J. R. Johnson
Vice President - Farley

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SOUTHERN COMPANY
Energy to Serve Your World℠

November 19, 2007

Docket No.: 50-364

NL-07-2176

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

Joseph M. Farley Nuclear Plant – Unit 2
Licensee Event Report 2007-001-00
Unit 2 Reactor Trip during Unit 1 Main Generator Differential
Lockout Relay Testing

Ladies and Gentlemen:

In accordance with the requirements of 10 CFR 50.73(a)(2)(iv)(A), Southern Nuclear Operating Company (SNC) is submitting the enclosed Licensee Event Report.

This letter contains no NRC commitments. If you have any questions, please advise.

Sincerely,

J. R. Johnson
Vice President – Farley

JRJ/MML

Enclosure: Unit 2 Licensee Event Report 2007-001-00

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. J. R. Johnson, Vice President – Farley
Mr. D. H. Jones, Vice President – Engineering
RTYPE: CFA04.054; LC # 14682

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Ms. K. R. Cotton, NRR Project Manager – Farley
Mr. E. L. Crowe, Senior Resident Inspector – Farley

Joseph M. Farley Nuclear Plant – Unit 2
Licensee Event Report 2007-001-00
Unit 2 Reactor Trip during Unit 1 Main Generator Differential Lockout Relay Testing

Enclosure

Unit 2 Licensee Event Report 2007-001-00

NRC FORM 366 (9-2007) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED BY OMB: NO. 3150-0104 EXPIRES: 08/31/2007

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 burden 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 Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

LICENSEE EVENT REPORT (LER)

1. FACILITY NAME	2. DOCKET NUMBER	3. PAGE
Joseph M. Farley Nuclear Plant – Unit 2	05000 364	1 OF 3

4. TITLE

Unit 2 Reactor Trip during Unit 1 Main Generator Differential Lockout Relay Testing

5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
										05000
10	03	2007	2007	- 001 -	00	11	19	2007	FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE

1

10. POWER LEVEL

100

11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: *(Check all that apply)*

- ☐ 20.2201(b)
- ☐ 20.2201(d)
- ☐ 20.2203(a)(1)
- ☐ 20.2203(a)(2)(i)
- ☐ 20.2203(a)(2)(ii)
- ☐ 20.2203(a)(2)(iii)
- ☐ 20.2203(a)(2)(iv)
- ☐ 20.2203(a)(2)(v)
- ☐ 20.2203(a)(2)(vi)
- ☐ 20.2203(a)(3)(i)
- ☐ 20.2203(a)(3)(ii)
- ☐ 20.2203(a)(4)
- ☐ 50.36(c)(1)(i)(A)
- ☐ 50.36(c)(1)(ii)(A)
- ☐ 50.36(c)(2)
- ☐ 50.46(a)(3)(ii)
- ☐ 50.73(a)(2)(i)(A)
- ☐ 50.73(a)(2)(i)(B)
- ☐ 50.73(a)(2)(i)(C)
- ☐ 50.73(a)(2)(ii)(A)
- ☐ 50.73(a)(2)(ii)(B)
- ☐ 50.73(a)(2)(iii)
- ☒ 50.73(a)(2)(iv)(A)
- ☐ 50.73(a)(2)(v)(A)
- ☐ 50.73(a)(2)(v)(B)
- ☐ 50.73(a)(2)(v)(C)
- ☐ 50.73(a)(2)(v)(D)
- ☐ 50.73(a)(2)(vii)
- ☐ 50.73(a)(2)(viii)(A)
- ☐ 50.73(a)(2)(viii)(B)
- ☐ 50.73(a)(2)(ix)(A)
- ☐ 50.73(a)(2)(x)
- ☐ 73.71(a)(4)
- ☐ 73.71(a)(5)
- ☐ OTHER

Specify in Abstract below or in NRC Form 366A

12. LICENSEE CONTACT FOR THIS LER

FACILITY NAME	TELEPHONE NUMBER (Include Area Code)
J. R. Johnson - Vice President	334-899-5156

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

CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU-FACTURER	REPORTABLE TO EPIX

14. SUPPLEMENTAL REPORT EXPECTED

☐ YES *(If yes, complete 15. EXPECTED SUBMISSION DATE)* ☒ NO

15. EXPECTED SUBMISSION DATE	MONTH	DAY	YEAR

ABSTRACT *(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)*

On October 3, 2007 at 1410, with the reactor at 100% power, Unit 2 automatically tripped due to a loss of power to the Unit 2 B-train electrical distribution system [EA]. This occurred during a Unit 1 refueling outage while performing testing on Unit 1 Main Generator Differential Lockout relay. As a result, the supply breaker to 2B Startup Transformer was inadvertently tripped. The loss of Unit 2 B-train 4160V power ultimately led to a loss of power to Reactor Coolant Pump (RCP) Breaker Indication (1 out of 3 coincidence). The reactor tripped per design. All safety systems functioned as designed.

This event was caused by a testing procedure that lacked a step to block the High Voltage Switchyard (HVSY) breaker failure sequence relays. The failure to block resulted in the breaker failure sequence relays actuating. The breaker failure sequence relays tripped the associated HVSY breakers, which then de-energized the 2B Startup Transformer. Loss of the 2B Startup Transformer ultimately led to loss of RCP Breaker Indication relay, resulting in Unit 2 reactor trip.

The subject procedure has been revised.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Plant and System Identification

Westinghouse -- Pressurized Water Reactor
Energy Industry Identification Codes are identified in the text as [XX]

Description of Event

On October 3, 2007 at 1410, with the reactor at 100% power, Unit 2 automatically tripped due to a loss of power to the Unit 2 B-train electrical distribution system [EA]. This occurred during a Unit 1 refueling outage while performing testing on Unit 1 Main Generator Differential Lockout relay. Upon manual actuation of an HEA relay for testing of the Unit 1 Main Generator Differential Lockout Relay, all breakers to the #1 - 230 KV bus and the Webb offsite power line unexpectedly tripped, including breaker 944, which was supplying the 2B Startup Transformer. As a result, the supply breaker to 2B Startup Transformer was inadvertently tripped. Loss of power from the 2B Startup Transformer ultimately de-energized the Reactor Coolant Pump (RCP) breaker position indication relay.

Cause of Event

This event was caused by a testing procedure that lacked a step to block the High Voltage Switchyard (HVSY) breaker failure sequence relays. The failure to block resulted in the breaker failure sequence relays actuating. The breaker failure sequence relays tripped the associated HVSY breakers, which then de-energized the 2B Startup Transformer. Loss of the 2B Startup Transformer ultimately led to loss of RCP Breaker Indication relay (1 out of 3 coincidence), resulting in Unit 2 reactor trip. The de-energization of the 2B Startup Transformer was caused by a loss of feed associated from the HVSY breaker failure sequence relay actuation and an Auto Bank transformer being removed from service for maintenance.

Safety Assessment

All safety systems functioned as designed after the trip. Loss of power to Emergency Safeguards Features (ESF) busses was restored automatically by the Emergency Alternating Current (EAC) power system Diesel Generator set. Both main feedwater pumps tripped following the reactor trip. In each case, the trip was attributed to a slow automatic startup of a redundant support pump following loss of electrical power. The main feedwater pumps remained recoverable from the control room using established procedures, if they had been needed. Therefore, the health and safety of the public were unaffected by this event.

This event does not represent a Safety System Functional Failure.

This event represents an Unplanned Scram. According to data reporting guidelines, this event did not represent an Unplanned Scram with Complications since power to ESF busses was restored automatically and main feedwater pumps were recoverable.

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NARRATIVE *(If more space is required, use additional copies of NRC Form 366A)* **(17)**

Corrective Action

The subject testing procedure has been revised. In addition, similar procedures were reviewed and revised during U1RF21.

The Maintenance procedure writer's guide has been revised to include requirements to obtain utility transmission personnel's concurrence with technical content for procedures that include circuits that interface with the HVSY.

Prior to use, remaining relay test procedures will be revised in accordance with Maintenance procedure writer's guidance.

Additional Information

Other systems affected: No systems other than those already mentioned in this report were affected by this event.

Commitment information: This report does not create any permanent licensing commitments.

Previous similar events: There have been no similar LER's in the past two years.