Special Conditions

Permit Number 55557

Emission Limitations

1. This permit authorizes only those sources of emissions listed in the attached table entitled "Emission Sources - Maximum Allowable Emission Rates," and those sources are limited to the emission rates and other conditions specified in the table. In addition, this permit authorizes all emissions from planned startup and shutdown activities associated with facilities or groups of facilities that are authorized by this permit.

Fuel Specifications

2. Fuel for the two boilers (Emission Point Numbers [EPNs] 2 and 3) shall be pipeline-quality natural gas. Use of any other fuel shall require prior approval from the Executive Director of the Texas Commission on Environmental Quality (TCEQ).

3. Upon request by the Executive Director of the TCEQ or the TCEQ Regional Director or any local air pollution control program having jurisdiction, the holder of this permit shall provide a sample and/or an analysis of the fuels used in these facilities or shall allow air pollution control program representatives to obtain a sample for analysis. **(9/18)**

Federal Applicability

4. These facilities shall comply with all applicable requirements of the U.S. Environmental Protection Agency (EPA) regulations on Standards of Performance for New Stationary Sources in Title 40 Code of Federal Regulations (40 CFR) Part 63, specifically the following:

   A. Subpart A - General Provisions; and

   B. Subpart O - Ethylene Oxide (EtO) Commercial Sterilization and Fumigation Operations.

Opacity/Visible Emission Limitations

5. Opacity of emissions from the Common Stack (EPN 1) shall not exceed 0 percent, averaged over a six-minute period. **(9/18)**

6. Opacity of emissions from the Boilers 1 and 2 Stacks (EPNs 2 and 3) shall not exceed 5 percent, averaged over a six-minute period. **(9/18)**

Operational Limitations, Work Practices, and Plant Design

7. EtO usage shall be limited to a maximum daily rate of 7,007 pounds per day and a maximum annual rate of 2,557,555 pounds per year. **(08/20)**

8. Sterilization gas usage shall be 100 percent EtO. Use of any other sterilization gas, or mixtures of sterilant gas and other gases, shall require prior approval from the Executive Director of the TCEQ.

9. The sterilizers, makeup tanks, and process piping shall not vent directly to the atmosphere, except as provided by 30 TAC Chapter 101, Subchapter F. **(08/20)**

10. All thirteen sterilizing chambers shall be vented to a wet acid scrubber with a control efficiency of no less than 99.63 percent. **(08/20)**

11. Emissions from the chamber exhaust vents (back vents) of the sterilizers shall be routed to the Chamber Exhaust Vent Control System that reduces EtO by at least 99 percent. **(08/20)**

12. EtO emissions from the aeration rooms shall be routed to two Safe Cell Systems that reduce the ethylene oxide concentration to 1 ppm or less. **(08/20)**

13. The EtO scrubber solution shall be maintained at or below a pH of 2.0, and it shall be sampled once a week.

14. Process gases will be stored in such a manner as to prevent damage to the storage container and release of uncontrolled emissions. A maximum of 100 charged portable cylinders of EtO may be stored at the site at any time. **(08/20)**

15. All air pollution abatement equipment shall be properly maintained and operated during the operation of these facilities. Cleaning and maintenance of the abatement equipment shall be performed as recommended by the manufacturer as necessary so that the equipment efficiency can be adequately maintained.

16. All hooding, duct, and collection systems shall be effective in capturing emissions from this equipment and in minimizing fugitive emissions from the building. The hooding and duct system shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the emission capture system.

17. Supply piping from the EtO dispensing room through the Intrinsically Safe (IS) zones shall be welded.

18. The holder of this permit will physically identify and mark in a conspicuous location, all equipment that has the potential of emitting air contaminants. This will include (but is not limited to) the facility identification number as submitted to the Emissions Inventory Section of the TCEQ and the EPN as listed on the MAERT.

19. At any time during normal operations, only four of the 13 sterilization chambers at the site may evacuate simultaneously to the acid scrubber. Evacuation for this permit for the site means the initial evacuation that occurs immediately after the gas dwell phase of a sterilization cycle for any sterilization chamber. Only seven chamber backvents may operate at one time. All 44 aeration rooms may operate continuously as long as they vent EtO emissions to their designated Safe Cell Systems. The Safe Cell Systems may operate continuously. **(08/20)**

20. The stack height of the Common Stack, EPN 1, shall be no less than 60 feet.

21. The operations/processes listed in the following table operate per the criteria of the referenced Permit by Rule (PBR) and are incorporated by reference: **(08/20)**

Table 1: Authorizations Incorporated by Reference

Operation/Process	PBR No.	Registration No.
Boiler 3	106.183	N/A

Initial Determination of Compliance

22. To demonstrate compliance with the maximum allowable emission rates table and with emission performance levels as specified in the special conditions, the holder of this permit shall perform stack sampling and/or other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the Acid Scrubber and Safe Cell control devices. Air contaminants to be tested for include (but are not limited to) EtO. Sampling shall be accomplished within 60 days of achieving maximum production but not later than 180 days after the date the new sterilization chamber starts operation. Sampling must be conducted in accordance with the TCEQ Sampling Procedures Manual or in accordance with the applicable EPA 40 CFR 63 procedures. Any deviations from those procedures must be approved by the TCEQ Executive Director prior to sampling. **(08/20)**

Demonstration of Continuous Compliance

23. At the request of the Executive Director of the TCEQ, the holder of this permit shall perform stack sampling and other testing as required to establish the actual pattern and quantities of air contaminants being emitted into the atmosphere from the exhaust from the Common Stack which includes the Acid Scrubber, the ten Sterilization Chamber Backvents, and the two Safe Cell Systems that control the aeration rooms. The holder of this permit is responsible for providing sampling and testing facilities and conducting the sampling and testing operations at his expense. **(09/15)**

    A. The appropriate TCEQ Regional Office in the region where the source is located shall be contacted as soon as testing is scheduled but not less than 45 days prior to sampling to schedule a pretest meeting. The notice shall include:

        (1) Date for pretest meeting;

        (2) Date sampling will occur;

        (3) Name of firm conducting sampling;

        (4) Type of sampling equipment to be used;

        (5) Method or procedure to be used in sampling.

        The purpose of the pretest meeting is to review the necessary sampling and testing procedures, to provide the proper data forms for recording pertinent data, and to review the format procedures for submitting the test reports.

        A written proposed description of any deviation from sampling procedures specified in permit conditions or the TCEQ or EPA sampling procedures shall be made available to the TCEQ prior to the pretest meeting. The TCEQ Regional Director shall approve or disapprove of any deviation from specified sampling procedures.

        Requests to waive testing for any pollutant specified in B of this condition shall be submitted to the TCEQ Office of Air, Air Permits Division. Test waivers and alternate/equivalent procedure proposals for 40 CFR Part 60 testing which must have the EPA approval shall be submitted to the TCEQ Laredo Regional.

    B. Air contaminants emitted from the Acid Scrubber and Safe Cell control devices to be tested for include (but are not limited to) EtO.

C. Sampling shall occur no later than the times required by the Executive Director of the TCEQ. Requests for additional time to perform sampling shall be submitted to the TCEQ Regional Office. Additional time to comply with the applicable requirements of 40 CFR Part 60 and 40 CFR Part 63 requires the EPA approval.

D. During stack emission testing, the plant shall operate at production rates and operating parameters determined during the pretest meeting. Primary operating parameters that enable determination of production rate shall be monitored and recorded during the stack test. These parameters are to be determined at the pretest meeting. Additional stack testing may be required when higher production rates are achieved.

E. A copy of the final sampling report shall be forwarded to the TCEQ Laredo Regional Office within 30 days after sampling is completed. Sampling reports shall comply with the attached provisions of Chapter 14 of the TCEQ Sampling Procedures Manual.

24. The holder of this permit shall conduct a quarterly visible emissions determination to demonstrate compliance with the opacity limitations specified in this permit for the Common Stack (EPN 1) and the Boilers 1 and 2 Stacks (EPNs 2 and 3). This visible emissions determination shall be performed: 1) during normal plant operations, 2) for a minimum of six minutes, 3) approximately perpendicular to plume direction, 4) with the sun behind the observer (to the extent practicable), and 5) at least two stack heights, but not more than five stack heights, from the emission point. If visible emissions are observed from the emission point, the owner or operator shall: **(9/18)**

A. Take immediate action to eliminate visible emissions, record the corrective action within 24 hours, and comply with any applicable requirements in 30 Texas Administrative Code (TAC) § 101.201, Emissions Event Reporting and Recordkeeping Requirements; or

25. Determine opacity using 40 CFR Part 60, Appendix A, Test Method 9. If the opacity limit is exceeded, take immediate action (as appropriate) to reduce opacity to within the permitted limit, record the corrective action within 24 hours, and comply with applicable requirements in 30 TAC § 101.201, Emissions Event Reporting and Recordkeeping Requirements.

26. The EtO concentration of the exhaust from the Safe Cell control system (aeration room exhaust) shall be continuously recorded. This monitoring shall be done according to EPA's authorization letter to Midwest Sterilization Corporation (MSC) dated May 23, 2006 that will allow MSC or permit holder to go from weekly monitoring to the following tiered approach:

When the concentration in the exhaust is below 0.5 ppm, samples of the exhaust will be collected and analyzed once per month.

When the exhaust concentration is between 0.5 ppm and 0.75 ppm, samples will be collected and analyzed every two weeks.

When the concentration exceeds 0.75 ppm, MSC or the permit holder will sample and analyze the exhaust concentration each week.

In addition, MSC or permit holder shall comply with the minor revisions to the monitoring plan as outlined in the EPA letter of May 23, 2006.

27. The concentration of the ethylene glycol in the wet scrubber solution shall be maintained below 45 percent by volume. Samples of wet scrubber liquid shall be collected once each week and

measured by a refractometer. Records of the results shall be documented and maintained for a period of five years. If the concentration of ethylene glycol exceeds the 45 percent maximum concentration, no additional sterilization cycles may be started until corrective measures have been taken. The monitoring records shall be made available to personnel of the TCEQ or any local air pollution control agency having jurisdiction upon request.

28. The EtO alarm sensors shall be installed to detect EtO leaks in each of the IS rooms, two in the emission control room, one at the rear of the room housing each sterilization chamber, one in the EtO distribution room, and one in the EtO cylinder storage room. Each sensor shall be equipped with an audible alarm set at 1,500 ppm EtO concentration to detect leaks that require immediate investigation. A second alarm set at 13,500 ppm concentration shall automatically stop all sterilization cycles, close all valves, stop all monitors, and activate the building evacuation alarm. The TCEQ Regional Office shall be notified immediately if the second alarm is activated for any reason.

Recordkeeping Requirements

29. Records shall be maintained at this facility site and made available at the request of personnel from the TCEQ or any other air pollution control program having jurisdiction to demonstrate compliance with permit limitations. These records shall be retained for a rolling 24-month period, and include the following:

    A. Quarterly observations for visible emissions and/or opacity determinations from the Common Stack and the Boilers 1 and 2 Stacks; **(9/18)**

    B. All sterilization gas usage in pounds on a daily and a rolling 12-month total basis for a period of five years;

    C. Sample results of the Safe Cell system exhaust concentration;

    D. Weekly sample results of the ethylene glycol concentration in the acid scrubber solution;

    E. Weekly sample results of the pH of the acid scrubber solution;

    F. Any time the EtO sensors are activated and the reason for the event and the correction action taken; and

    G. Cleaning and maintenance records for abatement equipment. **(9/18)**

Date: August 14, 2020

Emission Sources - Maximum Allowable Emission Rates

Permit Number 55557

This table lists the maximum allowable emission rates and all sources of air contaminants on the applicant's property covered by this permit. The emission rates shown are those derived from information submitted as part of the application for permit and are the maximum rates allowed for these facilities, sources, and related activities. Any proposed increase in emission rates may require an application for a modification of the facilities covered by this permit.

Air Contaminants Data

Emission Point No. (1)	Source Name (2)	Air Contaminant Name (3)	Emission Rates (6)	
			lbs/hour	TPY (4)
1	Scrubbers Common Stack	EtO	1.45	6.14
2	Boiler 1 Stack	VOC	0.02	0.09
		NO_x	0.34	1.48
		SO_2	<0.01	0.01
		PM	0.03	0.12
		PM_{10}	0.03	0.12
		$PM_{2.5}$	0.03	0.12
		CO	0.29	1.24
3	Boiler 2 Stack	VOC	0.02	0.09
		NO_x	0.34	1.48
		SO_2	<0.01	0.01
		PM	0.03	0.12
		PM_{10}	0.03	0.12
		$PM_{2.5}$	0.03	0.12
		CO	0.29	1.24
7	Tanks Vent (5)	EtO	<0.01	<0.01
FUG	Piping Fugitives (5)	EtO	--	0.16

(1) Emission point identification - either specific equipment designation or emission point number from plot plan.
(2) Specific point source name. For fugitive sources, use area name or fugitive source name.
(3) VOC - volatile organic compounds as defined in Title 30 Texas Administrative Code § 101.1
NO_x - total oxides of nitrogen
SO_2 - sulfur dioxide
PM - total particulate matter, suspended in the atmosphere, including PM_{10} and $PM_{2.5}$, as represented
PM_{10} - total particulate matter equal to or less than 10 microns in diameter, including $PM_{2.5}$, as represented
$PM_{2.5}$ - particulate matter equal to or less than 2.5 microns in diameter
CO - carbon monoxide
EtO - ethylene oxide
(4) Compliance with annual emission limits (tons per year) is based on a 12-month rolling period.

Project Number: 314970

Emission Sources - Maximum Allowable Emission Rates

(5) Emission rate is an estimate and is enforceable through compliance with the applicable special condition(s) and permit application representations.
(6) Planned startup and shutdown emissions are included. Maintenance activities are not authorized by this permit.

Date: August 14, 2020