

THE STATE OF SOUTH CAROLINA

**THE DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
AND
THE UNITED STATES DEPARTMENT OF ENERGY**

**DISPUTE RESOLUTION AGREEMENT FOR ALLEGED VIOLATIONS OF
CLASS 3 INDUSTRIAL SOLID WASTE LANDFILL PERMIT FACILITY
FACILITY ID #025500-1603
UNITED STATES DEPARTMENT OF ENERGY SAVANNAH RIVER SITE**

This Dispute Resolution Agreement (“Agreement”) is entered into between the South Carolina Department of Health and Environmental Control (“SCDHEC”) and the United States Department of Energy (“DOE”) (together, the “Parties”), for purposes of reaching agreement concerning Special Conditions A.1.d.i-iii of the Class 3 Industrial Solid Waste Landfill Permit (Facility ID# 025500-1603) originally issued on October 31, 1986, and continuously in effect for the Z-Area Saltstone Disposal Facility (“SDF”) at the Savannah River Site (“SRS”), located in Aiken County, South Carolina. The Parties agree that this Agreement shall not be deemed an admission of fact or law.

I. BACKGROUND

A. PARTIES

1. Pursuant to South Carolina Code Ann. § 48-1-10, *et seq.* (2008 and Supp. 2015) (“South Carolina Pollution Control Act”), South Carolina Code Ann. § 44-96-10, *et seq.* (2002 & Supp. 2015) (“South Carolina Solid Waste Policy Management Act”) and § 44-56-10, *et seq.* (2002 & Supp. 2015) (“South Carolina Hazardous Waste Management Act”), SCDHEC is charged with the administration and enforcement of solid and hazardous waste management in the State of South Carolina, including permitting, enforcement of permits and the assessment of civil

penalties for violations thereof.

2. DOE is the owner and operator of SRS and is the party that requested and received a Class 3 Industrial Solid Waste Landfill Permit for the SRS Z-Area SDF (Facility ID #025500-1603). This permit references that it is issued pursuant to the South Carolina Solid Waste Policy and Management Act, the Solid Waste Landfills and Structural Fill Regulation (25A S.C. Code Regs. 61-107.19) and § 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (the "2005 National Defense Authorization Act").

B. HISTORY

3. The U.S. Environmental Protection Agency has granted SCDHEC authority to implement the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. §§ 6901 to 6992k, within South Carolina. SCDHEC implements solid and hazardous waste provisions of RCRA in South Carolina through the Acts identified in paragraph 1 above as well as through regulations, agreements and orders issued pursuant thereto, including, but not limited to permits for industrial solid waste landfills issued pursuant to the Solid Waste Landfills and Structural Fill Regulation.
4. On October 31, 1986, SCDHEC issued DOE an Industrial Solid Waste Landfill Permit for the SDF. SCDHEC has modified this permit since issuance on several occasions, including but not limited to modifications issued March 9, 1988; modifications issued April 16, 1996; modifications issued January 23, 2007; modifications issued September 9, 2008; modifications issued May 12, 2011; and modifications issued December 17, 2012 (collectively, the "SDF Permit").
5. At the Salt Waste Processing Facility ("SWPF"), DOE will process liquid waste from tank farms as further described in Industrial Wastewater Treatment Permit 19,219-IW for that facility. The salt waste from the SWPF will be disposed of in the SDF Class 3 Solid Waste

Landfill.

6. Special Conditions A.1.d.i-iii of the SDF Permit provide that DOE shall complete the following activities in support of the SWPF:
 - a. Begin operation of Waste Transfer Lines associated with the SWPF by September 30, 2011.
 - b. Begin operation of the Alpha Sorption Process by September 30, 2011.
 - c. Begin operation of the Caustic Side Solvent Extraction Process by September 30, 2011.
7. Paragraph A.7 of the SDF permit provides: “Since, prior to treatment, the wastes being managed in the Liquid Waste Tanks at the Savannah River Site contain hazardous constituents, DOE shall be subject to pay to SCDHEC the stipulated amount of \$10,000 under the Solid Waste Policy and Management Act and \$25,000 under the Hazardous Waste Management Act per occurrence for each day that DOE fails to meet any enumerated part of Conditions A.1.a-A.1.g, A.3, A.4, A.5 and A.6 in accordance with the schedules therein taking into account any extension of time for compliance authorized in writing by SCDHEC per Condition A.2.”
8. By letter dated July 14, 2011 (Moody to King), DOE notified SCDHEC that the startup of the SWPF would be delayed from the scheduled date of September 30, 2011, reflected in Special Condition A.1.d.i-iii of the SDF permit. To mitigate these delays, DOE notified SCDHEC of its plan to complete the activities identified in Special Condition A.1.d.i-iii of the SDF permit by October 31, 2015, as well as additional requirements.
9. By letter dated August 12, 2011 (Coleman to Moody), SCDHEC granted the conditional extension of time for completion of activities identified above in Special Condition A.1.d.i-iii of the SDF permit beyond September 30, 2011, if DOE accomplished the

following:

- a. Complete the activities listed in Special Condition A.1.d.i-iii by October 31, 2015;
 - b. Complete a full scale cold pilot testing of next generation solvent by December 2012;
 - c. Achieve and maintain a 6.0 million gallons per year salt waste treatment rate by June 30, 2017; and
 - d. Increase and maintain a minimum 8.0 million gallons per year salt waste treatment rate by September 30, 2018.
10. The August 12, 2011 (Coleman to Moody) letter states that SCDHEC's conditional extension of the September 30, 2011 deadlines of Special Condition A.1.d.i-iii of the SDF permit provided that if DOE did not meet the conditions for the extension, the extension of time for completion of activities in Special Condition A.1.d.i-iii will be void from September 30, 2011, subjecting DOE to assessment of stipulated penalties starting from the date of September 30, 2011.

C. DISPUTED ISSUES

11. The disputed issues set forth in paragraphs 12, 13 and 14 reflect the individual views of the Parties.
12. SCDHEC contends, inter alia, that DOE did not complete the items in Special Condition A.1.d.i-iii of the SDF permit by October 31, 2015, as stated in SCDHEC's conditional extension letter of August 12, 2011, and to date, DOE has not satisfied any of the items in Special Condition A.1.d.i-iii of the SDF permit. SCDHEC contends DOE's alleged non-compliance with Special Conditions A.1.d.i-iii of the SDF permit has triggered the stipulated penalty provisions of Special Condition A.7 of the SDF permit from the initial date of

September 30, 2011, as addressed in the SDF permit and SCDHEC's letter to DOE dated August 12, 2011 (Coleman to Moody).

13. SCDHEC contends that jurisdiction over DOE is proper in this matter and that authority exists for SCDHEC to legally enforce the alleged violations identified herein, including collection of stipulated penalties as identified above.¹ SCDHEC also contends DOE is the holder of the SDF Permit, an industrial solid waste landfill permit for the SDF issued pursuant to RCRA and the Solid Waste Policy and Management Act. SCDHEC further contends it is authorized to enforce solid waste permits (including collection of civil penalties) under S.C. Code Ann. § 44-96-450(A).
14. DOE contends, inter alia, that pursuant to the Atomic Energy Act of 1954, as amended, it has exclusive authority and responsibility over source, special nuclear, and byproduct material and that SCDHEC lacks jurisdiction over these materials. DOE also contends that there is no jurisdiction or authority for the regulation and enforcement of any matters pertaining to startup and operation of SWPF via the SDF permit, and any modifications thereof, issued for the SDF, including but not limited to, commitments and stipulated penalties associated with SWPF. DOE further contends that acts of the South Carolina General Assembly have

¹ SCDHEC contends that 42 U.S.C. § 6961 of RCRA provides for a waiver of sovereign immunity for a federal agency that (1) has "jurisdiction over any solid waste management facility or disposal site," or (2) engages "in any activity resulting, or which may result, in the disposal or management of solid waste or hazardous waste." 42 U.S.C. § 6961 provides that such agency shall:

be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural (including any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief), respecting control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as any person is subject to such requirements, including the payment of reasonable service charges. The Federal, State, interstate, and local substantive and procedural requirements referred to in this subsection include, but are not limited to, all administrative orders and all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations. The United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement (including, but not limited to, any injunctive relief, administrative order or civil or administrative penalty or fine referred to in the preceding sentence, or reasonable service charge).

tolled the terms of development approvals relevant to the SWPF and SDF permits.

II. RESOLUTION

15. SCDHEC and DOE enter into this Agreement to resolve any liability to SCDHEC for DOE's alleged failure to meet Special Conditions A.1.d.i-iii of the SDF Permit. SCDHEC and DOE enter into this Agreement in the interest of resolving this matter without the delay and expense of litigation.

16. In resolution of civil liability of DOE, its officers, directors, employees, agents, constituent agencies, contractors, subsidiaries, successors, assigns, trustees, receivers and/or other affiliates, to SCDHEC for the alleged failure to comply with Special Conditions A.1.d.i-iii of the SDF Permit, DOE will implement the following Supplemental Tank Closure Activities (STCAs) and shall achieve the Waste Processing Amounts as specified below in paragraph 22.

A. SUPPLEMENTAL TANK CLOSURE ACTIVITIES (STCAs)

17. DOE agrees to perform the STCAs as more fully explained below. Tanks 4, 7, and 11 will be used to facilitate the implementation of this Agreement. Prior to execution of this Agreement, DOE will provide SCDHEC with acceptable documentation supporting the value of the proposed STCAs. Upon completion of each STCA, DOE shall submit a signed documentation of completion, executed by its authorized representative, including pertinent attachment(s) and/or data related to the final implementation of each STCA, including documents reflecting the total costs for implementing each STCA to SCDHEC. Following completion of each STCA and submittal of the documentation of completion, SCDHEC will review and provide DOE with written approval certifying satisfactory completion of the STCA, or alternatively, written correspondence identifying specific reason(s) why the STCA or documentation of completion is not sufficient to document completion. DOE shall have thirty (30) calendar days to correct any written deficiencies

and/or supplement the documentation of completion before resubmitting to SCDHEC for approval.

18. Tank Closure Cesium Removal Unit 1 (“TCCR Unit 1”): DOE will:

a. Design, construct, install and operate a demonstration unit (TCCR Unit 1) for the removal of cesium from liquid tank waste. TCCR Unit 1 is expected to process approximately 750,000 gallons of liquid waste resulting from the dissolution of saltcake from one of the H-Tank Farm tanks towards achieving DOE’s liquid waste processing obligations specified in paragraph 22 of this Agreement.

b. Report the volume and curies disposed of at SDF which would include waste generated by TCCR Unit 1 in its reports to SCDHEC under General Condition B.5 of the SDF Permit.

c. Complete evaluation of the technical feasibility and economic efficiency of TCCR Unit 1 prior to the end of fiscal year (FY) 2019, with “technical feasibility” addressing, at a minimum: (i) The decontamination factor achieved for cesium 137; (ii) Worker and public safety; (iii) Compliance with applicable regulations; and (iv) Ability to result in beneficial (accelerated) liquid waste disposition.

d. Utilize TCCR Unit 1 to process waste from at least one additional waste tank, likely in the H-Tank Farm, if TCCR Unit 1 is found by DOE to be a technically feasible and economically efficient approach given other treatment options available at SRS as described in paragraph 18(c) above and considering the liquid waste treatment amounts reflected in paragraph 22 of this Agreement.

19. Tank Closure Cesium Removal Unit 2 (“TCCR Unit 2”): DOE shall:

a. Design, construct, install and operate a second TCCR unit, TCCR Unit 2, for the removal of cesium from liquid tank waste, unless DOE demonstrates to SCDHEC

that this second unit would not be technically feasible and/or economically efficient given other treatment options available at SRS and considering the liquid waste treatment amounts reflected in paragraph 22 of this Agreement. TCCR Unit 2 would be expected to process approximately 1,000,000 gallons of liquid waste per year from waste removal activities.

b. Submit a plan to SCDHEC by May 1, 2022 for processing rates for TCCR Unit 2, if operation of TCCR Unit 2 is determined to be technically feasible and economically efficient given other treatment options available at SRS and considering the liquid waste treatment amounts reflected in paragraph 22 of this Agreement.

c. If DOE contends that the second TCCR unit is not technically feasible and/or economically efficient given other treatment options available at SRS and considering the liquid waste treatment amounts reflected in paragraph 22 of this Agreement, DOE shall submit a written request, with accompanying justification, asking SCDHEC to determine that the second TCCR Unit would not be technically feasible and/or economically efficient given other options available for SRS to achieve the liquid waste processing amounts of paragraph 22 of this Agreement.

d. If based upon DOE's request, SCDHEC determines that TCCR Unit 2 is not technically feasible and/or economically efficient given other treatment options available at SRS and considering the liquid waste treatment amounts reflected in paragraph 22 of this Agreement, DOE will substitute another STCA option that is technically feasible and/or economically efficient with roughly the same value and benefit to the liquid waste program that is agreeable to SCDHEC consistent with the liquid waste processing amounts of paragraph 22 of this Agreement and/or that otherwise enhances the schedule for closure of H and F tanks.

20. Next Generation Solvent in SWPF: DOE will implement Next Generation Solvent (NGS)

in the SWPF within 28 months after commencing initial radioactive operation of this facility.

21. Sonar Mapping Technology: DOE will complete a technology demonstration of tank solids sonar mapping technology for a liquid waste tank and submit documentation of that demonstration to SCDHEC by January 31, 2018.

B. WASTE PROCESSING AMOUNTS

22. DOE will utilize any combination of the Actinide Removal Process and Modular Caustic Side Solvent Extraction Unit (ARP/MCU), SWPF, TCCR Unit 1 and/or TCCR Unit 2 (or any unit substituted for TCCR Unit 2), to process a total of 36.75 million gallons of liquid waste at SRS during the FYs 2016-2022, in accordance with the provisions described below.

Fiscal Year	Yearly Total Amounts
2016	1.12 million gallons
2017	1.30 million gallons
2018	2.45 million gallons
2019	4.20 million gallons
2020	6.40 million gallons
2021	11.00 million gallons
2022	10.28 million gallons

a. Notwithstanding anything contained in this Agreement, DOE shall process and maintain at least 8.0 million gallons of liquid waste per fiscal year, starting from fiscal year 2022. After termination of this Agreement, this obligation shall continue as specified in the letter from DOE to SCDHEC dated August 12, 2011 (Coleman to Moody).

b. In the 4th quarter quarterly report under General Condition B.5 of the SDF Permit for the previous fiscal year, DOE agrees to submit data regarding waste treated by each system identified in this paragraph and the total waste treated compared to the fiscal year annual expected total. DOE will treat all waste at SRS in a manner such that disposal in the SDF is limited to a volume of waste that contains approximately 0.8 million curies (MCi) from the combination of Interim Salt Treatment (approximately 0.6 MCi) and SWPF processing (approximately 0.2 MCi) through the end of the Salt Waste Processing Program. Should waste constituents vary due to uncertainty associated with the current characterization of salt waste, DOE will explain the variation in quarterly reports submitted to SCDHEC. The Parties understand that the extent of variation due to characterization uncertainty in the actual waste content of this material may be as high as approximately 1.6 MCi (approximately 1.3 MCi from Interim Salt Treatment and approximately 0.3 MCi from SWPF).

23. The gallons of processed liquid waste as described in paragraph 22 will be adjusted as follows:

a. If needed by DOE, an additional twelve (12) months will be allotted to achieve the totals for a fiscal year annual total, as reflected in the chart above, into the next fiscal year.

b. DOE will operate the treatment systems identified in paragraph 22 above to achieve the collective annual amounts (equivalent volumes irrespective of treatment system). When DOE exceeds the above amounts for any fiscal year annual total without requesting an extension under paragraph 23(a) above, the amount achieved in excess of the amounts will be

credited forward to the next fiscal year total amounts. Both the total and fiscal year annual total amounts identified above are subject to adjustment based upon the procedures specified in Section G of the Terms and Conditions of this Agreement. DOE agrees that notwithstanding the waste treatment amounts reflected in paragraph 22, or addressed in any other provision of this Agreement, no provision in this document releases DOE from satisfying waste treatment amounts that originate from independent obligations not expressly addressed in this Agreement.

24. In support of carrying out the above expected waste processing amounts, DOE further agrees to:

- a. Commence operation of the SWPF as soon as technically and safely feasible, but in no case later than December 31, 2018;
- b. Ensure the cesium-laden waste, generated by "at tank" salt treatment technology, is dispositioned in accordance with applicable laws, regulations and DOE Orders; and,
- c. Disposition the cesium-laden waste, generated by "at tank" salt treatment technology, as follows:
 - i. If the waste is determined by DOE to not be high-level radioactive waste, by transfer of the waste to an offsite facility within 5 years of such facility obtaining the required regulatory licenses and within 12 months of generation once shipments have started and prior legacy waste (stored longer than 12 months) has been dispositioned; or
 - ii. By vitrification through the Defense Waste Processing Facility ("DWPF") for offsite disposal.

d. For items (b) and (c) above, these items shall be deemed complete upon DOE providing SCDHEC an acceptable plan for disposition of the cesium-laden waste as addressed above in these items.

III. TERMS AND CONDITIONS

A. RESERVATION OF RIGHTS AND DEFENSES, AND TOLLING AGREEMENT

25. This Agreement shall not be construed to prohibit or limit in any way SCDHEC from pursuing any action authorized by state or federal law for violation of any state or federal law requirements applicable to DOE not expressly addressed in this Agreement. This Agreement shall not be construed to prohibit or limit in any way DOE from raising any defense to such action.
26. Upon execution of this Agreement, SCDHEC agrees that any continuing penalties for DOE's alleged failure to comply with Special Condition A.1.d.i-iii of the SDF permit in a timely manner, including but not limited to any potential for continuing penalties under the provisions of Special Condition A.7 of the permit for such alleged violations, will not continue to accrue so long as DOE is in compliance with this Agreement. Penalties for DOE's alleged failure to comply with Special Condition A.1.d.i-iii of the SDF permit in a timely manner, including but not limited to any potential penalties triggered under the provisions of Special Condition A.7 of the permit for such alleged violations, will begin to accrue again as of the date of SCDHEC's notification of alleged violations. DOE and SCDHEC agree that any right of action or claim SCDHEC has against DOE for DOE's alleged failure to comply with Special Condition A.1.d.i-iii of the SDF permit in a timely manner (including but not limited to any potential penalties previously triggered under the provisions of Special Condition A.7 of the permit for such alleged violations) as well as any available defenses and governmental immunities not waived by law that DOE may

assert to such actions or claims, including but not limited to any statute of limitation or other time limitation that may apply to any enforcement action regarding the SDF permit, including but not limited to the imposition of penalties by SCDHEC, are further tolled as of the Effective Date of this Agreement until ten (10) business days after SCDHEC provides DOE with written notice of an alleged violation.

27. In addition, SCDHEC may seek all available claims or actions for enforcement of the terms and conditions of this Agreement, and any documents submitted by DOE related thereto, by any available means, including but not limited to administrative or judicial action for any failure to meet any deadline or perform any requirement contained in this Agreement or any document submitted pursuant to the provisions of this Agreement for alleged violations, subject to any available defenses and governmental immunities not waived by law that DOE may avail itself.
28. SCDHEC will notify DOE in writing at least ten (10) business days prior to initiating any enforcement action for the claims or actions consistent with this Agreement. After receipt of such notice, DOE and SCDHEC may work to resolve the issue(s). Following ten (10) business days after SCDHEC provides the above notice to DOE, SCDHEC may pursue any and all enforcement options available pursuant to applicable law, subject to any available defenses and governmental immunities not waived by law that DOE may avail itself.
29. DOE will take all necessary steps and use its best efforts to obtain timely funding to meet the STCAs and waste processing provisions in paragraphs 17 through 24 of this Agreement, including but not limited to submission of timely budget requests. During development of the DOE-SRS annual budget, DOE will provide a briefing to SCDHEC on overall SRS site priorities, including the prioritization of the Liquid Waste Program activities and the work scope needed to implement this Agreement. Upon submittal of the

President's budget request to Congress, within seven (7) business days, DOE will brief SCDHEC on its content and implications for meeting the STCAs and waste processing provisions in paragraphs 17 through 24 of this Agreement. Upon approval/passage of the Congressional Appropriation Bill, within seven (7) business days, DOE shall brief SCDHEC on the budget allocation, and in particular, on the adequacy of the funding provided within the appropriation to SRS in order to satisfy the STCAs and waste processing provisions of paragraphs 17 through 24 of this Agreement.

30. Nothing in the Agreement is intended to require DOE to obligate or expend funds in excess of available appropriations, apportionments, or allotments in violation of the Anti-Deficiency Act, 31 U.S.C. § 1341 (a)(1)(A) and § 1517 (a). DOE will exhaust all of its legal authorities to take all necessary steps, including but not limited to budget reprogramming within its existing authority, to effectuate the provisions of this Agreement.

31. Nothing in this Agreement will obligate DOE to disclose privileged information.

B. RELEASE

32. DOE and SCDHEC agree that this Agreement (including attachments) governs any civil liability to SCDHEC for the matters set forth herein and constitutes the entire agreement between SCDHEC and DOE with respect to resolution of these matters. Termination of this Agreement in accordance with paragraph 35 releases DOE, its officers, directors, employees, agents, constituent agencies, contractors, subsidiaries, successors, assigns, trustees, receivers and/or other affiliates, from all civil liabilities arising from any alleged failure by DOE to satisfy Special Conditions A.1.d.i-iii of the SDF Permit. This Agreement is not intended to be, nor shall it be construed as, a release or covenant not to sue for any claim, cause of action, administrative or judicial, civil, past or future, in law or equity, which SCDHEC may have against DOE for any matters or obligations not expressly addressed in this Agreement. DOE

and SCDHEC are not relying upon any representation, promises, understandings, or agreements except as expressly set forth or referenced within this Agreement.

C. WAIVER OF STATE LIABILITY

33. SCDHEC, on its own behalf and on behalf of the State of South Carolina, does not assume any liability for DOE's performance under the Agreement.

D. EFFECTIVE DATE AND TERMINATION DATES

34. This Agreement shall become effective on the date the last signatory signs the Agreement ("Effective Date").

35. DOE shall notify SCDHEC upon implementation of all the STCAS and upon it achieving the waste processing amounts specified in the table in paragraph 22. DOE shall notify SCDHEC when it has completed the items addressed in paragraphs 24(b) and (c) as specified in paragraph 24(d). SCDHEC shall notify DOE whether it agrees that DOE has satisfied these requirements. This Agreement will terminate when DOE and SCDHEC agree that the activities described above have been completed. The reservation of rights and defenses and the release in paragraphs 25 and 32 shall not terminate and shall remain in effect.

E. AMENDMENT

36. This Agreement shall not be amended or modified except by the written agreement of DOE and SCDHEC.

F. BINDING EFFECT

37. This Agreement shall be binding on DOE and SCDHEC and their respective officers, directors, employees, agents, constituent agencies, contractors, subsidiaries, successors, assigns, trustees, receivers and/or other affiliates.

G. FORCE MAJEURE

38. DOE's obligation to comply with the provisions of this Agreement shall be deferred

under Section G of these Terms and Conditions to the extent and only for the duration that a failure in compliance is caused by a Force Majeure, or, is otherwise mutually agreed upon by DOE and SCDHEC under paragraph 38(c) of these Terms and Conditions.

a. Force Majeure shall mean an event or circumstance which is (i) beyond DOE's control, (ii) could not have been prevented by DOE's reasonable action or due diligence and (iii) prevents DOE from complying with any of its obligations under this Agreement. Assuming the following examples (as well as those listed in Attachments A and B of this Agreement), satisfy the three conditions identified above, they would be considered events of Force Majeure:

- i. Acts of God (including but not limited to drought, flood, tornado, hurricane, lightning, and earthquake) and that which is physically impossible in the natural world according to the Laws of Physics;
- ii. Fire (including wildfire) or explosion;
- iii. Acts of war (whether declared or not) or of a public enemy, acts of or threats of terrorism, sabotage, piracy, insurrection, riot, or civil disturbance (whether lawful or not);
- iv. Embargo or blockade;
- v. Epidemic or quarantine;
- vi. Restraint by court order;
- vii. Inclement weather conditions;
- viii. Limiting geological or ground conditions;
- ix. Labor disputes (including but not limited to strike, work stoppage, slowdown, or lockout);

- x. Delays in transportation;
 - xi. Interruption or failure of electricity or communications systems, or of the supply of oil or gas;
 - xii. Inability to procure or a substantial delay in the procurement of necessary materials (including but not limited to material or labor shortages);
 - xiii. Insufficient availability of appropriated funds which have been diligently sought and timely efforts have been made to obtain such funds as part of the Federal budgetary process;
 - xiv. Breakage, failure or accident of machinery, equipment or pipe lines despite reasonably diligent maintenance;
 - xv. Restraint by order of public authority;
 - xvi. Pressure waves from devices travelling at supersonic speeds or damages caused by any aircraft or similar device;
 - xvii. Inability to obtain, with timely submittal of all applicable applications, all necessary authorizations, approvals, permits or licenses due to action or inaction of any governmental agency or authority other than DOE;
 - xviii. Delays caused by compliance with applicable statutes or regulations governing contracting, procurement or acquisition procedures;
 - xix. Planned outages that extend beyond DOE's projected time period;
 - xx. Any items listed in Attachment A of this Agreement;
 - xxi. Any items listed in Attachment B of this Agreement.
- b. The Force Majeure procedure will be as follows:
- i. DOE shall submit notification within ten (10) business days after the date when DOE first knows or should have known that that a Force Majeure

condition has occurred which could impact DOE's ability to comply with the obligations of this Agreement. As early as reasonably practicable, DOE shall provide a written report describing the nature, cause, anticipated length of delay associated with the failure of compliance with any terms of this Agreement, specifically projecting how such occurrence is expected to impact achievement of any fiscal year yearly amount or total yearly amount reflected in paragraph 22. DOE will request SCDHEC to approve a delay in the schedule of paragraph 22 as projected, but, only to the extent necessary to accommodate the Force Majeure. The notice will also include all steps DOE has taken or will take to avoid or minimize the impact of the Force Majeure, with a schedule for implementation, and will provide an analysis of how long (i.e. in how many fiscal years), DOE projects it will take to treat any liquid waste that cannot be processed in accordance with the schedules provided in paragraph 22 -- to catch up on the total waste processing amounts identified in paragraph 22. Annually, by January 31 of each year, DOE shall provide a written summary of the status of all Force Majeure events, including an update on the duration, and impact, and how it affected DOE's performance for the previous fiscal year.

- ii. SCDHEC will review DOE's notification of a Force Majeure event and will respond within thirty (30) calendar days, providing a technical analysis of any disagreements with DOE's request. DOE will have ten (10) business days to respond to notification by SCDHEC that it has disallowed all or part of DOE's request. SCDHEC will then have ten (10)

business days to respond to any reply by DOE.

c. In addition to the basis of Force Majeure, DOE may also seek an extension of time to perform any provision of this Agreement on the basis of a written request for good cause shown. The request will state the length of the requested extension and describe the basis for the request. SCDHEC will respond to this request within thirty (30) calendar days following receipt of the request. If SCDHEC denies the request, it will state the reasons for the denial in its response. However, the decision of whether or not to grant an extension under this paragraph shall be within the sole discretion of SCDHEC.

H. NOTICE TO PARTIES

39. Whenever under the terms of this Agreement, DOE or SCDHEC are instructed to provide notice to the other party, or to submit any document called for under this Agreement, such notice or document shall be directed to the following persons via standard delivery:

SCDHEC:

Marty Lindler
Manager
Solid and Hazardous Waste Compliance
Bureau of Land and Waste Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201
803-898-0456

DOE:

Assistant Manager for Waste Disposition
U.S. Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, SC 29802
803-952-7697

I. AUTHORITY OF SIGNATORIES

40. The persons executing this Agreement represent that they have the requisite authority to bind either SCDHEC or DOE, as appropriate, and that their representation will be legally sufficient evidence of actual or apparent authority to bind SCDHEC or the DOE to this Agreement. This Agreement may be executed in any number of counterpart originals, each of which shall be deemed to constitute an original agreement, and all of which shall constitute one Agreement. The execution of one counterpart by either DOE or SCDHEC shall have the same force and effect as if that party had signed all other counterparts.

J. DISPUTE RESOLUTION

41. SCDHEC and DOE agree that should a dispute arise regarding the performance of any provision of this Agreement, SCDHEC and DOE shall make a reasonable effort to resolve such dispute informally.

THE SOUTH CAROLINA DEPARTMENT OF
HEALTH AND ENVIRONMENTAL CONTROL

DATE: October 31, 2016

BY: Catherine E. Heigel
Catherine E. Heigel
Director

UNITED STATES DEPARTMENT OF ENERGY

DATE: 10/31/2016

BY: Jack R. Craig, Jr.
Jack R. Craig, Jr.
Manager, Savannah River Operations Office

Attachment A

Liquid Waste (LW) System Force Majeure Examples If Satisfying All Elements of Paragraph 38(a) of the Agreement

DOE's ability to process salt waste through the use of the highly integrated LW system facilities (e.g. ARP/MCU, TCCR, SWPF, DWPF, SPF, SDF, ETF, storage tanks, evaporators, transfer lines, diversion boxes, pump tanks, pumps, steam systems, cooling systems, electrical systems, process control systems, ventilation systems, safety controls, and site services availability) can be impacted by various events, including but not limited to the following examples:

1. Loss of infrastructure which directly or indirectly impacts salt processing (e.g., Tank 40 as DWPF feed tank) cooling system failure causing DWPF shutdown which, in turn causes ARP/MCU (or SWPF) shutdown due to full (no storage capacity) strip effluent receipt tank);
2. DWPF outage for melter replacement causing ARP/MCU (or SWPF) shutdown due to full strip effluent receipt tank;
3. Newly discovered safety concerns (e.g., measured or estimated hydrogen generation rates during dissolution of saltcake, mixing of salt supernate, or the time required to qualify a salt batch [i.e. ready a batch for processing acceptability in the system where the batch material is to be sent] system for processing that impacts timing/duration of salt batch processing);
4. Work stoppage or reduction due to programmatic safety issues;
5. Failure of an evaporator to operate properly in a way that (e.g. loss of steam, pot failure, clogged drain line, transfer pipe integrity breach, etc.) affects storage capacity to receive DWPF recycled material which, in turn shuts down DWPF ARP/MCU or SWPF; failure of the integrity of the FTF to HTF inter area transfer line that prevents maximum SWPF treatment capacity due to inability/delay to transfer qualified salt batch to ARP/MCU or SWPF;
6. Unavailability or limited availability of site services (steam, water, electrical, waste receipt/disposal, laboratory services, etc.) or raw materials causing shutdown of facility operations;
7. Implementation of new or updated regulatory requirements including nuclear safety and radiological control;
8. Failure of the automation systems to work as designed;
9. Failure of system components such as valves and electrical equipment due to such things

as to corrosion;

10. Safety incident resulting in investigations; and
11. Security event results in Site security changes (e.g. investigation of a criminal act results in closing/limiting access to a facility) impacting work or Cyber security incident shuts down computer network.

Attachment B

SWPF Force Majeure Examples If Satisfying All Elements of Paragraph 38(a) of the Agreement

The SWPF has not yet undergone cold commissioning or conduct-of-operations actions necessary to confirm safe and efficient operational capability. This example list identifies potential risks when these occur:

1. Proficiency and MSA reviews result in findings or issues requiring longer than DOE-scheduled corrective action times;
2. Contractor and/or DOE Operation Readiness Reviews results in findings or issues requiring longer-than-DOE-scheduled time to complete corrective actions;
3. Unavailability of types and/or quantities of critical spare parts;
4. Caustic Side Solvent Extraction system encounters stimulant testing problems associated with the formation of precipitate during commissioning;
5. Insufficient spare solvent inventory to address spills or carryover losses;
6. The discovery of latent defects requiring rework;
7. Failure of the automation systems to work as designed;
8. Failure of system components such as valves and electrical equipment due to such things as to corrosion;
9. Safety incident resulting in investigations;
10. Security event results in Site security changes (e.g., investigation of a criminal act results in closing/limiting access to a facility) impacting work or Cyber security incident shuts down computer network; and
11. Testing identifies physical design issue requiring rework (e.g. pump design capacity is not sufficient for the as-built condition, a tank volume is insufficient for the as-built plant condition).