



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

July 19, 2022

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

SUBJECT: RIVER BEND STATION, UNIT 1 - ISSUANCE OF AMENDMENT NO. 211  
RE: ADD LICENSE CONDITION CONCERNING RECEIPT, POSSESSION,  
AND USE OF BYPRODUCT MATERIALS (EPID L-2021-LLA-0113)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 211 to Renewed Facility Operating License No. NPF-47 for the River Bend Station, Unit 1. The amendment is in response to your application dated June 15, 2021.

The amendment authorizes the receipt, possession, and use of byproduct material from the other licensee facilities that are contaminated with low levels of radioactive material for analysis, repair, calibration, and return shipment.

A copy of the related Safety Evaluation is enclosed. Notice of Issuance will be included in the Commission's monthly *Federal Register* notice.

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

Enclosures:

1. Amendment No. 211 to NPF-47
2. Safety Evaluation

cc: Listserv



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

ENTERGY LOUISIANA, LLC

AND

ENTERGY OPERATIONS, INC.

DOCKET NO. 50-458

RIVER BEND STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 211  
Renewed License No. NPF-47

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for amendment by Entergy Operations, Inc. (the licensee), dated June 15, 2021, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in the *Code of Federal Regulations* 10 CFR Chapter I;
  - B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes as indicated in the attachment to this license amendment, and Renewed Facility Operating License No. NPF-47 is hereby amended to add paragraph 2.B(7) to read as follows:
  - (7) EOI, pursuant to the Act and 10 CFR Part 30, 40, and 70 to receive, possess and use, in amounts as required, such byproduct and special nuclear materials as may be produced by the operation of Arkansas Nuclear One, Units 1 and 2, Grand Gulf Nuclear Station, Unit 1, River Bend Station, Unit 1, and Waterford Steam Electric Station, Unit 3, without restriction to chemical or physical form for the purposes of sample analysis, equipment calibration, or equipment repair.
3. The license amendment is effective as of its date of issuance and shall be implemented within 90 days from the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Jennifer L. Dixon-Herrity, Chief  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to Renewed Facility  
Operating License No. NPF-47

Date of Issuance: July 19, 2022

ATTACHMENT TO LICENSE AMENDMENT NO. 211

RENEWED FACILITY OPERATING LICENSE NO. NPF-47

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

Replace the following pages of the Renewed Facility Operating License No. NPF-47 with the attached revised pages. The revised pages are identified by Amendment number and contain marginal lines indicating the areas of change.

Renewed Facility Operating License

Remove

-3-

Insert

-3-

- (2) EOI, pursuant to Section 103 of the Act and 10 CFR Part 50, to possess, use and operate the facility at the above designated location in accordance with the procedures and limitations set forth in this renewed license;
- (3) EOI, pursuant to Section 103 of the Act and 10 CFR Part 70, to receive, possess and to use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
- (4) EOI, pursuant to Section 103 of the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (5) EOI, pursuant to Section 103 of the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (6) EOI, pursuant to Section 103 of the Act and 10 CFR Parts 30, 40 and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.
- (7) EOI, pursuant to the Act and 10 CFR Part 30, 40, and 70 to receive, possess and use, in amounts as required, such byproduct and special nuclear materials as may be produced by the operation of Arkansas Nuclear One, Units 1 and 2, Grand Gulf Nuclear Station, Unit 1, River Bend Station, Unit 1, and Waterford Steam Electric Station, Unit 3, without restriction to chemical or physical form for the purposes of sample analysis, equipment calibration, or equipment repair.

C. This renewed license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

EOI is authorized to operate the facility at reactor core power levels not in excess of 3091 megawatts thermal (100% rated power) in accordance with the conditions specified herein.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 210 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the renewed license. EOI shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 211 TO

RENEWED FACILITY OPERATING LICENSE NO. NPF-47

ENTERGY OPERATIONS, INC.

RIVER BEND STATION, UNIT 1

DOCKET NO. 50-458

1.0 INTRODUCTION

By letter to the U.S. Nuclear Regulatory Commission (NRC, the Commission) dated June 15, 2021 (ADAMS Accession Number ML21167A214), Entergy Operation, Inc. (EOI) submitted a license amendment request (LAR) to the Facility Operating License (FOL) NPF-47 for River Bend Station, Unit 1 (RBS). EOI requests authorization to receive, possess, and use byproduct material from the other EOI facilities that are contaminated with low levels of radioactive material for analysis, repair, calibration, and return shipment.

These radioactive materials include, but are not limited to the following examples and purposes:

- Radioactive samples for analysis (i.e., to utilize specialized analytical equipment that a particular Entergy site may not possess)
- Repair and calibration of maintenance and test equipment (e.g., gauges, torque wrenches, and motor operated valve test equipment)
- Repair of valves, motors, bearings, and switches
- Repair and calibration of detectors with self-contained radioactive sources
- Use of reactor and fuel services equipment (e.g., stud tensioners, stud turn-out tooling, stud cleaning machines, computers, and refueling consoles)
- Use of dry cask storage equipment (e.g., upenders, slings, forced dehydration and cooling apparatus)

## 2.0 REGULATORY EVALUATION

### 2.1 Applicable Regulations

Title of the *Code of Federal Regulations* (10 CFR) Part 20, "Standards For Protection Against Radiation," establishes standards for protection against ionizing radiation resulting from activities conducted under licenses issued by the Nuclear Regulatory Commission. These regulations are issued under the Atomic Energy Act of 1954, as amended, and the Energy Reorganization Act of 1974, as amended.

10 CFR 20.1101, "Radiation protection programs," requires each licensee to develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the radiation protection regulations of 10 CFR Part 20. The 10 CFR Part 20 regulations require each licensee to develop, document, and implement a radiation protection program, and to achieve occupational doses and doses to members of the public that are "As Low As Is Reasonably Achievable" (ALARA).

10 CFR 20.1201, "Occupational dose limits for adults," requires each licensee to control the occupational dose to individual adults, except for planned special exposures, to the requirements set forth in the regulation.

10 CFR 20.1301, "Dose limits for individual members of the public," requires each licensee to conduct operations so that the total effective dose equivalent to individual members of the public from the licensed operation does not exceed the requirements set forth in the regulation.

10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material," establishes requirements that persons must be licensed to manufacture, produce, transfer, receive, acquire, own, possess, or use byproduct material except as authorized in a specific or general license issued in accordance with the regulations in this chapter.

10 CFR Part 40, "Domestic Licensing of Source Material," establishes requirements that persons must be licensed to manufacture, produce, transfer, receive, acquire, own, possess, or use source material except as authorized in a specific or general license issued in accordance with the regulations in this chapter.

10 CFR Part 70, "Domestic Licensing of Special Nuclear Material," establishes requirements that persons must be licensed to manufacture, produce, transfer, receive, acquire, own, possess, or use special nuclear material except as authorized in a specific or general license issued in accordance with the regulations in this chapter.

10 CFR Part 71, "Packaging and Transportation of Radioactive Materials," establishes requirements applicable to the packaging of radioactive materials for transport of radioactive materials outside a licensee's facility or authorized place of use.

40 CFR Part 190, "Environmental Radiation Protection Standards for Nuclear Power Operations," establishes limits of radiation levels and radioactive material concentrations within the components of the plant that could affect direct radiation exposure to members of the public.

49 CFR Part 173, Shippers – General Requirements for Shipments and Packagings establishes requirements for preparation for shipment of hazardous materials, including Class 7 radioactive materials.

Regulatory Guide (RG) 1.33, Revision 2, Appendix A, “Quality Assurance Program Requirements,” describes a method acceptable to the NRC staff for complying with the Commission's regulations with regard to overall quality assurance program requirements for the operation phase of nuclear power plants.

The NRC issued NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants” (SRP), including Chapter 12.1, “Assuring that Occupational Radiation Exposures are As Low As is Reasonably Achievable,” Chapter 12.2, “Radiation Sources,” Chapters 12.3 - 12.4, “Radiation Protection Design Features,” and 12.5, “Operational Radiation Protection Program.” These SRP sections provide information related to maintaining doses ALARA, radiation sources in the facility, radiation protection design features used to control radiation sources, and information contained in a licensee's radiation protection program. The SRP chapter 12 sections provide guidance for meeting the regulations contained in 10 CFR Part 20, 40 CFR Part 190, and 10 CFR Part 50 Appendix A General Design Criteria (GDC). The SRP criteria are not a substitute for NRC regulations and compliance with them is not required. Rather, they are criteria that are acceptable to meet NRC regulations. The NRC staff has used selected criteria from SRP chapter 12 as evaluation criteria to assess the acceptability of the proposed scope of the LAR which is limited to the receipt, possession, and use of byproduct and special nuclear materials produced by the operations of Arkansas Nuclear One, Units 1 and 2, Grand Gulf Nuclear Station, Unit 1, River Bend Station, Unit 1, and Waterford Steam Electric Station, Unit 3.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Proposed FOL Changes

Presently RBS license conditions require the following:

2.B.(4) EOI, pursuant to Section 103 of the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

2.B.(5) EOI, pursuant to Section 103 of the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

2.B.(6) EOI, pursuant to Section 103 of the Act and 10 CFR Parts 30, 40 and 70, to receive, possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.



The proposed addition to the FOL is to add the following condition to Renewed FOL NPF-47 as license condition 2.B.(7):

2.B.(7) EOI, pursuant to Section 103 of the Act and 10 CFR Part 30, 40, and 70 to receive, possess and use, in amounts as required, such byproduct and special nuclear materials as may be produced by the operation of Arkansas Nuclear One, Units 1 and 2, Grand Gulf Nuclear Station, Unit 1, River Bend Station, Unit 1, and Waterford Steam Electric Station, Unit 3, without restriction to chemical or physical form for the purposes of sample analysis, equipment calibration, or equipment repair, as well as the specific function of equipment containing byproduct and special nuclear materials.

### 3.2 NRC Evaluation

The NRC staff has determined that the acceptance criteria contained in the SRP, which includes chapter 12, sections 12.1 through 12.5, are appropriate guidance to address this amendment.

In this amendment, EOI requests authorization to receive, possess, and use byproduct material from the other EOI facilities that are contaminated with low levels of radioactive material for analysis, repair, calibration, and return shipment. This amendment does not request authorization to store or process low-level radioactive waste (LLRW), receipt and use of irradiated material, or storage of spent fuel from other Entergy facilities.

As required by 10 CFR 20.1101, RBS has an existing Radiation Protection Program (RPP). The RPP provides radiological controls over the receipt, possession, and use of byproduct and special nuclear material and is described in the Updated Safety Analysis Report, Chapter 12, Radiation Protection. The RBS plant technical specifications establish requirements for the staffing and qualifications of staff and require that written procedures be established, implemented, and maintained, including the applicable procedures provided in RG 1.33, Revision 2, Appendix A, "Quality Assurance Program Requirements," February 1978.

The RG 1.33 procedures include radiation protection procedures such as radiation surveys, airborne radioactivity monitoring, contamination control, respiratory protection, training, personnel monitoring, bioassay, and ALARA programs. The existing RBS procedures are used to ensure compliance with regulatory requirements, including the transportation requirements in the DOT regulations in 49 CFR Part 173. The licensee has procedures in place to control radioactive materials, perform radiological surveys, documentation of the surveys, and the establishment of the appropriate radiological postings.

As part of the NRC's ongoing inspection program, the NRC staff has conducted periodic inspections and confirmed that the current RPP has qualified staffing and procedures in place to ensure compliance with 10 CFR Parts 20, 30, 40, 70, 71, and 40 CFR Part 190.

In the proposed amendment, Entergy states that the new license condition does not require any exemptions or relief from regulatory requirements and does not affect conformance with any regulatory requirements contained in 10 CFR Part 20, 40 CFR Part 190, 10 CFR Part 50 Appendix A GDC, or NUREG-0800 as provided in the SRP chapter 12.

NRC staff reviewed the acceptability of the proposed license condition 2.B.(7) with respect to the regulatory requirements in 10 CFR Part 20, 40 CFR Part 190, 10 CFR Part 50 Appendix A GDC, and the guidance contained in the SRP.

The staff finds that the addition of license condition 2.B.(7) does not affect the licensee's ability to comply with any of the regulatory requirements or guidance documents because:

- (1) Occupational dose limits in 10 CFR 20.1201 and public dose limits in 10 CFR 20.1301, including the EPA 40 CFR 190 requirements in 10 CFR 20.1301(e) will continue to be met after the proposed license condition change.
- (2) The licensee's RPP will continue to comply with the ALARA practices specified in 10 CFR 20.1101. The licensee has not requested an exemption with regards to occupational and public dose limits.
- (3) The handling and monitoring of radioactive material is being implemented through acceptable RPP and plant procedures, so RBS continues to conform to the requirements specified in 10 CFR part 50 Appendix A.
- (4) The RPP at RBS continues to be implemented through programs and procedures that follow the guidance in NUREG-0800 for conduct of a Radiation Protection Program.

The staff finds that the site's RPP will continue to ensure compliance with the applicable regulatory requirements after the addition of the proposed license condition. The site's procedures will continue to adequately define responsibilities for the many different programmatic aspects of the RPP, the standards and expectations, the evaluation of RPP, and the Entergy process that ensures radiation doses to the individual and the sum of radiation doses received by all individuals are maintained ALARA.

Based on its review of the information discussed above, which includes the periodic inspection results, the NRC staff has determined that the licensee has the ability to safely receive, possess, and use byproduct and special nuclear materials from the specified EOI sites identified in the proposed amendment for the specified purposes described in the license condition. Furthermore, the NRC staff has concluded that there is reasonable assurance that the licensee's RPP will continue to provide adequate protection to its workers, the public, and the environment.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Louisiana State official was notified of the proposed issuance of the amendment on July 11, 2022. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on September 7, 2021 (86 FR 50190). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Z. Gran, NRR

Date: July 19, 2022

SUBJECT: RIVER BEND STATION, UNIT 1 - ISSUANCE OF AMENDMENT NO. 211  
RE: ADD LICENSE CONDITION CONCERNING RECEIPT, POSSESSION,  
AND USE OF BYPRODUCT MATERIALS (EPID L-2021-LLA-0113)  
DATED JULY 19, 2022

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**ADAMS Accession No.:**

**Amendment No.: ML22188A174**

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DRA/ARCB/BC
NAME	JDrake	PBlechman (RButler for)	KHsueh
DATE	07/06/2022	07/07/2022	07/14/2022
OFFICE	OGC	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM
NAME	AGhosh Naber	JDixon-Herrity	JDrake
DATE	07/15/2022	07/19/2022	07/19/2022

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