

South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

December 21, 2005 NOC-AE-05001957 10CFR50.73

U. S. Nuclear Regulatory Commission Attention: Document Control Desk One White Flint North 11555 Rockville Pike Rockville, MD 20852

## South Texas Project Unit 2 Docket No. STN 50-499 Licensee Event Report 2005-05, 125 VDC Switchboard De-energized Without Placing <u>FHB HVAC in Emergency Recirculation Mode</u>

Pursuant to 10 CFR 50.73(a)(2)(i)(B), STP Nuclear Operating Company submits the attached Unit 2 Licensee Event Report 2005-05 regarding a Technical Specification (TS) violation which occurred as a result of de-energizing Class 1E 125 VDC Switchboard E2C11 without placing the Fuel Handling Building (FHB) Heating, Ventilation, and Air Conditioning (HVAC) system in Emergency Recirculation Mode as required by TS 3.3.2 Action 30.

This event did not have an adverse effect on the health and safety of the public.

There are no commitments contained in this event report. Resulting corrective actions will be implemented in accordance with the Corrective Action Program.

If there are any questions regarding this submittal, please contact S. M. Head at (361) 972-7136 or me at (361) 972-7800.

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G. L. Parkey Vice President, Generation and Plant General Manager

jrm/

Attachment: LER 2005-05

STI: 31969278

cc: (paper copy)

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NRC FORM 366 U.S. NUCLEAR REGULATORY COMMISSION								APP	ROVE	D BY OMB	: NO. 3150-010	4	EXPIRES	: 06/30/2007		
LICENSEE EVENT REPORT (LER) (See reverse for required number of digits/characters for each block)									Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burde estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Informatio and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management an Budget, Washington, DC 20503. If a means used to impose an informatio collection does not display a currently valid OMB control number, the NRC ma not conduct or sponsor, and a person is not required to respond to, th information collection.							
1. FACIL	1. FACILITY NAME									OCK	ET NUMB	ER 3	. PAGE			
Sout	h Texa	as Unit	2							05	000499		1	OF 5	5	
4. TITLE																
125	VDC S	Switchb	oard D	)e-energize	ed W	/ithout F	Placing	FHB	HVA	C ir	n Emerç	gency Rec	irculatior	Mode		
5. E	VENT D	ATE	6.	LER NUMBEF	}	7. R	EPORT D	ATE			8.	OTHER FAC	ILITIES INV	OLVED	-	
MONTH	TH DAY YEAR YEAR SEQUENTIAL REV MONTH DAY YE						YEAF	FA R	CILITY	'NAME			оскет 050	NUMBER IOO		
10	19	2005	2005	- 005 -	00	12	21	200	5	CILITY	NAME			DOCKET 050	NUMBER 100	
9. OPERATING MODE 11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: (Check all that apply)																
6       20.2201(b)       20.2203(a)         0       20.2203(a)       20.2203(a)         10. POWER LEVEL       20.2203(a)(2)(ii)       50.36(c)(1)         20.2203(a)(2)(ii)       50.36(c)(1)         20.2203(a)(2)(iii)       50.36(c)(2)         000       20.2203(a)(2)(iv)       50.46(a)(3)         000       20.2203(a)(2)(v)       50.73(a)(2)					(3)(i) (3)(ii) (4) (i)(A) (ii)(A) (ii) (ii) (ii)(A) (ii)(B)			50.73(a) 50.73(a) 50.73(a) 50.73(a) 50.73(a) 50.73(a) 50.73(a) 50.73(a) 50.73(a)	(2)(i)(C) (2)(ii)(A) (2)(ii)(B) (2)(ii) (2)(iv)(A) (2)(v)(A) (2)(v)(B) (2)(v)(C) (2)(v)(D)	□ 50.7 □ 50.7 □ 50.7 □ 50.7 □ 50.7 □ 73.7 □ 73.7 □ 73.7 □ 73.7	73(a)(2)(vii 73(a)(2)(vii 73(a)(2)(vii 73(a)(2)(ix) 73(a)(2)(2)(ix) 73(a)(ix) 73(a)(ix)	) )(A) )(B) (A) act below				
													or in	NRC Form	366A	
FACILITY					1	2. LICENS	SEE CON	ACT F	OR TI	HIS L	ER	TELE	PHONE NUMB	R (Include Ar	ea Code)	
J	lames	Morris						•	(361) 972-8652							
	13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT															
CAUSE SYSTEM		COMPO	NENT MAN FACTU	IU- IRER	REPOR TO E	TABLE EPIX	CAU			SYSTEM	COMPONENT	MANU- FACTURE		DRTABLE DEPIX		
	14. SUPPLEMENTAL REPORT EXPECTED										15. EX SUB	KPECTED MISSION	MONTH	DAY	YEAR	
	YES (If yes, complete 15. EXPECTED SUBMISSION DATE)         Note: The second s								I NO			DATE				

On October 19, 2005, with Unit 2 shut down for refueling, during movement of fuel assemblies in the Fuel Handling Building (FHB), Class 1E 125 VDC Switchboard E2C11 was de-energized as part of scheduled bus maintenance without placing the FHB Heating, Ventilation, and Air Conditioning (HVAC) system in the Emergency Recirculation mode as required by Technical Specification 3.3.2 Action 30. The Train C FHB HVAC actuation relays are located in Relay Rack (RR) 145C and powered from 125V DC Panel 039C; which is in turn powered from Switchboard E2C11. These relays require DC power to automatically place the FHB HVAC in the Emergency mode and would not have actuated with Switchboard E2C11 de-energized. This condition is reportable in accordance with 10 CFR 50.73(a)(2)(i)(b) as a event or condition prohibited by Technical Specifications.

The root cause of this event is the over-reliance on highly qualified and experienced individuals to plan and schedule Electrical Bus Outages and the failure to develop and implement procedures to provide guidance for these evolutions.

This event did not adversely affect the safety of the public or station personnel.

NRC FORM 366 (6-2004)

	I. FAGILII Y NAME	2. DOCKET	6	3. PAGE							
South Te	xas Unit 2	05000499	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2	OF	5			
			2005	005	00						
ARRATIVE (	f more space is required, use additional co	opies of NRC Form 366.	A) (17)								
	· · · · · · · · · · · · · · · · · · ·										
I. DE	SCRIPTION OF REPORTABLE	EVENT									
Α.											
	This event is reportable pur Technical Specifications.	rsuant to 10 CFR	50.73(a)(	2)(i)(B) as a	condition	prohi	bited t	у			
В.	PLANT OPERATING CON	DITIONS PRIOR	TOTHE	EVENT							
	Unit 2 was shutdown, with	core reload in pro	ogress at t	he time of th	e event.						
C.	STATUS OF STRUCTURE AT THE START OF THE E	S, SYSTEMS, O VENT AND THA	R COMPO T CONTR	DNENTS TH	AT WERI	e ino Ent	PERA	BLE			
	As discussed below, 125 V outage, which caused the F Conditioning (HVAC) syste structures, systems, or con contributed to the event.	DC Switchboard Fuel Handling Bu m actuation relay nponents that we	E2C11 wa ilding (FHI vs to be ind re inopera	as de-energi 3) Heating, \ operable. Th ble at the sta	zed as pa Ventilatior ere were art of the	art of a n, and no ad event	a plann Air Iditiona that	ed I			
D.	NARRATIVE SUMMARY C	OF THE EVENT,	INCLUDIN	IG DATES A			MATE				
	On October 17, 2005 at 08 a planned C Train AC elect (inoperable FHB HVAC trai recommenced Core Alterat time Core Alterations resum and the applicable portion of 0950 hours, Class 1E 125 V planned outage maintenand Fuel Handling Building (FH Relay Rack (RR) 145C and powered from Switchboard the FHB HVAC in the Emer E2C11 de-energized. Addi per TS 3.9.12, the FHB HV required by TS 3.3.2. At ap	19 hours, Train C rical bus outage, ions after being s ned, all Technica of Section 3, "Inst VDC Switchboard ce in conjunction B). The Train C I are powered fro E2C11. These r rgency mode and tionally, although AC system was r pproximately 125	C FHB HV/ and Tech On Octob stopped fo I Specifica trumentation E2C11 w with irradi FHB HVA0 m 125V D relays requ I would no Train C F not placed 9 hours, S	AC was decla nical Specifi er 19, 2005 r Refueling M tions (TS) in on" were bei vas removed ated fuel be C actuation in C Panel 039 uire DC power t have actuat HB HVAC w in Emergen witchboard I	ared inop cation 3.9 at 0821 h Machine r Section ing met. / I from sen ing moved relays are OC, which er to auto ited with S vas alread cy Recirci E2C11 wa	erable 0.12 A ours, epairs 9 "Ref At app vice a d in th locat is in t matica Switch ly inop ulatior as retu	e as pa ction a Unit 2 s. At th iueling proxima s part o e Unit ed in urn ally pla board board perable n mode	rt o ie ateli of 2 ce e as			

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		1. FACILITY NAME	2. DOCKET		6. LER NUMBER		-	3. PAGE	-	
Sou	ith Texa	s Unit 2	05000499	YEAR	SEQUENTIAL	REVISION NUMBER	3 OF			
				2005	005	00				
NARR	ATIVE (If m	ore space is required, use additiona	al copies of NRC Form 366.	4) (17)						
	E.	October 19, 2005. Thes declared inoperable (wh Train C AC electrical our Recirculation mode of op outage work associated from service during two service between 1402 at (SFP) activities in progre 2005 at 0800 hours and period of time E2B11 wa THE METHOD OF DISC PROCEDURAL OR PER There were no failed cor discovered during a revise	se actions would have ich had already beet tage) and placing the peration. Also, the <i>i</i> with Switchboards I previous Electrical E nd 1610 hours on O ess. Switchboard E returned to service as out of service, all COVERY OF EACH RSONNEL ERROR mponents. As state ew of outage work.	ve require n done or e FHB H\ Atypical C 22A11 an Bus Outag ctober 5, 2B11 was October 1 Technical COMPON	d the C Train n October 17 /AC system i condition Eva d E2B11, wh ges. When E 2005, there we removed fro 10, 2005 at 1 I Specificatio NENT OR SY the TS non-c	of FHB I , 2005 as in the Em luator rev ich had b 2A11 was were no S m service 350 hours n actions STEM F/	AVAC a res ergen iewec een re s reme pent e on C s. Du were AILUF	to be ult of th cy I the emoved oved fro Fuel Pc Dctober ring the being r	e 50 9 9	
11.	COMF A.	PONENT OR SYSTEM FA	AILURES HANISM, AND EFFE	CTS OF	EACH FAILE	D COMP	ONE	• NT	,	
	р	There were no failed cor	nponents.							
	D.	CAUSE OF EACH COMPONENT OR SYSTEM FAILURE								
	C.	SYSTEMS OR SECONE COMPONENTS WITH M	DARY FUNCTIONS	THAT WI	ERE AFFECT	red by f	AILUI	RE OF		
		There were no failed con	nponents.							
	D.	FAILED COMPONENT I	NFORMATION							
		There were no failed con	nponents.							
111.	ANAL	SIS OF THE EVENT								
	A.	SAFETY SYSTEM RES	PONSES THAT OC	CURRED						

	1. FACILITY NAME	2. DOCKET	2. DOCKET 6. LER NUMBER				3. PAGE				
South T	exas Unit 2	05000499	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4	OF	5			
			2005	005	00						
RRAIIVE	(If more space is required, use addition	onal copies of NHC Form 366	A) (17)								
	1. FACILITY NAME         2. DOCKET         6. LER NUMBER           IXas Unit 2         05000499         YEAR         SEQUENTIAL         REVISION         4           If more space is required, use additional copies of NRC Form 366A) (17)         Immee space is required, use additional copies of NRC Form 366A) (17)           DURATION OF SAFETY SYSTEM TRAIN INOPERABILITY         As described above, the Train C FHB actuation relays were inoperable for approxinous, however the A and B Trains remained operable and capable of providing the required FHB HVAC emergency recirculation function.           SAFETY CONSEQUENCES AND IMPLICATIONS           This event is considered significant because a TS violation occurred. However, but the A and B Trains of FHB HVAC (including actuation logic capability) remained on the ability of the FHB HVAC system to automatically respond to a fuel handling actwas not impaired during a time period when fuel movement was in progress.           This event did not adversely affect the safety of the public or station personnel. The no radiological consequences as a result of this event.           USE OF THE EVENT           a root cause of this event is the over-reliance on highly qualified and experienced indivin and schedule Electrical Bus Outages and the failure to develop and implement proceeding significance for these as in to been considered a station priority because the number and significance of these are notices fully performed using the knowledge, planning, and scheduling of the Work Windd nager, Electrical Bus Outage share been very low. In the past, Electrical Bus Outage activities for compliance did not identify that removing E2 vide would result in a Technical Specification										
n											
В.	DURATION OF SAFE	IT STSTEM TRAINT	NOPERA	SILLIY							
	As described above, th	ne Train C FHB actua	tion relays	were inopei	able for a	approx	imatel	у З			
	hours, however the A and B Trains remained operable and capable of providing the required EHB HVAC emergency recirculation function										
	required FHB HVAC e	mergency recirculatio	n function	•							
C.	SAFETY CONSEQUE	NCES AND IMPLICA	TIONS								
	This event is consider	ad aignificant bacquar		ation accurr	d Howa	wor h	~~~~	~			
	I his event is considered significant because a 1S violation occurred. However, because the A and B Trains of FHB HVAC (including actuation logic capability) remained operable										
C. /. CAI The plar	the ability of the FHB HVAC system to automatically respond to a fuel handling accident										
	was not impaired during a time period when fuel movement was in progress.										
	This event did not adversely affect the safety of the public or station personnel. There were										
	no radiological conseg	uences as a result of	this event		n person		nere were				
						approximately 3 ding the ever, because ined operable, ling accident s. nel. There were d individuals to t procedures to nese activities events during vities have been Window Reactor ving E2C11 from ers and peers id not scrutinize nual.					
<ul> <li>This event is considered significant because a TS violation occurred. No the A and B Trains of FHB HVAC (including actuation logic capability) remained ability of the FHB HVAC system to automatically respond to a fuel ha was not impaired during a time period when fuel movement was in progree. This event did not adversely affect the safety of the public or station person or radiological consequences as a result of this event.</li> <li>IV. CAUSE OF THE EVENT</li> <li>The root cause of this event is the over-reliance on highly qualified and experient plan and schedule Electrical Bus Outages and the failure to develop and implement.</li> </ul>											
7. OF											
Th	root cause of this event is the over-reliance on highly qualified and experienced individuals to										
pla	and schedule Electrical Bus Outages and the failure to develop and implement procedures to										
pro ba	vide guidance for these evolutions. The development of detailed guidance for these activities										
Ele	ectrical Bus Outages have been very low. In the past, Electrical Bus Outage activities have been										
su	ccessfully performed using t	the knowledge, plann	ing, and s	cheduling of	the Work	Winde	w				
Ma	nager, Electrical (WWME).	A contributing cause	e to the ev	ent is that th	e Senior	Reacte		~~~			
Sei	vice would result in a Tech	nical Specification 3.3	2 entry.	The WWMF'	s cowork	ers an	d neer	iom S			
rev	riewed the Electrical Bus Ou	utage plans provided	by the WV	VME, howeve	er, they d	id not	scrutin	ize			
the	details against the require	ments of TS 3.3.2 or t	he Techni	cal Requiren	nents Ma	nual.					
/. CC	FORM 366A U.S. NUCLEAR REGULATORY COMMISSION         J.CENSEE EVENT REPORT (LER)         1. FACILITY NAME       2.1         Jth Texas Unit 2       050         IATIVE (If more space is required, use additional copies of NF         B.       DURATION OF SAFETY SYSTEM         As described above, the Train C FI         hours, however the A and B Trains         required FHB HVAC emergency re         C.       SAFETY CONSEQUENCES AND         This event is considered significant         the A and B Trains of FHB HVAC system         was not impaired during a time per         This event did not adversely affect         no radiological consequences as a         CAUSE OF THE EVENT         The root cause of this event is the over-rel         plan and schedule Electrical Bus Outages         provide guidance for these evolutions. The         has not been considered a station priority I         Electrical Bus Outages have been very low         successfully performed using the knowledge         Manager, Electrical (WWME). A contribut         Operators (SROs) responsible to ensure T         service would result in a Technical Specific         reviewed the Electrical Bus Outage plans p         the details against the requirements of TS         CORRECTIVE ACTIONS										
1	STP will develop a program	procedure to control	the devel	opment of pr	ncedures	for de					
1.	energizing each individual	electrical bus, to be us	sed when	removing a t	ous from s	service	e to				
· ·	support maintenance.			0			-				
0	A review of TS 2 2 2 will be	included in Licensed	Operator	Roqualificati	on Traini	na nria	rta th	~			
۷.	n leview UL 13 3.3.2 Will De	ding DC-nowered act	uation rela	nequalinicati	d their TS	sapplic Sappli	n io in cability	d /			
	next refueling outage regarding DC-powered actuation relay circuits and their TS applicability										

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NRC F (1-2001)	ORM 366A U.S. NUCLEAR REGU	ULATORY COMMIS	SION						
	1. FACILITY NAME		2. DOCKET		3. PAGE				
Sou	th Texas Unit 2		05000499	2005	SEQUENTIAL NUMBER 005	REVISION NUMBER 00	5	OF	5
NARRA	TIVE (If more space is required, us	e additional copies	of NRC Form 366/	4) (17)					
VI.	PREVIOUS SIMILAR EV	VENTS	,						
-	There have been no pre	evious similar L	icensee Ever	nt Reports	5.				
X.	ADDITIONAL INFORMA	TION							
	STP plans to submit a L requirements for the FH	icense Amend B actuation rel	lment Reques lays.	t which b	etter clarifies	the Mode	5 and	d 6	
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	1		)						
			i. Iere						