



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION II
245 PEACHTREE CENTER AVENUE NE, SUITE 1200
ATLANTA, GEORGIA 30303-1257

August 15, 2011

EA-11-112

Mr. L. Michael Stinson
Vice President - Farley
Southern Nuclear Operating Company, Inc.
7388 North State Highway 95
Columbia, AL 36319

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, FINAL SIGNIFICANCE
DETERMINATION OF A GREEN FINDING (NRC INSPECTION REPORT
05000348/2011013 AND 05000364/2011013)

Dear Mr. Stinson:

The purpose of this letter is to provide you the final results of our significance determination of the preliminary White finding (i.e., a finding with low to moderate increased safety significance) discussed in NRC Inspection Report No. 05000348/2011-012 and 05000364/2011-012, dated June 8, 2011 (ADAMS Accession # ML111590912). The Initiating Events Cornerstone inspection finding (identified as AV 05000348,364/2011012-01, Flame Detected on the 1A RCP Handswitch) was assessed using the Significance Determination Process (SDP) and was preliminarily characterized as White. The finding involved the failure to maintain the configuration of the 1A reactor coolant pump (RCP) oil lift pump system in accordance with plant design and drawings. This resulted in an electrical short on November 10, 2010 that caused a small fire on the Unit 1 main control room (MCR) 1A RCP board handswitch. The fire was quickly identified by control room operators during an attempt to operate the RCP oil lift pump, and promptly extinguished by operators without the need for additional fire mitigation measures. The finding affected both units due to the common control room. The finding was assigned a cross-cutting aspect in the Work Practices component of the Human Performance area in that personnel proceeded in the face of uncertainty or unexpected circumstances during preventative maintenance activities and did not properly preplan work activities for identified corrective maintenance. [H.4(a)]

At your request, a Regulatory Conference was held on July 12, 2011, to discuss your views on this issue. A meeting summary was issued on July 15, 2011, which included copies of the slide presentation made by Southern Nuclear Operating Company (SNC) (ADAMS Accession # ML111960460). During the meeting, your staff described your assessment of the significance of the finding and the corrective actions taken to resolve it, including the root cause evaluation of the finding. SNC staff also discussed the circumstances surrounding the main control room fire and presented information, including handswitch testing, to support its contention that the fire should be considered a non-challenging fire per the subjective guidance of NUREG 6850, Fire PRA Methodology for Nuclear Power Plants. Additionally, your staff presented new information

to be considered in the final SDP analysis of the event. More specifically, SNC addressed the impact of the MCR ventilation on the decision to evacuate the MCR and the human performance reliability impact of performing safe shutdown activities in the event the MCR is evacuated.

The NRC evaluated the information you presented in the conference and determined the fire event, caused by the mis-wiring of the 1A RCP oil lift pump pressure switch, was still considered to be potentially challenging. The NRC concluded that if not suppressed, the fire could eventually lead to MCR evacuation. The basis for assuming the fire could be potentially challenging was the subjective classification criteria of NUREG-6850, Section C.3.3.2, including that this was a fire requiring active intervention to prevent spread and the possible heat release rates associated with a fire in this location, numerous cables could be in the zone of influence.

At the conference, SNC presented the results of handswitch testing, which was performed to understand whether the fire would self-extinguish and therefore limit the potential spread of the fire. The results of the tests did indicate that the types of electrical faults seen in the electrical short occurring November 10, 2010, tend to self-extinguish. The NRC determined that the test configuration and its results could provide limited perspective on the potential for MCR fire propagation. During the actual fire, an operator removed the light indication array which potentially changed the air flow and relative oxygen concentration at the fire location which was not done in the test configuration. Finally, there was not a definitive indication that could confirm operator intervention did not extinguish the fire. The information provided was not sufficient for the NRC to definitively conclude that the fire in the MCR would have self-extinguished. Therefore, this fire was classified as "Potentially Challenging" for the purposes of evaluating this event via the SDP.

The NRC also evaluated new information presented by SNC regarding the impact of the MCR ventilation on the decision to evacuate the MCR. Based on this information, the NRC concluded that the ventilation would remain in operation throughout the fire. This reduces the number of fires from the family of heat release rates of single cable fires that would require control room evacuation. Additionally, the information indicates that some time delay is warranted in developing a single cable bundle fire which increases the time available to extinguish a fire before evacuation would be required. Based on the new information presented by SNC at the conference, the NRC concluded that a reduction in the frequency of fires requiring MCR evacuation, and a corresponding reduction in the probability of MCR abandonment, was warranted.

After considering the information you provided at the regulatory conference, the NRC has concluded that the finding is appropriately characterized as Green, a finding of very low safety significance. The NRC also has determined that the finding is a violation of Technical Specification 5.4.1 as discussed in inspection report 05000348/2011-012 and 05000364/2011-012. The circumstances surrounding the violation was described in detail that inspection report. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CR 2010116613, this violation is being treated as an NCV, consistent with the Enforcement Policy. NCV 05000348,364/2011012-01, Flame Detected on the 1A RCP Handswitch.

For administrative purposes, this letter is issued as NRC Inspection Report No. 05000348/2011013 and 05000364/2011013. Accordingly, AV 05000348,364/2011012-01, Flame Detected on the 1A RCP Handswitch are updated consistent with the regulatory positions described in this letter. Therefore: AV 05000348,364/2011012-01, Flame Detected on the 1A RCP Handswitch, is updated as NCV 05000348,364/2011012-01 with a safety significance of Green and cross-cutting aspect in the Work Practices component of the Human Performance area [H.4(a)].

The NRC has concluded that the information regarding the reason for the violation the corrective actions taken and planned to correct the violation and prevent recurrence, and the date when full compliance was achieved is already adequately addressed on the docket in inspection report 05000348/2011-012 and 05000364/2011-012. Therefore, you are not required to respond to this letter unless the description therein does not accurately reflect your corrective actions or your position.

You have 30 calendar days from the date of this letter to appeal the staff's significance determination for the Green finding or the NCV. An appeal of the Green finding will be considered to have merit only if it meets the criteria given in NRC Inspection Manual Chapter 0609, Attachment 2.

Additionally, if you disagree with the cross-cutting aspect assigned to the finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II, and the NRC Resident Inspector at the Joseph M. Farley Nuclear Plant.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, Enclosure 1, and your response (if you choose to provide one), will be made available electronically for public inspection in the NRC Public Document Room or from ADAMS, accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. However, because of the security-related information contained in Enclosure 2, and in accordance with 10 CFR 2.390, a copy of Enclosure 2 will not be available for public inspection. To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Sincerely,

/RA/

Richard P. Croteau, Director
Division of Reactor Projects

Docket No.: 50-348, 50-364
License No.: NPF-2, NPF-8

cc: (See page 4)

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Richard P. Croteau, Director
Division of Reactor Projects

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☐ NON-PUBLICLY AVAILABLE

☐ SENSITIVE

X NON-SENSITIVE

ADAMS: ☐ Yes ACCESSION NUMBER: ML112270513

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NAME	TLighty	ECrowe	JSowa	WRogers	SSparks	SShaeffer	
DATE	08/15/2011	08/15/2011	08/15/2011	08/11/2011	08/15/2011	08/15/2011	
E-MAIL COPY?	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO	YES NO

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6

Letter to L. Michael Stinson from Richard P. Croteau dated August 15, 2011

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