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FACIL: 50-389 St. Lucie Plant, Unit 2, Florida Power & Light Co. 05000389
AUTH. NAME AUTHOR AFFILIATION
HURCHALLA, J.A. Florida Power & Light Co.
SAGER, D.A. Florida Power & Light Co.
RECIP. NAME RECIPIENT AFFILIATION

SUBJECT: LER 93-006-00: on 930513, EDG 2B inadvertently started during safeguards relay testing due to personnel error. Personnel performing test counseled on communications & safeguards relay testing completed satisfactorily. W/930611 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

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A04



P.O. Box 128, Ft. Pierce, FL 34954-0128

June 11, 1993

L-93-157
10. CFR 50.73

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

Re: St. Lucie Unit 2
Docket No. 50-389
Reportable Event: 93-06
Date of Event: May 13, 1993
Inadvertent Start of the
2B Emergency Diesel Generator

The attached Licensee Event Report is being submitted pursuant to the requirements of 10 CFR 50.73 to provide notification of the subject event.

Very truly yours,

A handwritten signature in cursive script that reads 'D. A. Sager'.

D. A. Sager
Vice President
St. Lucie Plant

DAS/JJB/kw

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, USNRC Region II
Senior Resident Inspector, USNRC, St. Lucie Plant

DAS/PSL #932-93

150087

9306160342 930614
PDR ADDOCK 05000389
S PDR

an FPL Group company

A handwritten signature in cursive script, possibly reading 'JEB', located in the bottom right corner of the page.

LICENSEE EVENT REPORT (LER)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUIREMENT IS 30 MINUTES. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-4305), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) St. Lucie Unit 2		DOCKET NUMBER (2) 05000389	PAGE (3) 1 OF 3
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TITLE (4) Inadvertant Start of the 2B Emergency Diesel Generator During Safeguards Relay Testing Due to Personnel Error

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)
05	13	93	93	006	00	06	14	93	N/A		05000389
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR : (Check one or more of the following) (11)									

OPERATING MODE (9) 1	20.402(b)	20.405(c)	X	50.73(a)(2)(iv)	73.71(b)
POWER LEVEL (10) 100	20.405(a)(1)(i)	50.36(c)(1)		50.73(a)(2)(v)	73.71(c)
	20.405(a)(1)(ii)	50.36(c)(2)		50.73(a)(2)(vii)	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)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME James A. Hurchalla, Shift Technical Advisor	TELEPHONE NUMBER AREA CODE 407-465-3550
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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

SUPPLEMENTAL REPORT EXPECTED (14)

YES (If yes, complete EXPECTED SUBMISSION DATE) NO

EXPECTED SUBMISSION DATE (15)

MONTH	DAY	YEAR

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

On May 13, 1993, at 1920 hours with Unit 2 in Mode 1 at 100% power, Instrument and Control (I&C) personnel were performing the "Engineered Safeguards Relay Test" procedure OP 2-0400053 in coordination with the Unit 2 Operating crew. Operations had set up the initial test conditions including control isolation of the 2B Emergency Diesel Generator (EDG) from the Engineered Safety Features Actuation System (ESFAS). Instrument and Control technicians then connected a multifunction test meter across an ESFAS relay contact which provides an EDG start and injected a trip test signal to check this circuit's actuation. When the I&C supervisor did not obtain the desired results he informed the Assistant Nuclear Plant Supervisor that Operations personnel could "reset" following the test. Operations restored the plant to normal including taking the EDG normal/isolate switches back to the normal position thereby unisolating the 2B EDG from the ESFAS. Approximately one minute later the 2B EDG started and performed as expected for an automatic safeguards actuation. The 2B EDG was immediately secured and the safeguards relay testing was stopped pending investigation of why the EDG had started.

The root cause of the unplanned start of the 2B EDG was due to personnel error. The I&C supervisor intended to perform the test again and only intended for Operations to reset the ESFAS signals to restore the initial test conditions. However, based on previous communications following each test, Operations understood the reset request as that the test was complete and that they could secure from the test conditions. A contributing factor was a lack of procedural guidance for repeating or securing the test conditions.

Corrective actions: 1) Personnel performing the test were counseled on communications. 2) The safeguards relay testing was completed satisfactorily. 3) OP2-0400053 will be changed to ensure test equipment is removed prior to restoring plant equipment. 4) A Human Performance Enhancement Review was conducted and the conclusions incorporated in this report. 5) Training on this event will be provided for appropriate plant personnel.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION
REQUEST: 30.8 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS
AND REPORTS MANAGEMENT BRANCH (F-532), U.S. NUCLEAR REGULATORY COMMISSION,
WASHINGTON, DC 20535, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0184), OFFICE
OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) St. Lucie Unit 2	DOCKET NUMBER (2) 05000389	LER NUMBER (6)			PAGE (3)		
		YEAR 93	SEQUENTIAL NUMBER 006	REVISION NUMBER 00			
					02	OF 03	

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

DESCRIPTION OF THE EVENT

On May 13, 1993, at 1920 hours with Unit 2 in Mode 1 at 100% power, Instrument and Control personnel were performing the "Engineered Safeguards Relay Test" procedure OP 2-0400053 in coordination with the Unit 2 Operating crew. During the performance of this procedure Operations established the initial test conditions and the Instrument and Control personnel performed the relay actuation and verification. Data sheet #8 of OP 2-0400053 was being performed to test the capability of the "B" Safety Injection Actuation Signal/Containment Isolation Actuation Signal (SIAS/CIAS)(EIS:JE) relay to provide an Emergency Diesel Generator (EDG)(EIS:EK) start signal. Operations had fulfilled the pretest conditions by placing the 2B EDG normal/isolate switches in the isolate position to isolate that EDG from the safeguards start circuitry during the test to minimize unnecessary EDG starts. The Instrument and Control personnel connected a multifunction test meter across the B SIAS/CIAS relay contact and injected the trip test signal to obtain actuation. When the Instrument and Control supervisor did not obtain the desired results he informed the Assistant Nuclear Plant Supervisor (ANPS) that Operations personnel could "reset" following the test. Operations restored the plant to normal including taking the EDG normal/isolate switches back to the normal position thereby unisolating the EDG. During this time the technicians had removed the meter from the test leads to replace it with a different meter as a precautionary measure. The leads were left on the contacts in anticipation of performing the test again. Subsequent to the EDG normal/isolate switches being placed to normal, technicians installed the new meter on the already connected leads. The 2B EDG started but did not load to the 2B3 4160 VAC bus which is the expected response for an automatic safeguards actuation of the EDG with its safety related bus energized. The 2B EDG was immediately secured and the safeguards relay testing was stopped pending investigation of why the EDG had started.

CAUSE OF THE EVENT

The root cause of the 2B EDG starting was due to personnel error involving inadequate communications. The Instrument and Control supervisor intended to reperform the test and only intended for Operations to reset the safeguards signals to restore the initial test conditions. However, based on communications following previous tests, the ANPS understood the reset request as meaning that the test was complete and that they could secure from the test conditions. The proper communication should have included exactly what function was to be restored and the intent to reperform the test. A contributing factor was the lack of explicit procedural guidance to ensure that test equipment was not in place when restoring equipment. The technicians had removed the meter from the test leads but had not removed the test leads from the contact since they expected to perform the test again. When the 2B EDG normal/isolate switch was restored to normal the B SIAS/CIAS relay was now capable of providing a start signal upon actuation. When the Instrument and Control technician attached the new meter to the test leads it acted as a jumper across the contact providing a start signal. The procedure does not stipulate that test equipment must be removed prior to resetting actuation signals, only the post test status of the normal isolate switch and the note that the EDG should not be started. This allows flexibility within the procedure to reperform the relay actuation and verification if required without having to restore all equipment to normal and set up initial test conditions again. The procedure should preclude leaving test leads in place or relanding them until Operations has communicated that the test may be reperformed. There were no unusual characteristics of the work location which contributed to this event.

**LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION
REGULATORY BURDEN: 30 MINUTES. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS
AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION,
WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE
OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) St. Lucie Unit 2	DOCKET NUMBER (2) 05000389	LER NUMBER (6)			PAGE (3)	
		YEAR 93	SEQUENTIAL NUMBER 006	REVISION NUMBER 00		
03 OF 03						

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

ANALYSIS

This event is reportable under 10 CFR 50.73.a.2.iv as an event or condition that results in a manual or automatic actuation of any Engineered Safety Feature.

The inadvertant starting of the 2B Emergency Diesel Generator (EDG) had no adverse consequences on the plant because the 2B3 4160 VAC Bus remained energized and in service during this event, supplied by its normal offsite power supply source. The 2B EDG performed as expected for an automatic start from a Safety Injection Actuation Signal actuation. There was no malfunction of the Engineered Safety Features or of the EDG start circuitry during this event.

Therefore, the health and safety of the public were not affected at any time during this event.

CORRECTIVE ACTIONS

- 1) The utility personnel involved in this event were counseled on communications and the necessity of ensuring that test equipment is not installed when securing from a test.
- 2) Upon determining the cause of the event the safeguards relay testing was resumed and completed satisfactorily the next day.
- 3) The "Safeguards Relay Test " (OP 2-0400053) procedure will be changed to ensure that test equipment shall be removed prior to operations resetting any actuations or restoring any equipment to normal operating status. This test is not performed on Unit 1.
- 4) A Human Performance Enhancement Review of this event was performed and the resulting conclusions have been integrated in the root cause determination and corrective actions.
- 5) Training will be provided for the appropriate plant personnel on this event and on enhancing communications to prevent future occurrence.

ADDITIONAL INFORMATION

FAILED COMPONENT IDENTIFICATION

None

PREVIOUS SIMILIAR EVENTS

LER 335-93-003 "Inadvertant start of the 1B Diesel Generator due to personnel error"

LER 335-88-005 "Inadvertant start of the 1A Diesel Generator during troubleshooting due to personnel error"