

**SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL  
RADIOACTIVE MATERIAL LICENSE**

Pursuant to the Atomic Energy and Radiation Control Act, Section 13-7-40 et.seq. of S.C. Code of Laws of 1976, as amended, and Supplements thereto, and the South Carolina Department of Health and Environmental Control Regulation 61-63, Radioactive Material (Title A), and in reliance on statements and representations heretofore made by the applicant, a license is hereby issued authorizing the licensee to receive, acquire, possess and transfer radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules and regulations of the South Carolina Department of Health and Environmental Control now or hereafter in effect and to any conditions specified below.

Amendment No. 50 amends

<b>LICENSEE:</b>		
<b>1. Name:</b>	EnergySolutions, LLC Barnwell Processing Facility	<b>3. License Number</b> 287-04 in its entirety.
<b>2. Address:</b>	16043 Dunbarton Boulevard Barnwell, SC 29812	<b>4. Expiration Date:</b> June 30, 2021
<b>5. Radioactive Material (Element &amp; Mass No.)</b>	<b>6. Chemical and/or Physical Form</b>	<b>7. Maximum Radioactivity and/or quantity of material which Licensee may possess at any one time.</b>
A. Hydrogen-3	A. Any Form	A. 100,000 Ci
B. Source Material	B. Any Form	B. 4,000,000 lbs
C. Any radioactive material with Atomic numbers between 2 & 91 inclusive (except SNM & source material.)	C. Any Form	C. 25,000 Ci
D. Special Nuclear Material (SNM)	D. Any Form	D. 350 grams total of <sup>235</sup> U or 200 grams of <sup>233</sup> U or 200 grams of plutonium or any combination of these provided the sum of the ratios of the quantities does not exceed unity.
E. Any radioactive material with Atomic Numbers 93 and above (except SNM)	E. Any Form	E. 30 Ci
F. Any radioactive material with Atomic Nos. 1-92.	F. Any Form	F. 1 Ci total
G. Any radioactive material with Atomic Nos. 93 and above (except SNM)	G. Any Form	G. 1 uCi

**8. Authorized Use:**

**A. thru E.** (1) For receipt, storage for processing to include; consolidation, decontamination, repackaging, dry active waste (DAW) compaction, dewatering/inspection, sluicing, solidification, water processing (THERMEX), high activity filter processing (HAFP), and transfer to authorized licenses; (2) or receipt and storage for transfer to authorized licenses; (3) or as calibration and reference standards for radiological analysis; (4) or as contamination upon surfaces or contained within tools and equipment used at the Barnwell Processing Facility; (5) or as contamination in/on tools and equipment used on field projects.

**D., F., and G.** To be received as radioactive waste samples for experimental process testing at the waste testing laboratory.

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**Conditions**

9. Radioactive material as radioactive waste may only be received, processed, repackaged and stored at the Barnwell Processing Facility which is physically located at 16043 Dunbarton Boulevard, Barnwell, SC 29812. This license does not authorize reciprocity in any other Agreement State, or state or territory subject to jurisdiction of the U.S. Nuclear Regulatory Commission.

10. The licensee shall comply with the provisions of Regulation 61-63, Title A, State of South Carolina Rules and Regulations for Radioactive Materials, Part I - General Provisions; Part III - Standards for Protection Against Radiation; Part VI - Notices, Instructions, and Reports to Workers; Inspections; and Part XII - Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material, Regulation 61-83, Transportation of Radioactive Waste Into or Within South Carolina, U.S. Department of Transportation Regulation 49 CFR, and Radioactive Materials Licenses and Acceptance Criteria for Low-Level Radioactive Waste Disposal Facilities to which radioactive waste is transferred.

11. The licensee must comply with the reporting requirements for transactions involving nationally tracked sources in Title A, Part 3, Appendix G., RHA 3.58. This section includes the requirement to report any manufacture, transfer, receipt, disassembly, or disposal of a nationally tracked source, otherwise allowed by this license, by the close of the next business day after the transaction. A nationally tracked source, as defined in Title A, RHA 3.2.63, refers to a sealed source containing a quantity equal to or greater than Category 1 or Category 2 levels of any radioactive material listed in Title A, Part 3, Appendix G, RHA 3.58, "Nationally Tracked Source Thresholds."

12. Operations of the Barnwell Processing Facility shall be conducted under the supervision of William A. Veronee, Clifford E. Bowers (RSO), Erwin Wayne Inabinett, Thomas H. Bell, Phillip H. Thomas, Billy L. Carver, Daniel B. Morris, Rodney Still, James D. Alexander or other individuals designated by the RSO upon successful completion of the licensee's training program and approved by the licensee's Safety Review Board.

The licensee shall maintain continuity in the radiation control program by prior notification to the Department of any intended changes in the position of (Facility) Radiation Safety Officer or personnel contracted to perform and supervise any licensed activities. In the event of a change in the status of the current (Facility) Radiation Safety Officer, if prior contingencies have not been provided for interim supervision of licensed activities, suspension of activities authorized by this license shall be affected pending review and approval by the Department of submitted documentation regarding qualifications of candidates proposed to perform and supervise licensed activities.

13. Unless otherwise authorized in writing from the Department, the licensee shall only accept radioactive waste for processing, storage and transfer from those components of the United States Government exempted from permitting requirements as specified under the Principles of Understanding (POU) between the State of South Carolina and the Department of Defense dated December 4 and 10, 1980, and between the State of South Carolina and the Department of Energy dated October 29, 1980, or from waste generators which have been issued a valid S.C. Radioactive Waste Transport Permit in accordance with Regulation 61-83.

14. The licensee shall not accept radioactive waste for processing, storage, or transfer unless the shipper has provided a properly executed Department Form DHEC-803, Radioactive Waste Shipment Certification Form, Part I and II. The licensee shall not accept radioactive waste shipments consisting of more than 75 cubic feet or containing more than one (1) curie without a properly completed and executed Department Form DHEC-802, Radioactive Waste Shipment Prior Notification and Manifest Form.

15. The licensee shall only accept radioactive waste in accordance with the terms and conditions of this license and Barnwell Processing Facility Radioactive Material Acceptance Criteria. Any variance from this license shall have prior written approval from the Department with the exception of radioactive waste transportation regulations addressed in Condition 10.

16. Radioactive waste received for storage, or received for processing, shall only be stored for a maximum of one year from date of receipt.

17. The licensee shall not transfer radioactive waste to a disposal facility that is not acceptable under the terms and conditions of that facility's radioactive material license and acceptance criteria. Such radioactive waste received for consolidation and repackaging shall be returned within two weeks of such determination to the original waste generator/shipper in accordance with applicable regulations.

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18. The licensee shall comply with all applicable provisions of 10 CFR 20.2006, Transfer for Disposal and Manifest.
19. Sealed sources containing radioactive material shall not be opened by the licensee.
20. A. Except for sealed sources received for repackaging or processing for disposal, each sealed source containing radioactive material, other than Hydrogen-3, with a half-life greater than thirty (30) days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six (6) months. In the absence of a certificate from a transferor indicating that a test has been made within six (6) months prior to the transfer, the sealed source shall not be put into use until tested.
- B. The test shall be capable of detecting the presence of 0.005 microcuries of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Department.
- C. If the test reveals the presence of 0.005 microcuries or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Department regulations. A report shall be filed within five (5) days of the test with the Director, Division of Waste Management, South Carolina Department of Health & Environmental Control, 2600 Bull Street, Columbia, South Carolina 29201, describing the equipment involved, the test results, and the corrective action taken.
21. Tests for leakage and/or contamination shall be performed by persons specifically authorized by the U.S. Nuclear Regulatory Commission or an Agreement State to perform such service.
22. The licensee shall immediately notify the Department of any violations of applicable radioactive material or radioactive waste transportation regulations, conditions of this license, or radioactive material/waste acceptance criteria.
23. The licensee shall conduct a possession quantities verification inventory monthly and a physical inventory every (6) months to account for the sealed source and all radioactive material received and possessed under the license. The records of the inventories shall be maintained for inspection by the Department and shall include the quantities and kinds of licensed material, location of radioactive material, and the date of the inventory.
24. A monthly processing report of all the activities conducted at the Barnwell Processing Facility shall be submitted to the Department no later than the 15th day of the following month.
25. A. Except as specifically provided otherwise, the licensee shall possess and use radioactive material described in Items 5,6, and 7 of this license for the purpose of processing, repackaging, storing and transporting radioactive waste and conduct the operations of the Barnwell Processing Facility in accordance with statements, representations, and procedures contained in the following;
- a. Renewal application with attachments dated December 15, 2015, letter dated March 17, 2016, letter dated April 13, 2016, and letter dated May 17, 2016 all signed by Jimmy Still, Licensing Manager/RSO for EnergySolutions.

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B. All operations authorized by this license shall be conducted in accordance with Chem-Nuclear Systems/EnergySolutions (ES) procedures, subsequent revisions, and additions approved by the Department. However, the licensee may, upon notification to the Department but without Department approval, make minor changes to these procedures provided that:

- a. The change does not affect requirements of any other license condition within this license;
- b. The change does not increase the potential for personnel exposures;
- c. The change does not diminish operational safety;
- d. The change does not increase the potential for release of radioactive material to unrestricted areas; and
- e. The change does not reduce the licensee's record keeping and reporting system.

The licensee shall maintain records of these minor changes including evaluations which provide the basis for each change. The licensee shall provide a copy of all revised procedures to the Department within 30 days.

Date of Issuance: June 30, 2020

For the South Carolina Department  
of Health and Environmental Control

By: Stacey L. French

Stacey L. French, PE, Director  
Division of Waste Management  
Bureau of Land & Waste Management

**South Carolina Board of Health and Environmental Control**  
**Guide to Board Review**  
**Pursuant to S.C. Code Ann. § 44-1-60**

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation or settlement discussions during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference. In matters pertaining to decisions under the South Carolina Mining Act, appeals should be made to the South Carolina Mining Council.

**I. Filing of Request for Final Review**

1. A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15<sup>th</sup> day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
2. RFRs shall be in writing and should include, at a minimum, the following information:
  - The grounds for amending, modifying, or rescinding the staff decision;
  - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
  - the relief requested; and
  - a copy of the decision for which review is requested.
3. RFRs should be filed in person or by mail at the following address:

South Carolina Board of Health and Environmental Control  
Attention: Clerk of the Board  
2600 Bull Street  
Columbia, South Carolina 29201

Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).

4. The filing fee may be paid by cash, check or credit card and must be received by the 15<sup>th</sup> day.
5. If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
6. If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor. All personal and financial identifying information will be redacted from the RFR and accompanying documentation before the RFR is released to the Board, Department staff or the public.
7. If an RFR pertains to an emergency order, the Clerk will, upon receipt, immediately provide a copy of the RFR to all Board members. The Chairman, or in his or her absence, the Vice-Chairman shall based on the circumstances, decide whether to refer the RFR to the RFR Committee for expedited review or to decline in writing to schedule a Final Review Conference. If the Chairman or Vice-Chairman determines review by the RFR Committee is appropriate, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response and RFR Committee review will be provided on an expedited schedule defined by the Chairman or Vice-Chairman.
8. The Clerk will email the RFR to staff and Office of General Counsel and request a Department Response within eight (8) working days. Upon receipt of the Department Response, the Clerk will forward the RFR and Department Response to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within a twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will

respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. Contested case guidance will be included within the letter.

*NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.*

9. If the RFR is to be considered by the RFR Committee, the Clerk will notify the Presiding Member of the RFR Committee and the Chairman that further review is requested by the Board. RFR Committee meetings are open to the public and will be public noticed at least 24 hours in advance.
10. Following RFR Committee or Board consideration of the RFR, if it is determined no Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Conference. Contested case guidance will be included within the letter.

## **II. Final Review Conference Scheduling**

1. If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
2. The Clerk will request Department staff provide the Administrative Record.
3. The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publically noticed and should:
  - include the place, date and time of the Conference;
  - state the presentation times allowed in the Conference;
  - state evidence may be presented at the Conference;
  - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
  - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
4. If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

## **III. Final Review Conference and Decision**

1. The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
  - Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
    - Type of decision (permit, enforcement, etc.) and description of the program.
    - Parties
    - Description of facility/site
    - Applicable statutes and regulations
    - Decision and materials relied upon in the administrative record to support the staff decision.
  - Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
  - Rebuttal by Department staff [15 minutes]
  - Rebuttal by Requestor(s) [10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.
2. Parties may present evidence during the conference; however, the rules of evidence do not apply.
3. At any time during the conference, the officers conducting the Conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the Conference.
4. The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
5. All Conferences are open to the public.
6. The officers may deliberate in closed session.
7. The officers may announce the decision at the conclusion of the Conference or it may be reserved for consideration.
8. The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court or in matters pertaining to decisions under the South Carolina Mining Act, to request a hearing before the South Carolina Mining Council. The FAD will be sent by certified mail, return receipt requested.
9. Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

**The above information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.**