to the s	tart of the	e event.						

NRC FO (10-2010)	RM 366A	LICENSEE EVENT REPORT (LER) CONTINUATION SHEET										
		1. FACILITY NAME	2. DOCKET	6	. LER NUMBE	3. PAGE						
				YEAR	SEQUENTIAL	REV No						
	Watts	s Bar Nuclear Plant, Unit 1	05000390	2012	004	0	3 OF 5					
NARR	ATIVE				L							
11.	DESCRIPTION OF EVENT (continued):											
	F.	Operator Actions:										
		Following the reactor trip, the operators entered the following procedures to stabilize the plant in Hot Standby Conditions:										
		Emergency Operating Instruction, E-0, Reactor Trip or Safety Injection										
	Emergency Operating Instruction, ES-0.1, Reactor Trip Response											
	Abnormal Operating Instruction, AOI-17, Turbine Trip											
		General Operating Instruction, GO-5, Unit Shutdown from 30% Reactor Power to Hot Standby										
	G. Safety System Responses:											
		All safety systems operated as des	signed.									
111.	CAUS	E OF EVENT:										
	Α.	Direct Cause:										
		The direct cause of this event was loss of power to control cabinet 1-Rack-19. Wh this rack lost power, the #2 main feedwater regulating valve failed closed.										
	В.	Root Cause:										
		The root cause of this event was the to ensure correct configuration of the technicians. The result was a loss	Jure detail in 1-SI-68-6 was inadequate It (i.e., a break-in box) by inexperienced I-Rack-19 and subsequent reactor trip.									
	C.	Contributing Causes:										
		Contributing causes were that som encountered procedural guidance Additionally, risk screening process strategies for performance of 1-SI- that procedural guidance was vagu	ie individuals that was not v ses did not ide 68-6 and mar ue for those u	did not "s written to entify the nagemen nfamiliar	stop when un their level of appropriate t monitoring with the tasl	nsure" wh f understa risk or m did not re <.	nen they anding. hitigating ecognize					
IV.	ANALYSIS OF THE EVENT:											
	Loss of normal feedwater is analyzed in Updated Final Safety Analysis Report (UFSAR) section 15.2.8. The SG low-low level reactor protection system trip function ensures that protection is provided against a loss of heat sink to the reactor vessel.											

			NUATION SH	IEET	K)				
		1. FACILITY NAME	2. DOCKET	6	R	3. PAGE			
	Watts Bar Nuclear Plant, Unit 1 05000390 —		YEAR	SEQUENTIAL NUMBER	REV No.	4 OF 5			
				2012	004	0			
NARF	RATIVE								
IV.	ANA	LYSIS OF THE EVENT (continued):							
	Sinc varia ensu UFS the a wate ever	e the plant is tripped before the SG hables maintain acceptable margin to a ure a heat sink is restored, this condit AR loss of feedwater event analysis auxiliary feedwater system is capable or relief from the pressurizer and subs at, all safety systems operated as des	neat transfer ca a departure fro ion also actua demonstrates of removing t sequently a los signed and ana	apability i om nuclea tes the a that, follo he storeo so of wate alyzed in	is reduced, t ate boiling co uxiliary feed owing a loss d and residu er from the r the UFSAR	he primai ondition. water sys of norma al heat, th eactor co	ry system In order to Item. The I feedwater, hus preventir re. In this		
V.	ASS	ESSMENT OF SAFETY CONSEQU	ENCES:						
	Base of pla	ed on the above "Analysis of the Eve ant personnel or the general public.	nt," this event	did not a	dversely affe	ect the he	alth and safe		
VI.	CORRECTIVE ACTIONS:								
	A. Immediate Corrective Actions:								
	Work was stopped and an incident investigation was commenced. The event we entered into the corrective action program.								
	B. Corrective Actions to Prevent Recurrence:								
		Corrective actions to prevent recurrence include identifying other circuit intrusive activities with potentially similar consequences and ensuring the procedural guidance for their performance is written per procedure writing guidelines. The worst case failure for each activity will be identified in the procedure, along with necessary compensatory measures. This information will also be used to provide a reference instruction for the station for conduct of future risk screening evaluations.							
VII.	ADDITIONAL INFORMATION:								
	Α.	Failed Components:							
		None.							
	В.	Previous LERs on Similar Events:							
		A review of providus reportable as							

u-2010)		CONT	INUATION SH	EET	S)							
		1. FACILITY NAME	2. DOCKET	6. LER NUMBER			3. PAGE					
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		,		2012	004	0						
ARR	ATIVE											
11.	ADDITIONAL INFORMATION (continued):											
	C .	Additional Information:										
		None.										
	D.	Safety System Functional Failur	e:									
		This event did not result in a safety system functional failure as defined by 10 CFR 50.73(a)(2)(v) and NEI 99-02.										
	E. Unplanned Scrams with Complications:											
		This event did not result in an un	planned scram v	with comp	lications as	defined l	oy NEI 99-0					
111.	COM	/ITMENTS:										
	None.											