

PERMIT NO. 7389-067-0093-S-06-0

ISSUANCE DATE: 01/06/2022



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

ENVIRONMENTAL PROTECTION DIVISION

Air Quality Permit

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Rules, Chapter 391-3-1, adopted pursuant to and in effect under that Act,

Facility Name: Sterigenics U.S. LLC
Facility Address: 2971 Olympic Industrial Drive SE, Suite 116
Atlanta, Georgia 30339 Cobb County
Mailing Address: 2015 Spring Road, Suite 650
Oak Brook, Illinois 60523
Facility AIRS Number: 04-13-067-00093

is issued a Permit for the following:

Operation of an ethylene oxide and propylene oxide sterilization facility, including the construction and operation of an indoor air capture system (Source Code IA-1) and a new Indoor Air Dry Bed Adsorber System (Source Code EC4). The Permit also authorizes the routing of the Ceilcote Scrubber (Source Code EC3) to the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2) and the installation and operation of ethylene oxide continuous emission monitoring systems. This Permit is issued for the purpose of establishing practically enforceable emission limitations such that the facility will not be considered a major source with respect to Title V of the Clean Air Act Amendments of 1990.

This Permit is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit.

This Permit may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 27153 dated July 30, 2019; any other applications upon which this Permit is based; supporting data entered therein or attached thereto; or any subsequent submittals or supporting data; or for any alterations affecting the emissions from this source.

This Permit is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 15 pages.



Richard E. Dunn, Director
Environmental Protection Division

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EQUIPMENT LIST

Emission Units			Associated Control Devices		
Source Code	Description	Install Date	Source Code	Description	Stack ID
SEV-1	Six-pallet Sterilization Chamber 1 vacuum pump	1967	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-2	Six-pallet Sterilization Chamber 2 vacuum pump	1967	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-3	Nine-pallet Sterilization Chamber vacuum pump	1967	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-4	Five-pallet Sterilization Chamber vacuum pump	1967	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-5	Thirteen-pallet Sterilization Chamber vacuum pump	1987	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-6	Thirteen-pallet Sterilization Chamber vacuum pump	1992	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-7	Thirteen-pallet Sterilization Chamber vacuum pump	1994	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-8	Thirteen-pallet Sterilization Chamber vacuum pump	1994	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-10	Thirty-pallet Sterilization Chamber vacuum pump	2014	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
SEV-11	Thirty-pallet Sterilization Chamber vacuum pump	2015	EC3 EC2	Ceilocote Scrubber AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-1	Backvent for Chamber 1	1967	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-2	Backvent for Chamber 2	1967	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-3	Backvent for Chamber 3	1967	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-4	Backvent for Chamber 4	1967	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-5	Backvent for Chamber 5	1987	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-6	Backvent for Chamber 6	1992	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-7	Backvent for Chamber 7	1994	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-8	Backvent for Chamber 8	1994	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-10	Backvent for Chamber 10	2014	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
CEV-11	Backvent for Chamber 11	2015	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
AR-1	Aeration Room 1	2014	EC2	AAT Scrubber System with Dry Bed Adsorbers	STK1
IA-1	Indoor Air (Chamber Rooms, Work Aisles, Processed Product Storage, Shipping Areas)	2019	EC4	Indoor Air Dry Bed Adsorber System	STK2

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1. General Requirements

- 1.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall maintain and operate this source, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection or surveillance of the source.
- 1.2 The Permittee shall not build, erect, install or use any article, machine, equipment or process the use of which conceals an emission which would otherwise constitute a violation of an applicable emission standard. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged into the atmosphere.
- 1.3 The Permittee shall submit a Georgia Air Quality Permit application to the Division prior to the commencement of any modification, as defined in 391-3-1-.01(pp), which may result in air pollution and which is not exempt under 391-3-1-.03(6). Such application shall be submitted sufficiently in advance of any critical date involved to allow adequate time for review, discussion, or revision of plans, if necessary. The application shall include, but not be limited to, information describing the precise nature of the change, modifications to any emission control system, production capacity and pollutant emission rates of the plant before and after the change, and the anticipated completion date of the change.
- 1.4 Unless otherwise specified, all records required to be maintained by this Permit shall be recorded in a permanent form suitable for inspection and submission to the Division and shall be retained for at least five (5) years following the date of entry.
- 1.5 In cases where conditions of this Permit conflict with each other for any particular source or operation, the most stringent condition shall prevail.

2. Allowable Emissions

Sterilant Usage Limit

- 2.1 The Permittee shall not utilize more than 625,000 pounds of ethylene oxide, as introduced into the sterilization chambers (Source Codes SEV-1, SEV-2, SEV-3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11), during any consecutive 12-month period.
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]

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2.2 The Permittee shall not utilize more than 5,000 pounds of propylene oxide, as introduced into the sterilization chambers (Source Codes SEV-1, SEV-2, SEV-3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11), during any consecutive 12-month period. The propylene oxide emissions shall be treated to the same control requirements as ethylene oxide, as specified in Conditions 2.6 through 2.8 and 4.4 through 4.7.
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]

2.3 The emission control requirements in Conditions 2.6 through 2.8 apply at all times of facility operation.
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii); 40 CFR 63 Subpart O Subsumed]

40 CFR 63 Subpart O

2.4 The Permittee shall comply with all applicable provisions of the National Emission Standard for Hazardous Air Pollutants (NESHAP) as found in 40 CFR 63 Subpart O – “Ethylene Oxide Emission Standards for Sterilization Facilities,” for the operation of the ethylene oxide sterilization equipment.
[40 CFR 63 Subpart O; 40 CFR 63.360]

2.5 The Permittee shall comply with all applicable provisions of the National Emission Standard for Hazardous Air Pollutants (NESHAP) as found in 40 CFR 63 Subpart A – “General Provisions.”
[40 CFR 63 Subpart A]

2.6 The Permittee shall reduce ethylene oxide emissions to the atmosphere from each sterilization chamber vent (Source Codes: SEV-1, SEV-2, SEV-3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11) by at least 99%.
[40 CFR 63 Subpart O; 40 CFR 63.362(c)]

2.7 The Permittee shall reduce ethylene oxide emissions to the atmosphere from the aeration vent (Source Code: AR-1) to a maximum concentration of 1 part per million, volume basis (ppmv), or by at least 99%, whichever is less stringent.
[40 CFR 63 Subpart O; 40 CFR 63.362(d)]

Sterilization Chamber Backvents

2.8 The Permittee shall reduce ethylene oxide emissions to the atmosphere from each sterilization chamber backvent (Source Codes CEV-1, CEV-2, CEV-3, CEV-4, CEV-5, CEV-6, CEV-7, CEV-8, CEV-10, CEV-11) to a maximum concentration of 1 part per million, volume basis (ppmv) or by at least 99%, whichever is less stringent.
[Georgia Rule 391-3-1-.03]

Fuel Burning Equipment

2.9 The Permittee shall not fire any fuel other than natural gas in any of the boilers on site.
[Avoidance of 40 CFR 63 Subpart JJJJJJ]

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3. Fugitive Emissions

- 3.1 The Permittee shall take all reasonable precautions with any operation, process, handling, transportation, or storage facilities to prevent fugitive emissions of air contaminants.

4. Process & Control Equipment

- 4.1 Routine maintenance shall be performed on all air pollution control equipment. Maintenance records shall be recorded in a permanent form suitable and available for inspection by the Division. The records shall be retained for at least five (5) years following the date of such maintenance.
- 4.2 A spare parts inventory for control equipment shall be maintained by the Permittee.
- 4.3 Malfunctioning components of air pollution control systems shall be repaired as expeditiously as possible.

Sterilization Chamber Vents

- 4.4 The Permittee shall comply with Condition 2.6 by routing the exhaust from each chamber vacuum pump (Source Codes SEV-1, SEV-2, SEV-3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11) to the following control devices in series: the Ceilcote Scrubber (Source Code EC3) and the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2).
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii); 40 CFR 63 Subpart O; 40 CFR 63.362(c)]

Aeration Vents

- 4.5 The Permittee shall comply with Condition 2.7 by routing the exhaust from the aeration room vent (Source Code AR-1) to the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2).
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii); 40 CFR 63 Subpart O; 40 CFR 63.362(d)]

Sterilization Chamber Backvents

- 4.6 The Permittee shall comply with Condition 2.8 by routing the exhaust from each sterilization chamber backvent (Source Codes CEV-1, CEV-2, CEV-3, CEV-4, CEV-5, CEV-6, CEV-7, CEV-8, CEV-10, CEV-11) to the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2).
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]

Indoor Air

- 4.7 The Permittee shall route the air from the Indoor Air (Source Code IA-1) areas to the Indoor Air Dry Bed Adsorber System (Source Code EC4).
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]

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5. Monitoring

- 5.1 Any continuous monitoring system required by the Division and installed by the Permittee shall be in continuous operation and data recorded during all periods of operation of the affected facility except for continuous monitoring system breakdowns and repairs. Monitoring system response, relating only to calibration checks and zero and span adjustments, shall be measured and recorded during such periods. Maintenance or repair shall be conducted in the most expedient manner to minimize the period during which the system is out of service.
[391-3-1-.02(6)(b)1.]
- 5.2 The Permittee shall install, calibrate, maintain, and operate monitoring devices for the measurement of the parameters specified in Condition 5.3 for the Ceilcote Scrubber (Source Code EC3) and the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2). Data shall be recorded at the frequency specified in Condition 5.3. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirement.
[391-3-1-.02(6)(b)1.]
- 5.3 For sterilization facilities complying with 40 CFR 63.363 through the use of an acid-water scrubber (Ceilcote Scrubber with Source Code EC3 and AAT Scrubber System with Dry Bed Adsorbers with Source Code EC2), the Permittee shall either:
[40 CFR 63.364(b) and 391-3-1-.02(6)(b)1.]
- a. Sample the scrubber liquor and analyze and record once per day the ethylene glycol concentration of the scrubber liquor using test methods and procedures in 40 CFR 63.365(e)(1). Monitoring is required during a day only if the scrubber unit has been operated. Upon successful installation and operation of the ethylene oxide CEMS required by Condition 5.6, the frequency of this monitoring may be reduced from daily to weekly; or
 - b. Measure and record once per day the level of the scrubber liquor in the recirculation tank and the pH of the scrubber liquor for each of the scrubbers. The Permittee shall install, maintain, and use a liquid level indicator to measure the scrubber liquor tank level (i.e., a marker on the tank wall, a dipstick, a magnetic indicator, etc.). The level of the scrubber liquor recirculation tank shall be maintained at or below the levels established during the initial performance testing. The pH levels of the scrubber liquor shall be maintained in accordance with the pH levels recommended by the manufacturers or as determined by the performance testing required by Conditions 6.2 and 6.3, whichever is lower. Upon successful installation and operation of the ethylene oxide CEMS required by Condition 5.6, the frequency of this monitoring may be reduced from daily to weekly.
 - c. In lieu of compliance with subparagraphs a. or b. of this Condition, the Permittee may use the ethylene oxide CEMS required by Condition 5.6, provided that US EPA approves in writing the CEMS-related conditions in this permit as acceptable monitoring for 40 CFR 63 Subpart O.

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- 5.4 The Permittee shall maintain and operate the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2) to ensure a maximum ethylene oxide emission level of 1 ppmv or an ethylene oxide emission reduction of 99% for the Aeration Room (Source Code AR-1) and the chamber backvents (Source Codes CEV-1, CEV-2, CEV-3, CEV-4, CEV-5, CEV-6, CEV-7, CEV-8, CEV-10, and CEV-11):
[391-3-1-.02(6)(b)1, 40 CFR 63.364(d)]
- a. If complying with the 99% reduction efficiency standard, as specified in Condition 2.7 and Condition 2.8, once per week, the Permittee shall collect and record the concentrations of a 15-minute ethylene oxide bag sample from both the inlet and the outlet of the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2). If the reduction efficiency is 99.1% or less, the Permittee shall replace the dry beds within 30 days. The dates of dry bed material replacement shall be recorded and kept in a form suitable for inspection or submission to the Division. The AAT Scrubber System reduction efficiency shall be calculated by comparing the ethylene oxide loading into the AAT Scrubber System to the ethylene oxide mass exiting the dry bed adsorbers.
 - b. If complying with the 1 ppmv standard, as specified in Condition 2.7 and Condition 2.8, once per week, the Permittee shall collect and record the concentration of a 15-minute ethylene oxide bag sample from the outlet of the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2). If the concentration of ethylene oxide in the outlet sample of the dry bed adsorbers increases to 0.9 ppmv or greater, the Permittee shall replace the dry bed material within 30 days.
 - c. In addition to subparagraphs a. and b. of this Condition, once per week, the Permittee shall collect and record the concentrations of a 15-minute ethylene oxide bag sample from the outlet of the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2). If the concentration of ethylene oxide in the outlet sample of the dry bed adsorbers (Source Code EC2) is greater than 0.5 ppmv for 2 consecutive weekly readings, the Permittee shall not initiate any new sterilization cycle until the dry bed material has been replaced. The dates of dry bed material replacement shall be recorded and kept in a form suitable for inspection or submission to the Division. Upon successful installation and initial operation of the ethylene oxide CEMS required by Condition 5.6, in lieu of the bag sample, the Permittee shall use the CEMS to determine outlet concentration on a ppm basis. If any 30-day rolling average ethylene oxide concentration equals or exceeds 0.2 ppmv, the Permittee shall replace the dry bed material within 30 days, unless an extension is granted in writing by the Division. The dates of dry bed material replacement shall be recorded and kept in a form suitable for inspection or submission to the Division.
 - d. When the Permittee is sampling in accordance with this Condition, the ethylene oxide loading to the AAT Scrubber with Dry Bed Adsorbers (if applicable), the ethylene oxide loading out of the Dry Bed Adsorbers, and the AAT Scrubber System reduction efficiency shall be documented and available within 3 hours of the sampling event. These records shall be kept in a form suitable for inspection or submission to the Division.

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- e. In lieu of compliance with subparagraphs a. or b. of this Condition, the Permittee may use the ethylene oxide CEMS required by Condition 5.6, provided that US EPA approves in writing the CEMS-related conditions in this permit as acceptable monitoring for 40 CFR 63 Subpart O.
- 5.5 The Permittee shall maintain and operate the Indoor Air Dry Bed Adsorber System (Source Code EC4) as follows:
[391-3-1-.02(6)(b)1.]
- a. Once per week the Permittee shall collect and record the concentration of a 15-minute ethylene oxide bag sample from the outlet of the Dry Bed Adsorbers. If any 2 consecutive weekly ethylene oxide outlet concentration measurements equal or exceed 0.5 ppmv, the Permittee shall replace the dry bed material within 30 days. The dates of dry bed material replacement shall be recorded and kept in a form suitable for inspection or submission to the Division.
 - b. When the Permittee is sampling in accordance with this Condition, the ethylene oxide concentration shall be recorded within 3 hours of the sampling event. These records shall be kept in a form suitable for inspection or submission to the Division.
 - c. Upon successful installation and initial operation of the ethylene oxide CEMS required by Condition 5.6, in lieu of compliance with paragraphs a and b above, the Permittee shall use the CEMS to determine outlet concentration on a ppm basis. If any 30-day rolling average ethylene oxide concentration equals or exceeds 0.2 ppmv, the Permittee shall replace the dry bed material within 30 days, unless an extension is granted in writing by the Division. The dates of dry bed material replacement shall be recorded and kept in a form suitable for inspection or submission to the Division.
- 5.6 Within twelve months of the issuance date of this permit, the Permittee shall install, calibrate, maintain, and operate a continuous emission monitoring system(s) (CEMS) to continuously monitor and record the pollutants in the following subparagraphs. Each system shall meet the applicable requirements of the Division-approved monitoring plan specified in Condition 5.7.
[391-3-1-.02(6)(b)1)]
- a. Ethylene oxide from the outlet of the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2); and
 - b. Ethylene oxide from the outlet of the Indoor Air Dry Bed Adsorber System (Source Code EC4).

The sources specified in this condition shall be equipped with continuous flow rate monitoring systems, and any other necessary systems, for converting CEMS concentration data to a mass flow rate, and shall be operated in accordance with the approved monitoring plan.

- 5.7 No later than sixty (60) days prior to the operation of the CEMS required by Condition 5.6, the Permittee shall submit to the Division, in writing, an ethylene oxide CEMS monitoring plan.

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The plan, and any modifications to said plan, shall be subject to the review and approval by the Division.

[391-3-1-.02(6)(b)1.]

- 5.8 The Permittee shall operate the facility in accordance with the Work Practice Plan initially approved by the Division on October 31, 2019, or as subsequently revised and approved. The Work Practice Plan shall include a monitoring protocol to demonstrate proper operation of the negative pressure system used to control Indoor Air (Source Code IA-1) emissions. Negative pressure system monitoring shall be conducted at least once per day. All records necessary to demonstrate compliance with the Work Practice Plan shall be kept in a form suitable for inspection or submission to the Division.

[391-3-1-.02(6)(b)1.]

The Permittee shall submit an updated Work Practice Plan within 60 days after issuance of this permit to ensure consistency with the requirements of this permit. The updated plan must also include a protocol to minimize ethylene oxide emissions from on-site trucks containing sterilized product.

[391-3-1-.02(6)(b)1.]

- 5.9 The Permittee shall develop, implement, and maintain an ethylene oxide Leak Detection and Repair Program. The program shall check all outside components (valves, flanges, fittings, drums, etc.) for leaks with, at a minimum, weekly monitoring of all components. The program, and any modifications to the program, shall be subject to review and approval by the Division. The initial copy of the program shall be submitted to the Division, in writing, no later than 60 days following the date of issuance of this permit.

[391-3-1-.02(6)(b)1.]

6. Performance Testing

- 6.1 The Permittee shall cause to be conducted a performance test at any specified emission point when so directed by the Division. The following provisions shall apply with regard to such tests:

[391-3-1-.02(3) and 391-3-1-.03(2)(c)]

- a. All tests shall be conducted and data reduced in accordance with applicable procedures and methods specified in the Division's Procedures for Testing and Monitoring Sources of Air Pollutants.
- b. All test results shall be submitted to the Division within sixty (60) days of the completion of testing.
- c. The Permittee shall provide the Division thirty (30) days prior written notice of the date of any performance test(s) to afford the Division the opportunity to witness and/or audit the

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test, and shall provide with the notification a test plan in accordance with Division guidelines.

- d. All monitoring systems and/or monitoring devices required by the Division shall be installed, calibrated and operational prior to conducting any performance test(s). For any performance test, the Permittee shall, using the monitoring systems and/or monitoring devices, acquire data during each performance test run. All monitoring system and/or monitoring device data acquired during the performance testing shall be submitted with the performance test results.
- 6.2 Within 6 months after the initial issuance date of this Permit, the Permittee shall conduct ethylene oxide performance testing of the sterilization chamber vents (Source Codes SEV-1, SEV-2, SEV-3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11) according to the procedures listed in 40 CFR 63.7 according to the applicability in Table 1 of 40 CFR 63.360, the procedures listed in 40 CFR 63.363, and the test methods listed in 40 CFR 63.365, or test methods approved by EPA and/or the Division. The test shall be used to establish the maximum ethylene glycol concentration, the maximum liquor tank levels, and maximum pH for the scrubbers. The test report shall list the control efficiency of the Ceilcote Scrubber, the AAT Scrubber System with Dry Bed Adsorbers, and the total system. The test report shall list the final exhaust mass emission rate of ethylene oxide.
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii); 40 CFR 63 Subpart O; 40 CFR 63.363 and 63.365]
 - 6.3 Within 6 months after the initial issuance date of this Permit, the Permittee shall conduct ethylene oxide performance testing on the sterilization chamber backvents (Source Codes CEV-1, CEV-2, CEV-3, CEV-4, CEV-5, CEV-6, CEV-7, CEV-8, CEV-10, CEV-11) and the aeration room vent (Source Code AR-1). The testing shall be conducted according to procedures listed in 40 CFR 63.7 according to the applicability in Table 1 of 40 CFR 63.360, the procedures listed in 40 CFR 63.363, and the test methods listed in 40 CFR 63.365, or test methods approved by EPA and/or the Division. The test shall be used to establish the maximum ethylene glycol concentration, the maximum liquor tank level, and maximum pH for the AAT System Scrubber (Source Code EC2). The test report shall list the final exhaust mass emission rate of ethylene oxide and the control efficiency of the AAT Scrubber System with Dry Bed Adsorbers.
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii); 40 CFR 63 Subpart O; 40 CFR 63.363 and 63.365]
 - 6.4 Within 6 months after the initial issuance date of this permit, the Permittee shall conduct ethylene oxide performance testing of the Indoor Air Dry Bed Adsorber System (Source Code EC4), according to the test methods approved by EPA and/or the Division. The test report shall list the final exhaust mass emission rate of ethylene oxide and the control efficiency of the Indoor Air Dry Bed Adsorber System.
[Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]
 - 6.5 The Permittee shall conduct Relative Accuracy Test Audits (RATA) on the CEMS at a frequency of no less than every 12 months after initial installation and calibration of the CEMS. The results of the RATA should be submitted to the Division.

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7. Notification, Reporting and Record Keeping Requirements

- 7.1 The Permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative. The Permittee shall retain these records for a period of at least five (5) years after the date of any such startup, shutdown, or malfunction.
[391-3-1-.02(6)(b)1.]
- 7.2 The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this Permit. The information shall be recorded in a permanent form suitable and available for inspection and shall be retained for at least five (5) years following the date of such measurements, maintenance, reports, and records.
[391-3-1-.02(6)(b)1.]
- 7.3 The Permittee shall maintain general records and continuous monitoring system (CMS) records as specified by 40 CFR 63.10(b)(2) and (c), respectively, and Table 1 of 40 CFR 63 Subpart O.
[40 CFR 63 Subpart O; 40 CFR 63.367(a)]
- 7.4 For each scrubber parameter measurement conducted in accordance with Condition 5.3.a and 5.3.b, dry bed sample in Conditions 5.4 and 5.5, and the continuous emission monitoring (CEMS) in Condition 5.6, the Permittee shall include the following information in the semiannual report required by Condition 7.6.
[391-3-1-.02(6)(b)1.]
- a. For the acid-water scrubbers [AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2) and the Ceilcote Scrubber (Source Code EC3)], any occurrence when the ethylene glycol concentration in the acid-water scrubber liquor is in excess of the maximum ethylene glycol concentration established during performance testing and approved by the Division when using the Condition 5.3.a monitoring option.
[40 CFR 63.363(b)(2)]
 - b. For the acid-water scrubbers [AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2) and the Ceilcote Scrubber (Source Code EC3)], any occurrence when the liquor recirculation tank level of the acid-water scrubber is in excess of the maximum liquor tank level established during performance testing and approved by the Division, when using the Condition 5.3.b monitoring option.
[40 CFR 63.363(b)(2)]
 - c. For the acid-water scrubbers [AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2) and the Ceilcote Scrubber (Source Code EC3)], any occurrence when the scrubbing liquor pH rises above the manufacturers' recommended level of 2 or the level determined

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in accordance with the performance testing required by Conditions 6.2 and 6.3, whichever is lower, when using the Condition 5.3.b monitoring option.

- d. For the AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2), any 2 consecutive measurements per Condition 5.4.c showing an outlet concentration exceeding 0.5 ppm, any single measurement per Condition 5.4.a that shows control efficiency equal or less than 99.1% or any single measurement per Condition 5.4.b that shows outlet concentration equal to or greater than 0.9 ppmv.
 - e. For the Indoor Air Dry Bed Adsorbers (Source Code EC4), any 2 consecutive measurements per Condition 5.5 equal to or greater than 0.5 ppmv.
 - f. Any instance that negative pressure cannot be verified for the Indoor Air system.
 - g. For AAT Scrubber System with Dry Bed Adsorbers (Source Code EC2) and the Indoor Air Dry Bed Adsorber System (Source Code EC4), any instance when a bed system not replaced in accordance with Conditions 5.4 or 5.5.
- 7.5 In accordance with 40 CFR 63.10, 63.366(a), and Table 1 of 40 CFR 63 Subpart O, the Permittee shall submit the following reports:
[40 CFR 63 Subpart O; 40 CFR 63.366(a)]
- a. Deviation reports; and
 - b. Continuous Monitoring System performance and summary reports.

Contents and submittal dates for Deviation and Continuous Monitoring System Performance Reports shall be as specified in 40 CFR 63.366(a)(3).

- 7.6 The Permittee shall submit a written report containing any excess emissions, exceedances, and/or excursions as described in this permit and any monitor malfunctions for each semiannual period ending June 30 and December 31 of each year. All reports shall be postmarked by July 30 and January 30, respectively. In the event that there have not been any excess emissions, exceedances, excursions or malfunctions during a reporting period, the report should so state. Otherwise, the contents of each report shall be as specified by the Division's **Procedures for Testing and Monitoring Sources of Air Pollutants** and shall contain the following:
[391-3-1-.02(6)(b)1.; 40 CFR 63.10(e)]
- a. A summary report of excess emissions, exceedances and excursions, and monitor downtime, in accordance with Section 1.5(c) and (d) of the above referenced document, including any failure to follow required work practice procedures.
 - b. Total process operating time during each reporting period.
 - c. The magnitude of all excess emissions, exceedances and excursions computed in accordance with the applicable definitions as determined by the Director, and any

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conversion factors used, and the date and time of the commencement and completion of each time period of occurrence.

- d. Specific identification of each period of such excess emissions, exceedances, and excursion that occur during startups, shutdowns, or malfunctions of the affected facility. Include the nature and cause of any malfunction (if known), the corrective action taken or preventative measures adopted.
 - e. The date and time identifying each period during which any required monitoring system or device was inoperative (including periods of malfunction) except for zero and span checks, and the nature of the repairs, adjustments, or replacement. When the monitoring system or device has not been inoperative, repaired, or adjusted, such information shall be stated in the report.
 - f. Certification by a Responsible Official that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
- 7.7 The Permittee shall maintain records of the amount (in pounds) of ethylene oxide and propylene oxide introduced into the sterilization chambers (Source Codes SEV-1, SEV-2, SEV3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11) each day. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.
[391-3-1-.02(6)(b)1.]
- 7.8 The Permittee shall use the ethylene oxide records specified in Condition 7.7 to calculate the total ethylene oxide usage for each calendar month. All demonstration calculations shall be kept as part of the records required in this Condition. The Permittee shall notify the Division in writing if ethylene oxide usage exceeds 52,083 pounds during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the limit in Condition 2.1. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.
[391-3-1-.02(6)(b)1.]
- 7.9 The Permittee shall use the calculations required by Condition 7.8 to determine the 12-month rolling total ethylene oxide usage for each calendar month. The Permittee shall notify the Division in writing if ethylene oxide usage exceeds 625,000 pounds during any consecutive 12-month period. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to attain compliance with the limit in Condition 2.1. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.
[391-3-1-.02(6)(b)1.]
- 7.10 The Permittee shall calculate monthly ethylene oxide emissions using the CEMS data recorded in accordance with Condition 5.6.* Total emissions shall also include losses due to any

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malfunction, leaks, spills, etc. All data needed to calculate emissions, and the calculations themselves, shall be kept as part of the monthly records. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.

[391-3-1-.02(6)(b)1.]

*Prior to the installation and operation of the CEMS, the Permittee shall calculate the monthly ethylene oxide emissions using the usage records from Conditions 7.7 and 7.8 and the following equation. All emission factors and calculations shall be kept as part of the monthly records, readily available for inspection or submittal.

[391-3-1-.02(6)(b)1.]

$E = \text{Usage} * \{[A * (1-X)] + [B * (1-Y)]\} + C + \text{loss due to any malfunctions, leaks, spills, etc.}$

Where:

- E = Monthly emission in pounds of ethylene oxide;
- Usage = Monthly usage in pounds of ethylene oxide;
- A = Fraction vented through chamber vacuum pumps: 95%;
- B = Fraction vented through back vents and aeration rooms: 5%;
- C = Indoor Air control device (AAT EC4) emission rate (lb/hr) from the most recent performance test multiplied by 744 hr/month.
- X = Chamber vacuum pump vent control device (Ceilcote EC3 and AAT EC2) combined control efficiency from most recent performance test;
- Y = Back vent and aeration room control device (AAT EC2) control efficiency from the most recent performance test (lower efficiency of the two tests);

7.11 The Permittee shall use the calculations required by Condition 7.10 to determine the 12-month rolling total ethylene oxide emissions for each calendar month. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.

[391-3-1-.02(6)(b)1.]

7.12 The Permittee shall use the propylene oxide records specified in Condition 7.7 to calculate the total propylene oxide usage for each calendar month. All demonstration calculations shall be kept as part of the records required in this Condition. The Permittee shall notify the Division in writing if propylene oxide usage exceeds 416 pounds during any calendar month. This notification shall be postmarked by the fifteenth day of the following month and shall include an explanation of how the Permittee intends to maintain compliance with the limit in Condition 2.2. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.

[391-3-1-.02(6)(b)1.]

7.13 The Permittee shall use the calculations required by Condition 7.12 to determine the 12-month rolling total propylene oxide usage for each calendar month. The Permittee shall notify the Division in writing if propylene oxide usage exceeds 5,000 pounds during any consecutive 12-month period. This notification shall be postmarked by the fifteenth day of the following month

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and shall include an explanation of how the Permittee intends to attain compliance with the limit in Condition 2.2. The Permittee shall maintain these records on site at all times in a format suitable and available for inspection by or submittal to the Division on request.

[391-3-1-.02(6)(b)1.]

7.14 The Permittee shall include the following information in the semiannual report required by Condition 7.6.

[391-3-1-.02(6)(b)1.]

- a. Total pounds of ethylene oxide usage for each month in the reporting period and the 12-month rolling total of ethylene oxide usage for each month in the reporting period, as calculated in accordance with Conditions 7.8 and 7.9.
- b. Total pounds of ethylene oxide emitted from the facility for each month in the reporting period and the 12-month rolling total of ethylene oxide emissions for each month in the reporting period, as calculated in accordance with Condition 7.10 and 7.11.
- c. Total pounds of propylene oxide usage for each month in the reporting period and the 12-month rolling total of propylene oxide usage for each month in the reporting period, as calculated in accordance with Conditions 7.12 and 7.13.

7.15 Any spill or unpermitted release of ethylene oxide at the facility, regardless of the amount of the release, shall be reported to the Air Protection Branch by email (air.release@dnr.ga.gov) within 24 hours of discovering such spill or release. As used in this condition, the term “spill or release” shall have the same meaning as set forth in the Georgia Code O.C.G.A. § 12-14-1.13. Emissions of ethylene oxide resulting from an operator error, a malfunction, or other failure of equipment at the facility that results in ethylene oxide not being routed through the air pollution control equipment prescribed in this permit is a release. The full report shall describe (1) the release, (2) its causes, (3) the estimated amount of ethylene oxide released, and (4) the steps taken to contain it and said report shall be submitted within 48 hours of the initial email notification.

[Georgia Code O.C.G.A. § 12-9-7(a) and Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]

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7.16 In the event that any performance test conducted in accordance with Section 6 of this permit indicates non-compliance with the applicable control efficiency standard, the Permittee shall notify the Division within 60 days. In addition, the Permittee shall not initiate any new sterilization cycles in the Sterilization Chambers (Source Codes SEV-1, SEV-2, SEV-3, SEV-4, SEV-5, SEV-6, SEV-7, SEV-8, SEV-10, SEV-11) after such notification without written approval from the Division.

[Georgia Rule 391-3-1-.02(2)(a)(3)(ii)]

8. Special Conditions

8.1 At any time that the Division determines that additional control of emissions from the facility may reasonably be needed to provide for the continued protection of public health, safety and welfare, the Division reserves the right to amend the provisions of this Permit pursuant to the Division's authority as established in the Georgia Air Quality Act and the rules adopted pursuant to that Act.

8.2 The Permittee shall calculate and pay an annual Permit fee to the Division. The amount of the fee shall be determined each year in accordance with the "Procedures for Calculating Air Permit Fees."

8.3 All Georgia Air Quality Permits previously issued to this facility, including Air Quality Permit No. 7389-067-0093-S-05-0 and its amendments, are hereby revoked in their entirety.