



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 18, 2013

Mr. C. R. Pierce
Regulatory Affairs Director
Southern Nuclear Operating Company, Inc.
Post Office Box 1295 – BIN 038
Birmingham, AL 35201-1295

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2- REQUEST FOR
ADDITIONAL INFORMATION CONCERNING REVISING THE CONDENSATE
STORAGE TANK LEVEL (TAC NOS. ME9293 AND ME9294)

Dear Mr. Pierce:

By letter dated August 20, 2012, Southern Nuclear Operating Company (SNC) submitted a license amendment request (LAR) for the Joseph M. Farley Nuclear Plant, Units 1 and 2. The LAR would revise the condensate storage tank (CST) level requirement specified in Technical Specification Surveillance Requirement 3.7.6.1. The change is related to the calculational basis for the level with respect to potential vortexing and assumptions regarding heat loads on CST volume. The U.S. Nuclear Regulatory Commission (NRC) staff finds that additional information is needed as set forth in the Enclosure.

A response to the enclosed Request for Additional Information (RAI) is needed before the NRC staff can complete the review. This request was discussed with Mr. Ken McElroy of your staff on March 30, 2013, and as no response date was suggested to this request and another issued by the NRC staff on November 26, 2012, SNC is requested to reply within 60 days of the issuance of this letter. Please note that if SNC does not respond to this letter by the date provided, the NRC staff may deny your application for amendment under the provisions of Title 10 of the *Code of Federal Regulations*, Section 2.108, "Denial of application for failure to supply information."

Sincerely,

/RA/

Eva A. Brown, Senior Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-348 and 50-364

Enclosure:
Request for Additional Information

cc w/encl: Distribution via Listserv

REQUEST FOR ADDITIONAL INFORMATION
BY THE OFFICE OF NUCLEAR REACTOR REGULATION
JOSEPH M. FARLEY NUCLEAR PLANT, UNITS 1 AND 2
SOUTHERN NUCLEAR OPERATING COMPANY
DOCKET NOS. 50-348 AND 50-364

Farley uses a vortex correlation developed by Harleman (1959) for a vertically downward configuration that differs from the 45 degree upward flow pipe used at Farley. This correlation is shown to over-predict the submergence by a factor of three when compared to Catawba and McGuire test data at the Froude number that corresponds to the maximum flow rate from the CST. This would be a sufficient margin to justify using the Harleman correlation to support the LAR if the test data were established to be applicable. Achieving this requires an acceptable description of the plant configurations, the test configurations, and the test data.

Provide a complete description of the tests and test results for each test used to substantiate determination of critical submergence that includes the following:

1. Drawing of the plant tank and the plant suction pipe within the tank that provides all relevant dimensions,
2. Drawing of the corresponding test configuration that provides all relevant dimensions,
3. Description of how quantitative air entrainment is determined during testing,
4. Description of conduct of the test that includes any observations, and
5. Summary of the test data such as a plot of critical submergence as a function of Froude number.

References:

1. Harleman, D. R. (1959). "*Selective Withdrawal from a Vertically Stratified Fluid*". Proceedings, Eighth Congress of the International Association for Hydraulics Research, Paper 10-C.

Enclosure

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