

June 24, 2019

Division of Air Pollution Control-Permit Section Illinois Environmental Protection Agency 1021 North Grand Avenue East Springfield, Illinois 62702

Re: Construction Permit Application for Sterigenics Willowbrook Facility I.D. No: 043110AAC

To Whom It May Concern:

This letter and its attachments constitute Sterigenics' Construction Permit Application for additional capture and control equipment in our Willowbrook facility. The proposed alterations to our Willowbrook I facility include the following improvements:

- Connection of the existing DeOxx Scrubber System to the AAT control system
- Installation of a new, additional polisher dry bed control system to the outlet of the existing AAT control system
- Installation of a permanent total enclosure system covering all process areas, resulting in 100% capture of all emissions and directing the captured emissions to a new AAT dry bed control system
- Use of one common stack from the facility for all post-control emissions

Enclosed are the necessary permit application forms and supplemental information for the proposed modification to reduce our emissions of Ethylene Oxide (EO) and Propylene Oxide (PO). We have also enclosed a check for five hundred dollars (\$500) along with the Fee Determination Form 197.

We also point out two additional features of the permit application. First, the application proposes to measure EO concentrations, in addition to existing methods, with a new continuous emissions monitoring system (CEMS). As IEPA is aware, we have proposed use of a CEMS even though no CEMS has been demonstrated as applied to a sterilization facility like our Willowbrook plant. We look forward to working with IEPA to gain field experience with such systems in the sterilization industry. To make this effort successful, we will need to work cooperatively with IEPA and the manufacturer. We expect that the permit will contain appropriate terms that reflect these efforts.

Second, we have included in the application the information necessary for IEPA to provide the certification, as part of the new legislation, that, once construction is complete, the facility will be using the technology that provides the greatest reduction in EO emissions that is now available. You will see in this application that the improvements we propose clearly meet the standard in this legislation. We request that IEPA make this certification in conjunction with issuing the construction IEPA-DIVISION OF RECORDS MANAGEMENT

RELEASABLE JUNE 26, 2019



permit, either as part of the permit or in a separate communication made at the time the permit is issued.

Please do not hesitate to contact me to further discuss this matter. You can reach me at 630-928-1771 or email: kwagner@sterigenics.com.

Best Regards,

Kevin Wagner

Director, Environmental Health & Safety

2. Wy

**Enclosures: Permit Application Package** 

# Illinois Environmental Protection Agency Division Of Air Pollution Control – Permit Section P.O. Box 19506 Springfield, Illinois 62794-9506

# Construction Permit Application for a Proposed Project at a CAAPP Source

For Illinois EPA use only	
ID No.:	
Appl. No.:	
Date Rec'd:	
Chk No./Amt:	

This form is to be used to supply general information to obtain a construction permit for a proposed project involving a Clean Air Act Permit Program (CAAPP) source, including construction of a new CAAPP source. Detailed information about the project must also be included in a construction permit application, as addressed in the "General Instructions For Permit Applications," Form APC-201.

	D	d Doortood				
4 Marking Name of Doors	Proposed Project					
Working Name of Proposed Project:						
Willowbrook I Additional Cap						
	s, provide BOA ID Numl	ber: <u>043110AAC</u>				
	s, provide Permit Numb	er:	·			
Brief Description of Propo Duct the Deoxx Scrubber sys	sed Project:	aust to the inlet of	the AAT Corubbar quetam			
(Scrubber #2 with dry Beds) t	o further control emissic	ons. Install addition	onal Dry Beds (Polisher) after AAT			
			d system. Route all emissions to a			
single common stack.						
	0	£ 42 .				
4 Course name *		formation				
Source name:* Sterigenic						
2. Source street address:* 7	775 Quincy Street					
3. City: Willowbrook	4. County: DuPa	ge	5. Zip code:*60527			
ONLY COMP	LETE THE FOLLOWING FO	R A SOURCE WITH	OUT AN ID NUMBER			
6. Is the source located within If no, provide Township		Yes No				
7. Description of source and Commercial Sterilizer of med	product(s) produced:	8. Primary	Classification Code of source:			
Commercial Stermizer of med	icai products	SIC: 7389	<u>or</u> NAICS: <u>561910</u>			
9. Latitude (DD:MM:SS.SSS	S):	10. Longitude (	DD:MM:SS.SSSS):			
41.748139	- /.	-87.940504	,			
* Is information different than pre	vious information?	100				
* Is information different than previous information?  Yes X No If yes, then complete Form CAAPP 273 to apply for an Administrative Change to the CAAPP Permit for the source.						
	Identification of	Permit Applic	ant			
1. Who is the applicant?	2. All cor	respondence to:				
			wner			
3. Applicant's FEIN:	4. Attention name and		correspondence:			
95-3323502	Kevin Wagner, Directo	or EH&S				

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

	Ourse Infor	notion*			
Owner Information*  1. Name: Storigonics US 11 C					
1. Name: Sterigenics US, LLC					
2. Address: 2015 Spring Road, S	uite 650				
3. City: Oak Brook	4. State: IL		5. Zip code: 60523		
* Is this information idifferent than pre If yes, then complete Form CAAPP 27	vious information?	es 🗵 No strative Change	to the CAAPP Permit for the source.		
Operator	r Information (if di	fferent fron	n owner)*		
Name Sterigenics US, LLC			•		
2. Address: 7775 Quincy Street					
3. City: Willowbrook	4. State: IL		5. Zip code:		
* Is this information different than prev	vious information?   Ye	s No			
If yes, then complete Form CAAPP 27	'3 to apply for an Adminis	trative Change	to the CAAPP Permit for the source.		
Te	chnical Contacts t	for Applicat	tion		
Preferred technical contact: (ch		licant's contac			
Applicant's technical contact per Kevin Wagner	erson for application:				
3. Contact person's telephone nur	mber(s)		person's e-mail address:		
630-928-1700		kwagner@	gsterigenics.com		
Consultant for application:     n/a					
6. Consultant's telephone number	r(s):		nt's e-mail address:		
n/a		n/a			
Other	Addresses for the	Permit Ap	plicant		
	THE FOLLOWING FOR A				
1. Address for billing Site Fees for	the source: So	urce 🗌 C	ther (provide below):		
O Contact research for Otto Force		2 2 4 1			
2. Contact person for Site Fees:		3. Contact p	erson's telephone number:		
4. Address for Annual Emission R	eport for the source:	Source	Other (provide below):		
		_	_ " ,		
5. Contact person for Annual Emis	ssion Report:	6. Contact p	erson's telephone number:		

Rev. 5/16

Desire Of Co. 1 1 1 1 1 1 1 1 1					
Review Of Contents of the Applicat					
NOTE: ANSWERING "NO" TO THESE ITEMS MAY RESULT IN THE APPLICATION BEING DEEMED INCOMPLETE					
Does the application include a narrative description of the proposed project?	X Yes No				
Does the application clearly identify the emission units and air pollution control equipment that are part of the project?	X Yes □ No				
3. Does the application include process flow diagram(s) for the project showing new and modified emission units and control equipment, along with associated existing equipment and their relationships?	X Yes □ No				
4. Does the application include a general description of the source, a plot plan for the source and a site map for its location?	☐ Yes ☐ No 🕱 N/A* * Material previously provided				
5. Does the application include relevant technical information for the proposed project as requested on CAAPP application forms (or otherwise contain all relevant technical information)?	X Yes No				
Does the application include relevant supporting data and information for the proposed project as provided on CAAPP forms?	X Yes ☐ No				
Does the application identify and address all applicable emission standards for the proposed project, including:     State emission standards (35 IAC Chapter I, Subtitle B);     Federal New Source Performance Standards (40 CFR Part 60)?	▼ Yes □ No				
Does the application address whether the project would be a major project for Prevention of Significant Deterioration, 40 CFR 52.21?	▼ Yes □ No □ N/A				
<ol><li>Does the application address whether the project would be a major project for "Nonattainment New Source Review," 35 IAC Part 203?</li></ol>	X Yes No N/A				
10. Does the application address whether the proposed project would potentially be subject to federal regulations for Hazardous Air Pollutants (40 CFR Part 63) and address any emissions standards for hazardous air pollutants that would be applicable?	* Source not major Project not major				
11. Does the application include a summary of annual emission data for different pollutants for the proposed project (tons/year), including: 1) The requested permitted emissions for individual new, modified and affected existing units*, 2) The past actual emissions and change in emissions for individual modified units* and affected existing units*, and 3) Total emissions consequences of the proposed project? (* Or groups of related units)	Yes No N/A * The project does not involve an increase in emissions from new or modified emission units.				
12. Does the application include a summary of the current and requested potential emissions of the source (tons/year)?	Yes No No N/A*  * Applicability of PSD, NA NSR or 40 CFR 63 to the project is not related to the source's emissions.				
13. Does the application address the relationships and implications of the proposed project on the CAAPP Permit for the source?	X Yes No N/A* * CAAPP Permit not issued				
14. If the application contains information that is considered a TRADE SECRET, has it been properly marked and claimed and all requirements to properly support the claim pursuant to 35 IAC Part 130 been met? Note: "Claimed" information will not be legally protected from disclosure to the public if it is not properly claimed or does not qualify as trade secret information.	Yes No No N/A*  * No information in the application is claimed to be a TRADE SECRET				
15. Are the correct number of copies of the application provided? (See Instructions for Permit Applications, Form 201)	X Yes No				
16. Does the application include a completed "FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION," Form 197-FEE, a check in the amount indicated on this form, and any supporting material needed to explain how the fee was determined?	X Yes □ No				

Rev. 5/16 Page 3 of 4

Authorized	Signature:	e Block			
lile Sta	under penalty of law that, based on infor tements and information contained in this m a responsible official for the source, as ion Act.	application are tru	le accurate ai	nd complete and	
BY:	A HOBB Man	Sr. Vice-Pres	ident EH&S a	nd Tech Svcs	
AUTHORIZED	AUTHORIZED SIGNATURE Sr. Vice-President EH&S and Tech Svcs.  TITLE OF SIGNATORY				
Kat	hleen Hoffman	June	24	2019	
	TYPED OR PRINTED NAME OF SIGNATORY		DATE		



# Illinois Environmental Protection Agency

Bureau of Air • 1021 North Grand Avenue East • P.O. Box 19506 • Springfield • Illinois • 62794-9506

## FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION

				FOR AGENCY US	E O	DN	LY		
	ID Numbe	r:		Permit #:					
	Comp	lete	Incomplete	Date Compl	ete:		-		
	Check Nur	mber:	-	Account Na	ne:				
ap En	plication must inclivironmental Prote	lude pa	ayment in full to be	tion that must accompan de deemed complete. Mal f Air Pollution Control - P ce.	e ch	he	ck or money order	payable	to the Illinois
Sc	ource Informati	on							
	Source Name:	Sterig	genics US, LLC						
	Project Name:	_	ovement to Emissi	on Controls	3.	3. 3	Source ID #: (if app	licable)	043110AAC
4.	Contact Name:	Kevir	Wagner		5.	5. (	Contact Phone #:	630-92	28-1700
Fe	e Determinatio	n							
6.	The boxes below	are a	utomatically calcul	ated.					
	Section 1 Subtota	al _	\$0.00 +	Section 2, 3 or 4 Subto	tal		\$500.00	=	\$500.00
So	ection 1: Statue	of Sa	ource/Purpose	of Qubmittal					Grand Total
7.	Your application v	will fall		the following five catego	ries	de	escribed below. Ch	eck the	box that applies.
				required to obtain a CAA	PP p	pe	rmit.		
	<ul> <li>Synthetic</li> </ul>	c Mind		rce that has taken limits	-	-		ermit to	avoid CAAPP permit
<b>√</b>		withou	ut status change o	at is not a major or synth r with status change from				source	
	Existing non-ma	ajor so	urce that will beco	me synthetic minor to ma	ijor s	so	urce. Proceed to S	ection 4	l.
	New major or sy	yntheti	c minor source. P	roceed to Section 4.					\$0.00
	New non-major	sourc	e. Proceed to Sec	tion 3.					Section 1 Subtotal
	agency error an	d if the	e request is receive	uest to correct an issued ed within the deadline for Proceed directly to Sec	a p	er	mit appeal to the Po		
app	olication being denie	d and p	equire and you must penalties under 415 I e forms managemen	disclose this information un LCS 5 ET SEQ. It is not ne t center.	der 4 cessi	415 sar	5 ILCS 5/39. Failure to y to use this form in p	o do so c roviding t	ould result in the his information. This
Se	ction 2: Specia	l Cas	e Filing Fee						
				lresses one or more of to Section 5. Otherwi					
	✓ Addition of	or rep	lacement of cont	rol devices on permitte	ed u	ıni	ts.		
		-	ial burns by a pe	•					
			ion projects						\$500.00
				gy or timing for emission	on te	tes	ting		,
			rative-type chan				J		
					_	_			
	32-2776 '-FEE Rev. 1/2012		Ap	plication Page	5				Page 1 of 2

### Section 3: Fees for Current or Projected Non-Major Sources

- This application consists of a single new emission unit or no more than two modified emission units. (\$500 fee)
- 10. This application consists of more than one new emission unit or more than two modified units. (\$1,000 fee)
- 11. This application consists of a new source or emission unit subject to Section 39.2 of the Act (i.e., Local Siting Review); a commercial incinerator or a municipal waste, hazardous waste, or waste tire incinerator; a commercial power generator; or an emission unit designated as a complex source by agency rulemaking. (\$15,000 fee)
- 12. A public hearing is held (see instructions). (\$10,000 fee)

13. Section 3 subtotal. (lines 9 through 12 - entered on page 1)

13. \$0.00

### Section 4: Fees for Current or Projected Major or Synthetic Minor Sources

Application contains	14. For the first modified emission unit, enter \$2,000.		
modified emission units only	15. Number of additional modified emission units = x \$1,000.		
	16. Line 14 plus line 15, or \$5,000, whichever is less.	16.	\$0.00
Application contains	17. For the first new emission unit, enter \$4,000.		
new and/or modified emission units	18. Number of additional new and/or modified emission units = x \$1,000.		
	19. Line 17 plus line 18, or \$10,000, whichever is less.	19.	\$0.00
Application contains netting exercise	Number of individual pollutants that rely on a netting exercise or contemporaneous emissions decrease to avoid application of PSD or nonattainment area NSR = x \$3,000.	20	\$0.00
	21. If the new source or emission unit is subject to Section 39.2 of the Act (i.e. siting); a commercial incinerator or other municipal waste, hazardous waste, or waste tire incinerator; a commercial power generator; or one or more other emission units designated as a complex source by Agency rulemaking, enter \$25,000.		
Additional Supplemental	22. If the source is a new major source subject to PSD, enter \$12,000.		
Fees	23. If the project is a major modification subject to PSD, enter \$6,000.		
	24. If this is a new major source subject to nonattainment area (NAA) NSR, enter \$20,000.		
	25. If this is a major modification subject to NAA NSR, enter \$12,000.		
	26. If the application involves a determination of MACT for a pollutant and the project is not subject to BACT or LAER for the related pollutant under PSD or NSR (e.g., VOM for organic HAP), enter \$5,000 per unit for which a determination is requested or otherwise required. x \$5,000.	26	\$0.00
	27. If a public hearing is held (see instructions), enter \$10,000.		
28 Section 4 subtatal	(line 16 and lines 19 through 28) to be entered on page1	28.	\$0.00

### Section 5: Certification

NOTE: Applications without a signed certification will be deemed incomplete.

29.	I certify under penalty of law that, based on information and belief formed after	reasonable inquiry,	the information
	contained in this fee application form is true, accurate and complete.		
	by: De algo	rootor EUSS	

by:	le age	Director, EH&S	
	Signature	Title of Signatory	
	Kevin Wagner	Jun 24, 2019	
Typed	or Printed Name of Signatory	Date	

97-FEE	Application Page	<u> </u>	
--------	------------------	----------	--

# **Table of Contents**

# Willowbrook I Improvements to Emissions Capture and Control Systems

I.	CAAPP 199	Page 1
H.	CAAPP 197 - Fee Form	Page 5
III.	Table of Contents	Dago 7
IV.	Exhibit 199-1 Narrative Description	Page 9
V.	Exhibit 199-2 -Process Flow Diagram	Dage 1
VI.	Emission Unit and Air Pollution Control Forms	rage 1.
	a. CAAPP 220-WB1 VP - Chamber Vacuum Pumps & Backvents (14)	Page 16
	b. CAAPP 220-WB1 AR –Aeration Rooms (3)	Page 26
	c. CAAPP 220-WB1 C- Other Areas	Page 36
	d. CAAPP 260-WB1 Scrubber #2 with Drybeds and Polisher	Page 46
	e. CAAPP 260 – WB1 Permanent Total Enclosure Drybeds	Page 57
VII.	Dispersion Modeling	

### NARRATIVE DESCRIPTION OF PROPOSED PROJECT

### IMPROVEMENTS TO EMISSIONS CAPTURE AND CONTROL SYSTEMS

This application addresses improvements to the Willowbrook I facility located at 7775 Quincy Street, Willowbrook, Illinois. All associated equipment and processing areas associated with sterilant use are covered under our current CAAPP Permit #95120085.

### Overview of Sterigenics Willowbrook Facility

Sterigenics operates a commercial contract sterilization facility in Willowbrook, IL.

This application addresses improvements to the emission control measures at Willowbrook I facility. It does not address the nearby, smaller, Willowbrook II facility (If improvements are proposed for that facility, they would be the subject of a separate, future application).

Sterigenics' Willowbrook I facility utilizes ethylene oxide to sterilize customers' product. It also has the ability to use propylene oxide to treat spices and nutmeats. Ethylene oxide and propylene oxide are sterilants that regulatory agencies such as the U.S. Food and Drug Administration and U.S. Environmental Protection Agency (administering the Federal Insecticide, Fungicide, and Rodenticide Act) allow to be used on products. In addition, medical devices must meet a certain level of sterility as regulated by U.S. Food and Drug Administration and other regulatory agencies.

When ethylene oxide is used for medical device sterilization, the medical devices must have a specifically defined sterilization process, which is validated for a specific sterilization chamber or chambers. The Willowbrook I facility uses fourteen sterilization chambers ranging in size from 1 pallet up to 13 pallets. While all fourteen sterilization chambers are similar in design, each chamber may only process products approved for that chamber and cannot process other products that have not been validated and approved by the appropriate regulatory agency for that specific chamber.

As a contract sterilization facility, Willowbrook I sterilizes many different products from many different customers. Typical products sterilized on a daily basis at the facility include surgical procedure kits, syringes and catheters.

### Purpose of Project

The purpose of the project is to further reduce ethylene oxide emissions from the sterilization process by adding additional controls; this project is being undertaken even though the facility has historically been in compliance with existing regulations and permit conditions. The project also will position the facility to meet new requirements in state legislation that were recently

signed into law. Sterigenics is not proposing to change the actual sterilization process at the Willowbrook I facility.

### **Description of Sterilization Process**

The Willowbrook I facility performs sterilization operations for many customers. Each product has specific requirements which specify details of the sterilization process to be followed.

### Receiving and Pre-Conditioning

Customers ship packaged products to Sterigenics. Once the product is received, the sterilization process follows the same flow through the facility. The first step after receipt of the product is to place the product into a preconditioning room. Preconditioning rooms are enclosed rooms which are heated and maintained at high humidity to prepare the product for sterilization. The product is in the preconditioning room for the time required for the specific product. No ethylene oxide is introduced or present in this step of the process.

Once preconditioning is complete, the product is moved to the appropriate sterilization chamber. There are fourteen sterilization chambers. A chamber is sized based on the number of pallets that it can hold and range from one pallet to thirteen pallets. Once the product is loaded into the chamber, the chamber is closed and sealed. At the beginning of each sterilization cycle, safety checks are performed to ensure ethylene oxide does not escape from the chamber during the cycle. In addition, the cycle is monitored to ensure that vacuum is maintained within acceptable parameters.

### Drum Storage

At Willowbrook I, ethylene oxide is stored in sealed drums in an outside storage area before use. The drums are U.S. Department of Transportation rated UN 1A1 containers. The storage area complies with the requirements of NFPA 55 Chapter 14 for an outside storage area. No dispensing takes place in the drum storage area. To dispense ethylene oxide, the drums are moved with a drum cart from the storage area to the dispensing stations located inside the chamber room areas. Once in place at the dispensing station, the ethylene oxide drum is connected to the dispensing system for the specific sterilization chamber.

### Chamber Operation, Vacuum Pump Emissions

As mentioned above, there is a validated cycle for each product. This validated cycle must meet specific regulatory requirements and will detail the times, parameters, and testing required for each product and the specific chamber approved. The sterilization process begins with evacuating the air from the chamber and introducing nitrogen. While under negative pressure inside the chamber, ethylene oxide is introduced into the sterilization chamber to sterilize the

product. Once ethylene oxide is introduced, the dwell stage can last from 30 minutes up to several hours according to the validated cycle for the product. Once complete, the sterilization chamber vacuum pumps remove most of the ethylene oxide from the chamber by exhausting and purging with nitrogen multiple times. Vacuum pump emissions are routed to the Deoxx wet acid scrubber. The Deoxx scrubber (WBI Acid Scrubber #1) currently is exhausted to a dedicated stack.

### **Backvents and Aeration Emissions**

Once the sterilization chamber process is complete and the chamber door is partially opened, the back vent fan activates to extract residual amounts of ethylene oxide from the chamber. This fan remains on while the chamber door is open. After fifteen minutes, the pallets of product are removed from the sterilization chamber and placed into aeration rooms to further off-gas residual ethylene oxide. Both the backvents and aeration rooms are ducted to an existing AAT wet acid scrubber (WB1-Scrubber #2) and treated with 16 dry bed reactors. The AAT wet acid scrubber with dry beds currently exhausts to a dedicated stack.

### **Proposed Project Detail**

This permit application proposes to make the following improvements to the existing capture and control equipment and to reduce the ethylene oxide emissions from the Willowbrook I facility. With these improvements, the facility will have technology that provides the greatest reduction in ethylene oxide emissions that is now available.

- Currently the existing Willowbrook I Deoxx acid scrubber (WBI Acid Scrubber #1)
   exhausts to atmosphere via a dedicated stack. Sterigenics proposes to duct the outlet of
   the WB1 Acid Scrubber #1 to the existing Advanced Air Technologies (AAT) wet acid
   scrubber with dry bed reactor (WB1-Scrubber #2) to further reduce vacuum pump
   emissions.
- 2) The existing WBI-Scrubber #2 discharge currently is treated with 16 dry bed reactors and exhausts to atmosphere. Sterigenics proposes to install an additional dry bed reactor system with 16 additional dry beds at the outlet of the existing dry beds to serve as a polishing unit. These dry beds are designated 'Polisher Dry Beds'.
- 3) An additional capture and control system is proposed to capture air internally from chamber rooms, dispensing stations, work aisles, processed product storage, and shipping areas. With this capture and control system, the facility will have permanent total enclosure. Captured air will be ducted to a new dry bed control system consisting of 18 dry beds. These dry beds are designated as 'Permanent Total Enclosure Dry Beds'.
- 4) All gas streams (from WBI Polisher Dry Beds and the WBI Permanent Total Enclosure Dry Beds) will be routed to a single common stack. In addition, the single common stack will

have a continuous emissions monitoring system (CEMS) to measure the concentration of ethylene oxide in the exhaust stream.

In addition to these capture and control improvements, Sterigenics requests a reduction in the ethylene oxide usage limitation for the Willowbrook I facility from 840,000 pounds per year to 300,000 pounds per year.

Sterigenics also requests to operate the facility under this construction permit until its CAAPP permit is revised to address this proposal.

### **Control Efficiencies and Emission Estimates**

The Deoxx wet acid scrubber controls the sterilization chamber vacuum pump emissions. The Deoxx scrubber has a control efficiency greater than 99%. The AAT Scrubber with dry beds controls the aeration and back vent emissions. This project is proposing to route the outlet of the Deoxx wet scrubber to the AAT scrubber with dry beds. The AAT scrubber dry beds have a control efficiency greater than 99% destruction efficiency. This project is also proposing to add additional dry beds and route the outlet of the AAT scrubber with dry beds to the new polishing dry beds. The polishing dry beds will consist of 16 additional dry beds. The polishing dry beds are designed to meet a 99% destruction efficiency.

Collectively, these combined emission control systems will achieve a control efficiency of at least 99.9% or reduce outlet gases to no more than 0.2 ppm by volume, so as to be able to comply with SB 1852.

On an annual basis, future emissions of ethylene oxide should be no more than 85 pounds per year. This is based on the IL EPA stated Continuous Emission Monitoring System (CEMS) detection limit of 40 parts per billion (ppb).

### Continuous Emission Monitoring (CEMS)

Sterigenics proposes to install a continuous emissions monitor (CEM) for ethylene oxide. The CEM will use Fourier-transform infrared (FTIR) spectroscopy with a band-pass filter to improve the detection limits, such as a Max Analytical Technologies MAX StarBoost. The system will be designed to meet the requirements of US EPA's Performance Specification 15. The stack will also be equipped with a flow meter to allow calculation of mass emissions. The analyzer will be connected to a data acquisition system (DAS) that will record the concentration and flow rates at least once per minute, and calculate running 3-hour averages of the concentration and mass flow.

### **Sterigenics PTE Description**

At Willowbrook I, Sterigenics will make improvements to have a Permanent Total Enclosure, compliant with US EPA's Method 204 - Criteria for and Verification of a Permanent or Temporary Total Enclosure (PTE). To accomplish this, several interior structures will be installed. An additional dry bed system will also be installed, which will draw additional air into the building through natural draft openings (NDO), sufficient to establish inward air velocities through the NDOs that exceed 200 feet per minute (fpm).

### **Compliance Demonstration with Method 204 Criteria for PTE**

Tables 1 and 2 below show the relevant parameters:

Table 1 - Evaluation of Natural Draft Openings		
Access Door #1	21	square feet
Access Door #2	21	square feet
Access Door #3 (3' 6"X 7'-0")	25	square feet
Loading Through Two Dock Doors 8'x10' with 50% effective seals (Normal practice is to only load one truck at a time through one door)	80	square feet
Incidental Gaps and Holes	10	square feet
Total	157	square feet

Table 2 - Evaluation of Method 204 Complia	nce – Sterigenics	Willowbrook I
Net flowrate with fans at design capacity	33,500	CFM
Total surface area of enclosure	89,040	sf
Total building open area	157	sf
Total building % open area <sup>1</sup>	0.18%	-

Average Face velocity <sup>2</sup>	214	fpm
1. Percent open area = (open area) /(total buil	ding surface a	area)
2. Face velocity= (design flowrate)/ (area of na	tural draft op	enings).

### **Review of Criteria for Permanent Total Enclosure**

**Criterion No. 1:** Any NDO shall be located at least four equivalent opening diameters from each VOC emitting point unless otherwise specified by the Administrator.

Evaluation: This criterion is met by the main processing areas; the criterion is not appropriate for the shipping dock doors while loading product into the truck.

**Criterion No. 2:** The total area of the NDOs must be less than 5 percent of the enclosure surface area.

Evaluation: The enclosure surface area is shown in Table 1 above. The building open area is 0.18%, and easily complies with the criterion.

**Criterion No. 3:** The average face velocity of air through all NDOs shall be at least 200 feet per minute and in the direction of flow into the enclosure.

Evaluation: The air flow into the building through the NDOs will be 33,500 cubic feet per minute, and the maximum NDO area will be 157 square feet, providing an inward velocity of 214 feet per minute.

**Criterion No. 4:** All doors and windows whose areas are not accounted for in Criterion No. 2 are kept closed during normal operation and, therefore, are not included in the calculation for Criterion No. 3.

Evaluation: Sterigenics will maintain all doors and windows not covered in Criterion No. 3 closed during normal operations and therefore Criterion 4 is satisfied.

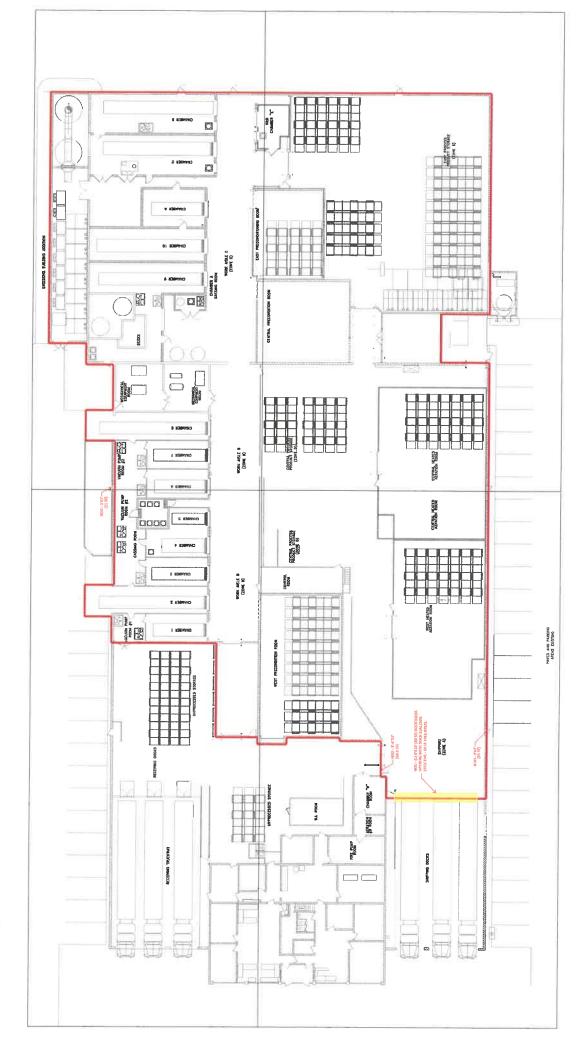
Sterigenics will install two pressure monitoring devices. These devices will verify compliance with 0.007 inches of water limit.

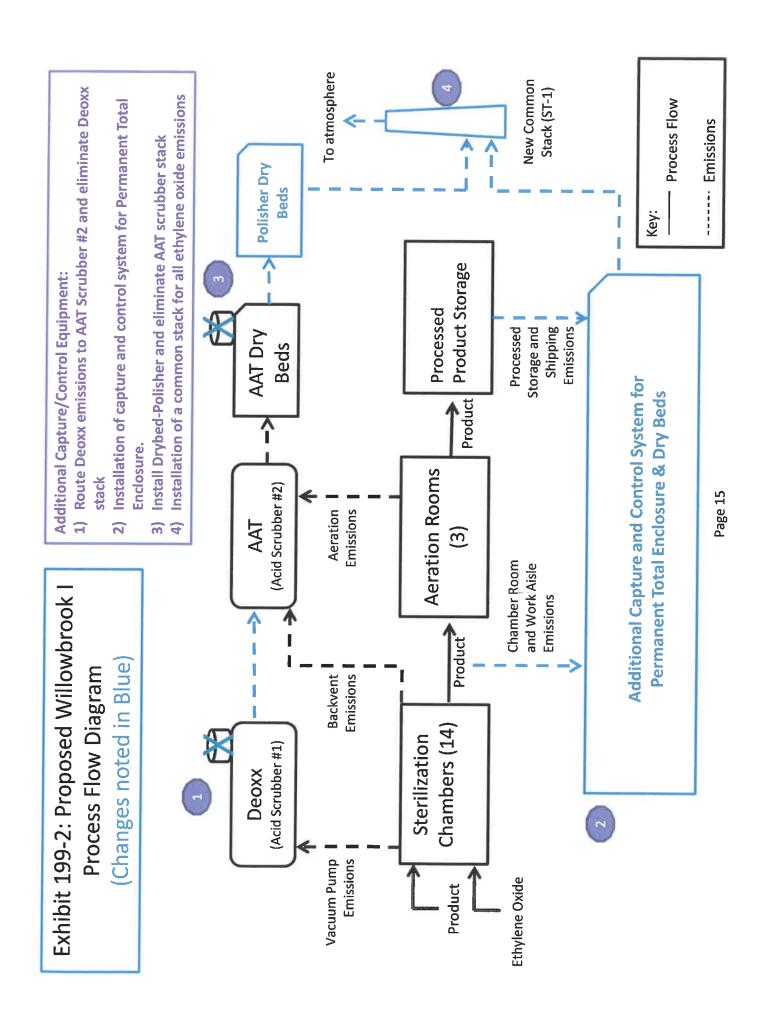
**Criterion No. 5:** All VOCs emitted within the PTE are delivered to an air pollution control device in order to meet this criterion.

Evaluation: All VOCs emitted within the PTE will be ducted to pollution control devices, as described in this permit application, and hence the facility will comply.



# **EPA 204 BOUNDARY - WILLOWBROOK 1**







### ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION P.O. BOX 19506

SPRINGFIELD, ILLINOIS 62794-9506

<u>F0</u>	R APF	<u> LIC</u>	:ANT	S USE
Revisio	n #:		0	
Date:	_ 6	1	18	/ 2019
Page	16		of	70
Source	Desig Ste	nati eriliz	on: zers	

	FOR AGENCY USE ONLY
PROCESS EMISSION UNIT	ID NUMBER:
DATA AND INFORMATION	EMISSION POINT #:
	DATE:
1) SOURCE NAME:	IFORMATION
Sterigenics US, LLC	
2) DATE FORM PREPARED: 18 June 2019	3) SOURCE ID NO. (IF KNOWN): 043110AAC
GENERAL III	NFORMATION
NAME OF EMISSION UNIT:     (14) Sterilization Chamber Vacuum Pump and B	
5) NAME OF PROCESS:	
Sterilization of medical products	
6) DESCRIPTION OF PROCESS:	
Chemical Sterilization	
7) DESCRIPTION OF ITEM OR MATERIAL PRODUCED OR A	CTIVITY ACCOMPLISHED:
Sterilized Medical Supplies	
8) FLOW DIAGRAM DESIGNATION OF EMISSION UNIT:	
Sterilizer Chambers vacuum pumps and back ve	ents
9) MANUFACTURER OF EMISSION UNIT (IF KNOWN):	
-	
10) MODEL NUMBER (IF KNOWN):	11) SERIAL NUMBER (IF KNOWN):
12) DATES OF COMMENCING CONSTRUCTION,	a) CONSTRUCTION (MONTH/YEAR):
OPERATION AND/OR MOST RECENT MODIFICATION	June 1984
OF THIS EMISSION UNIT (ACTUAL OR PLANNED)	b) OPERATION (MONTH/YEAR):
	, ,
	May 1985 c) LATEST MODIFICATION (MONTH/YEAR):
	November 1990
13) DESCRIPTION OF MODIFICATION (IF APPLICABLE):	November 1990
Each sterilization chamber includes a chamber vac	cuum numn and hack vent. The chamber vacuum
pump is connected to the existing scrubber #1. Ba	
, ,	

proposes to duct the exhaust from scrubber #1 to scrubber #2 and dry bed reactor and then to a new Dry Bed Polisher for additional control.

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992, CHAPTER 111 1/2, PAR. 1039.5. DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION. FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

APPLICATION PAGE

**FOR APPLICANT'S USE** 

16

14) DOES THE EMISSION UNIT HA	VE MO	ORE THAN O	NE MOI	DE OF	OPERAT	ION?	?	$\boxtimes$	YES		O NO
IF YES, EXPLAIN AND IDENTIF A SEPARATE PROCESS EMISS FOR EACH MODE):	Y WHI	CH MODE IS INIT FORM 2	COVEI 20-CAA	RED BY PP MU	THIS FO	ORM OMP	(NOTE: LETED				
Propylene oxide can also be u	used f	or treatmer	nt of fo	od pro	oducts	in ce	ertain chaml	oers.			
				•							
15) PROVIDE THE NAME AND DES	IGNAT	TION OF ALL	AIR PO	LLUTIC	ON CONT	TROL	. EQUIPMENT	CON	TROL	LING	THIS
EMISSION UNIT, IF APPLICABL MUST BE COMPLETED FOR EA	E (FOI ACH IT	RM 260-CAAF EM OF AIR P	PP AND	THE A	PPROPI ONTROL	RIATI EQU	E 260-CAAPP IPMENT):	ADDI	ENDUI	M FOI	RM
The vacuum pumps currently											
scrubber #1 to the existing sci								y be	d pol	isher	
16) WILL EMISSIONS DURING STA RATE PURSUANT TO A SPECII ESTABLISHED BY AN EXISTING	FIC RU	ILE, OR THE	ALLOW	ABLE I	EMISSIO	E EM N LIN	ISSION MIT AS	0	YES		⊠ <sub>NO</sub>
IF YES, COMPLETE AND ATTA EXCESS EMISSIONS DURING					т то ор	ERA <sup>-</sup>	TE WITH				
17) PROVIDE ANY LIMITATIONS O					ING EMI	SSIO	NS OR ANY V	VORK	PRA	CTICE	
STANDARDS (E.G., ONLY ONE Usage limitations shall not exc					for pro	nyle	ene ovide ar	nd 30	າດ ດດ	0 00	unde
per 12 month rolling average f										o po	unus
		,						• • • • •			
		OPERAT	ING II	IEOP	MATIO	M					
18) ATTACH THE CALCULATIONS,	то тн	OPERAT					ELATED. FRO	M WI	нсн т	HE	
18) ATTACH THE CALCULATIONS, FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT	RMAT	IE EXTENT T	HEY AF	RE AIR AGE IN	EMISSIC FORMAT	N RE	AND FUEL US	SAGE	IICH T DATA	HE WEF	RE
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR	RMAT 「220-1	IE EXTENT T	HEY AF IAL USA SPECI	RE AIR AGE IN	EMISSIC FORMAT	ON RE TON FORM	AND FUEL US II 202-CAAPP.	SAGE	IICH T DATA	WEF	
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT	RMAT 「220-1	IE EXTENT T ION, MATERI . REFER TO HOURS/DA	HEY AF IAL USA SPECI	RE AIR AGE IN	EMISSIC FORMAT TES OF I	ON RETON	AND FUEL US II 202-CAAPP.	SAGE	DATA	WEF	
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR	PRMAT 「220-1 S	IE EXTENT T ION, MATERI . REFER TO HOURS/DA	HEY AF IAL USA SPECI Y:	RE AIR AGE IN	EMISSIC FORMAT TES OF I	ON REFORM	AND FUEL US M 202-GAAPP. K: 7	WE	DATA	EAR:	
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT 「220-1 S	E EXTENT T. ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA	HEY AF IAL USA SPECI Y:	RE AIR AGE IN	EMISSIC FORMAT FES OF F	ON RETON FORM WEE	AND FUEL US M 202-GAAPP. K: 7	WE	DATA EKS/Y	EAR:	
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS	PRMAT 「220-1 S	E EXTENT TOON, MATERIA REFER TO HOURS/DA HOURS/DA DEC-FEB(%)	HEY AF IAL USA SPECI Y: 24 Y:	RE AIR AGE IN AL NO	EMISSIC FORMAT FES OF F DAYS/1	WEE	AND FUEL US II 202-CAAPP. K: K: T JUN-AUG(%	WE	EKS/Y	'EAR: 52 'EAR: 52 EP-NC	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT 「220-1 S	E EXTENT TION, MATERION, M	HEY AF IAL USA SPECI Y: 24 Y:	RE AIR AGE IN AL NO	EMISSIC FORMAT TES OF F DAYS/1	WEE	AND FUEL US M 202-CAAPP. K: 7 K:	WE	EKS/Y	'EAR: '52 'EAR: 52	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT 220-1	HE EXTENT TOON, MATERION,	HEY AF AL USA SPECI Y: 44 Y: 4	RE AIR AGE IN AL NO	EMISSIC FORMAT FES OF F DAYS/ DAYS/ DAYS/ 25	WEE	AND FUEL US M 202-CAAPP. K: 7 K: 7 JUN-AUG(%	WE	EKS/Y	'EAR: 52 'EAR: 52 EP-NC	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT 220-1	E EXTENT TOON, MATERIA REFER TO HOURS/DA HOURS/DA DEC-FEB(%)	HEY AF AL USA SPECI Y: 44 Y: 4	RE AIR AGE IN AL NO	EMISSIC FORMAT FES OF F DAYS/ DAYS/ DAYS/ 25	WEE	AND FUEL US M 202-CAAPP. K: 7 K: 7 JUN-AUG(%	WE	EKS/Y	'EAR: 52 'EAR: 52 EP-NC	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT 220-1	E EXTENT TOON, MATERIAL TO	HEY AR SPECI Y: 44 Y: 4 6):	RE AIR AGE IN AL NO	EMISSIC FORMAT FES OF F DAYS/ DAYS/ DAYS/ 25	WEE	AND FUEL US M 202-CAAPP. K: 7 K: 7 JUN-AUG(% 25	WE WE	EKS/Y	'EAR: 52 'EAR: 52 EP-NC	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT 220-1	HE EXTENT TOON, MATERION,	HEY AR SPECI Y: 44 Y: 4 6):	RE AIR AGE IN AL NO	EMISSIC FORMAT FES OF F DAYS/ DAYS/ DAYS/ 25	WEE	AND FUEL US M 202-CAAPP. K: 7 K: 7 JUN-AUG(% 25	WE WE	EKS/Y	'EAR: 52 'EAR: 52 EP-NC	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT Γ 220-1	E EXTENT TOON, MATERIAL TO	HEY AR SPECI Y: 44 Y: 4 6): JSAGI	RE AIR AGE IN AL NO	EMISSIC FORMAT TES OF F DAYS/ DAYS/ -MAY(%) 25	WEE	AND FUEL US M 202-CAAPP. K: 7 K: 7 JUN-AUG(% 25	WE WE	EKS/Y	YEAR: 52 YEAR: 52 EP-NC 2	DV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT	PRMAT Γ 220-1	E EXTENT TOON, MATERIAL CONNECTION, MATERIAL CONNECTION, MAXIMU	HEY AR SPECI Y: 44 Y: 4 6): JSAGI	RE AIR AGE IN AL NO MAR	EMISSIC FORMAT TES OF F DAYS/ DAYS/ -MAY(%) 25	WEE	AND FUEL US M 202-CAAPP. K: 7 K: JUN-AUG(% 25	WE WE	EKS/Y	YEAR: 52 YEAR: 52 EP-NC 2	DV(%): 5
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS	PRMAT Γ 220-1	E EXTENT TOON, MATERIAL CONNECTION, MATERIAL CONNECTION, MAXIMU	HEY AR SPECI Y: 44 Y: 4 6): JSAGI	RE AIR AGE IN AL NO MAR	EMISSIC FORMAT I'ES OF I DAYS/ DAYS/ DAYS/ 25 ORMAT	WEE	AND FUEL US M 202-CAAPP. K: 7 K: JUN-AUG(% 25	WE WE	EKS/Y	YEAR: 52 YEAR: 52 EP-NC 2	DV(%): 5
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS Ethylene Oxide	PRMAT Γ 220-1	E EXTENT TOON, MATERIAL CONNECTION, MATERIAL CONNECTION, MAXIMU	HEY AR SPECI Y: 44 Y: 4 6): JSAGI	RE AIR AGE IN AL NO MAR	EMISSIC FORMATI FES OF F DAYS/ DAYS/ DAYS/ 25 ORMATI	WEE	AND FUEL US M 202-CAAPP. K: 7 K: JUN-AUG(% 25	WE WE	EKS/Y	YEAR: 52 YEAR: 52 EP-NC 2	DV(%): 5
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS Ethylene Oxide	PRMAT Γ 220-1	E EXTENT TOON, MATERIAL CONNECTION, MATERIAL CONNECTION, MAXIMU	HEY AR SPECI Y: 44 Y: 4 6): JSAGI	RE AIR AGE IN AL NO MAR	EMISSIC FORMATI FES OF F DAYS/ DAYS/ DAYS/ 25 ORMATI	WEE	AND FUEL US M 202-CAAPP. K: 7 K: JUN-AUG(% 25	WE WE	EKS/Y	YEAR: 52 YEAR: 52 EP-NC 2	DV(%): 5

17

	MAXIMU	M RATES	TYPICA	L RATES
21b) PRODUCTS	LBS/HR	TONS/YEAR	LBS/HR	TONS/YEAR
N/A				
Г	MAXIMUII	M RATES	TYPICA	L RATES
21c) BY-PRODUCT MATERIALS	LBS/HR			
	LBS/RK	TONS/YEAR	LBS/HR	TONS/YEAR
N/A				
OO-) MANUAL EIDING DATE		USAGE DATA		
22a) MAXIMUM FIRING RATE (MILLION BTU/HR):	b) TYPICAL FI (MILLION B	RING RATE TU/HR):	c) DESIGN CAPACI RATE (MILLION	TY FIRING BTU/HR):
N/A		N/A	N/A	A
d) FUEL TYPE:			1	
ONATURAL GAS OFUE	LOW CRADE NUMBER		O	
IF MORE THAN ONE FUEL IS U				
e) TYPICAL HEAT CONTENT OF F				
BTU/GAL OR BTU/SCF):	OEL (BTO/LB,	GAS):	UR CONTENT (WT %.,	NA FOR NATURAL
g) TYPICAL ASH CONTENT (WT	%., NA FOR NATURA	AL h) ANNUAL FUE	L USAGE (SPECIFY U	NITS, E.G.,
GAS):		SCF/YEAR, G	AL/YEAR, TON/YEAR):	
23) ARE COMBUSTION EMISSIONS	DUCTED TO THE S	AME STACK OR CONT	ROLAS O	
PROCESS UNIT EMISSIONS?			0	YES U NO
IF NO, IDENTIFY THE EXHAUST	POINT FOR COMB	USTION EMISSIONS:		

ROVIDE ANY SPECIFIC EMISSION STANDA	APPLICABLE RULE  RD(S) AND LIMITATION(S) SET BY RULE(S) WHICH ARE	APPLICABLE TO THIS EMISSION UNIT (E.G., VOM, IAC 218.204(j)(4), 3.5 LBS
REGULATED AIR POLLUTANT(S)	EMISSION STANDARD(S)	REQUIREMENT(S)
Ethylene Oxide	40CFR 63.362	99% reduction
	RULE(S) WHICH ARE APPLICABLE TO THIS EMISSION U	NIT:
REGULATED AIR POLLUTANT(S)	RECORDKEEPING RULE(S)	REQUIREMENT(S)
Ethylene Oxide	40 CFR 63.10	MACT recordkeeping and reporting
POVIDE ANY SPECIFIC REPORTING RULE(S REGULATED AIR POLLUTANT(S) Ethylene Oxide	S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT:  REPORTING RULE(S)  40 CFR 63.10	REQUIREMENT(S)  MACT recordkeeping and reporting
OVIDE ANY SPECIFIC MONITORING RULE	(S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT:	
REGULATED AIR POLLUTANT(S)	MONITORING RULE(S)	REQUIREMENT(S)
HAP controlled by scrubbers	40CFR 63.364	Weekly Scrubber liquor level
WB1 Scrubber 2 and dry beds	40CFR 63.364	Weekly EO concentration from dry beds
	D/OR PROCEDURES WHICH ARE APPLICABLE TO THIS	EMISSION UNIT:
REGULATED AIR POLLUTANT(S)	TESTING RULE(S)	REQUIREMENT(S)
EO applies to WB1 Scrubber 1,2	40 CFR63.365	Testing of control equipment
	1 1	

APPLICATION PAGE 19
Printed on Recycled Paper 220-CAAPP

29) DOES THE EMISSION OTHERWISE APPLICA	UNIT QUALIFY FOR AN EXEMP BLE RULE?	PTION FROM AN	O YES	⊗ ио
SUPPORTING DATA A	E A DETAILED EXPLANATION :	I IS EXEMPT AND THE RULE WH JUSTIFYING THE EXEMPTION. AND LABEL AS EXHIBIT 220-3, C IIS EXEMPTION.	INCLUDE DETAI	II FD
	COMPLIANO	CE INFORMATION		
30) IS THE EMISSION UNIT REQUIREMENTS?	FIN COMPLIANCE WITH ALL A	PPLICABLE	X YES	□ NO
IF NO, THEN FORM 294 COMPLYING EMISSION	4-CAAPP "COMPLIANCE PLAN, NUNITS" MUST BE COMPLETE	SCHEDULE OF COMPLIANCE ED AND SUBMITTED WITH THIS	ADDENDUM FO APPLICATION.	R NON
31) EXPLANATION OF HO	W INITIAL COMPLIANCE IS TO	BE, OR WAS PREVIOUSLY, DEN	ONSTRATED.	
Reviewed in 260-CAA		,,	MONOTO TILES.	
				1
32) EXPLANATION OF HOV	V ONGOING COMPLIANCE WIL	L BE DEMONSTRATED:		
		Oxide (PO) usage. (monthly		
		crubber liquor level weekly,	pH weekly.	
EO concentration: CEN	MS unit to be installed in co	ommon stack		1
				1
				1
				1
		CORDKEEPING AND REPO		
33a) LIST THE PARAMETER	RELATE TO AIR EMIS	SIONS FOR WHICH RECORDS A	RE BEING MAII	VTAINED TO
METHOD OF MEASUR	FMENT AND THE ERECUENC	IANCE. INCLUDE THE UNIT OF Y OF SUCH RECORDS (E.G., HC	MEASUREMEN	T, THE
		. 5. 50011 RECORDS (E.G., HC	ORLI, DAILY, V	VEENLY):
DADAMETER				
PARAMETER	UNIT OF MEASUREMENT	METHOD OF MEASUREMENT		JENCY
Sterilant Usage	pounds	Operating data	monthly	
Liquor level	inches	Operating data	weekly	
EO conc	ppm	CEMS	continuou	IS
pН	pН	pH meter	weekly	
			1223	I

RECORDED PARAMET	ER INCLUDE THE METHOD	CORDS WILL BE CREATED AND MA OF RECORDKEEPING, TITLE OF P INTACT FOR REVIEW OF RECORD	ERSON RESPONSIBLE FOR
PARAMETER	METHOD OF RECORDKEEPING	TITLE OF PERSON RESPONSIBLE	TITLE OF CONTACT PERSON
Sterilant usage	Operating report	General Manager	EH&S
Liquor Level	PM records	General Manager	EH&S
EO conc	CEMs	General Manager	EH&S
pH	PM Records	General Manager	EH&S
c) IS COMPLIANCE OF THE THE RECORDS?	EMISSION UNIT READILY D	DEMONSTRATED BY REVIEW OF	
IF NO, EXPLAIN:			
d) ARE ALL RECORDS REAL	DILY AVAILABLE FOR INSPE	ECTION COPYING AND	Ø 0
SUBMITTAL TO THE AGE			
IF NO, EXPLAIN:			
34a) DESCRIBE ANY MONITO COMPLIANCE:	ORS OR MONITORING ACTIV	VITIES USED TO DETERMINE FEES	S, RULE APPLICABILITY OR
Monitor and record the le	vel of the scrubber liquo	or in recirculation tank.	
EO concentration: CEMS	will be installed		
	(ARE) BEING MONITORED (	E.G., VOM EMISSIONS TO ATMOSF	PHERE)?
Level of scrubber liquor. EO concentration: CEMS	to be installed		
LO CONCENTIATION. OLIVIO	to be installed		
	•	, IN STACK MONITOR 3 FEET FROM	M EXIT):
CEMS location in the star	ck to be determined		

34d) IS EACH MONITOR EQUIPPED TO SERVICE STATES IF NO, LIST ALL MONITORS WITHOUT				O NO
e) IS EACH MONITOR REVIEWED FO	R ACCURACY ON AT LEAST A Q	UARTERLY	× YES	O NO
IF NO, EXPLAIN:				
f) IS EACH MONITOR OPERATED AT IN OPERATION?	ALL TIMES THE ASSOCIATED E	MISSION UNIT IS	X YES	O NO
IF NO, EXPLAIN:				
35) PROVIDE INFORMATION ON THE M PURPOSES OF THE DETERMINATI DATE, TEST METHOD USED, TEST SUMMARY OF RESULTS. IF ADDIT	ION OF FEES, RULE APPLICABIL ING COMPANY, OPERATING CO	ITY OR COMPLIA INDITIONS EXIST	NCE. INCLUDE TH	E TEST
TEST DATE TEST METHOD	TESTING COMPANY	OPERATING CONDITIONS · · ·	SUMMARY OF F	RESULTS
9/21/18 18	ECSi	Normal	> 99% efficie	ency
36) DESCRIBE ALL REPORTING REQU SUBMITTALS TO THE AGENCY:	IKEMEN IS AND PROVIDE THE T	IILE AND FREQU	JENCY OF REPORT	
REPORTING REQUIREMENTS	TITLE OF REPORT		FREQUENCY	
Annual emissions report  Excess emissions	Annual emissions repor		i-annual	
ZXXXX XIIIXXIVIIX	EXCOSC CITIOSIONS	3611	rumuqu	

					(37)	FINISSION	INFORMATION					
☐ ¹ACTUAL EMISSION RATE ☐ ¹UNCONTROLLED EMISSION RATE						ALLOWABLE I	BY RULE EMISS		<sup>2</sup> PERMITTED EMISSION RATE			
REGULATED AIR POLLUTANT		LBS PER TONS PER HOUR YEAR (LBS/HR) (TONS/YR)		YEAR 3OTHER		OTHER <sup>4</sup> DM ERMS	THER 4DM	<sup>5</sup> RATE (UNITS)	APPLICABLE RULES	TONS PER YEAR (TONS/YR)	RATE (UNITS)	TONS PER YEAR (TONS/YR
CARBON	MAXIMUM:						( )					
MONOXIDE (CO)	TYPICAL:						( )					
LEAD	MAXIMUM:											
	TYPICAL:						( )				37770	
NITROGEN	MAXIMUM:						( )					
OXIDES (NOx)	TYPICAL:										PLEES.	
MATTED (DART)	MAXIMUM:					П	X 3					
	TYPICAL:					$\Box$	( )				- 3ED	
PARTICULATE MATTER <= 10	MAXIMUM:											
MICROMETERS (PM10)	TYPICAL:						( )					
SULFUR	MAXIMUM:						( )					
DIOXIDE (SO2)	TYPICAL:						( )			PART DE		
VOLATILE ORGANIC	MAXIMUM:						( )					
MATERIAL (VOM)	TYPICAL:						7 )					
OTHER, SPECIFY:	MAXIMUM:						( )					
	TYPICAL:						( )				TELEP.	
EXAMPLE: PARTICULATE	MAXIMUM:	5.00	21.9	0.3 GR/DSCF		1	6.0 (LBS/HR)	212.321	26.28	5.5 LBS/HR	22	
MATTER	TYPICAL	4.00	14.4	0.24 GR/DSCF		4	5.5 (LBS/HR)	212.321	19.80		Pit Book	

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-5.

**APPLICATION PAGE** 23

Printed on Recycled Paper 220-CAAPP

CHECK UNCONTROLLED EMISSION RATE BOX IF CONTROL EQUIPMENT IS USED, OTHERWISE CHECK AND PROVIDE THE ACTUAL EMISSION RATE TO ATMOSPHERE, INCLUDING INDOORS. SEE INSTRUCTIONS.

PROVIDE THE EMISSION RATE THAT WILL BE USED AS A PERMIT SPECIAL CONDITION. THIS LIMIT WILL BE USED TO DETERMINE THE PERMIT FEE.

PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G. PPM, GR/DSCF, ETC.)

DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS), 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS)

FRATE - ALLOWABLE EMISSION RATE SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

			O 1ACTUA O 1UNCO	AL EMISSION RA NTROLLED EMIS	ALLOWABLE BY RULE			
NAME OF HAP EMITTED	<sup>2</sup> CAS NUMBER		POUNDS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE OR STANDARD	APPLICABLE RULE
Ethylene Oxide	75-21-8	MAXIMUM:			ppmv	1	99% by control device	40 CFR 63
		TYPICAL:			PP	<u> </u>		Subpart O
Propylene Oxide	75-56-9	MAXIMUM:		N.			None	
		TYPICAL:					None	
		MAXIMUM:						
		TYPICAL:				+		
		MAXIMUM:				+		
		TYPICAL:					· [	
		MAXIMUM:						
	1 1	TYPICAL:						
		MAXIMUM:						_
	1 1	TYPICAL:						
		MAXIMUM:						_
	1 1	TYPICAL:						
		MAXIMUM:						
		TYPICAL:						
EXAMPLE		MAXIMUM	10.0	1.2		2	98% by wt control device	CFR 61
Benzene	71432	TYPICAL:	8.0	0.8		2	leak-tight trucks	61 302(b),(d)

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-6.

**APPLICATION PAGE** 24 Printed on Recycled Paper 220-CAAPP

IMPOVIDE UNCONTROLLED EMISSIONS IF CONTROL EQUIPMENT IS USED. OTHERWISE, PROVIDE ACTUAL EMISSIONS TO THE ATMOSPHERE, INCLUDING INDOORS. CHECK BOX TO SPECIFY.

2CAS - CHEMICAL ABSTRACT SERVICE NUMBER.

3PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G., PPM, GR/DSCF, ETC.).

4DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS, 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS).

5RATE - ALLOWABLE EMISSION RATE OR STANDARD SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

	EXHAUST POIN	IT INFORMATION	1			
THIS SECTION SHOULD NOT BE COMPLETED	IF EMISSIONS ARE E	XHAUSTED THROUGH A	AIR POLLUTION CONTROL EQUIPMENT.			
39) FLOW DIAGRAM DESIGNATION OF	EXHAUST POINT:					
40) DESCRIPTION OF EXHAUST POINT DISCHARGES INDOORS, DO NOT C	(STACK, VENT, RO OMPLETE THE REM	OF MONITOR, INDOC MAINING ITEMS.	DRS, ETC.). IF THE EXHAUST POINT			
41) DISTANCE TO NEAREST PLANT BO		HAUST POINT DISCH	ARGE (FT):			
42) DISCHARGE HEIGHT ABOVE GRADI	. ,					
43) GOOD ENGINEERING PRACTICE (G	,	. ,				
44) DIAMETER OF EXHAUST POINT (FT) 1.128 TIMES THE SQUARE ROOT OF		ON CIRCULAR EXHAL	JST POINT, THE DIAMETER IS			
45) EXIT GAS FLOW RATE	a) MAXIMUM (ACF	-M):	b) TYPICAL (ACFM):			
46) EXIT GAS TEMPERATURE	a) MAXIMUM (°F):		b) TYPICAL (°F):			
47) DIRECTION OF EXHAUST (VERTICA	L, LATERAL, DOWN	IWARD):				
48) LIST ALL EMISSION UNITS AND CON	NTROL DEVICES SE	RVED BY THIS EXH	AUST POINT:			
NAME		FLO	W DIAGRAM DESIGNATION			
a)						
b)						
c)						
d)						
e)						
THE FOLLOWING INFORMATION NEED ONLY 49a) LATITUDE:	BE SUPPLIED IF READ	b) LONGITUDE:				
,		b) LONGITODE.				
50) UTM ZONE:	b) UTM VERTICAL	RTICAL (KM): c) UTM HORIZONTAL (KM):				



# ILLINOIS ENVIRONMENTAL PROTECTION AGENCY P.O. BOX 19506

FOR APPLICANT'S USE Revision #: 0 18 2019 Date: 26 70 Page of Source Designation: Aeration

# DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION SPRINGFIELD, ILLINOIS 62794-9506

	FOR AGENCY USE ONLY				
PROCESS EMISSION UNIT	ID NUMBER:				
DATA AND INFORMATION	EMISSION POINT #:				
	DATE:				
SOURCE II	NFORMATION				
1) SOURCE NAME:	TO TOTAL TION				
Sterigenics US, LLC					
2) DATE FORM PREPARED: 18 June 2019	3) SOURCE ID NO. (IF KNOWN): 043110AAC				
GENERAL I	NFORMATION				
4) NAME OF EMISSION UNIT: WB1 (3) Aeration Rooms	·				
5) NAME OF PROCESS:					
Aeration Rooms					
6) DESCRIPTION OF PROCESS:					
Chemical Sterilization					
7) DESCRIPTION OF ITEM OR MATERIAL PRODUCED OR A	CTIVITY ACCOMPLISHED:				
Sterilized Medical Supplies					
8) FLOW DIAGRAM DESIGNATION OF EMISSION UNIT:					
Aeration Rooms					
9) MANUFACTURER OF EMISSION UNIT (IF KNOWN):					
10) MODEL NUMBER (IF KNOWN):	11) SERIAL NUMBER (IF KNOWN):				
-	-				
12) DATES OF COMMENCING CONSTRUCTION,	a) CONSTRUCTION (MONTH/YEAR):				
OPERATION AND/OR MOST RECENT MODIFICATION OF THIS EMISSION UNIT (ACTUAL OR PLANNED)	June 1984				
(	b) OPERATION (MONTH/YEAR):				
	May 1985				
	c) LATEST MODIFICATION (MONTH/YEAR):				
	March 1998				
13) DESCRIPTION OF MODIFICATION (IF APPLICABLE):					
The aeration rooms currently exhaust to Acid Scru reduced further by the installation of new Polishergoing to atmosphere.	bber #2 and AAT Dry Beds. All emissions will be Dry Beds which will further treat emissions prior to				
g-mg is sumosphore.					

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992, CHAPTER 111 1/2, PAR. 1039.5. DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION. FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

**APPLICATION PAGE** 26

**FOR APPLICANT'S USE** 

14) DOES THE EMISSION UNIT HA	VE MO	ORE THAN ONE MO	DDE OF	OPERATION	?	O YI	——— ≣S	Ø NO
IF YES, EXPLAIN AND IDENTIF A SEPARATE PROCESS EMISS FOR EACH MODE):	Y WHI	ICH MODE IS COVE JNIT FORM 220-CA	ERED B' APP MU	Y THIS FORM IST BE COMF	1 (NOTE: PLETED			
15) PROVIDE THE NAME AND DES EMISSION UNIT, IF APPLICABL MUST BE COMPLETED FOR EA	LE (FOI ACH IT	RM 260-CAAPP AN EM OF AIR POLLU	D THE A	APPROPRIAT	E 260-CAAPP	CONTR	ROLLING DUM FO	THIS PRM
WB1 Acid Scrubber (scrubber	·#2) v	with Dry Bed Rea	actor.					
(Proposed) WB1 Polisher								
16) WILL EMISSIONS DURING STA RATE PURSUANT TO A SPECII ESTABLISHED BY AN EXISTING	FIC RU	JLE, OR THE ALLO	WABLE	EMISSION LI	MIT AS	O YE	S	⊗ <sub>NO</sub>
IF YES, COMPLETE AND ATTA EXCESS EMISSIONS DURING	CH FO START	RM 203-CAAPP, "R UP OF EQUIPMEN	EQUES T".	T TO OPERA	TE WITH			
17) PROVIDE ANY LIMITATIONS OF STANDARDS (E.G., ONLY ONE	N SOU	RCE OPERATION	AFFECT	ING EMISSIC	ONS OR ANY V	VORK P	RACTIC	E
See Form 220-CAAPP for Ste			λ IIIVi⊏ <i>j</i> .					
	1111							
							_	
		OPERATING I						
18) ATTACH THE CALCULATIONS, FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT	RMAT	IE EXTENT THEY A	RE AIR	EMISSION R FORMATION	AND FUEL US	SAGE DA	H THE ATA WEI	RE
FOLLOWING OPERATING INFO	)RMAT Γ 220-1	IE EXTENT THEY A	RE AIR	EMISSION R FORMATION	AND FUEL US M 202-CAAPP.	SAGE DA	H THE ATA WEI	
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT	)RMAT Γ 220-1	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPEC	RE AIR	EMISSION R FORMATION TES OF FORI DAYS/WEE	AND FUEL US M 202-CAAPP.	SAGE DA	ATA WEI	
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR	)RMAT Γ 220-1	E EXTENT THEY A ION, MATERIAL US . REFER TO SPEC HOURS/DAY:	RE AIR	EMISSION R FORMATION TES OF FORI DAYS/WEE	AND FUEL US M 202-CAAPP. K: 7	WEEK	S/YEAR	:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year	)RMAT Γ 220-1	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPEC HOURS/DAY: 24	RE AIR	EMISSION R FORMATION TES OF FORI DAYS/WEE	AND FUEL US M 202-CAAPP. K: 7	WEEK	S/YEAR 52	:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year  b) TYPICAL OPERATING HOURS	)RMAT Γ 220-1	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPEC HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%):	RE AIR SAGE IN CIAL NO	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE	AND FUEL US M 202-CAAPP. K: 7	WEEK	S/YEAR 52 S/YEAR	:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	)RMAT Γ 220-1	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPEC HOURS/DAY: 24 HOURS/DAY: 24	RE AIR SAGE IN CIAL NO	EMISSION R FORMATION TES OF FORI DAYS/WEE	AND FUEL US M 202-CAAPP. K: 7	WEEK	S/YEAR 52 S/YEAR 52 SEP-NO	:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT Γ 220-1	HE EXTENT THEY A ION, MATERIAL US REFER TO SPECE HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%):	RE AIR BAGE IN BIAL NO	EMISSION R FORMATION TES OF FORI DAYS/WEE DAYS/WEE	AND FUEL US M 202-CAAPP. K: 7 K: JUN-AUG(9) 25	WEEK	S/YEAR 52 S/YEAR 52 SEP-NO	: : OV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT Γ 220-1	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPEC HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%):	RE AIR BAGE IN BIAL NO	EMISSION R FORMATION TES OF FORI DAYS/WEE DAYS/WEE	AND FUEL US M 202-CAAPP. K: 7 K: JUN-AUG(9) 25	WEEK	S/YEAR 52 S/YEAR 52 SEP-NO	: : OV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	PRMAT Γ 220-1	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTO HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25	RE AIR SAGE IN CIAL NO	EMISSION R FORMATION TES OF FORI DAYS/WEE DAYS/WEE	AND FUEL US M 202-CAAPP.  K: 7  K: 7  JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NC 2	: : OV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTOR HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25  ATERIAL USAG	RE AIR SAGE IN CIAL NO	EMISSION R FORMATION TES OF FORI DAYS/WEE DAYS/WEE	AND FUEL US M 202-CAAPP.  K: 7  K: 7  JUN-AUG(% 25	WEEK	S/YEAR 52 S/YEAR 52 SEP-NC 2	: : OV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTO HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25	RE AIR SAGE IN CIAL NO	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE  -MAY(%): 25  ORMATION	AND FUEL US M 202-CAAPP.  K: 7  K: 7  JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NO 2	: : OV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-See Form 220-CAAPP	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTOR HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25  ATERIAL USAG	MAR  MAR  TES	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE  -MAY(%): 25  ORMATION	AND FUEL US M 202-CAAPP. K: K: T JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NO 2	:: :: OV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTOR HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25  ATERIAL USAG	MAR  MAR  TES	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE  -MAY(%): 25  ORMATION	AND FUEL US M 202-CAAPP. K: K: T JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NO 2	:: :: OV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-See Form 220-CAAPP	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTOR HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25  ATERIAL USAG	MAR  MAR  TES	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE  -MAY(%): 25  ORMATION	AND FUEL US M 202-CAAPP. K: K: T JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NO 2	:: :: OV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-See Form 220-CAAPP	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTOR HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25  ATERIAL USAG	MAR  MAR  TES	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE  -MAY(%): 25  ORMATION	AND FUEL US M 202-CAAPP. K: K: T JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NO 2	:: :: OV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-See Form 220-CAAPP	DRMAT Γ 220-1 S	IE EXTENT THEY A ION, MATERIAL US . REFER TO SPECTOR HOURS/DAY: 24 HOURS/DAY: 24 DEC-FEB(%): 25  ATERIAL USAG	MAR  MAR  TES	EMISSION R FORMATION TES OF FORI  DAYS/WEE  DAYS/WEE  -MAY(%): 25  ORMATION	AND FUEL US M 202-CAAPP. K: K: T JUN-AUG(% 25	WEEK WEEK	S/YEAR 52 S/YEAR 52 SEP-NO 2	:: :: OV(%): 25

_					
	MAXIMU	JM RATES	TYPICA	AL RATES	
21b) PRODUCTS	LBS/HR	TONS/YEAR	LBS/HR	TONS/YEAR	
N/A					
	,				
	MAXIMU	JM RATES	TYPICA	L RATES	
21c) BY-PRODUCT MATERIALS	LBS/HR	TONS/YEAR	LBS/HR	TONS/YEAR	
N/A					
	EUEI	//0405 DATA			
22a) MAXIMUM FIRING RATE	b) TYPICAL F		c) DESIGN CAPACI	TY FIRING	
(MILLION BTU/HR):	(MILLION I	·	RATE (MILLION	BTU/HR):	
N/A		N/A	N/A	Α	
d) FUEL TYPE:					
ONATURAL GAS OFUEL					
IF MORE THAN ONE FUEL IS US					
<ul><li>e) TYPICAL HEAT CONTENT OF FU BTU/GAL OR BTU/SCF):</li></ul>	IEL (BTU/LB,	f) TYPICAL SULFU GAS):	UR CONTENT (WT %.,	, NA FOR NATURAL	
g) TYPICAL ASH CONTENT (WT %	., NA FOR NATUR		L USAGE (SPECIFY U		
GAS):			AL/YEAR, TON/YEAR):	:	
23) ARE COMBUSTION EMISSIONS I PROCESS UNIT EMISSIONS?	DUCTED TO THE	SAME STACK OR CONTE	ROL AS	YES O NO	
IF NO, IDENTIFY THE EXHAUST	POINT FOR COME	BUSTION EMISSIONS:			
·					

DDOVIDE ANY SPECIEIC EMISSION STAND	APPLICABLE RULE	ES APPLICABLE TO THIS EMISSION UNIT (E.G., VOM, IAC 218.204(j)(4), 3.5 LBS/GA
REGULATED AIR POLLUTANT(S)	EMISSION STANDARD(S)	APPLICABLE TO THIS EMISSION UNIT (E.G., VOM, IAC 218.204(j)(4), 3.5 LBS/GA REQUIREMENT(S)
Ethylene Oxide	40CFR 63.362	99% reduction
) PROVIDE ANY SPECIFIC RECORDKEEPING REGULATED AIR POLLUTANT(S)	RULE(S) WHICH ARE APPLICABLE TO THIS EMISSION U	INIT:  REQUIREMENT(S)
Ethylene Oxide	40 CFR 63.10	MACT recordkeeping and reporting
PROVIDE ANY SPECIFIC REPORTING RULE REGULATED AIR POLLUTANT(S)  Ethylene Oxide	(S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT: REPORTING RULE(S)  40 CFR 63.10	REQUIREMENT(S)  MACT recordkeeping and reporting
PROVIDE ANY SPECIFIC MONITORING RULE REGULATED AIR POLLUTANT(S)	E(S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT:  MONITORING RULE(S)	REQUIREMENT(S)
Ethylene Oxide	40CFR 63.364	Weekly Scrubber liquor level
	40CFR 63.364	Weekly EO concentration from dry beds
PROVIDE ANY SPECIFIC TESTING RULES AN REGULATED AIR POLLUTANT(S)	ND/OR PROCEDURES WHICH ARE APPLICABLE TO THIS  TESTING RULE(S)	EMISSION UNIT ;  REQUIREMENT(S)
Ethylene Oxide	40 CFR63.365	Testing of control equipment

APPLICATION PAGE 29
Printed on Recycled Paper 220-CAAPP

29) DOES THE EMISSION U	NIT QUALIFY FOR AN EXEM	PTION FROM AN		<b>M</b>							
OTHERWISE APPLICAB			U YES	<b>⋈</b> NO							
EXEMPTION. PROVIDE SUPPORTING DATA AN	A DETAILED EXPLANATION	IT IS EXEMPT AND THE RULE WH I JUSTIFYING THE EXEMPTION. I AND LABEL AS EXHIBIT 220-3, C HIS EXEMPTION.	INCLUDE DETA	VILED							
	0040/44	IOF INFORMATION									
20) IS THE EMISSION UNIT		ICE INFORMATION									
30) IS THE EMISSION UNIT REQUIREMENTS?	IN COMPLIANCE WITH ALL	APPLICABLE	YES	U NO							
IF NO, THEN FORM 294-CAAPP "COMPLIANCE PLAN/SCHEDULE OF COMPLIANCE ADDENDUM FOR NON COMPLYING EMISSION UNITS" MUST BE COMPLETED AND SUBMITTED WITH THIS APPLICATION.											
31) EXPLANATION OF HOW	INITIAL COMPLIANCE IS TO	BE, OR WAS PREVIOUSLY, DEM	MONSTRATED:								
WB1 Scrubber #2 was	tested for aeration emis	sions January 23, 2003									
32) EXPLANATION OF HOW	ONGOING COMPLIANCE W	ILL BE DEMONSTRATED:									
WB1 Scrubber 2 is requ	uired to monitor scrubbe	r liquor level weekly, pH wee	kly.								
EO concentration: CEM	IS to be installed in com	mon stack	•								
		CORDKEEPING AND REP									
DETERMINE FEES, RUL	E APPLICABILITY OR COMF	SSIONS FOR WHICH RECORDS PLIANCE. INCLUDE THE UNIT OF CY OF SUCH RECORDS (E.G., HO	MEASUREME	NT, THE							
PARAMETER	UNIT OF MEASUREMENT	METHOD OF MEASUREMENT	FPE	QUENCY							
EO conc	ppm	CEMS	continuo								
Liquor level	inches	Operating data	l								
Elquoi lovei	mones	Operating data	weekly								

RECORDED PARAMET	ER INCLUDE THE METHOD	ECORDS WILL BE CREATED AND N O OF RECORDKEEPING, TITLE OF ONTACT FOR REVIEW OF RECORI	PERSON RESPONSIBLE FOR
PARAMETER	METHOD OF RECORDKEEPING	TITLE OF PERSON RESPONSIBLE	TITLE OF CONTACT PERSON
EO conc	CEMS	General Manager	EH&S
Liquor Level	PM records	General Manager	EH&S
c) IS COMPLIANCE OF THE THE RECORDS?	EMISSION UNIT READILY	DEMONSTRATED BY REVIEW OF	X YES NO
IF NO, EXPLAIN:			
d) ARE ALL RECORDS REAL	OILY AVAILABLE FOR INSP	ECTION COPYING AND	
SUBMITTAL TO THE AGE		EGITOR, GOT TING AND	
IF NO, EXPLAIN:			
34a) DESCRIBE ANY MONITO COMPLIANCE:	RS OR MONITORING ACTI	IVITIES USED TO DETERMINE FEE	S, RULE APPLICABILITY OR
Monitor and record the le	-		
EO concentration: CEMS	to be installed in comn	non stack	
b) WHAT PARAMETER(S) IS(	ARE) BEING MONITORED	(E.G., VOM EMISSIONS TO ATMOS	PHERE)?
Level of scrubber liquor. EO concentration.			
EO concentration.			
c) DESCRIBE THE LOCATION	N OF EACH MONITOR (E.G.	., IN STACK MONITOR 3 FEET FRO	M EXIT):
CEMS to be installed	- ( <b>-</b> /-		<i>,</i>
			, ,

34d) IS EACH MONITOR EQUIPPED	WITH A RECORDING DEVICE?	X YES NO
IF NO, LIST ALL MONITORS WITH	OUT A RECORDING DEVICE:	YES U NO
" NOTE OF THE MONTONS WITH	1001 A NEGORDING DEVICE.	
e) IS EACH MONITOR REVIEWED FO	OR ACCURACY ON AT LEAST A QUAF	RTERLY 💭
BASIS?		YES NO
IF NO, EXPLAIN:		
f) IS EACH MONITOR OPERATED AT	FALL TIMES THE ASSOCIATED EMIS	SION UNIT IS YES NO
IN OPERATION?		S TES ONO
IF NO, EXPLAIN:		
35) PROVIDE INFORMATION ON THE PURPOSES OF THE DETERMINAT	MOST RECENT TESTS, IF ANY, IN WHITE	HICH THE RESULTS ARE USED FOR OR COMPLIANCE. INCLUDE THE TEST
DATE, TEST METHOD USED, TEST	TING COMPANY, OPERATING CONDI	TIONS EXISTING DURING THE TEST AND A
SUMMARY OF RESULTS. IF ADDI	TIONAL SPACE IS NEEDED, ATTACH	AND LABEL AS EXHIBIT 220-4:
TEST DATE TEST METHOD		PERATING
		NDITIONS SUMMARY OF RESULTS
1/21/03	Kremer Env. No	mal > 99% efficiency
	- 10	
36) DESCRIBE ALL REPORTING REQU	IREMENTS AND PROVIDE THE TITLE	AND FREQUENCY OF REPORT
SUBMITTALS TO THE AGENCY:		
REPORTING REQUIREMENTS	TITLE OF REPORT	FREQUENCY
Excess emissions	Excess emissions	semi-annual
Emissions	Annual Emissions Report	annual

			74		(37)	LIVISSION	INFORMATION					
		L	J 1UNCONTRO	MISSION RATE DLLED EMISSIO	N RATE		ALLOWABLE BY	RULE EMISS	ION RATE	<sup>2</sup> PERMITTED EMISSION RATE		
REGULATED AIR POLLUTANT		LBS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE (UNITS)	APPLICABLE RULES	TONS PER YEAR (TONS/YR)	RATE (UNITS)	TONS PER YEAR (TONS/YR	
CARBON	MAXIMUM:						( )					
MONOXIDE (CO)	TYPICAL:						6 5					
LEAD	MAXIMUM:						( )					
	TYPICAL:						( )				PERMI	
NITROGEN	MAXIMUM:						( )					
OXIDES (NOx)	TYPICAL:						( )					
PARTICULATE	MAXIMUM:						( )					
MATTER (PART)	TYPICAL;						( )				10 E	
PARTICULATE MATTER <= 10	MAXIMUM:						( )					
MICROMETERS (PM10)	TYPICAL:											
SULFUR	MAXIMUM:						7. 3					
DIOXIDE (SO2)	TYPICAL:						( )					
VOLATILE ORGANIC	MAXIMUM:											
MATERIAL (VOM)	TYPICAL:						7 8				The said of	
OTHER, SPECIFY:	MAXIMUM:						( )					
	TYPICAL:						( )					
EXAMPLE: PARTICULATE	MAXIMUM	5.00	21.9	0.3 GR/DSCF		1	6.0 (LBS/HR)	212.321	26.28	5.5 LBS/HR	22	
MATTER	TYPICAL:	4.00	14.4	0.24 GR/DSCF		4	5.5 (LBS/HR)	212.321	19.80			

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-5.

**APPLICATION PAGE** 33

Printed on Recycled Paper 220-CAAPP

<sup>1</sup> CHECK UNCONTROLLED EMISSION RATE BOX IF CONTROL EQUIPMENT IS USED, OTHERWISE CHECK AND PROVIDE THE ACTUAL EMISSION RATE TO ATMOSPHERE, INCLUDING INDOORS. SEE INSTRUCTIONS.
2 PROVIDE THE EMISSION RATE THAT WILL BE USED AS A PERMIT SPECIAL CONDITION. THIS LIMIT WILL BE USED TO DETERMINE THE PERMIT FEE.
3 PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G. PPM, GR/DSCF, ETC.)
4 DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS), 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS)
5 RATE - ALLOWABLE EMISSION RATE SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

			O 1ACTUA O 1UNCO	AL EMISSION RA	ALLOWABLE BY RULE			
NAME OF HAP EMITTED	<sup>2</sup> CAS NUMBER		POUNDS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE OR STANDARD	APPLICABLE RULE
Ethylene Oxide	75-21-8	MAXIMUM:			ppmv	1	99% by control device	40 CFR 63
		TYPICAL:			ppint	T .		Subpart O
Propylene Oxide	75-56-9	MAXIMUM:				+	N/A	
		TYPICAL				+	N/A	
	1	MAXIMUM				+		
		TYPICAL:				1		
		MAXIMUM						
		TYPICAL:				+		
	1	MAXIMUM:				+		
		TYPICAL:						
		MAXIMUM:				-		
		TYPICAL:				1		
	+	MAXIMUM:				+-+		
		TYPICAL:				1		
		MAXIMUM:						
		TYPICAL:						
EXAMPLE:	$\dagger = \dagger$	MAXIMUM	10.0	1.2		2	98% by wt control device	CFR 61
Benzene	71432	TYPICAL	8.0	0.8		2	leak-tight trucks	61.302(b),(d)

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-6.

APPLICATION PAGE
Printed on Recycled Paper
220-CAAPP 34

IMPOVIDE UNCONTROLLED EMISSIONS IF CONTROL EQUIPMENT IS USED. OTHERWISE, PROVIDE ACTUAL EMISSIONS TO THE ATMOSPHERE, INCLUDING INDOORS. CHECK BOX TO SPECIFY.

2CAS - CHEMICAL ABSTRACT SERVICE NUMBER.

3PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G., PPM, GR/DSCF, ETC.).

4DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS, 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS).

5RATE - ALLOWABLE EMISSION RATE OR STANDARD SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

EXHAUST POINT INFORMATION								
THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.								
39) FLOW DIAGRAM DESIGNATION OF EXHAUST POINT:								
40) DESCRIPTION OF EXHAUST POINT (STACK, VENT, ROOF MONITOR, INDOORS, ETC.). IF THE EXHAUST POINT DISCHARGES INDOORS, DO NOT COMPLETE THE REMAINING ITEMS.								
41) DISTANCE TO NEAREST PLANT BO		HAUST POINT DISCH	HARGE (FT):					
42) DISCHARGE HEIGHT ABOVE GRAD								
43) GOOD ENGINEERING PRACTICE (G								
44) DIAMETER OF EXHAUST POINT (FT) 1.128 TIMES THE SQUARE ROOT O	): NOTE: FOR A NO F THE AREA.	ON CIRCULAR EXHAL	JST POINT, THE DIAMETER IS					
45) EXIT GAS FLOW RATE	a) MAXIMUM (ACF	FM):	b) TYPICAL (ACFM):					
46) EXIT GAS TEMPERATURE	a) MAXIMUM (°F):		b) TYPICAL (°F):					
47) DIRECTION OF EXHAUST (VERTICA	L, LATERAL, DOWN	IWARD):						
48) LIST ALL EMISSION UNITS AND CON	TROL DEVICES SE	RVED BY THIS EXH	AUST POINT:					
NAME		FLO	W DIAGRAM DESIGNATION					
a)								
b)								
c)								
d)								
e)								
THE EQUI OWING INFORMATION NEED ONLY	25 OLIDOLISO IS DE 45							
THE FOLLOWING INFORMATION NEED ONLY I 49a) LATITUDE:	BE SUPPLIED IF READ	b) LONGITUDE:						
50) UTM ZONE:	b) UTM VERTICAL	(KM):	c) UTM HORIZONTAL (KM):					



Sterigenics US, LLC

2) DATE FORM

## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION P.O. BOX 19506

SPRINGFIELD, ILLINOIS 62794-9506

FOR APPLICANT'S USE							
Revision	on #:		0				
Date:	6	1	18	/ 2019			
Page	36		of	70			
Source Designation: Other Areas							

# FOR AGENCY USE ONLY ID NUMBER: PROCESS EMISSION UNIT EMISSION POINT #: DATA AND INFORMATION DATE: **SOURCE INFORMATION** 1) SOURCE NAME:

3) SOURCE ID NO.

PREPARED: 18 June 2019	(IF KNOWN): 043110AAC
OCNEDAL II	NEODWATION.
4) NAME OF EMISSION UNIT:	NFORMATION
WBI - Other Areas	
5) NAME OF PROCESS:	
Other Areas	
6) DESCRIPTION OF PROCESS:	
Chemical Sterilization	
7) DESCRIPTION OF ITEM OR MATERIAL PRODUCED OR A	CTIVITY ACCOMPLISHED:
Sterilized Medical Supplies	
8) FLOW DIAGRAM DESIGNATION OF EMISSION UNIT:	
Other Areas	
9) MANUFACTURER OF EMISSION UNIT (IF KNOWN):	
-	
10) MODEL NUMBER (IF KNOWN):	11) SERIAL NUMBER (IF KNOWN):
-	•
12) DATES OF COMMENCING CONSTRUCTION, OPERATION AND/OR MOST RECENT MODIFICATION	a) CONSTRUCTION (MONTH/YEAR):
OF THIS EMISSION UNIT (ACTUAL OR PLANNED)	
	b) OPERATION (MONTH/YEAR):
	c) LATEST MODIFICATION (MONTH/YEAR):
13) DESCRIPTION OF MODIFICATION (IF APPLICABLE):	
The PTE will treat air from identified areas with nev	N PTE Dry Beds and will be exhausted to a single
common stack (ST-1).	

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992. CHAPTER 111 1/2, PAR. 1039.5. DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION. FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

> APPLICATION PAGE 36

**FOR APPLICANT'S USE** 

14) DOES THE EMISSION UNIT HA	VE MC	ORE THAN O	NE MOI	DE OF	OPERATION	1?	O YE	ES	Ø NO
IF YES, EXPLAIN AND IDENTIFY WHICH MODE IS COVERED BY THIS FORM (NOTE: A SEPARATE PROCESS EMISSION UNIT FORM 220-CAAPP MUST BE COMPLETED FOR EACH MODE):									
45) DDOVIDE THE NAME AND DES	TAMAT	CON OF ALL	ND DO	· · · · · · · · · · · · · · · · · · ·	Y CONTRO	· FOURDMENT	CONTE	· CULIN	O TI 110
15) PROVIDE THE NAME AND DES EMISSION UNIT, IF APPLICABL MUST BE COMPLETED FOR EA	LE (FOF	RM 260-CAAF	PP AND	THE A	PPROPRIAT	TE 260-CAAPP	ADDEN	DUM F	ORM
WB1 PTE Dry Beds									
16) WILL EMISSIONS DURING STA RATE PURSUANT TO A SPECI ESTABLISHED BY AN EXISTING	FIC RU	ILE, OR THE	<b>ALLOW</b>	/ABLE	EMISSION L	MISSION IMIT AS	O YE	ES .	× NO
IF YES, COMPLETE AND ATTA EXCESS EMISSIONS DURING	CH FO	RM 203-CAAI UP OF EQUII	PP, "RE PMENT	QUES	T TO OPERA	ATE WITH			
17) PROVIDE ANY LIMITATIONS OF	N SOU	RCE OPERA	TION A	FFECT	ING EMISSI	ONS OR ANY V	VORK P	RACTI	CE
STANDARDS (E.G., ONLY ONE	UNIT	SOPERATE	DAIA	TIM⊨):					
OPERATING INFORMATION									
		OPERAT	ING IN	VFOR	MATION				
18) ATTACH THE CALCULATIONS, FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT	RMAT.	E EXTENT TI	HEY AF	RE AIR AGE IN	EMISSION F	AND FUEL US	SAGE DA	H THE	E ERE
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT	ORMAT T 220-1	IE EXTENT TI ION, MATERI . REFER TO	HEY AF IAL USA SPECI	RE AIR AGE IN	EMISSION F FORMATION TES OF FOR	N AND FUEL US RM 202-CAAPP	SAGE D	ATA W	ERE
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR	ORMAT T 220-1	IE EXTENT TI ION, MATERI . REFER TO HOURS/DA	HEY AF IAL USA SPECI	RE AIR AGE IN	EMISSION F	N AND FUEL US RM 202-CAAPP EK:	SAGE D	ATA W	R:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year	DRMAT T 220-1	IE EXTENT TI ION, MATERI . REFER TO HOURS/DA 2	HEY AF IAL USA SPECI Y:	RE AIR AGE IN	EMISSION F FORMATION FES OF FOR DAYS/WEE	N AND FUEL US RM 202-CAAPP EK: 7	WEEK	ATA W	R:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA	HEY AF IAL USA SPECI XY: 24	RE AIR AGE IN	EMISSION F FORMATION (ES OF FOR DAYS/WEE DAYS/WEE	N AND FUEL US RM 202-CAAPP EK: 7	WEEK	S/YEA 52 S/YEA	R:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA	HEY AF IAL USA SPECI Y: 24 Y:	RE AIR AGE IN AL NO	EMISSION F FORMATION (ES OF FOR DAYS/WEE DAYS/WEE	N AND FUEL US RM 202-CAAPP EK: 7 EK: 7	WEEK	S/YEA 52 S/YEA 52	R: 2 R: 2
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA	HEY AF IAL USA SPECI Y: 24 Y:	RE AIR AGE IN AL NO	EMISSION F FORMATION (ES OF FOR DAYS/WEE DAYS/WEE	N AND FUEL US RM 202-CAAPP EK: 7	WEEK	S/YEA 52 S/YEA 52	R:
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(%	HEY AF IAL USA SPECI Y: 24 Y:	RE AIR AGE IN AL NO	EMISSION F FORMATION TES OF FOR DAYS/WEB DAYS/WEB -MAY(%):	N AND FUEL US RM 202-CAAPP EK: 7 EK: 7 JUN-AUG(9)	WEEK	S/YEA 52 S/YEA 52	R: 2 NOV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(%	HEY AF IAL USA SPECI Y: 24 Y: 24 (6):	RE AIR AGE IN AL NO	EMISSION F FORMATION FES OF FOR DAYS/WEE DAYS/WEE -MAY(%): 25	N AND FUEL US RM 202-CAAPP  EK: 7  EK: 7  JUN-AUG(%) 25	WEEK	S/YEA 52 S/YEA 52	R: 2 NOV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(%	HEY AF IAL USA SPECI Y: 24 Y: 24 (6):	RE AIR AGE IN AL NO	EMISSION F FORMATION FES OF FOR DAYS/WEE DAYS/WEE -MAY(%): 25	N AND FUEL US RM 202-CAAPP  EK: 7  EK: 7  JUN-AUG(%) 25	WEEK	S/YEA 52 S/YEA 52	R: 2 NOV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMAT T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(%	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	RE AIR AGE IN AL NO	EMISSION F FORMATION FES OF FOR DAYS/WEE DAYS/WEE -MAY(%): 25	N AND FUEL US RM 202-CAAPP EK: 7 EK: 7 JUN-AUG(% 25	WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 R: 2 NOV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year	DRMATI T 220-1	E EXTENT TI ION, MATERI . REFER TO  HOURS/DA 2 HOURS/DA 2 DEC-FEB(% 25	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	RE AIR AGE IN AL NO	EMISSION F FORMATION FES OF FOR DAYS/WEB DAYS/WEB -MAY(%): 25	N AND FUEL US RM 202-CAAPP EK: 7 EK: 7 JUN-AUG(% 25	WEEK WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 R: 2 NOV(%):
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT	DRMATI T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(% 25  ATERIAL L	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	MAR  E INF	EMISSION F FORMATION FES OF FOR DAYS/WEB DAYS/WEB -MAY(%): 25	AND FUEL US M 202-CAAPP  EK: 7  EK: 7  JUN-AUG(9) 25	WEEK WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 NOV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT	DRMATI T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(% 25  ATERIAL L	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	MAR  E INF	EMISSION F FORMATION FES OF FOR DAYS/WEB DAYS/WEB -MAY(%): 25	AND FUEL US M 202-CAAPP  EK: 7  EK: 7  JUN-AUG(9) 25	WEEK WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 NOV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-see Form 220-CAAPP	DRMATI T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(% 25  ATERIAL L	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	MAR  E INF	EMISSION F FORMATION FES OF FOR DAYS/WEB DAYS/WEB -MAY(%): 25	AND FUEL US M 202-CAAPP  EK: 7  EK: 7  JUN-AUG(9) 25	WEEK WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 NOV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-see Form 220-CAAPP	DRMATI T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(% 25  ATERIAL L	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	MAR  E INF	EMISSION F FORMATION FES OF FOR DAYS/WEB DAYS/WEB -MAY(%): 25	AND FUEL US M 202-CAAPP  EK: 7  EK: 7  JUN-AUG(9) 25	WEEK WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 NOV(%): 25
FOLLOWING OPERATING INFO BASED AND LABEL AS EXHIBIT 19a) MAXIMUM OPERATING HOUR 8760 per year b) TYPICAL OPERATING HOURS 8600 per year 20) ANNUAL THROUGHPUT 21a) RAW MATERIALS N/A-see Form 220-CAAPP	DRMATI T 220-1	E EXTENT TI ION, MATERI . REFER TO HOURS/DA 2 HOURS/DA 2 DEC-FEB(% 25  ATERIAL L	HEY AF IAL USA SPECI AY: 24 AY: 24 6):	MAR  E INF	EMISSION F FORMATION FES OF FOR DAYS/WEB DAYS/WEB -MAY(%): 25	AND FUEL US M 202-CAAPP  EK: 7  EK: 7  JUN-AUG(9) 25	WEEK WEEK	S/YEA 52 S/YEA 52 SEP-	R: 2 NOV(%): 25

7	MAXII	MUM RATES	TYPICA	AL RATES
24h) BRODUCTS				
21b) PRODUCTS	LBS/HR	TONS/YEAR	LBS/HR	TONS/YEAR
N/A				
	MAXIN	MUM RATES	TYPICA	AL RATES
21c) BY-PRODUCT MATERIALS	LBS/HR	TONS/YEAR	LBS/HR	TONS/YEAR
	LDO/TIN	TONSTEAK	LD3/FIK	TONS/TEAR
N/A				
	EIIE	L USAGE DATA		
22a) MAXIMUM FIRING RATE	b) TYPICAL	FIRING RATE	c) DESIGN CAPACI	TY FIRING
(MILLION BTU/HR):	(MILLION	N BTU/HR):	RATE (MILLION	BTU/HR):
N/A		N/A	N/	Α
d) FUEL TYPE:				
ONATURAL GAS OFUE	T OR COADE NU		a	
IF MORE THAN ONE FUEL IS U				
<ul><li>e) TYPICAL HEAT CONTENT OF I BTU/GAL OR BTU/SCF):</li></ul>	FUEL (BTU/LB,	f) TYPICAL SULI GAS):	FUR CONTENT (WT %.,	, NA FOR NATURAL
		,		
. 7/2/241 - 241 - 224 - 224 - 244				
g) TYPICAL ASH CONTENT (WT GAS):	%., NA FOR NATU	,	EL USAGE (SPECIFY UI BAL/YEAR, TON/YEAR):	NITS, E.G.,
•				
23) ARE COMBUSTION EMISSIONS PROCESS UNIT EMISSIONS?	S DUCTED TO THE	SAME STACK OR CONT	TROL AS	YES NO
IF NO, IDENTIFY THE EXHAUS	T POINT FOR COM	MBUSTION EMISSIONS:		

24) DDOVIDE ANY ODEOLEO ENICOION CTANDA	APPLICABLE RULE	ES
REGULATED AIR POLLUTANT(S)	EMISSION STANDARD(S) WHICH ARE	APPLICABLE TO THIS EMISSION UNIT (E.G., VOM, IAC 218.204(j)(4), 3.5 LBS/GAL): REQUIREMENT(S)
None	None	None
25) PROVIDE ANY SPECIFIC RECORDICEPING R REGULATED AIR POLLUTANT(S)	ULE(S) WHICH ARE APPLICABLE TO THIS EMISSION U	NIT:  REQUIREMENT(S)
None	None	None
26) PROVIDE ANY SPECIFIC REPORTING RULE(S REGULATED AIR POLLUTANT(S)	S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT: REPORTING RULE(S)	REQUIREMENT(S)
None	None	None
27) PROVIDE ANY SPECIFIC MONITORING RULE( REGULATED AIR POLLUTANT(S)	S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT:  MONITORING RULE(S)	REQUIREMENT(S)
None	None	None
28) PROVIDE ANY SPECIFIC TESTING RULES AND REGULATED AIR POLLUTANT(S)	D/OR PROCEDURES WHICH ARE APPLICABLE TO THIS  TESTING RULE(S)	
None	None None	REQUIREMENT(S)  None

APPLICATION PAGE 39
Printed on Recycled Paper 220-CAAPP

page 4 of 10

ON DOES THE ENGLISH	I BUT OUT I THE TOTAL THE							
OTHERWISE APPLICA	UNIT QUALIFY FOR AN EXEMP BLE RULE?	PTION FROM AN	O YES	NO				
IF YES, THEN LIST BOTH THE RULE FROM WHICH IT IS EXEMPT AND THE RULE WHICH ALLOWS THE EXEMPTION. PROVIDE A DETAILED EXPLANATION JUSTIFYING THE EXEMPTION. INCLUDE DETAILED SUPPORTING DATA AND CALCULATIONS. ATTACH AND LABEL AS EXHIBIT 220-3, OR REFER TO OTHER ATTACHMENT(S) WHICH ADDRESS AND JUSTIFY THIS EXEMPTION.								
	COMPLIANO	CE INFORMATION						
30) IS THE EMISSION UNIT REQUIREMENTS?	IN COMPLIANCE WITH ALL A	PPLICABLE	X YES	О мо				
IF NO, THEN FORM 294 COMPLYING EMISSION	I-CAAPP "COMPLIANCE PLAN/ NUNITS" MUST BE COMPLETE	SCHEDULE OF COMPLIANCE ED AND SUBMITTED WITH THIS	ADDENDUM FO	OR NON				
31) EXPLANATION OF HOV	V INITIAL COMPLIANCE IS TO	BE, OR WAS PREVIOUSLY, DEM	MONSTRATED:					
Reviewed in 260-CAA								
32) EXPLANATION OF HOW	ONGOING COMPLIANCE WIL	I RE DEMONSTRATED.						
		L BL DEMONSTRATED.						
Reviewed in 260-CAA	2P form							
				1				
				1				
TEO								
220) LIST THE DADAMETER	ING, MONITORING, REC	CORDKEEPING AND REPO	ORTING					
DETERMINE FEES, RU	LE APPLICABILITY OR COMPL	SIONS FOR WHICH RECORDS A IANCE. INCLUDE THE UNIT OF Y OF SUCH RECORDS (E.G., HC	MEASUREMEN	T THE				
PARAMETER	UNIT OF MEASUREMENT	METHOD OF MEACUREMENT	<b>*</b>					
EO conc		METHOD OF MEASUREMENT		UENCY				
EO CONC	ppb	CEMS	continuo	IS				
Pressure	inches water	Magnahelic gauge	continuo	ıs				

RECORDED PARAME	ETER INCLUDE THE METHOD	CORDS WILL BE CREATED AND M OF RECORDKEEPING, TITLE OF I	PERSON RESPONSIBLE FOR
RECORDREEPING, A	METHOD OF	ONTACT FOR REVIEW OF RECORD  TITLE OF	OS:
PARAMETER	RECORDKEEPING	PERSON RESPONSIBLE	CONTACT PERSON
EO conc	CEMS	General Manager	EH&S
Pressure	PM records	General Manager	EH&S
c) IS COMPLIANCE OF TH	E EMISSION UNIT READILY I	DEMONSTRATED BY REVIEW OF	∀ES
THE RECORDS?			J 128 J 110
IF NO, EXPLAIN:			
d) ARE ALL RECORDS RE	ADILY AVAILABLE FOR INSPI SENCY UPON REQUEST?	ECTION, COPYING AND	Ø YES □ NO
IF NO, EXPLAIN:	ZENOT OF ONTICE GOLOT!		
IF NO, EXFLAIN.			
34a) DESCRIBE ANY MONIT	TORS OR MONITORING ACTI	VITIES USED TO DETERMINE FEE:	S, RULE APPLICABILITY OR
	IS to be installed in comm	non stack.	
Building Pressure			
h) WHAT DADAMETED(S) I	IS/ADE) BEING MONITORED	E.G., VOM EMISSIONS TO ATMOS	DUEDEN
EO concentration	S(ARE) BEING MONTORED (	E.G., VOM EMISSIONS TO ATMOS	PHERE)?
Pressure			
c) DESCRIBE THE LOCATI	ON OF EACH MONITOR (E.G.	, IN STACK MONITOR 3 FEET FRO	M EXIT):
EO Concentration: In sta	ack		
Pressure: TBD			

34d) IS EACH MONITOR EQUIPPED WI	ITH A RECORDING DEVICE?			X YES	O NO
IF NO, LIST ALL MONITORS WITHOU	JT A RECORDING DEVICE:			O 123	<u> </u>
.,					
e) IS EACH MONITOR REVIEWED FOR A BASIS?	ACCURACY ON AT LEAST A (	QUARTERL	.Υ	X YES	O NO
DASIS!					<u> </u>
IF NO, EXPLAIN:					
f) IS EACH MONITOR OPERATED AT AI	I TIMES THE ASSOCIATED I	THICOLONIA	LINITIO		
IN OPERATION?	LL TIMES THE ASSOCIATED E	=MISSION (	UNITIS	X YES	U NO
IF NO, EXPLAIN:					
II NO, LAI LAIN.					
35) PROVIDE INFORMATION ON THE MO	ST RECENT TESTS, IF ANY, I	IN WHICH T	THE RESULT	S ARE USED F	OR
PURPOSES OF THE DETERMINATION DATE, TEST METHOD USED, TESTIN	N OF FEES, RULE APPLICABI	LITY OR CO	OMPLIANCE	. INCLUDE THE	E TEST
SUMMARY OF RESULTS. IF ADDITION	NAL SPACE IS NEEDED, ATT	ACH AND	LABEL AS E	XHIBIT 220-4:	ESTANDA
		OPERAT	ING		
TEST DATE TEST METHOD	TESTING COMPANY	CONDITI		SUMMARY OF F	RESULTS
	2 1				
36) DESCRIBE ALL REPORTING REQUIRE	EMENTS AND PROVIDE THE	TITLE AND	FREQUENC	Y OF REPORT	
SUBMITTALS TO THE AGENCY:					
REPORTING REQUIREMENTS	TITLE OF REPORT		A	FREQUENCY	
Excess emissions	Excess emissions		semi-an	nual	
Annual emissions	Annual emissions repo	ort	Annual		

					(37)	EMISSION	INFORMATION				· ·	
		(	N RATE		ALLOWAB	LE BY	RULE EMISS	ION RATE	<sup>2</sup> PERMITTED EMISSION RATE			
REGULATED AIR POLLUTANT		LBS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE (UN	IITS)	APPLICABLE RULES	TONS PER YEAR (TONS/YR)	RATE (UNITS)	TONS PER YEAR (TONS/YR
CARBON	MAXIMUM:							)				
MONOXIDE (CO)	TYPICAL:						ī	j				
LEAD	MAXIMUM:							)				
	TYPICAL:						7					X4.15 8
NITROGEN	MAXIMUM:						C	j				
OXIDES (NOx)	TYPICAL:						(	)				
PARTICULATE	MAXIMUM:						(	).				
MATTER (PART)	TYPICAL:						(	)				
PARTICULATE MATTER <= 10	MAXIMUM:						(	3				
MICROMETERS (PM10)	TYPICAL:						(	)				S. O. T.
SULFUR	MAXIMUM:							)				
DIOXIDE (SO2)	TYPICAL:						ì	3				
VOLATILE ORGANIC	MAXIMUM:						(	)				
MATERIAL (VOM)	TYPICAL:							)				State of the last
OTHER, SPECIFY:	MAXIMUM:						(	)				
	TYPICAL:						3	)				
EXAMPLE: PARTICULATE	MAXIMUM:	5.00	21.9	0.3 GR/DSCF		1	6.0 (LBS/HF	₹)	212.321	26.28	5.5 LBS/HR	22
MATTER	TYPICAL	4.00	14.4	0.24 GR/DSCF		4	5.5 (LBS/HF	2)	212.321	19.80		

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-5.

**APPLICATION PAGE** 43

Printed on Recycled Paper 220-CAAPP

<sup>1</sup> CHECK UNCONTROLLED EMISSION RATE BOX IF CONTROL EQUIPMENT IS USED, OTHERWISE CHECK AND PROVIDE THE ACTUAL EMISSION RATE TO ATMOSPHERE, INCLUDING INDOORS. SEE INSTRUCTIONS. 2 PROVIDE THE EMISSION RATE THAT WILL BE USED AS A PERMIT SPECIAL CONDITION. THIS LIMIT WILL BE USED TO DETERMINE THE PERMIT FEE.
3 PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G. PPM, GR/DSCF, ETC.)
4 DM - DETERMINATION METHOD: 1) STACK TEST; 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS), 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS)
5 RATE - ALLOWABLE EMISSION RATE SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

						INFORMATION		
			O 1actua O 1unco	AL EMISSION RA NTROLLED EMIS	SION RATE ED EMISSION RATE		ALLOWABLE BY R	ULE
NAME OF HAP EMITTED	<sup>2</sup> CAS NUMBER		POUNDS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE OR STANDARD	APPLICABLI RULE
Ethylene Oxide	75-21-8	MAXIMUM:			0.0001/	1.		ROLE
		TYPICAL:			ppmv	+		
Propylene Oxide	75-56-9	MAXIMUM:						
	1 1	TYPICAL:						
	1	MAXIMUM:						
		TYPICAL:				+		
		MAXIMUM:				+		
		TYPICAL:				+		
		MAXIMUM:				+		
		TYPICAL:				+		
		MAXIMUM:				+		
		TYPICAL:						
	+	MAXIMUM:				┼─┤ ├		
	1 1	TYPICAL:						
		MAXIMUM:						-
		TYPICAL:						
EXAMPLE:		MAXIMUM:	10.0	1.2			000/	
Benzene	71432	TYPICAL:	8.0	0.8		2 2	98% by wt control device leak-tight trucks	CFR 61 61.302(b),(d

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-6.

INFORMED UNCONTROLLED EMISSIONS IF CONTROL EQUIPMENT IS USED. OTHERWISE, PROVIDE ACTUAL EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 220-6.

1 PROVIDE UNCONTROLLED EMISSIONS IF CONTROL EQUIPMENT IS USED. OTHERWISE, PROVIDE ACTUAL EMISSIONS TO THE ATMOSPHERE, INCLUDING INDOORS. CHECK BOX TO SPECIFY.

2 CAS - CHEMICAL ABSTRACT SERVICE NUMBER.

3 PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G., PPM, GR/DSCF, ETC.).

4 DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS, 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS).

5 RATE - ALLOWABLE EMISSION RATE OR STANDARD SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

EXHAUST POINT INFORMATION								
THIS SECTION SHOULD NOT BE COMPLETED IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.								
39) FLOW DIAGRAM DESIGNATION OF EXHAUST POINT:								
40) DESCRIPTION OF EXHAUST POINT (STACK, VENT, ROOF MONITOR, INDOORS, ETC.). IF THE EXHAUST POINT DISCHARGES INDOORS, DO NOT COMPLETE THE REMAINING ITEMS.								
41) DISTANCE TO NEAREST PLANT BO	UNDARY FROM EXI	HAUST POINT DISCH	ARGE (FT):					
42) DISCHARGE HEIGHT ABOVE GRADI	E (FT):							
43) GOOD ENGINEERING PRACTICE (G	•	, ,						
44) DIAMETER OF EXHAUST POINT (FT): NOTE: FOR A NON CIRCULAR EXHAUST POINT, THE DIAMETER IS 1.128 TIMES THE SQUARE ROOT OF THE AREA.								
45) EXIT GAS FLOW RATE	a) MAXIMUM (ACF	FM):	b) TYPICAL (ACFM):					
46) EXIT GAS TEMPERATURE	a) MAXIMUM (°F):		b) TYPICAL (°F):					
47) DIRECTION OF EXHAUST (VERTICA	Ĺ, LATERAL, DOWN	WARD):						
48) LIST ALL EMISSION UNITS AND COM	NTROL DEVICES SE	RVED BY THIS EXHA	AUST POINT:					
NAME		FLO	W DIAGRAM DESIGNATION					
a)								
b)								
c)								
d)								
e)								
THE FOLLOWING INFORMATION NEED ONLY	DE CUIDDI IED IE DEAD	II V AVAII ADI E						
49a) LATITUDE:	BE SUPPLIED IF READ	b) LONGITUDE:						
50) UTM ZONE:	b) UTM VERTICAL	(KM):	c) UTM HORIZONTAL (KM):					



#### ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION P.O. BOX 19506 SPRINGFIELD, ILLINOIS 62794-9506

FOR APPLICANT'S USE						
Revision	on #:	(	0			
Date:	6	1	24	1	19	
Page	46	46		7	0	
Source Designation:						
Polisher Dry Beds						

	ID NUMBER:
AIR POLLUTION CONTROL	
<b>EQUIPMENT</b>	CONTROL EQU
DATA AND INFORMATION	

FOR AGENCY USE ONLY

ID NUMBER:

CONTROL EQUIPMENT #:

DATE:

THIS FORM MUST BE COMPLETED FOR EACH AIR POLLUTION CONTROL EQUIPMENT. COMPLETE AND PROVIDE THIS FORM IN ADDITION TO THE APPLICABLE ADDENDUM FORM 260-A THROUGH 260-K. A SEPARATE FORM MUST BE COMPLETED FOR EACH MODE OF OPERATION OF AIR POLLUTION CONTROL EQUIPMENT FOR WHICH A PERMIT IS BEING SOUGHT.

SOURCE INFORMATION						
1) SOURCE NAME:						
Sterigenics US LLC - Willowbrook i	Facility					
2) DATE FORM	3) SOURCE ID NO.					
PREPARED: 06/24/19	(IF KNOWN): 043110AAC					
	IFORMATION					
4) NAME OF AIR POLLUTION CONTROL EQUIPMENT AND/O	R CONTROL SYSTEM:					
WBI-Polisher Dry Beds						
5) FLOW DIAGRAM DESIGNATION OF CONTROL EQUIPMEN	IT AND/OR CONTROL SYSTEM:					
Dry Beds - Polisher						
6) MANUFACTURER OF CONTROL EQUIPMENT (IF KNOWN	):					
Advanced Air Technologies						
7) MODEL NUMBER (IF KNOWN):	8) SERIAL NUMBER (IF KNOWN):					
N/A	-					
9) DATES OF COMMENCING CONSTRUCTION,	a) CONSTRUCTION (MONTH/YEAR):					
OPERATION AND/OR MOST RECENT MODIFICATION OF THIS EQUIPMENT (ACTUAL OR PLANNED)						
OF THIS EQUIPMENT (ACTUAL OR PLANNED)	b) OPERATION (MONTH/YEAR):					
	3, 5, 2, 3, 1, 5, 1, (1, 5, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,					
	c) LATEST MODIFICATION (MONTH/YEAR):					
	, = 1. 15. 115. 116. (mo111., 12. 11.).					
10) BRIEFLY DESCRIBE MODIFICATION (IF APPLICABLE):						
Add additional unit with16 dry beds to the exhaus	t of the WP1 AAT Acid Comulabor #2 with day beds					
to further polish the air emissions prior to exhausi						
stack (ST-1).	ing to authosphere through a single common					
Stack (31-1).						

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992, CHAPTER 111 1/2, PAR. 1039.5. DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION. FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

APPLICATION PAGE 46

FOR APPLICANT'S USE

11) LIST ALL EMISSION UNITS AND OTHER CONTROL EQU	JIPMENT DUCTING EMISSIONS TO THIS CONTROL
EQUIPMENT: NAME	DESIGNATION OR CODE NUMBER
WB 1 AAT Scrubber #2 with dry beds	WB1 AAT Scrubber #2 with dry beds
12) DOES THE CONTROL EQUIPMENT HAVE MORE THAN O	NE MODE OF OPERATION? YES NO
IF YES, EXPLAIN AND IDENTIFY WHICH MODE IS COVE A SEPARATE AIR POLLUTION CONTROL EQUIPMENT FO COMPLETED FOR EACH MODE):	
13) IDENTIFY ALL ATTACHMENTS TO THIS FORM RELATED TECHNICAL DRAWINGS):	TO THIS AIR POLLUTION CONTROL EQUIPMENT(E.G.,
See attachment for dry bed unit drawing.	
OPERATING	SCHEDULE
IN OPERATION:	
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION: None	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION: None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE  FEEDING EMISSION UNIT(S) WHEN THE CONTROL
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED:  None  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL.	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE  FEEDING EMISSION UNIT(S) WHEN THE CONTROL  OTHER TIMES THAT THE YES NO
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED: None  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE  FEEDING EMISSION UNIT(S) WHEN THE CONTROL  OTHER TIMES THAT THE YES NO
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPME MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  None  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED: None  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE  FEEDING EMISSION UNIT(S) WHEN THE CONTROL  OTHER TIMES THAT THE YES NO

	APPLICABLE RU	
PROVIDE ANY SPECIFIC EMISSION STANDARD(S)  OVERALL & 90% CONTROL DEVICE EFF.):	AND LIMITATION(S) SET BY RULE(S) WHICH A	RE APPLICABLE TO THIS EMISSION UNIT (E.G., VOM, IAC 218.207(b)(1), 81%
REGULATED AIR POLLUTANT(S)	EMISSION STANDARD(S)	DECHIDEMENTO
	EMISSION STANDARD(S)	REQUIREMENT(S)
None		
PROVIDE ANY SPECIFIC RECORDICEPING RULE	C) WHICH ARE ARRIVABLE TO THE EMISSION	ALIMIT
REGULATED AIR POLLUTANT(S)		
	RECORDKEEPING RULE(S)	REQUIREMENT(S)
None		
	4.45.5.247.	
ROVIDE ANY SPECIFIC REPORTING RULE(S) WH	ICH ARE APPLICABLE TO THIS EMISSION UNIT	
REGULATED AIR POLLUTANT(S)	REPORTING RULE(S)	REQUIREMENT(S)
None		
		-
ROVIDE ANY SPECIFIC MONITORING RULE(S) W	HICH ARE APPLICABLE TO THIS EMISSION UNI	T:
REGULATED AIR POLLUTANT(S)	MONITORING RULE(S) *	REQUIREMENT(S)
None		
110110		
		- <del> </del>
ROVIDE ANY SPECIFIC TESTING RULES AND/OR	PROCEDURES WHICH ARE APPLICABLE TO TI	HIS EMISSION UNIT :
REGULATED AIR POLLUTANT(S)	TESTING RULE(S)	REQUIREMENT(S)
HAP	40 CFR63.365	Initial tasting of control aguinment
TIN	40 CFR03.305	Initial testing of control equipment

APPLICATION PAGE 48
Printed on Recycled Paper 260-CAAPP

		CE INFORMATION					
21) IS THE CONTROL SYS' REQUIREMENTS?	TEM IN COMPLIANCE WITH AL	LL APPLICABLE	X YES NO				
IF NO, THEN FORM 294-CAAPP "COMPLIANCE PLAN/SCHEDULE OF COMPLIANCE ADDENDUM FOR NON COMPLYING EMISSION UNITS" MUST BE COMPLETED AND SUBMITTED WITH THIS APPLICATION.							
22) EXPLANATION OF HOW INITIAL COMPLIANCE IS TO BE, OR WAS PREVIOUSLY, DEMONSTRATED:							
	cy. or 0.2 ppm. These lim	effiicency of all EO emissions its are applicable to the comn					
23) EXPLANATION OF HOW	ONGOING COMPLIANCE WIL	L BE DEMONSTRATED:					
Operational monitoring	g and periodic stack testing	g.					
TESTING, MONITORING, RECORDKEEPING AND REPORTING							
DETERMINE FEES, RU	LE APPLICABILITY OR COMPL	SIONS FOR WHICH RECORDS AR LIANCE. INCLUDE THE UNIT OF M Y OF SUCH RECORDS (E.G., HOU METHOD OF MEASUREMENT	IEASUREMENT, THE				
EO Concentration	ppb	CEMS	Continuous				

24b) BRIEFLY DESCRIB	E THE METHOD BY WHICH RE	CORDS WILL BE CREATED AND N	MAINTAINED, FOR FACH
I RECORDED PARAM	NETER INCLUDE THE METHOD	OF RECORDICEPING TITLE OF	DEDOON DECOUNCIDI E EOD
RECORDKEEPING,	AND TITLE OF PERSON TO CO	ONTACT FOR REVIEW OF RECOR	DS:
PARAMETER	METHOD OF RECORDKEEPING	TITLE OF PERSON RESPONSIBLE	TITLE OF CONTACT PERSON
EO Conc.	CEMS	General Manager	EH&S Director
		Ocheral Manager	Ends Director
	-		
	) A <del>.</del>		
c) IS COMPLIANCE OF T	HE CONTROL EQUIPMENT RE	ADILY DEMONSTRATED BY	
REVIEW OF THE REC	ORDS?		YES U NO
IF NO, EXPLAIN:			
II IVO, EXI EXIIV.			
d) ADE ALL DECORDS D	EADILY AVAILABLE FOR INCOME		
SUBMITTAL TO THE A	EADILY AVAILABLE FOR INSPE GENCY UPON REQUEST?	ECTION, COPYING AND/OR	
OODMINITINE TO THE A	SEROT OF ON REGUEST!		
IF NO, EXPLAIN:			
25a) DESCRIBE ANY MON	ITORS OR MONITORING ACTIV	/ITIES USED TO DETERMINE FEE	S RULE APPLICABILITY OR
COMPLIANCE:			
A Continuous Emission	ns Monitoring System (CE	MS) will be installed in the co	ommon stack.
b) WHAT OPERATING PAI	RAMETER(S) IS(ARE) BEING M	ONITORED (E.G., COMBUSTION (	CHAMBER TEMPERATURE)?
EO concentration as r	neasured by CFMS	(=, ::::::::::::::::::::::::::::::::::	or a mount reival erotroney:
c) DESCRIBE THE LOCAT	TION OF EACH MONITOR (E.C.	, EXIT OF COMBUSTION CHAMBE	·D)·
Common stack	HON OF EACH MONITOR (E.G.,	, EXIT OF COMBUSTION CHAMBE	:R):
COMMON STACK			I
			ı
			I
			I
			I

25d) IS EACH MONITOR EQUIPPED WI	TH A RECORDING DEVICE?	$\square$
IF NO, LIST ALL MONITORS WITH	YES U NO	
.,		
	R ACCURACY ON AT LEAST A QUARTE	RLY X YES NO
BASIS?		YES U NO
IF NO, EXPLAIN:		
f) IS EACH MONITOR OPERATED AT A OPERATION?	ALL TIMES THE CONTROL EQUIPMENT	IS IN YES NO
IF NO, EXPLAIN:		
26) PROVIDE INFORMATION ON THE M	IOST RECENT TESTS, IF ANY, IN WHIC	H THE RESULTS ARE USED FOR
PURPOSES OF THE DETERMINATION	ON OF FEES. RULE APPLICABILITY OR	COMPLIANCE. INCLUDE THE TEST NS EXISTING DURING THE TEST AND A
SUMMARY OF RESULTS. IF ADDIT	IONAL SPACE IS NEEDED, ATTACH AN	D LABEL AS EXHIBIT 260-1:
TEST DATE TEST METHOD		RATING SUMMARY OF RESULTS
None	Solita So	SOMMAN OF RESULTS
27) DESCRIBE ALL REPORTING REQUI	REMENTS AND PROVIDE THE TITLE AN	ID FREOLIENCY OF REPORT
SUBMITTALS TO THE AGENCY:	The tree is the tree is	TO THE GOLD OF THE CITY
REPORTING REQUIREMENTS	TITLE OF REPORT	FREQUENCY
Annual emissions report	Annual Emissions Report	Annual
Excess Emissions	Semiannual Excess Emiss.	Semiannual
	) <del> </del>	
28) DESCRIBE THE CAPTURE SYSTEM	CAPTURE AND CONTROL	ANODODT ENIOGIONE TO THE
CONTROL EQUIPMENT. INCLUDE A	LL HOODS, DUCTS, FANS, ETC., ALSO	INCLUDE THE METHOD OF CAPTURE
Proposing to duct WB1 AAT Scruk	IF ADDITIONAL SPACE IS NEEDED, AT ober #2 with dry beds exhaust to r	
	ary wear ordinance to t	pendior ary bodo.

29)	ADE CENTILDES OF THE			MOTED II	LITUE ELOW					
	29) ARE FEATURES OF THE CAPTURE SYSTEM ACCURATELY DEPICTED IN THE FLOW DIAGRAM CONTAINED IN THIS APPLICATION?  NO									
	IF NO, A SKETCH SHOWING THE FEATURES OF THE CAPTURE SYSTEM SHOULD BE ATTACHED AND LABELED AS EXHIBIT 260-3:									
	30) PROVIDE THE ACTUAL (MINIMUM AND TYPICAL) CAPTURE SYSTEM EFFICIENCY, CONTROL EQUIPMENT DESTRUCTION/REMOVAL EFFICIENCY, AND THE OVERALL REDUCTION EFFICIENCY PROVIDED BY THE COMBINATION OF THE CAPTURE SYSTEM AND CONTROL EQUIPMENT FOR EACH REGULATED AIR POLLUTANT TO BE CONTROLLED. ATTACH THE CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH THESE EFFICIENCIES WERE BASED AND LABEL AS EXHIBIT 260-4:									
a)	) CONTROL PERFORMAN	ICE:								
	REGULATED AIR	CAPTURE EFFICIEN			EQUIPMENT ENCY (%)		REDUCTION ENCY (%)			
	POLLUTANT	(MIN)	(TYP)	(MIN)	(TYP)	(MIN)	(TYP)			
i	Ethylene Oxide	100	100 9	9.9	99.9	99.9	99.9			
H										
lii										
iv.	EXPLAIN ANY OTHER RE	EQUIRED LIMITS ON CC	NTROL EQUIPMENT	PERFORM	MANCE SUCH AS	OUTLET CONCE	ENTRATION,			
Ov	erall control efficiency	•	es measured in	the sta	ck will be eit	her 99.9% o	r			
	ncentration of less that	n or equal to 0.2 p	pm so as to cor	nply wit	h Senate Bill	1852 (101s	t General			
ASS	sembly)									
h)	METHOD USED TO DETE	ERMINE FACH OF TH	IE AROVE EEELOIE	NCIES /E	C STACK TE	ST MATERIA	L BALANCE			
υ,	MANUFACTURER'S GUA	ARANTEE, ETC.) AND	THE DATE LAST	TESTED,	, IF APPLICABL	E:	L BALANCE,			
		EFFICIENCY DETERMI	INATION METHOD				TE LAST ESTED			
ſ	CAPTURE: Engineering	Design								
	CONTROL: Stack Test									
	Stack 168t		OVERALL							
-										
	OVERALL:									
L	OVERALL:	CE:								
L	OVERALL: Stack Test	ICE:  CAPTURE SYSTEM EFFICIENCY (%)	CONTROL EQUIPMENT EFFICIENCY (%)	RE	OVERALL DUCTION FICIENCY (%)	APPLICAB	LE RULE			
c)_	OVERALL: Stack Test  REQUIRED PERFORMAN  REGULATED AIR	CAPTURE SYSTEM	EQUIPMENT	RE	DUCTION FICIENCY	APPLICAB	LE RULE			
c)_	OVERALL: Stack Test  REQUIRED PERFORMAN  REGULATED AIR POLLUTANT	CAPTURE SYSTEM EFFICIENCY (%)	EQUIPMENT EFFICIENCY (%)	RE	DUCTION FICIENCY (%)	APPLICAB	LE RULE			
L	OVERALL: Stack Test  REQUIRED PERFORMAN  REGULATED AIR POLLUTANT	CAPTURE SYSTEM EFFICIENCY (%)	EQUIPMENT EFFICIENCY (%)	RE	DUCTION FICIENCY (%)	APPLICAB	LE RULE			
c)_ i iii	REQUIRED PERFORMAN  REGULATED AIR POLLUTANT	CAPTURE SYSTEM EFFICIENCY (%)	EQUIPMENT EFFICIENCY (%)	REEF	DUCTION FICIENCY (%)					
c)_ i iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	REQUIRED PERFORMAN  REGULATED AIR POLLUTANT  EO  EXPLAIN ANY OTHER RE COOLANT TEMPERATURE	CAPTURE SYSTEM EFFICIENCY (%)  100  CQUIRED LIMITS ON CORE, ETC.:	EQUIPMENT EFFICIENCY (%)  99  VTROL EQUIPMENT F	RE EF	99 ANCE SUCH AS	OUTLET CONCE	NTRATION,			
c)_iiiiiiiiiiiiv	REQUIRED PERFORMAN  REGULATED AIR POLLUTANT  EO  EXPLAIN ANY OTHER RE COOLANT TEMPERATURE PETAIL CONTROL OF STREET	CAPTURE SYSTEM EFFICIENCY (%)  100  CQUIRED LIMITS ON CORE, ETC.:  from all EO source	EQUIPMENT EFFICIENCY (%)  99  NTROL EQUIPMENT FOR THE PARTY OF THE PAR	PERFORM.	99  ANCE SUCH AS CK will be eith	OUTLET CONCE er 99.9% or	NTRATION,			
c)_iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	REQUIRED PERFORMAN  REGULATED AIR POLLUTANT  EO  EXPLAIN ANY OTHER RE COOLANT TEMPERATURE	CAPTURE SYSTEM EFFICIENCY (%)  100  CQUIRED LIMITS ON CORE, ETC.:  from all EO source	EQUIPMENT EFFICIENCY (%)  99  NTROL EQUIPMENT FOR THE PARTY OF THE PAR	PERFORM.	99  ANCE SUCH AS CK will be eith	OUTLET CONCE er 99.9% or	NTRATION,			

					(31)	EMISSION	INFORMATIO	N					
		1 ACTUAL EMISSION RATE ALLOWABLE BY RULE EMISSION						ON RATE	ON RATE 2PERMITTED EMISSION RATE				
REGULATED AIR POLLUTANT		LBS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	3 <sub>OTHER</sub>	3 <sub>OTHER</sub>	<sup>4</sup> DM	DRATE (UNITS) APPLICABLE			TONS PER YEAR (TONS/YR)	RATE (UNITS) YEA		
CARBON	MAXIMUM:							)	NOLLO	TOROTHY		(TONS/TK)	
MONOXIDE (CO)	TYPICAL:							)					
LEAD	MAXIMUM:						(	)					
	TYPICAL:						(	)					
NITROGEN	MAXIMUM:						(	3					
OXIDES (NOx)	TYPICAL:						-						
PARTICULATE	MAXIMUM:					$\Box$	i	,					
MATTER (PART)	TYPICAL:							3				11/58/38	
PARTICULATE MATTER <= 10	MAXIMUM:						(						
MICROMETERS (PM10)	TYPICAL:											DAY NO	
SULFUR	MAXIMUM:							1					
DIOXIDE (SO2)	TYPICAL:							- 1				BEYN	
VOLATILE ORGANIC	MAXIMUM:							1					
MATERIAL (VOM)	TYPICAL:						1	Α.					
OTHER, SPECIFY:	MAXIMUM:	See	Ex. 220a					,			See exhibit	220 -	
НАР	TYPICAL:						1	)					
EXAMPLE: PARTICULATE	MAXIMUM	5.00	21.9	0.3 GR/DSCF		1	6.0 (LBS/	HR)	212.321	26.28	5.5 LBS/HR	22	
MATTER	TYPICAL.	4.00	14.4	0.24 GR/DSCF		4	5.5 (LBS/	IR)	212.321	19.80		A 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 260-5.

<sup>1</sup> PROVIDE CONTROLLED EMISSIONS (E.G., THE EMISSIONS THAT WOULD RESULT AFTER ALL CONTROL AND CAPTURE EFFICIENCIES ARE ACCOUNTED FOR).
2 PROVIDE THE EMISSION RATE THAT WILL BE USED AS A PERMIT SPECIAL CONDITION. THIS LIMIT WILL BE USED TO DETERMINE THE PERMIT FEE.
3 PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G. PPM, GR/DSCF, ETC.)
4 DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS), 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS)
5 RATE - ALLOWABLE EMISSION RATE SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

HAP INFOR	MATION		<sup>1</sup> ACTUAL EN	MISSION RATE		ALLOWABLE BY RULE		
NAME OF HAP EMITTED	<sup>2</sup> CAS NUMBER		POUNDS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE OR STANDARD	APPLICABLE RULE
Ethylene Oxide	75-21-8	MAXIMUM:	see	narrative				
•		TYPICAL:						
		MAXIMUM:				+		+
		TYPICAL:						
		MAXIMUM:						-
		TYPICAL:						
		MAXIMUM:				<del>                                     </del>		
		TYPICAL:						
		MAXIMUM:				<del>                                     </del>		_
		TYPICAL:						
		MAXIMUM:						+
		TYPICAL:						
	1	MAXIMUM:						+
		TYPICAL:			-			
		MAXIMUM:				+		
		TYPICAL:						
EXAMPLE		MAXIMUM:	10.0	1.2		2	98% by wt control device	CFR 61
Benzene	71432	TYPICAL:	8.0	0.8		2	leak-tight trucks	61.302(b),(d)

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 260-6.

APPLICATION PAGE
Printed on Recycled Paper 260-CAAPP 54

<sup>1</sup> PROVIDE CONTROLLED EMISSIONS (E.G., THE EMISSIONS THAT WOULD RESULT AFTER ALL CONTROL AND CAPTURE EFFICIENCIES ARE ACCOUNTED FOR).

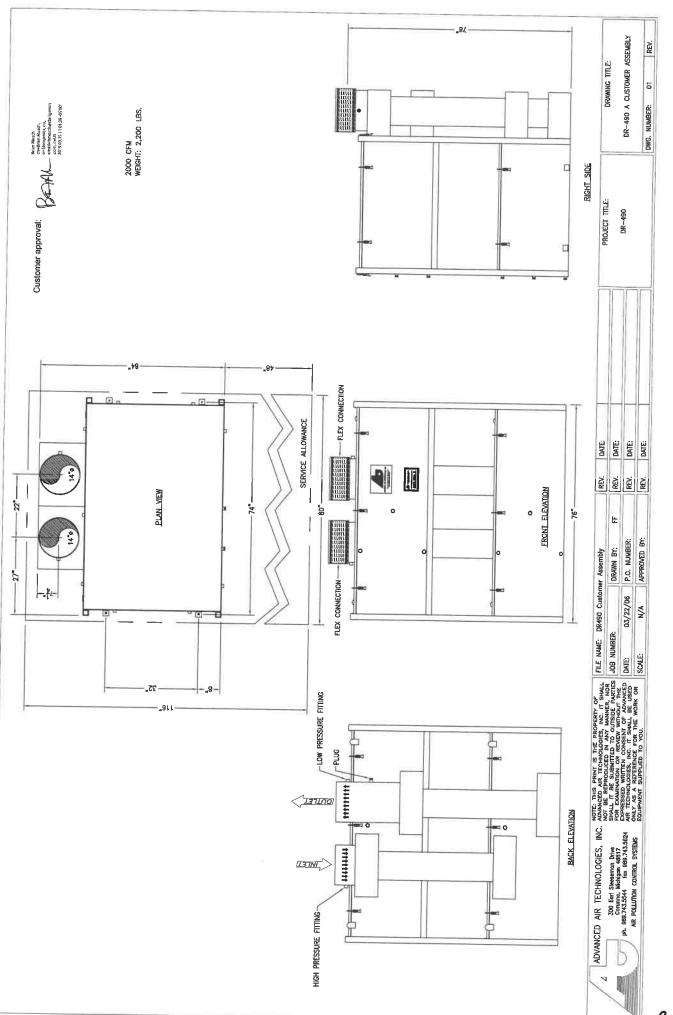
2CAS - CHEMICAL ABSTRACT SERVICE NUMBER.

3 PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G., PPM, GR/DSCF, ETC.).

4 DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS, 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS).

5 RATE - ALLOWABLE EMISSION RATE OR STANDARD SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

20) DECODIDITION OF EVENIET DOINT	EXHAUST POINT					
33) DESCRIPTION OF EXHAUST POINT (STACK, VENT, ROOF MONITOR, INDOORS, ETC.). IF THE EXHAUST POINT DISCHARGES INDOORS, DO NOT COMPLETE THE REMAINING ITEMS.						
WB1 Single Combined sta	ick (ST-1)					
34) DISTANCE TO NEAREST PLANT BO		UST POINT DISCH	HARGE (FT):			
	30					
35) DISCHARGE HEIGHT ABOVE GRADE (FT):						
87 feet (assuming local approvals)						
36) GOOD ENGINEERING PRACTICE (GEP) HEIGHT, IF KNOWN (FT): -						
37) DIAMETER OF EXHAUST POINT (FT 1.128 TIMES THE SQUARE ROOT O	): NOTE: FOR A NON F THE AREA. 2	CIRCULAR EXHAI	UST POINT, THE DIAMETER IS			
38) EXIT GAS FLOW RATE	a) MAXIMUM (ACFM)	):	b) TYPICAL (ACFM):			
29.3 m/s	33,50	00	33,500			
39) EXIT GAS TEMPERATURE	a) MAXIMUM (°F):		b) TYPICAL (°F):			
87	87		87			
40) DIRECTION OF EXHAUST (VERTICA		Vertical				
41) LIST ALL EMISSION UNITS AND CO	NTROL DEVICES SERV	/ED BY THIS EXH/	AUST POINT:			
NAME		FLO	W DIAGRAM DESIGNATION			
a) All units and controls covered by flow diagram  See flow diagram 199-2						
b)						
c)						
d)						
e)						
f)						
g)						
42) WHAT PERCENTAGE OF THE CONT	DOL FOLIDMENT EMI	PRIONE ARE BEIN	IC DUCTED TO THE			
EXHAUST POINT (%)?	100	SSIONS ARE BEIN	IG DUCTED TO THIS			
43) IF THE PERCENTAGE OF THE CONT		SSIONS BEING DI	ICTED TO THE EVHALIET DOINT IS			
NOT 100%, THEN EXPLAIN WHERE						
THE FOLLOWING INFORMATION NEED ONLY	BE SUPPLIED IE READILY	AVAII ARI E				
44a) LATITUDE:		) LONGITUDE:				
45) UTM ZONE:	b) UTM VERTICAL (K		c) UTM HORIZONTAL (KM):			
16	4,622.2	52	421.920			





## ILLINOIS ENVIRONMENTAL PROTECTION AGENCY DIVISION OF AIR POLLUTION CONTROL -- PERMIT SECTION P.O. BOX 19506 SPRINGFIELD, ILLINOIS 62794-9506

FOR APPLICANT'S USE								
Revisio	on #:		0					
Date:	_ 6 /	18	1	19				
Page	57	_ of	_ 7	0				
Source Designation:								
	PTE	rv Be	ds					

AIR POLLUTION CONTROL	_
<b>EQUIPMENT</b>	
DATA AND INFORMATION	1

FOR AGENCY USE ONLY
ID NUMBER:
CONTROL EQUIPMENT #:
DATE:

THIS FORM MUST BE COMPLETED FOR EACH AIR POLLUTION CONTROL EQUIPMENT. COMPLETE AND PROVIDE THIS FORM IN ADDITION TO THE APPLICABLE ADDENDUM FORM 260-A THROUGH 260-K. A SEPARATE FORM MUST BE COMPLETED FOR EACH MODE OF OPERATION OF AIR POLLUTION CONTROL EQUIPMENT FOR WHICH A PERMIT IS BEING SOUGHT.

**SOURCE INFORMATION** 

1) SOURCE NAME:	
Sterigenics US LLC - Willowbrook	Facility
2) DATE FORM	3) SOURCE ID NO.
PREPARED: 06/18/19	(IF KNOWN): 043110AAC
	de la constant de la
GENERAL II	NFORMATION
4) NAME OF AIR POLLUTION CONTROL EQUIPMENT AND/O	OR CONTROL SYSTEM:
WB 1 - Permanent Total Enclosure Dry Beds	
5) FLOW DIAGRAM DESIGNATION OF CONTROL EQUIPMEN	NT AND/OR CONTROL SYSTEM:
WB 1 - Permanent Total Enclosure Dry Beds	
6) MANUFACTURER OF CONTROL EQUIPMENT (IF KNOWN	):
Advanced Air Technologies	
7) MODEL NUMBER (IF KNOWN):	8) SERIAL NUMBER (IF KNOWN):
N/A	181540
9) DATES OF COMMENCING CONSTRUCTION,	a) CONSTRUCTION (MONTH/YEAR):
OPERATION AND/OR MOST RECENT MODIFICATION - OF THIS EQUIPMENT (ACTUAL OR PLANNED)	
,	b) OPERATION (MONTH/YEAR):
	c) LATEST MODIFICATION (MONTH/YEAR):
10) BRIEFLY DESCRIBE MODIFICATION (IF APPLICABLE):	
Air captured in the permanent total enclosure syst	tem (including from the chamber area, work aisle.
processed product storage, and shipping area) wi	Il be directed to a new unit with 18 new dry bed
cells.	

THIS AGENCY IS AUTHORIZED TO REQUIRE THIS INFORMATION UNDER ILLINOIS REVISED STATUTES, 1991, AS AMENDED 1992, CHAPTER 111 1/2, PAR. 1039.5. DISCLOSURE OF THIS INFORMATION IS REQUIRED UNDER THAT SECTION. FAILURE TO DO SO MAY PREVENT THIS FORM FROM BEING PROCESSED AND COULD RESULT IN THE APPLICATION BEING DENIED. THIS FORM HAS BEEN APPROVED BY THE FORMS MANAGEMENT CENTER.

APPLICATION PAGE 57

FOR APPLICANT'S USE

11) LIST ALL EMISSION UNITS AND OTHER CONTROL EQU	JIPMENT DUCTING EMISSIONS TO THIS CONTROL
EQUIPMENT:	
NAME	DESIGNATION OR CODE NUMBER
Permanent Total Enclosure	Permanent Total Enclosure
12) DOES THE CONTROL EQUIPMENT HAVE MORE THAN O	NE MODE OF OPERATION? YES NO
IF YES, EXPLAIN AND IDENTIFY WHICH MODE IS COVE	- 120 - 110
A SEPARATE AIR POLLUTION CONTROL EQUIPMENT FO	ORM 260-CAAPP MUST BE
COMPLETED FOR EACH MODE):	
13) IDENTIFY ALL ATTACHMENTS TO THIS FORM RELATED	TO THIS AIR POLLUTION CONTROL EQUIPMENT(E.G.,
TECHNICAL DRAWINGS):	
Drawings for dry beds attached.	
OPERATING	SCHEDULE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING	
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION: N/A	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMED MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE I	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMED MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE INTERPRETATION OF THE INTERPRETAT	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMED MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE INTERPRETATION OF THE INTERPRETAT	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMED MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE INTERPRETATION OF THE INTERPRETAT	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMED MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE DEQUIPMENT IS/ARE NOT USED:	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE IEQUIPMENT IS/ARE NOT USED:  N/A	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE INTERPRETATION OF THE INTERPRETAT	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEI MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE IEQUIPMENT IS/ARE NOT USED:  N/A	NT WILL NOT BE OPERATING DUE TO SCHEDULED EMISSION UNIT(S) TO THIS CONTROL EQUIPMENT IS/ARE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE I EQUIPMENT IS/ARE NOT USED:  N/A  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL OF FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	THER TIMES THAT THE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE EQUIPMENT IS/ARE NOT USED:  N/A  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL OF FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?	THER TIMES THAT THE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE I EQUIPMENT IS/ARE NOT USED:  N/A  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL OF FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	THER TIMES THAT THE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE I EQUIPMENT IS/ARE NOT USED:  N/A  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL OF FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	THER TIMES THAT THE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE I EQUIPMENT IS/ARE NOT USED:  N/A  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL OF FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	THER TIMES THAT THE
14) IDENTIFY ANY PERIOD WHEN THE CONTROL EQUIPMEN MAINTENANCE AND/OR REPAIRS WHEN THE FEEDING IN OPERATION:  N/A  15a) IDENTIFY ANY PERIODS DURING OPERATION OF THE I EQUIPMENT IS/ARE NOT USED:  N/A  b) IS THIS CONTROL EQUIPMENT IN OPERATION AT ALL OF FEEDING EMISSION UNIT(S) IS/ARE IN OPERATION?  IF NO, EXPLAIN AND PROVIDE THE DURATION OF THE	THER TIMES THAT THE

	APPLICABLE RULES	
PROVIDE ANY SPECIFIC EMISSION STANDARD(S) OVERALL & 90% CONTROL DEVICE EFF.):	AND LIMITATION(S) SET BY RULE(S) WHICH ARE APPLICA	BLE TO THIS EMISSION UNIT (E.G., VOM, IAC 218.207(b)(1), 81%
REGULATED AIR POLLUTANT(S)	EMISSION STANDARD(S)	REQUIREMENT(S)
None		
PROVIDE ANY SPECIFIC RECORDKEEPING RULE	S) WHICH ARE APPLICABLE TO THIS EMISSION UNIT:	
REGULATED AIR POLLUTANT(S)	RECORDKEEPING RULE(S)	REQUIREMENT(S)
None		
J.		
PROVIDE ANY SPECIFIC REPORTING RULE(S) WI	IICH ARE APPLICABLE TO THIS EMISSION UNIT:	
REGULATED AIR POLLUTANT(S)	REPORTING RULE(S)	REQUIREMENT(S)
None		
PROVIDE ANY SPECIFIC MONITORING RULE(S) W	HICH ARE APPLICABLE TO THIS EMISSION UNIT:	
REGULATED AIR POLLUTANT(S)	MONITORING RULE(S)	REQUIREMENT(S)
None		
PROVIDE ANY SPECIFIC TESTING RULES AND/OR	PROCEDURES WHICH ARE APPLICABLE TO THIS EMISSIO	N UNIT :
REGULATED AIR POLLUTANT(S)	TESTING RULE(S)	REQUIREMENT(S)
None		

APPLICATION PAGE 59
Printed on Recycled Paper 260-CAAPP

	COMPLIANO	CE INFORMATION							
21) IS THE CONTROL SYST REQUIREMENTS?	TEM IN COMPLIANCE WITH AI	L APPLICABLE	X YES	O NO					
IF NO, THEN FORM 294 COMPLYING EMISSION	-CAAPP "COMPLIANCE PLAN, UNITS" MUST BE COMPLETE	SCHEDULE OF COMPLIANCE A ED AND SUBMITTED WITH THIS A	ADDENDUM FO PPLICATION.	OR NON					
22) EXPLANATION OF HOW	VINITIAL COMPLIANCE IS TO	BE, OR WAS PREVIOUSLY, DEMO	ONSTRATED:						
		effiicency of all EO emissions s are applicable to the facility							
23) EXPLANATION OF HOW ONGOING COMPLIANCE WILL BE DEMONSTRATED:									
	or facility EO control efficie System will be installed in	ency at the common stack. In the common stack.	addition a C	ontinuous					
TEST	ING MONITORING PE	CORDKEEPING AND REPO	DTING						
24a) LIST THE PARAMETER	S THAT RELATE TO AIR EMIS	SIONS FOR WHICH RECORDS AF	RE BEING MAI	NTAINED TO					
DETERMINE FEES, RUI	LE APPLICABILITY OR COMPL	LIANCE. INCLUDE THE UNIT OF IN Y OF SUCH RECORDS (E.G., HOL	//EASUREMEN	T. THE					
PARAMETER	UNIT OF MEASUREMENT	METHOD OF MEASUREMENT	FREQ	UENCY					
Pressure	inches water	Magnahelic gauge	Continuo	us					
EO Concentration	ppb	CEMS	Continuo	us					

24b) BRIEFLY DESCRIBE T	HE METHOD BY WHICH RE	CORDS WILL BE CREATED AND M	MAINTAINED. FOR EACH
RECORDED PARAMET	TER INCLUDE THE METHOD	OF RECORDKEEPING, TITLE OF	PERSON RESPONSIBLE FOR
RECORDKEEPING, AN	ID TITLE OF PERSON TO CO	ONTACT FOR REVIEW OF RECOR	DS:
PARAMETER	METHOD OF RECORDKEEPING	TITLE OF PERSON RESPONSIBLE	TITLE OF CONTACT PERSON
Pressure	Electronic record	General Manager	EH&S Director
EO Concentratio	Electronic record	General Manager	EH&S Director
a) is compliance of the	CONTROL FOLIRMENT DE	ADU V DEMONOTO ATER BY	
REVIEW OF THE RECOR	: CONTROL EQUIPMENT RE RDS?	ADILY DEMONSTRATED BY	
IF NO, EXPLAIN:			
IF NO, EXPLAIN:			
d) ARE ALL RECORDS REA	DILY AVAILABLE FOR INSPE	ECTION, COPYING AND/OR	
SUBMITTAL TO THE AGE			YES U NO
IF NO, EXPLAIN:			
25a) DESCRIBE ANY MONITO COMPLIANCE:	ORS OR MONITORING ACTI	VITIES USED TO DETERMINE FEE	S, RULE APPLICABILITY OR
Pressure - monitored by			
EO Concentration to def	termine adsorbent replac	cement	
		MONITORED (E.G., COMBUSTION (	CHAMBER TEMPERATURE)?
Permanent Total Enclos			
Permanent Total Enclos	sure Dry Bed - EO Conc	entration	
a) DECODING THE LOCATION	ON OF FACULACIUMOS (F.S.	EVIT OF OCCUPANT OF THE OCCUPA	
Pressure - locations to b		., EXIT OF COMBUSTION CHAMBE	:R):
EO Concentration: CEM			
Onloomadon. OLIV	io in common stack		1

25d) IS EACH MONITOR EQUIPPED WITH A RECORDING DEVICE?		O NO							
IF NO, LIST ALL MONITORS WITHOUT A RECORDING DEVICE:									
e) IS EACH MONITOR REVIEWED FOR ACCURACY ON AT LEAST A QUARTERLY BASIS?	X YES	O NO							
IF NO, EXPLAIN:									
f) IS EACH MONITOR OPERATED AT ALL TIMES THE CONTROL EQUIPMENT IS IN OPERATION?		O NO							
IF NO, EXPLAIN:									
26) PROVIDE INFORMATION ON THE MOST RECENT TESTS, IF ANY, IN WHICH THE RESU	ILTS ARE USED	FOR							
PURPOSES OF THE DETERMINATION OF FEES, RULE APPLICABILITY OR COMPLIANCE DATE, TEST METHOD USED, TESTING COMPANY, OPERATING CONDITIONS EXISTING SUMMARY OF RESULTS. IF ADDITIONAL SPACE IS NEEDED, ATTACH AND LABEL AS	CE. INCLUDE TH	E TEST							
OPERATING	2001.								
TEST DATE TEST METHOD TESTING COMPANY CONDITIONS	SUMMARY OF I	RESULTS							
27) DESCRIBE ALL REPORTING REQUIREMENTS AND PROVIDE THE TITLE AND FREQUEI SUBMITTALS TO THE AGENCY:	NCY OF REPORT	-							
REPORTING REQUIREMENTS TITLE OF REPORT	FREQUENCY								
TBD									
CAPTURE AND CONTROL									
28) DESCRIBE THE CAPTURE SYSTEM USED TO CONTAIN, COLLECT AND TRANSPORT E CONTROL EQUIPMENT. INCLUDE ALL HOODS, DUCTS, FANS, ETC. ALSO INCLUDE TO USED AT EACH EMISSION POINT. (IF ADDITIONAL SPACE IS NEEDED, ATTACH AND L	HE METHOD OF	CAPTURE							
Air will be captured in affected areas and routed to Permanent Total Enclosure									
prior to being exhausted to atmosphere via a single common stack (ST-1).									

APPLICATION PAGE 62

29)	ARE FEATURES OF THE	CAPTU	RE SYSTE	M AC	CCURATELY I	DEPICT	ED I	N THE FLOW		X YES		NO
	IF NO, A SKETCH SHOWING THE FEATURES OF THE CAPTURE SYSTEM SHOULD BE											
	ATTACHED AND LABELE	ING THI ED AS E	E FEATURE XHIBIT 260	ES O -3:	F THE CAPTU	JRE SY	STE	M SHOULD B	E			
30)	PROVIDE THE ACTUAL ( DESTRUCTION/REMOVA COMBINATION OF THE C TO BE CONTROLLED. A WHICH THESE EFFICIEN	L EFFIC CAPTUR TTACH	CIENCY, AN E SYSTEM THE CALCU	ID TI I ANI ULAT	HE OVERALL D CONTROL E FIONS. TO TH	REDUC QUIPM E EXTE	TIOI IENT	N EFFICIENC FOR EACH F THEY ARF AII	Y PE	ROVIDED B	Y THE	ANT ON
а	CONTROL PERFORMAN	CE:										
	REGULATED AIR		CAPTUR					EQUIPMENT ENCY (%)			REDUCTIO	N
	POLLUTANT		EFFICIENCY (%) (MIN) (TYP)			(MIN		(TYP)		(MIN)	(TYP)	
i	HAP		100	1	00	99.9	9 99.9		] [	99.9	99.9	
ii												
iii												
iv.	EXPLAIN ANY OTHER RI	EQUIRED	LIMITS ON	CON	TROL EQUIPME	NT PER	FORM	MANCE SUCH A	rs or	TLET CONC	ENTRATION	! I,
Ov	erall control efficiency		all EO sou	ırce	s measured	in the	sta	ck will be e	ithe	r 99.9% c	or	
COI	ncentration of less tha											l
As	sembly)											
b)	METHOD USED TO DETE MANUFACTURER'S GUA	RMINE ARANTE	EACH OF T E, ETC.) A	THE ND 1	ABOVE EFFK THE DATE LA	CIENCII ST TES	ES (E Ted	E.G., STACK T , IF APPLICAE	TEST BLE:	MATERIA	L BALANC	E,
										DA	TE LAST	
Г	CAPTURE: Engineering			MINA	ATION METHOD				$\neg$	T	ESTED	
-	Engineering								-			-
-	Stack testing								-			- 1
	Stack testing	, TIOW r	neasuren	nen								_
c)	REQUIRED PERFORMAN	CE:										
-			PTURE		CONTROL		C	VERALL				
	REGULATED AIR POLLUTANT	S'	YSTEM SIENCY (%)		EQUIPMENT EFFICIENCY (S		RE	DUCTION FICIENCY (%)	-	APPLICAE	BLE RULE	-
i	HAP		100		99.	9		99.9	N	/A		7
ii				ı		7 1						7
iii				Ī								11
iv	EXPLAIN ANY OTHER RE	QUIRED	LIMITS ON C	ONT	ROL EQUIPMEN	T PERF	ORM	ANCE SUCH AS	S OUT	LET CONCE	NTRATION	-
Ove	coolant temperature rall control efficiency f	, ETC.:										
	centration of less than											
	embly)	•		-			•			- ( 1		

					(31)	EMISSION	INFORMATION				
			<sup>1</sup> ACTUA	L EMISSION	RATE		ALLOWABLE B	Y RULE EMISS	<sup>2</sup> PERMITTED EMISSION RATE		
REGULATED AIR POLLUTANT		LBS PER TONS PER HOUR YEAR <sup>3</sup> OTHER <sup>3</sup> OTHER <sup>4</sup> DM (LBS/HR) (TONS/YR) TERMS TERMS					<sup>5</sup> RATE (UNITS)	APPLICABLE RULES	TONS PER YEAR (TONS/YR)	RATE (UNITS)	TONS PER YEAR (TONS/YR)
CARBON	MAXIMUM:						( )	HOLLO	(TOROTIK)		(TONS/TK)
MONOXIDE (CO)	TYPICAL:						( )				
LEAD	MAXIMUM:						( )				
	TYPICAL:						( )				
NITROGEN	MAXIMUM:						( )				
OXIDES (NOx)	TYPICAL:						( )				NA COLE
PARTICULATE	MAXIMUM:						( )				
MATTER (PART)	TYPICAL:						1 )			S SELECTION	
PARTICULATE MATTER <= 10	MAXIMUM:						( )				
MICROMETERS (PM10)	TYPICAL:									37-31 Q 17 15	
SULFUR	MAXIMUM:						4 3				
DIOXIDE (SO2)	TYPICAL:						7 5				
VOLATILE ORGANIC	MAXIMUM:						( )				
MATERIAL (VOM)	TYP!CAL:						7 3				of the last of the
OTHER, SPECIFY:	MAXIMUM:									See exhibit	220 -
	TYPICAL:						( )				
EXAMPLE: PARTICULATE	MAXIMUM:	5.00	21.9	0.3 GR/DSCF		1	6.0 (LBS/HR)	212.321	26.28	5.5 LBS/HR	22
MATTER	TYPICAL.	4.00	14.4	0.24 GR/DSCF		4	5.5 (LBS/HR)	212.321	19.80		NIG TO

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 260-5.

APPLICATION PAGE

Printed on Recycled Paper 260-CAAPP 64

PROVIDE CONTROLLED EMISSIONS (E.G., THE EMISSIONS THAT WOULD RESULT AFTER ALL CONTROL AND CAPTURE EFFICIENCIES ARE ACCOUNTED FOR).

2PROVIDE THE EMISSION RATE THAT WILL BE USED AS A PERMIT SPECIAL CONDITION. THIS LIMIT WILL BE USED TO DETERMINE THE PERMIT FEE.

3PROVIDE THE EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G. PPM, GR/DSCF, ETC.)

4DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS), 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS)

5RATE - ALLOWABLE EMISSION RATE SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

HAP INFOR	MATION		<sup>1</sup> ACTUAL E	MISSION RATE			ALLOWABLE BY R	ULE
NAME OF HAP EMITTED	<sup>2</sup> CAS NUMBER		POUNDS PER HOUR (LBS/HR)	TONS PER YEAR (TONS/YR)	<sup>3</sup> OTHER TERMS	<sup>4</sup> DM	<sup>5</sup> RATE OR STANDARD	APPLICABLE RULE
Ethylene Oxide	75-21-8	MAXIMUM:	see	narrative				
		TYPICAL:						
		MAXIMUM:				+-1		
		TYPICAL:				+		
		MAXIMUM:						_
		TYPICAL:						
		MAXIMUM:						_
		TYPICAL:						
		MAXIMUM;						_
	1 1	TYPICAL:						
		MAXIMUM:						
		TYPICAL:						
		MAXIMUM:						
	1 1	TYPICAL:						
		MAXIMUM:				$\vdash$		
		TYPICAL:				<del>                                     </del>		
EXAMPLE:		MAXIMUM:	10.0	1,2		2	98% by wt control device	CFR 61
Benzene	71432	TYPICAL:	8.0	0.8		2	leak-tight trucks	61.302(b),(d)

IMPORTANT: ATTACH CALCULATIONS, TO THE EXTENT THEY ARE AIR EMISSIONS RELATED, ON WHICH EMISSIONS WERE DETERMINED AND LABEL AS EXHIBIT 260-6.

APPLICATION PAGE
Printed on Recycled Paper
260-CAAPP 65

<sup>1</sup> PROVIDE CONTROLLED EMISSIONS (E.G., THE EMISSIONS THAT WOULD RESULT AFTER ALL CONTROL AND CAPTURE EFFICIENCIES ARE ACCOUNTED FOR).

2 CAS - CHEMICAL ABSTRACT SERVICE NUMBER.

3 PLEASE PROVIDE ANY OTHER EMISSION RATE WHICH IS COMMONLY USED, REQUIRED BY A SPECIFIC LIMITATION OR THAT WAS MEASURED (E.G., PPM, GR/DSCF, ETC.).

4 DM - DETERMINATION METHOD: 1) STACK TEST, 2) MATERIAL BALANCE, 3) STANDARD EMISSION FACTOR (AP-42 OR AIRS, 4) ENGINEERING ESTIMATE, 5) SPECIAL EMISSION FACTOR (NOT AP-42 OR AIRS).

5 RATE - ALLOWABLE EMISSION RATE OR STANDARD SPECIFIED BY MOST STRINGENT APPLICABLE RULE.

		IT INFORMATIO			
33) DESCRIPTION OF EXHAUST POINT DISCHARGES INDOORS, DO NOT C	(STACK, VENT, ROC COMPLETE THE REA	OF MONITOR, INDO	ORS, ETC.). IF THE EXHAUST POINT		
See 260-CAAPP-WB1 Pol					
34) DISTANCE TO NEAREST PLANT BO	UNDARY FROM EXP	HAUST POINT DISCH	HARGE (FT):		
35) DISCHARGE HEIGHT ABOVE GRAD	E (FT):				
36) GOOD ENGINEERING PRACTICE (G	EP) HEIGHT, IF KNO	)WN (FT):			
37) DIAMETER OF EXHAUST POINT (FT 1.128 TIMES THE SQUARE ROOT O	): NOTE: FOR A NO F THE AREA.	)N CIRCULAR EXHA	UST POINT, THE DIAMETER IS		
38) EXIT GAS FLOW RATE	a) MAXIMUM (ACF	<sup>7</sup> M):	b) TYPICAL (ACFM):		
39) EXIT GAS TEMPERATURE	a) MAXIMUM (°F):		b) TYPICAL (°F):		
40) DIRECTION OF EXHAUST (VERTICA	L, LATERAL, DOWN	WARD):	1.		
41) LIST ALL EMISSION UNITS AND COM	NTROL DEVICES SE	RVED BY THIS EXH,	AUST POINT:		
NAME		FLC	FLOW DIAGRAM DESIGNATION		
a)					
b)					
c)					
d)					
e)					
f)					
g)					
42) WHAT PERCENTAGE OF THE CONT EXHAUST POINT (%)?	ROL EQUIPMENT EN	MISSIONS ARE BEIN	IG DUCTED TO THIS		
43) IF THE PERCENTAGE OF THE CONT NOT 100%, THEN EXPLAIN WHERE	ROL EQUIPMENT E	MISSIONS BEING DI	UCTED TO THE EXHAUST POINT IS G EXHAUSTED TO:		
THE FOLLOWING INFORMATION NEED ONLY	BE SUPPLIED IF READ!	I Y AVAII ABI E			
44a) LATITUDE:	- Jan	b) LONGITUDE:			
45) UTM ZONE:	b) UTM VERTICAL	(KM):	c) UTM HORIZONTAL (KM):		

#### SUMMARY OF AIR DISPERSION MODELING

Ramboll performed air dispersion modeling to evaluate potential impacts due to ethylene oxide emissions from the operations at Sterigenics' Willowbrook 1 (WB1) facility under the proposed improvement project. In this analysis, ethylene oxide air concentrations were estimated using air dispersion. Dispersion modeling inputs and methodology are discussed in detail below.

### **Modeled Ethylene Oxide Emissions**

As discussed in the project descriptions, Sterigenics plans to install a series of air pollution control devices and a permanent total enclosure to further control ethylene oxide emissions. Ethylene oxide emissions were modeled at 85 pounds per year consistent with Sterigenics commitment for future emissions.

## Air Dispersion Modeling Inputs

Ramboll used the latest version of the American Meteorological Society/USEPA Regulatory Model Improvement Committee Model (AERMOD, Version 18081) to evaluate the air dispersion of emissions from the Proposed Project site to estimate the off-site ethylene oxide concentrations. AERMOD is USEPA's recommended dispersion model.

AERMOD incorporates multiple variables in its algorithms including:

- Meteorological data representative of surface and upper air conditions;
- Local terrain data to account for elevation changes;
- Physical specification of emission sources including information such as:
  - Location;
  - Release height; and
  - Source parameters.

Dispersion model averaging times are specified based on the target health endpoint to be assessed. In this analysis, concentrations averaged over a five-year period were modeled at the nearby receptors. The model was performed using EPA's regulatory default option in AERMOD, which established the settings for variables such as building downwash, urban modeling dispersion option, and off-site receptor grid spacing. The urban option was used as the facility is located in the Chicago Metropolitan Area and is surrounded by populated areas.

#### STACK LOCATION and CONFIGURATION

Based on the design of the proposed control system, all the emissions would be released via a new stack 87 feet tall. All of the emissions will be discharged to atmosphere via this new stack, which was modeled as a point source. Source parameters for the proposed stack are provided in **Table 1** based on the engineering design of the proposed improvement project. In addition, building (tiers) are modeled such that the building downwash effects would be appropriately represented. The Building Profile Input Program (BPIP, Version 04274) was used to model building downwash effects on the dispersion of pollutants from point sources. The proposed stack location and modeled buildings are shown in **Figure 1**. The BPIP input and output files are included in **Appendix A**.

**Table 1. Modeled Stack Parameters** 

UTMx (m)	UTMy (m)	Stack Height (ft)	Exhaust Temperature (°F)	Exhaust Exit Velocity (ft/s)	Stack Diameter (ft)
421,920	4,622,252	87	87	96.1	2.8

Figure 1. The Proposed Stack Location



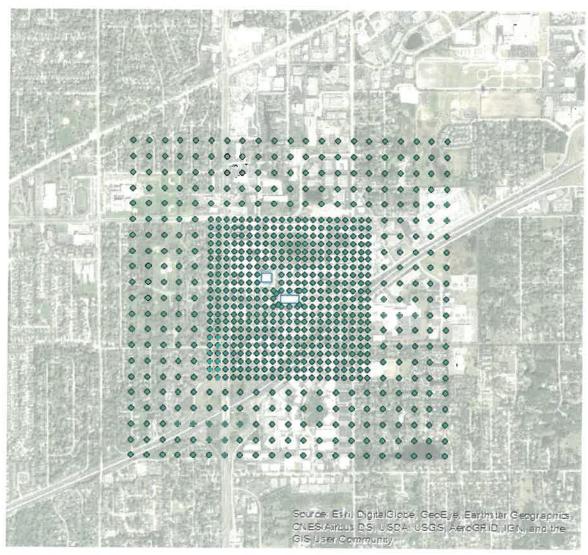
## **TERRAIN**

Data specifying terrain elevations of sources and receptors are imported into the model using AERMOD's terrain pre-processor, AERMAP. Elevations based on the National Elevation Datasets (NEDs) were obtained from the United States Geologic Survey (USGS). Terrain heights for the receptor grid were processed by US EPA, while the terrain height for the new stack was calculated using AERMAP version 18081.

#### **RECEPTORS**

A Cartesian grid representing off-site receptor points around the primary Project area, developed by the US EPA, was included in the dispersion modeling. A network of receptors was placed with sufficient resolution to identify the maximum impacted receptor. The receptor grid consists of two-tiered receptor grids. The first tier is a 1000-meter by 1000-meter grid with a grid spacing of 50 meters. Tier 2 is a 2000-meter by 2000-meter grid with a grid spacing of 100 meters. A total of 877 receptors were modeled. Figure 2 presents the modeled receptor locations.

Figure 2. Modeled Receptor Location



## **Meteorological Data**

Meteorological data is required as part of the dispersion modeling to characterize the transport and dispersion of pollutants in the atmosphere. At the direction of the IL EPA, dispersion modeling was performed using a 5-year data set (2014 – 2018) from Argonne National Laboratory, which is located approximately 5 miles southwest of the facility. Upper air data, which is only collected at certain weather stations, was obtained from Davenport Municipal Airport (WBAN 94-982). The meteorological data was developed by the US EPA and provided by IL EPA. It is representative of meteorological conditions experienced at the facility.

## **Modeling Results**

As presented in **Table 2**, the air dispersion modeling analysis generated maximum five-year average ethylene oxide concentrations due to the anticipated operations for the proposed improvement project. The maximum predicted impact that occurred over all at modeled receptors occurs at a location approximately 300 meters to the northeast of the stack. AERMOD input files and output files are included in **Appendix B**.

Table 2. Maximum Modeled Five-Year Average Ethylene Oxide Concentration Based on the Proposed Improvement Project

	UTM X (m)	UTM Y (m)	Max. Five-Year Avg. Modeled Concentration (μg/m³)	
Locations of Maximum Concentration	422017.1	4622523.1	0.00100	
	421967.1	4622473.1		