



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

May 7, 2024

Vice President, Operations
Entergy Operations, Inc.
River Bend Station
5485 US Highway 61
St. Francisville, LA 70775

SUBJECT: RIVER BEND STATION, UNIT 1 – SUMMARY OF REGULATORY AUDIT IN SUPPORT OF LICENSE AMENDMENT REQUESTS TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT RISK- INFORMED COMPLETION TIMES AND IMPLEMENT THE PROVISIONS OF 10 CFR 50.69 (EPID L-2023-LLA-0037 AND EPID L-2023-LLA-0038)

Dear Vice President, Operations:

By letters RBG-48142 and RBG-48143, dated February 27, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML23058A215 and ML23058A217, respectively), as supplemented by letter dated January 12, 2024 (ML24016A248), Entergy Operations, Inc. (Entergy, the licensee) submitted license amendment requests (LARs) to amend the license for River Bend Station, Unit 1, Renewed Facility Operating License No. NPF-47. The proposed LARs would adopt Technical Specifications Task Force (TSTF) Traveler TSTF-505, "Provide Risk-Informed Extended Completion Times, RITSTF [Risk-Informed TSTF] Initiative 4b," to permit the use of risk-informed technical specification completion times for certain actions required when limiting conditions for operation are not met, and to allow for the implementation of the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors."

The U.S. Nuclear Regulatory Commission (NRC) staff conducted a virtual regulatory audit from June 8, 2023, through December 8, 2023, to support its review of the LAR. During the regulatory audit, the NRC staff reviewed documents and held discussions with the Entergy staff and its representatives. The regulatory audit summary is enclosed with this letter.

If you have any questions, please contact me at 301-415-8378 or via email at Jason.Drake@nrc.gov.

Sincerely,

/RA/

Jason J. Drake, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-458

Enclosure:
Regulatory Audit Summary

cc: Listserv

OFFICE OF NUCLEAR REACTOR REGULATION
REGULATORY AUDIT SUMMARY
IN SUPPORT OF LICENSE AMENDMENT REQUESTS TO
TO ADOPT RISK-INFORMED COMPLETION TIMES AND RISK-INFORMED
CATEGORIZATION AND TREATMENT OF STRUCTURES, SYSTEMS, AND COMPONENTS
ENTERGY OPERATIONS, INC.
RIVER BEND STATION, UNIT 1
DOCKET NO. 50-458

1.0 BACKGROUND

By letters RBG-48142 and RBG-48143, dated February 27, 2023 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML23058A215 and ML23058A217, respectively), as supplemented by letter dated January 12, 2024 (ML24016A248), Entergy Operations, Inc. (Entergy, the licensee) submitted license amendment requests (LARs) for River Bend Station, Unit 1 (River Bend). The first LAR would modify the River Bend technical specifications (TSs) to permit the use of risk-informed completion times (RICTs) in accordance with Technical Specifications Task Force (TSTF) Traveler TSTF-505, Revision 2, "Provide Risk-Informed Extended Completion Times – RITSTF [Risk-Informed TSTF] Initiative 4b," dated July 2, 2018 (ML18183A493). These RICTs would apply to certain actions required when limiting conditions for operations are not met. The second LAR would allow for the implementation of the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.69, "Risk-informed categorization and treatment of structures, systems and components for nuclear power reactors." The provisions of 10 CFR 50.69 allow adjustment of the scope of equipment subject to special treatment controls (e.g., quality assurance, testing, inspection, condition monitoring, assessment, and evaluation).

Information that the U.S. Nuclear Regulatory Commission (NRC) staff relies upon to make the safety determination must be submitted on the docket. However, the NRC staff may review supporting information retained as records under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.71, "Maintenance of records, making of reports," and/or 10 CFR 54.37, "Additional records and recordkeeping requirements," which, although not required to be submitted as part of the licensing action, would help the NRC staff better understand the licensee's submitted information. To support its review of the LAR, the NRC staff issued a regulatory audit plan on October 6, 2023 (ML23278A240). The purpose of the audit is to review the documentation related to the subject of its application (e.g., calculations and reports) that were not submitted on the River Bend docket, to acquire additional understanding about the amendment request, and to determine whether additional information is needed to be docketed to complete the NRC staff's safety evaluation.

Enclosure

2.0 AUDIT ACTIVITIES

The NRC audit team consisted of NRC staff and NRC contract support from the Pacific Northwest National Laboratory (PNNL). Attachment 1 of this audit summary lists the individuals that took part in or attended the audit. The virtual regulatory audit was conducted from June 8, 2023, through December 8, 2023. Throughout the audit period, the NRC audit team used an internet-based portal provided by the licensee to review primarily non-docketed information related to the application. On September 22, 2023, the NRC staff submitted audit questions to the licensee (ML24102A244). On October 11 and October 12, 2023, formal, virtual audit meetings were held with the licensee to facilitate technical discussions of the audit questions according to the audit plan.

Technical discussions were focused on the following major areas: probabilistic risk assessment, external hazards, fire protection, TSs, electrical engineering, and instrumentation and controls. Non-docketed information provided by the licensee in response to audit questions and the formal meetings is listed in attachment 2 of this audit summary. At the conclusion of the meetings, Entergy committed to issuing a supplement to the application to provide documentation on the docket of certain audit discussion points. Although the formal audit meetings ended on October 12, 2023, NRC staff interactions with the licensee continued until December 8, 2023. In lieu of an exit meeting, the NRC's licensing project manager's December 13, 2023, discussion with the licensee regarding the supplement completed the regulatory audit related activities.

3.0 RESULTS OF THE AUDIT

By letter dated January 12, 2024 (ML24016A248), the licensee supplemented its application to address certain items discussed during the audit. The NRC staff subsequently reviewed the licensee's supplement and determined that no additional information was needed for the staff to complete its review of the LAR.

Attachments:

1. List of Participants
2. List of Documents Available for Staff Review During the Audit

List of Participants

U.S. Nuclear Regulatory Commission (NRC) Audit Team

Name, Organization

- Jason Drake, Plant Licensing Branch 4 (LPL4)
- Jennifer Dixon-Herrity, LPL4
- Samson Lee, LPL4
- Alexander Schwab, Probabilistic Risk Assessment (PRA) Licensing Branch A (APLA)
- Mihaela Biro, APLA
- Thinh Dinh, PRA Licensing Branch B (APLB)
- Charles Moulton, APLB
- Sunwoo Park, PRA Licensing Branch C (APLC)
- De Wu, APLC
- Edmund Kleeh, Electrical Engineering Branch (EEEB)
- Vijay Goel, EEEB
- Ming Li, Instrumentation and Controls Branch (EICB)
- Norbert Carte, EICB
- Gurjendra Bedi, Mechanical Engineering and Inservice Testing Branch (EMIB)
- Angelo Stubbs, Containment and Plant Systems Branch (SCPB)
- Derek Scully, SCPB
- Fred Forsaty, Nuclear Systems Performance Branch (SNSB)
- Khadijah West, Technical Specifications Branch (STSB)
- Andrea Russell, STSB
- Karen Sida, Piping and Head Penetrations Branch (NPHP)
- Varoujan Kalikian, NPHP
- Dan Widrevitz, Vessels and Internals Branch (NVIB)
- Mark Wilk, Pacific Northwest National Laboratory (PNNL)
- Steve Short, PNNL
- Nathan Barrett, PNNL
- Garill Coles, PNNL

Entergy Operations, Inc. (Entergy) Audit Team

Name, Organization

- Ryan Doerr, Entergy
- Titus Folds, Entergy
- Phil Couture, Entergy
- Howard Mahan, Entergy
- Randy Crawford, Entergy
- Paul Sicard, Entergy
- Sarah Ollenburger, Entergy
- Shailendra Shrivastava, Entergy
- Gregory Norris, Entergy
- Firat Alemdar, Entergy
- Richard Meister, Entergy
- Stephen Zelesnik, Entergy
- Marie Schmehl, Enercon
- Sami Syed, Enercon
- Hunter Young, Jensen Hughes

List of Documents Available for Staff Review During the Audit

Entergy Operations, Inc. (Entergy, the licensee) provided supporting documentation (e.g., analyses, calculations, reports, drawings, and procedures) on the River Bend Station, Unit 1 (River Bend) document portal during the audit period. Below is a listing of the documents provided on the portal for the U.S. Nuclear Regulatory Commission (NRC) audit team's review during the audit.

1	Presentation of an overview of the risk-informed completion time (RICT) program procedures, including those for determining risk management actions, a demonstration of the process for calculating RICTs (including use of the configuration risk management program tool), and a demonstration of how to use the licensee's web-based portal.
2	Results of the fire probabilistic risk analysis (PRA)
3	Reports of full-scope and focused-scope peer reviews (and facts and observations (F&Os) closure reviews) and any self-assessment performed for the internal events, internal flooding, and fire PRAs cited in the license amendment requests (LARs)
4	Closure reports on F&Os from these assessments
5	a. For the internal events, internal flooding, and fire PRAs, plant-specific documentation (e.g., uncertainty notebooks) related to the review of the PRA model assumptions and sources of uncertainty b. Identification of key assumptions and sources of uncertainty for the application
6	PRA notebooks for the modeling of Diverse and Flexible Mitigation Capability (FLEX) equipment and FLEX human error probabilities credited in the PRA
7	Documentation supporting the example RICT calculations
8	Any draft or final RICT program procedures (e.g., for risk management actions, PRA functionality determination, and recording limiting conditions for operation (LCOs))
9	Plant and PRA configuration control procedures
10	Documentation supporting the development of the real-time risk tool and benchmarking it against the PRA
11	Relevant design documentation (e.g., single line diagrams of the electrical power distribution systems and piping and instrumentation diagrams)
12	All primary fire PRA notebooks
13	Other documentation that the licensee determines to be responsive to the NRC staff's information requests

14	Load list for each safety-related bus
15	Plant procedures related to the risk management action for the electrical power systems, if available
16	Single line diagrams for following: a. Each 4.16 kilovolt and 480 volt standby bus. b. Each Class 1E direct current division or a comprehensive single line. c. Each Class 1E inverter division or a comprehensive single line.
17	Electrical lineups for following: a. LCO 3.8.9, Condition A and concurrent loss of offsite power (LOOP) and loss-of-coolant accident (LOCA) b. LCO 3.8.9, Condition C and concurrent LOOP & LOCA
18	High-level discussion of the fault tree(s) and/or event tree(s) for electrical sources associated with Technical Specification (TS) LCOs 3.8.1, Condition D; and 3.8.4, Condition B.
19	Discussion of the reasons for any differences between design success criteria and PRA success criteria for the applicable TS Conditions for LAR table E1-1, River Bend TS 3.8 (Electrical Power Systems).

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RidsNrrDssStsb Resource	ARussell, NRR
ASchwab, NRR	KWest, NRR

ADAMS Accession No.: ML24102A284

***by email**

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA*	NRR/DRA/APLA/BC*	NRR/DRA/APLC/BC*
NAME	JDrake	PBlechman	RPascarelli	SVasavada
DATE	4/12/2024	4/15/2024	4/19/2024	4/18/2024
OFFICE	NRR/DSS/STSB/BC(A)*	NRR/DEX/EEEB/BC*	NRR/DEX/EICB/BC(A)*	NRR/DORL/LPL4/BC*
NAME	SMehta	WMorton	FSacko	JRankin
DATE	4/19/2024	4/25/2024	4/18/2024	5/6/2024
OFFICE	NRR/DORL/LPL4/PM*			
NAME	JDrake			
DATE	5/7/2024			

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