

April 8, 2016

MEMORANDUM TO: Michael Markley, Chief
Plant Licensing Branch II-1
Division of Reactor Licensing
Office of Nuclear Reactor Regulation

FROM: Undine Shoop, Chief */RA by Roger L. Pedersen for*
Radiation Protection and Consequence Branch
Division of Risk Assessment
Office of Nuclear Reactor Regulation

Robert Dennig, Chief */RA/*
Balance of Plant Branch
Division of Safety Systems
Office of Nuclear Reactor Regulation

SUBJECT: JOSEPH M. FARLEY NUCLEAR PLANT UNITS 1 AND 2 AND VOGTLE
ELECTRIC GENERATING PLANT UNITS 1 AND 2 - AUDIT OF
SUPPORTING DESIGN, LICENSING AND OTHER DOCUMENTS
RELATED TO LICENSE AMENDMENT REQUESTS TO SUPPORT THE
ADOPTION OF TECHNICAL SPECIFICATION TASK FORCE
TRAVELER 312 (TAC NO. MF5317, ME5318, MF4560 AND 4561)

By letter dated November 24, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14335A623), the Southern Nuclear Operating Company, Inc. (SNC, the licensee) submitted a request to revise the Joseph M. Farley Nuclear Plant, Units 1 and 2, Technical Specifications (TS) to adopt various previously approved Technical Specifications Task Force (TSTF) Travelers and two changes not associated with Travelers. In addition, by letter dated July 18, 2014 (ADAMS Accession No. ML14203A124), SNC submitted a request to revise the Vogtle Electric Generating Plant Units 1 and 2 TS to adopt various previously approved TSTF Travelers.

The U.S. Nuclear Regulatory Commission, staff has determined that additional information is needed related to TSTF-312-A. SNC will provide detailed documents on nuclear design methods and licensing evaluations used to support the TSTF-312-A license amendments at a

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location in the Washington DC area. The Radiation Protection and Consequence Branch with the support of Balance of Plant Branch staff intend to perform a regulatory audit of these documents in accordance with LIC-111, "Regulatory Audits." The audit date and location of the audit will be determined later. The plan for our review is attached.

If you have any comments or concerns, please let me know.

Docket Nos. 50-348, 50-364, 50-424, 50-425

Enclosure:

As stated

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ADAMS Accession No.: ML16097A602

OFFICE	DRA/ARCB	DRA/ARCB	DSS/SBPB	DRA/ARCB	DSS/SBPB
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DATE	04 / 07 / 16	04 / 06 / 16	04 / 07 / 16	04 / 08 / 16	04 / 07 / 16

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JOSEPH M. FARLEY NUCLEAR PLANT UNITS 1 AND 2 AND VOGTLE ELECTRIC
GENERATING PLANT UNITS 1 AND 2 - AUDIT OF SUPPORTING DESIGN, LICENSING AND
OTHER DOCUMENTS RELATED TO LICENSE AMENDMENT REQUESTS TO SUPPORT
THE ADOPTION OF TECHNICAL SPECIFICATION TASK FORCE TRAVELER 312
(TAC No. MF5317, ME5318, MF4560 AND 4561)

BACKGROUND

By letter dated November 24, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14335A623), the Southern Nuclear Operating Company, Inc. (SNC, the licensee) submitted a request to revise the Joseph M. Farley Nuclear Plant, Units 1 and 2, Technical Specifications (TS) to adopt various previously approved Technical Specifications Task Force (TSTF) Travelers and two changes not associated with Travelers. The U.S. Nuclear Regulatory Commission (NRC) issued a request for additional information (RAI) on December 30, 2015 and a response from SNC was provided on March 3, 2016 (ADAMS Accession No. ML14335A623).

In addition, by letter dated July 18, 2014 (ADAMS Accession No. ML14203A124), SNC submitted a request to revise the Vogtle Electric Generating Plant Units 1 and 2 TS to adopt various previously approved TSTF Travelers. The NRC issued RAIs on January 13, 2015 and a response from SNC was provided on February 27, 2015 (ADAMS Accession No. ML15058A91).

In a call with SNC on April 6, 2016, the staff discussed the Farley RAI response and it was decided that an audit of the design, licensing and other document related to the TSTF-312 license amendment request (LAR) would be held. It was also decided that the audit should include information supporting both the Farley and Vogtle applications to adopt TSTF-312. To supplement the summary information previously provided by SNC, SNC will make available to the NRC staff supporting documents, detailed engineering drawings, analyses and design basis calculations used to justify the requested TSTF-312 changes. The regulatory audit of these documents will be in accordance with NRR procedure, LIC-111.

REGULATORY AUDIT BASIS

Title 10 of *Code of Federal Regulations* (10 CFR), Part 100, "Reactor Site Criteria," states that: 1) an individual located at any point on the boundary of the exclusion area for two hours immediately following onset of the postulated fission product release would not receive a total radiation dose to the whole body in excess of 25 roentgen equivalent man (rem) or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure, and 2) an individual located at any point on the outer boundary of the low population zone, who is exposed to the radioactive cloud resulting from the postulated fission product release during the entire period of

ENCLOSURE

its passage, would not receive a total radiation dose to the whole body in excess of 25 rem or a total radiation dose in excess of 300 rem to the thyroid from iodine exposure.

10 CFR Part 50 Appendix A, General Design Criterion 19 (GDC-19), "Control Room" states that adequate radiation protection is to be provided to permit access to and occupancy of the control room, under accident conditions without personnel receiving radiation exposures in excess of 5 rem whole body, or its equivalent to any part of the body, for the duration of the accident.

Regulatory Guide (RG) 1.195, "Methods and Assumptions for Evaluating Radiological Consequences of Design Basis Accidents at Light-Water Nuclear Power Reactors", Rev. 0, July 2003 provides the methodology for analyzing the radiological consequences of several design basis accidents to show compliance with 10 CFR 100 and GDC-19. Regulatory Position 4.4 and Table 4 provide radiological acceptance criteria for offsite locations for the fuel handling accident (FHA) (6.3 rem whole body and 75 rem thyroid). Regulatory Position 4.5 provides radiological acceptance criteria for the control room for the FHA (5 rem whole body and 50 rem thyroid and skin). (ADAMS Accession No. ML031490640)

RG 1.196, "Control Room Habitability at Light-Water Nuclear Power Reactors," provides guidance and criteria that licensees may apply to control rooms that are modified, are newly designed, or must have their conformance to the regulations reconfirmed. (ADAMS Accession No. ML063560144.)

TSTF 312-A, Revision 1, "Administratively Control Containment Penetrations" dated August 16, 1999. This traveler modified Westinghouse Standard Technical Specifications 3.9.4, "Containment Penetrations," to add a Note to the limiting condition for operation statement allowing penetration flow path(s) that have direct access from the containment atmosphere to the outside atmosphere to be unisolated under administrative control. The allowance to have containment personnel airlock doors open and penetration flow paths with direct access from the containment atmosphere to the outside atmosphere to be unisolated during fuel movement and "CORE ALTERATIONS" is based on: (1) confirmatory dose calculations of a fuel handling accident as approved by the NRC staff which indicate acceptable radiological consequences and (2) commitments from the licensee to implement acceptable administrative procedures that ensure in the event of a refueling accident (even though the containment fission product control function is not required to meet acceptable dose consequences) that the open airlock can and will be promptly closed following containment evacuation and that the open penetration(s) can and will be promptly closed. (ADAMS Accession No. ML040620147)

Regulatory Information Summary 2001-19, "Deficiencies in the Documentation of Design Basis Radiological Analyses Submitted in Conjunction with License Amendment Request," discusses NRC staff experience regarding the information provided by licensees for the staff's review. (ADAMS Accession No. ML011860407)

REGULATORY AUDIT SCOPE

The scope of the regulatory audit is to more efficiently conduct the Staff's technical review and gain insight in to the licensee's LAR with respect to the bounding analysis design used to support the proposed license amendments. Specific topics and documents subjected to the audit include, but not limited to:

- Design basis dose calculations used to show that both Farley and Vogtle will continue to meet 10 CFR 100 and General Design Criterion 19 with the proposed change to incorporate TSTF-312.

TEAM ASSIGNMENT

Mark Blumberg, Sr. Reliability and Risk Analyst, ARCB/DRA/NRR
 John Parillo, Sr. Reactor Engineer, ARCB/DRA/NRR
 Jerome Bettel, Reactor Systems Engineer SBPB/DSS/NRR

LOGISTICS

Dates of Audit: To be determined
 Location: To be determined

SPECIAL REQUESTS

Staff from SNC and any contractors knowledgeable of the design basis calculations, documents and mitigating systems used to support the TSTF-312 change should be available to discuss any issues raised by the agency staff on the documents, analyses and mitigating systems.

DELIVERABLES

A regulatory audit summary will be provided within 90 days of the completion of the audit.

REFERENCES

1. SNC, Letter from C. R. Pierce to the U.S. NRC, "Joseph M. Farley Nuclear Plant - Units 1 and 2, Response to Request for Additional Information for Adoption of Technical Specifications Task Force Traveler 312," SNC, Birmingham, AL, March 3, 2016, ADAMS Accession [No. ML16063A516](#).
2. SNC, Letter from C. R. Pierce to the U.S. NRC, "Joseph M. Farley Nuclear Plant - Units 1 and 2, Request for Technical Specification Amendment Adoption of Previously NRC-Approved Generic Technical Specification Changes and Other Changes," SNC, Birmingham, AL, November 24, 2014, ADAMS Accession [No. ML14335A623](#).
3. SNC, Letter from C. R. Pierce to the U.S. NRC, "Vogtle Electric Generating Plant - Units 1 and 2, Application to Revise Technical Specifications to Adopt Previously NRC-Approved Generic Technical Specification Changes," SNC, Birmingham, AL, July 18, 2014, ADAMS Accession [No. ML14203A124](#).
4. SNC, Letter from C. R. Pierce to the U.S. NRC, "Vogtle Electric Generating Plant - Units 1 and 2, Response to Request for Additional Information Regarding Multiple Technical Specification Changes," SNC, Birmingham, AL, February 27, 2015, ADAMS Accession [No. ML15058A891](#).