

J. R. Johnson
Vice President - Farley

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June 22, 2007

Docket Nos.: 50-348
50-364

NL-07-1231

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

Joseph M. Farley Nuclear Plant – Units 1 and 2
Licensee Event Report 2007-001-00
Technical Specification 3.8.1 Violation Due to
Failure of Breaker / Mechanism-Operated Cell Switch

Ladies and Gentlemen:

Joseph M. Farley Nuclear Plant - Licensee Event Report (LER) No. 2007-001-00 is being submitted in accordance with 10 CFR 50.73(a)(2)(i)(B) and 10 CFR 50.73(a)(2)(v)(B).

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

Sincerely,

A handwritten signature in black ink that reads "J. R. Johnson". The signature is fluid and cursive, with a long horizontal stroke at the end.

J. R. Johnson
Vice President – Farley
Joseph M. Farley Nuclear Plant
7388 North State Highway 95
Columbia AL 36319

JRJ/CHM

Enclosure: Licensee Event Report 2007-001-00 - Unit 1

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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 # 14596

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

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 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.

1. FACILITY NAME Joseph M. Farley Nuclear Plant - Unit 1	2. DOCKET NUMBER 05000 348	3. PAGE 1 OF 4
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4. TITLE Technical Specification 3.8.1 Violation Due to Failure of Breaker / Mechanism-Operated Cell (MOC) Switch

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
04	26	07	2007	- 001 -	0	06	22	07	Farley Unit 2	05000 364
									FACILITY NAME	DOCKET NUMBER
										05000

9. OPERATING MODE 1	11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFRs: (Check all that apply)			
	<input type="checkbox"/> 20.2201(b) <input type="checkbox"/> 20.2201(d) <input type="checkbox"/> 20.2203(a)(1) <input type="checkbox"/> 20.2203(a)(2)(i) <input type="checkbox"/> 20.2203(a)(2)(ii) <input type="checkbox"/> 20.2203(a)(2)(iii) <input type="checkbox"/> 20.2203(a)(2)(iv) <input type="checkbox"/> 20.2203(a)(2)(v) <input type="checkbox"/> 20.2203(a)(2)(vi)	<input type="checkbox"/> 20.2203(a)(3)(i) <input type="checkbox"/> 20.2203(a)(3)(ii) <input type="checkbox"/> 20.2203(a)(4) <input type="checkbox"/> 50.36(c)(1)(i)(A) <input type="checkbox"/> 50.36(c)(1)(ii)(A) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.46(a)(3)(ii) <input type="checkbox"/> 50.73(a)(2)(i)(A) <input checked="" type="checkbox"/> 50.73(a)(2)(i)(B)	<input type="checkbox"/> 50.73(a)(2)(i)(C) <input type="checkbox"/> 50.73(a)(2)(ii)(A) <input type="checkbox"/> 50.73(a)(2)(ii)(B) <input type="checkbox"/> 50.73(a)(2)(iii) <input type="checkbox"/> 50.73(a)(2)(iv)(A) <input type="checkbox"/> 50.73(a)(2)(v)(A) <input checked="" type="checkbox"/> 50.73(a)(2)(v)(B) <input type="checkbox"/> 50.73(a)(2)(v)(C) <input type="checkbox"/> 50.73(a)(2)(v)(D)	<input type="checkbox"/> 50.73(a)(2)(vii) <input type="checkbox"/> 50.73(a)(2)(viii)(A) <input type="checkbox"/> 50.73(a)(2)(viii)(B) <input type="checkbox"/> 50.73(a)(2)(ix)(A) <input type="checkbox"/> 50.73(a)(2)(x) <input type="checkbox"/> 73.71(a)(4) <input type="checkbox"/> 73.71(a)(5) <input type="checkbox"/> OTHER Specify in Abstract below or in NRC Form 366A
10. POWER LEVEL 100				

12. LICENSEE CONTACT FOR THIS LER	
FACILITY NAME J. R. Johnson - Vice President	TELEPHONE NUMBER (Include Area Code) 334-899-5156

13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT									
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO EPIX
D	EB	33	C770	Y					

14. SUPPLEMENTAL REPORT EXPECTED		15. EXPECTED SUBMISSION DATE	
<input type="checkbox"/> YES (If yes, complete 15. EXPECTED SUBMISSION DATE) <input checked="" type="checkbox"/> NO		MONTH	DAY
			YEAR

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

While performing Emergency Diesel Generator (EDG) 1C Operability Test on April 26, 2007, FNP determined that the mechanism-operated cell (MOC) switch of the 1C EDG output breaker 1-DH07 was not being fully activated when the breaker was closed. This resulted in the EDG being declared inoperable. An inspection determined that the MOC switch rotation was not sufficient to fully engage the normally open contacts. The event was the result of a fit-up discrepancy during replacement of the existing Allis Chalmers breakers with new Cutler Hammer breakers within the Allis Chalmers switchgear. The fit up discrepancy went unrecognized because of inadequate procedural guidance on how the replacement breakers were to be setup during initial installation and testing. Because the breaker had been in this condition since November 1, 2006, this event was determined to be reportable per 10CFR50.73(a)(2)(i)(B), "any operation or condition which was prohibited by the plant's Technical Specifications." Due to the fact that the opposite train 1B EDG was unavailable during maintenance activities on five occasions during this time period, the event is also reportable per 10CFR50.73(a)(2)(v)(B), "any event or condition that could have prevented the fulfillment of the safety function of structures or systems which are needed to remove residual heat." At the time of discovery, the 1B EDG was fully operable and available.

After the event, plant procedures were updated to provide detailed instructions on setup of the MOC switches. All installed Cutler Hammer breakers with MOC switches that provide essential functions have been adjusted per the new procedural guidance and have been functionally tested.

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Joseph M. Farley Nuclear Plant Unit - 1	05000 348	2007	- 01	- 0	2 OF 4

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

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

Description of Event

The original Allis Chalmers breaker 1-DH07 was replaced with a new Cutler Hammer breaker on November 1, 2006. This breaker is the Emergency Diesel Generator (EDG) 1C [EK] output breaker to emergency 4160V bus 1H. The 1C EDG and the new output breaker were functionally tested; however this testing was not sufficient to verify that all contacts on the mechanism operated cell (MOC) switch changed state.

While performing an EDG 1C Operability Test on April 26, 2007, FNP determined that the normally open contacts on the MOC switch of breaker 1-DH07 were not being fully activated when the breaker was closed. One of the affected contacts would have prevented the closure of bus tie breaker 1-DF13 and the automatic operation of the A-Train Loss of Site Power (LOSP) sequencer in the event of a dual unit LOSP with concurrent safety injection on Unit 2. Technical Specification 3.8.1 "Electrical Power Systems - AC Sources—Operating," Condition B, "One DG set inoperable," was entered at 01:40 hours on April 26, 2007.

The MOC switch and activation arm were examined. The inspection determined that the MOC switch rotation was not sufficient to fully engage the normally open contacts. Adjustments were made to the MOC fork height which increased the stroke of the activation arm and thus rotated the MOC switch farther. This ensured that the normally open contacts would fully close each time the breaker was closed. The 1C EDG was tested and breaker 1-DH07 performed correctly. 1C EDG was returned to service at 22:07 hours on April 26, 2007.

Cause of Event

The event was the result of a fit-up discrepancy during replacement of the existing Allis Chalmers breakers with new Cutler Hammer breakers within the Allis Chalmers switchgear. A review of the factory testing of the MOC switch operation within the switchgear at AREVA revealed that the normally open MOC switch contacts were rotated at an angle of less than 90 degrees between Open and Closed positions. The normally open MOC switch contacts within the switchgear at Farley Nuclear Plant were set at a 90 degree angle, which required more travel of the MOC operator on the new Cutler Hammer breakers to obtain full closure of the contacts. The initial setting of the adjustable fork height on the MOC operator did not allow for this additional travel, resulting in the failure to close the normally open contacts. Functional testing failed to identify that all contacts on the MOC switch changed state.

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

Safety Assessment

This event had no adverse effect on the safety and health of the public.

The Farley onsite standby power source is provided from four EDGs (1-2A, 1B, 2B, and 1C). The continuous service rating of 1C EDG is 2,850 kW and 4,075 kW for EDGs 1-2A, 1B, and 2B. EDG 1-2A and 1-C are A-Train and EDGs 1B and 2B are B-Train. Farley also has a fifth diesel generator (2C) that serves as a station blackout diesel which can be manually aligned to supply B-Train power to either unit and power LOSP loads.

The redundant train 1B EDG was unavailable for operation due to maintenance activities on five occasions during the time period when the 1C EDG was inoperable, resulting in a potential loss of safety function. However, the only scenario which would have been affected by this failure is a dual unit loss of offsite power with a concurrent safety injection on Unit 2. If that event occurred with the 1C DG MOC switch inoperable, operator action would have been required to energize the 1F 4160V bus and start the required safety related loads after the 1C EDG automatically connected to the 1H bus. This does not represent an increase in risk as calculated by the Farley Unit 1 Probability Risk Assessment (PRA) model. This is due to the fact that the PRA model conservatively assumes that the 1C EDG will be started and loaded by the operator rather than crediting automatic start. This is a simplification of the model due to the complexities of modeling all possible combinations of swing diesel alignment.

Corrective Action

The MOC operator on breaker 1-DH07 was adjusted to allow adequate travel of the MOC switch contacts. This was completed on April 26, 2007.

Plant procedures were updated to provide instructions to have the Normally Open contacts of the MOC switch rotated to the correct angle. This was completed on May 5, 2007.

After receiving the additional guidance from AREVA, breaker 1-DH07 was restored to match the factory setting for MOC switch operator height and the contact angle. This was completed on June 11, 2007.

Cutler-Hammer breakers which have been installed with MOC switches that provide essential functions have been adjusted to meet the factory setting for MOC switch operator height and contact angle. This was completed on June 11, 2007.

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

Additional Information

The following LER's have been submitted in the past two years on Technical Specification violations:

- LER 2005-001-00 Unit 1 Technical Specification 3.3.2.C Violation due to Solid State Protection System Card Failure Troubleshooting
- LER 2005-002-00 Unit 1 Technical Specification 3.8.1 Violation due to 1F Bus Synchroscope Failure
- LER 2005-001-00 Unit 2 Gas Binding of the Unit 2 A Train HHSI Pump
- LER 2006-002-00 Unit 1 Main Steam Isolation Valve Failure to Close