

Bureau of Air Quality State Construction Permit

United States Department of Energy - Savannah River Site
Savannah River Nuclear Solutions LLC
Building 730-4B
Aiken, South Carolina 29808-0001
Aiken County

In accordance with the provisions of the Pollution Control Act, Sections 48-1-50(5), 48-1-100(A), and 48-1-110(a), the 1976 Code of Laws of South Carolina, as amended, and South Carolina Regulation 61-62, Air Pollution Control Regulations and Standards, the Bureau of Air Quality authorizes the construction of this facility and the equipment specified herein in accordance with the plans, specifications, and other information submitted in the construction permit application received on September 23, 2020, as amended. All official correspondence, plans, permit applications, and written statements are an integral part of the permit. Any false information or misrepresentation in the application for a construction permit may be grounds for permit revocation.

The construction and subsequent operation of this facility is subject to and conditioned upon the terms, limitations, standards, and schedules contained herein or as specified by this permit and its accompanying attachments.

Permit Number: 0080-0041-C4
Issue Date: October 23, 2020

Steve McCaslin, P. E., Director Air Permitting Division Bureau of Air Quality

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RECORD OF REVISIONS			
Date	Date Description of Changes		

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A. PROJECT DESCRIPTION

Permission is hereby granted to construct the Surplus Plutonium Disposition (SPD) Project to expedite removal of plutonium from the State of South Carolina by dispositioning surplus weapons-grade plutonium via the Dilute and Dispose approach. To reduce the attractiveness level and the required safeguards and security measures, the plutonium will be diluted with an adulterant prior to disposition at the Waste Isolation Pilot Plant (WIPP).

B.1 EQUIPMENT

Equipment ID	Equipment Description	Equipment Description Control Device ID	
300K	Dilute Processing Glovebox 1	I-103, H-1000	K-OP0001
301K	Dilute Processing Glovebox 2	I-104, H-1000	K-OP0001
302K	Dilute Processing Glovebox 3	I-105, H-1000	K-OP0001
299K	Dilute Process Area – Non-containment area	H-1001	K-OP0002

B.2 CONTROL DEVICES

Control Device ID	Control Device Description	Pollutant(s) Controlled
I-103	Fabric roughing filter – integrated into dilute processing glovebox 1	Radionuclides
I-104	Fabric roughing filter – integrated into dilute processing glovebox 2	Radionuclides
I-105	Fabric roughing filter – integrated into dilute processing glovebox 3	Radionuclides
H-1000	HEPA filter bank – receives exhaust from glovebox containment	Radionuclides
H-1001	HEPA filter bank – receives exhaust from non-containment areas of dilute	Radionuclides
	process area	

Condition Number	Conditions
	Equipment ID: All
	Control Device ID: All
C.1	(S.C. Regulation 61-62.1, Section II(J)(1)(g)) A copy of the Department issued construction and/or operating permit must be kept readily available at the facility at all times. The owner or operator shall maintain such operational records; make reports; install, use, and maintain monitoring equipment or methods; sample and analyze emissions or discharges in accordance with prescribed methods at locations, intervals, and procedures as the Department shall prescribe; and provide such other

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Condition	Conditions
Number	information as the Department reasonably may require. All records required to demonstrate compliance with the limits established under this permit shall be maintained on site for a period of at least five (5) years from the date the record was generated and shall be made available to a Department representative upon request.
	Equipment ID: 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000
C.2	(S.C. Regulation 61-62.1, Section II(J)(1)(d)) Sources required to have continuous emission monitors shall submit reports as specified in applicable parts of the permit, law, regulations, or standards.
	(40 CFR Part 61, Subpart A, §61.14) The owner or operator shall maintain records of monitoring data, monitoring system calibration checks, and the occurrence and duration of any period during which the monitoring system is malfunctioning or inoperative. These records shall be maintained at the source for a minimum of 2 years and made available, upon request, for inspection by the Administrator.
	Equipment ID: 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000
C.3	(40 CFR Part 61, Subpart A, §61.14) Each owner or operator shall maintain and operate each monitoring system as specified in the applicable subpart and in a manner consistent with good air pollution control practice for minimizing emissions. Any unavoidable breakdown or malfunction of the monitoring system should be repaired or adjusted as soon as practicable after its occurrence. The Administrator's determination of whether acceptable operating and maintenance procedures are being used will be based on information which may include, but not be limited to, review of operating and maintenance procedures, manufacturer recommendations and specifications, and inspection of the monitoring system.
	Equipment ID: 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000
C.4	All emissions points, duct work and other locations that are required to be tested, shall be designed and constructed in a manner to facilitate testing in accordance with applicable EPA approved source testing methods; including, but not be limited to, methods specifying test port location and sizing criteria.
	For any source test required under an applicable standard or permit condition, the owner, operator, or representative shall comply with S.C. Regulation 61-62.1, Section IV - Source Tests.
	Unless approved otherwise by the Department, the owner, operator, or representative shall ensure that source tests are conducted while the source is operating at the maximum expected production

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Condition Number	Conditions
	rate or other production rate or operating parameter which would result in the highest emissions for the pollutants being tested. Some sources may have to spike fuels or raw materials to avoid being subjected to a more restrictive feed or process rate. Any source test performed at a production rate less than the rated capacity may result in permit limits on emission rates, including limits on production if necessary.
	 When conducting source tests subject to this section, the owner, operator, or representative shall provide the following: Department access to the facility to observe source tests; Sampling ports adequate for test methods; Safe sampling site(s); Safe access to sampling site(s); Utilities for sampling and testing equipment; and Equipment and supplies necessary for safe testing of a source.
	The owner or operator shall comply with any limits that result from conducting a source test at less than rated capacity. A copy of the most recent Department issued source test summary letter, whether it imposes a limit or not, shall be maintained with the operating permit, for each source that is required to conduct a source test.
	Site-specific test plans and amendments, notifications, and source test reports shall be submitted to the Manager of the Source Evaluation Section, Bureau of Air Quality.
	Equipment ID: 299K, 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000, H-1001
C.5	The owner or operator shall continue to operate under all applicable requirements, including emission limits and standards, testing, monitoring, record keeping, and reporting of the existing Title V Operating Permit (TV-0080-0041) that are not changed or contravened by this construction permit.
	Equipment ID: 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000
C.6	(40 CFR Part 61, Subpart A, §61.13 and Subpart H, §61.93) Within 90 days after initial startup, for a new source which has an initial startup date after the effective date, and at such other times as may be required by the Department under section 114 of the Clean Air Act, the owner/operator of this facility shall conduct emission testing. Emission monitoring and test procedures shall be in accordance with the procedures and methods specified in 40 CFR Part 61, Subpart A and H.
C.7	Equipment ID: 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000
	On a semiannual basis, the permittee shall perform and report to the BAQ results of continuous

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Condition Number	Conditions		
	measurement system performance tests. The permitter flow rate measurement system performance per Relative Appendix E of 40 CFR 52. Use of alternative methods may report shall be submitted within thirty (30) days following The continuous measurement system shall be recalibred. The permittee will have the option of skipping one semial indicate an RA of less than or equal to 7.5 percent.	e Accuracy (RA) test procedures oust have prior approval from t ng the end of the system perfo ted when test results are abov	s described in the BAQ. This ormance test. ve 10 percent.
	Equipment ID: 299K, 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000, H-1001		
C.8	(S.C. Regulation 61-62.5, Standard No. 4, Section VIII) Part the rate specified by use of the following equations: For process weight rates less than or $E = (F) 4.10P^{0.67}$ For process weight rates greater is $E = (F) 55.0P^{0.11}$ Where $E =$ the allowable emission is $P =$ process weight rate in $P =$ effect factor from Table B in S.C. Regular	equal to 30 tons per hour and than 30 tons per hour - 40 rate in pounds per hour tons per hour	l be limited to
	For the purposes of compliance with this condition, the Process/Equipment IDs	process boundaries are defined Max Process Weight Rate (ton/hr)	d as follows:
	SPD/299K, 300K, 301K, 302K	2.40E-04	
	Equipment ID: 299K, 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000, H-1001		
C.9	(S.C. Regulation 61-62.5, Standard No. 4, Section IX) Who December 31, 1985, emissions from these sources (included) opacity greater than 20%, each.		•
	Equipment ID: 299K, 300K, 301K, 302K Control Device ID: I-103, I-104, I-105, H-1000, H-1001		
C.10	USDOE – Savannah River Nuclear Solutions, LLC (Perm located with Ameresco Biomass Cogeneration (Permit r shall be considered when determining facility emissions	number TV-0080-0144). Aggreg	

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C. LIMITATIONS, MONITORING AND REPORTING CONDITIONS

Condition Number	Conditions
	Equipment ID: 299K, 300K, 301K, 302K
	Control Device ID: I-103, I-104, I-105, H-1000, H-1001
C.11	
	The roughing and HEPA filters shall be in place and operational whenever processes controlled by
	them are running, except during periods of malfunction or mechanical failure.
	Equipment ID: 299K, 300K, 301K, 302K
	Control Device ID: I-103, I-104, I-105, H-1000, H-1001
C.12	(40 CFR Part 61, Subpart A, §61.09) The owner or operator of each stationary source which has an initial startup after the effective date of a standard shall furnish the Administrator with written notification of the anticipated date of initial startup of the source not more than 60 days nor less than 30 days before that date.

D. NESHAP PERIODIC REPORTING SCHEDULE SUMMARY

NESHAP Part	NESHAP Subpart	Compliance Monitoring Report Submittal Frequency	Reporting Period	Report Due Date
61	Н	Annual	January 1 – December 31	June 30

- 1. This table summarizes only the periodic compliance reporting schedule. Additional reports may be required. See specific NESHAP Subpart for additional reporting requirements and associated schedule.
- 2. This reporting schedule does not supersede any other reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, 40 CFR Part 63, and/or Title V. The MACT reporting schedule may be adjusted to coincide with the Title V reporting schedule with prior approval from the Department in accordance with 40 CFR 63.10(a)(5). This request may be made 1 year after the compliance date for the associated MACT standard.
- 3. Facilities with emergency engines are not required to submit reports. Only facilities with non-certified, non-emergency engines are required to submit semiannual reports.
- 4. Facilities with emergency engines shall comply with the operations limits specified in 40 CFR 63.6640(f).

E. **NESHAP - CONDITIONS**

Condition Number	Conditions
E.1	All NESHAP notifications and reports shall be sent to the Manager of the Air Toxics Section, South
E, I	Carolina Department of Health and Environmental Control - Bureau of Air Quality.
E.2	All NESHAP notifications and the cover letter to periodic reports shall be sent to the United States

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E. NESHAP - CONDITIONS

Condition Number	Conditions
	Environmental Protection Agency (US EPA) at the following address or electronically as required by
	the specific subpart:
	US EPA, Region 4
	Air, Pesticides and Toxics Management Division
	61 Forsyth Street SW
	Atlanta, GA 30303
	Emergency engines less than or equal to 150 kilowatt (kW) rated capacity, emergency engines greater than 150 kW rated capacity designated for emergency use only and operated a total of 500 hours per year or less for testing and maintenance and have a method to record the actual hours of use, such as an hour meter, and diesel engine driven emergency fire pumps that are operated a total of 500 hours per year or less for testing and maintenance and have a method to record the actual hours of use, such as an hour meter, have been determined to be exempt from construction permitting requirements in accordance with South Carolina Regulation 61-62.1.
E.3	If present, these sources shall still comply with the requirements of all applicable regulations, including but not limited to the following:
	New Source Performance Standards (NSPS) 40 CFR 60 Subpart A (General Provisions); NSPS 40 CFR 60 Subpart IIII (Stationary Compression Ignition Internal Combustion Engines);
	NSPS 40 CFR 60 Subpart JJJJ (Stationary Spark Ignition Internal Combustion Engines);
	National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR 63 Subpart A (General
	Provisions); and
	NESHAP 40 CFR 63 Subpart ZZZZ (Stationary Reciprocating Internal Combustion Engines).
	This facility has processes subject to the provisions of S.C. Regulation 61-62.61 and 40 CFR Part 61,
E.4	National Emission Standards for Hazardous Air Pollutants, Subparts A and Subpart H—National
	Emission Standards for Emissions of Radionuclides Other Than Radon From Department of Energy
	Facilities. Existing affected sources shall be in compliance with the requirements of these Subparts
	by the compliance date, unless otherwise noted. Any new affected sources shall comply with the
	requirements of these Subparts upon initial start-up unless otherwise noted.

F. AMBIENT AIR STANDARDS REQUIREMENTS

Condition Number	Conditions
F.1	Air dispersion modeling (or other method) has demonstrated that this facility's operation will not interfere with the attainment and maintenance of any state or federal ambient air standard. Any changes in the parameters used in this demonstration may require a review by the facility to determine continuing compliance with these standards. These potential changes include any decrease in stack height, decrease in stack velocity, increase in stack diameter, decrease in stack exit

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F. AMBIENT AIR STANDARDS REQUIREMENTS

Condition Number	Conditions
	temperature, increase in building height or building additions, increase in emission rates, decrease in distance between stack and property line, changes in vertical stack orientation, and installation of a rain cap that impedes vertical flow. Parameters that are not required in the determination will not invalidate the demonstration if they are modified. The emission rates used in the determination are listed in Attachment - Emission Rates for Ambient Air Standards of this permit. Higher emission rates may be administratively incorporated into Attachment - Emission Rates for Ambient Air Standards of this permit provided a demonstration using these higher emission rates shows the attainment and maintenance of any state or federal ambient air quality standard or with any other applicable requirement. Variations from the input parameters in the demonstration shall not constitute a violation unless the maximum allowable ambient concentrations identified in the standard are exceeded.
	The owner/operator shall maintain this facility at or below the emission rates as listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations of this permit. Should the facility wish to increase the emission rates listed in Attachment - Emission Rates for Ambient Air Standards, not to exceed the pollutant limitations in the body of this permit, it may do so by the administrative process specified above. This is a State Only enforceable requirement.

G. PERIODIC REPORTING SCHEDULE

Compliance Monitoring Report Submittal Frequency	Reporting Period (Begins on the startup date of the source)	Report Due Date	
	January-March	April 30	
Quarterly	April-June	July 30	
Quarterly	July-September	October 30	
	October-December	January 30	
	January-June	July 30	
Semiannual	April-September	October 30	
Semiamuai	July-December	January 30	
	October-March	April 30	
	January-December	January 30	
Annual	April-March	April 30	
Aiiiludi	July-June	July 30	
	October-September	October 30	

Note: This reporting schedule does not supersede any federal reporting requirements including but not limited to 40 CFR Part 60, 40 CFR Part 61, and 40 CFR Part 63. All federal reports must meet the reporting time frames specified in the federal standard unless the Department or EPA approves a change.

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H. REPORTING CONDITIONS

Condition Number	Conditions					
H.1	Reporting required in this permit, shall be submitted in a timely manner as directed in the Periodic Reporting Schedule of this permit.					
H.2	All reports and notifications required under this permit shall be submitted to the person indicated in the specific condition at the following address: 2600 Bull Street Columbia, SC 29201 The contact information for the local Environmental Affairs Regional office can be found at: http://www.scdhec.gov					
H.3	(S.C. Regulation 61-62.1, Section II(A)(3)) The owner/operator shall submit written notification to the Director of Air Permitting of the date construction is commenced, postmarked within thirty (30) days after such date.					
H.4	Unless elsewhere specified within this permit, all reports required under this permit shall be submitted to the Manager of the Technical Management Section, Bureau of Air Quality.					
H.5	· · · · · · · · · · · · · · · · · · ·					

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I. PERMIT EXPIRATION AND EXTENSION

Condition Number	Conditions
	(S.C. Regulation 61-62.1, Section II(A)(4) and (5) and S.C. Regulation 61-62.1, Section II(J)(1)(f)) Approval to construct shall become invalid if construction: a. is not commenced within 18 months after receipt of such approval; b. is discontinued for a period of 18 months or more; or c. is not completed within a reasonable time as deemed by the Department.
I.1	The Department may extend the construction permit for an additional 18-month period upon a satisfactory showing that an extension is justified. This request must be made prior to the permit expiration.
	This provision does not apply to the time period between construction of the approved phases of a phased construction project; each phase must commence construction within eighteen (18) months of the projected and approved commencement date.

J. PERMIT TO OPERATE

Condition Number	Conditions
J.1	(S.C. Regulation 61-62.1 Section II(F)(2)) When a Department issued construction permit includes only emission limits, monitoring, reporting, and/or other requirements that do not establish engineering or construction specifications for the project, the owner or operator may operate the source in compliance with the terms and conditions of the construction permit until the operating permit is issued by the Department.
J.2	(S.C. Regulation 61-62.1 Section II(F)(3)) When a Department issued construction permit includes engineering and/or construction specifications, the owner/operator or professional engineer in charge of the project shall certify that, to the best of his/her knowledge and belief and as a result of periodic observation during construction, the construction under application has been completed in accordance with the specifications agreed upon in the construction permit issued by the Department. If construction is certified as provided above, the owner or operator may operate the source in compliance with the terms and conditions of the construction permit until the operating permit is issued by the Department. If construction is not built as specified in the permit application and associated construction permit(s), the owner/operator must submit to the Department a complete description of modifications that are at variance with the documentation of the construction permitting determination prior to commencing operation. Construction variances that would trigger additional requirements that have not been addressed prior to start of operation shall be considered construction without a permit.
J.3	(S.C. Regulation 61-62.1, Section II(F)(1)) The owner or operator shall submit written notification to

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J. PERMIT TO OPERATE

Condition Number	Conditions					
	the Department of the actual date of initial startup of each new or altered source, postmarked within fifteen (15) days after such date. Any source that is required to obtain an air quality construction permit issued by the Department must obtain an operating permit when the new or altered source is placed into operation and shall comply with the requirements of this section.					
J.4	(S.C. Regulation 61-62.1, Section II(F)(4)(a)) For sources covered by an effective Title V operating permit, the modification request required by Regulation 61-62.70 shall serve as the request to operate for the purposes of S.C. Regulation 61-62.1, Section II(F). The request should be made using the appropriate Title V modification form.					

K. GENERAL CONDITIONS

Condition Number	Conditions
K.1	The permittee shall pay permit fees to the Department in accordance with the requirements of S.C. Regulation 61-30, Environmental Protection Fees.
K.2	In the event of an emergency, as defined in S.C. Regulation 61-62.1, Section II(L), the owner or operator may document an emergency situation through properly signed, contemporaneous operating logs, and other relevant evidence that verify: 1. An emergency occurred, and the owner or operator can identify the cause(s) of the emergency; 2. The permitted source was at the time the emergency occurred being properly operated; 3. During the period of the emergency, the owner or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and 4. The owner or operator gave a verbal notification of the emergency to the Department within 24 hours of the time when emission limitations were exceeded, followed by a written report within 30 days. The written report shall include, at a minimum, the information required by S.C. Regulation 61-62.1, Section II(J)(1)(c)(i) through (J)(1)(c)(viii). The written report shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
K.3	(S.C. Regulation 61-62.1, Section II(O)) Upon presentation of credentials and other documents as may be required by law, the owner or operator shall allow the Department or an authorized representative to perform the following: 1. Enter the facility where emissions-related activity is conducted, or where records must be
11.15	kept under the conditions of the permit. 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

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K. GENERAL CONDITIONS

Condition Number	Conditions						
	 3. Inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit. 4. As authorized by the Federal Clean Air Act and/or the S.C. Pollution Control Act, sample or 						
	monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.						
K.4	(S.C. Regulation 61-62.1, Section II(J)(1)(a)) No applicable law, regulation, or standard will be contravened.						
K.5	(S.C. Regulation 61-62.1, Section II(J)(1)(e)) Any owner or operator who constructs or operates a source or modification not in accordance with the application submitted pursuant to this regulation or with the terms of any approval to construct, or who commences construction after the effective date of these regulations without applying for and receiving approval hereunder, shall be subject to enforcement action.						

L. EMISSIONS INVENTORY REPORTS - RESERVED

ATTACHMENT - Emission Rates for Ambient Air Standards

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The emission rates listed herein are not considered enforceable limitations but are used to evaluate ambient air quality impact. Until the Department makes a determination that a facility is causing or contributing to an exceedance of a state or federal ambient air quality standard, increases to these emission rates are not in themselves considered violations of these ambient air quality standards (see Ambient Air Standards Requirements).

AMBIENT AIR QUALITY STANDARDS – STANDARD NO. 2						
Emission Point ID	Emission Rates (lbs/hr)					
Emission Point ID	PM ₁₀	PM _{2.5}	SO ₂	NOx	СО	Lead
K-OP0001	2.02E-06	2.02E-06				2.27E-11

TOXIC AIR POLLUTANTS – STANDARD NO. 8						
Emission Rates (lbs/hr)						
Emission Point ID	Cd - Cadmium Cl - Chlorine Cr - Chromium		Co - Cobalt			
	7440439	7782505	N/A	N/A		
K-OP0001	8.90E-13	2.00E-10	4.61E-10	7.98E-12		

TOXIC AIR POLLUTANTS – STANDARD NO. 8						
Emission Rates (lbs/hr)						
Emission Point ID	Be - Beryllium Mn - Manganese Ni - Nickel		Ni - Nickel	P - Phosphorus		
	7440417	N/A	7440020	7723140		
K-OP0001	2.12E-11	5.22E-11	2.64E-09	1.23E-10		