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October 8, 2008

*Energy to Serve Your World<sup>SM</sup>*

Docket Nos.: 50-348

NL-08-1483

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

Joseph M. Farley Nuclear Plant – Unit 1  
Reactor Vessel Surveillance Capsule Z Results

Ladies and Gentlemen:

In accordance with 10 CFR 50 Appendix H, Southern Nuclear Operating Company (SNC) hereby submits Westinghouse Report WCAP-16964-NP, October 2008, "Analysis of Capsule Z from the Southern Nuclear Operating Company Joseph M. Farley Unit 1 Reactor Vessel Radiation Surveillance Program." This report presents the analysis of test results from Capsule Z, the 6th and final surveillance capsule removed from the reactor vessel. An ex-vessel neutron dosimetry system was installed to enable long term monitoring of the reactor vessel following withdrawal of the last capsule.

The Capsule Z test results were used to evaluate reactor vessel material properties following 24.26 effective full power years (EFPY) of plant operation (equivalent to about 74 EFPY of capsule fluence). Based on this analysis, properties of the reactor beltline materials are predicted to remain more than adequate for continued safe plant operation through the end of the renewed license period (i.e. to about 54 EFPY).

An updated Pressure Temperature Limits Report (PTLR) incorporating the Capsule Z test results and new pressure temperature limit curves will be submitted by December 15, 2008.

Sincerely,

A handwritten signature in cursive script that reads "Mark J. Ajluni".

M. J. Ajluni  
Manager, Nuclear Licensing

MJA/DWD/daj

A008  
NRB

Enclosure: WCAP-16964-NP, October 2008, "Analysis of Capsule Z from the Southern Nuclear Operating Company Joseph M. Farley Unit 1 Reactor Vessel Radiation Surveillance Program"

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  
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U. S. Nuclear Regulatory Commission  
Mr. L. A. Reyes, Regional Administrator  
Mr. K. D. Feintuch, NRR Project Manager – Farley  
Mr. E. L. Crowe, Senior Resident Inspector – Farley