



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

July 21, 2010

Ms. Donna Gurule
Environmental Health & Safety Officer
Loma Linda University
25027 Mound Street
Loma Linda, CA 92354

SUBJECT: Title V Facility Permit Revision (Facility ID: 800234)

Dear Ms. Gurule:

Please find attached the revised Title Page, Table of Contents, and Section H of your Title V Facility Permit. The revised sections reflect the approval of the permit revision requested in Application Nos. 507981 and 510122. The proposed permit revision was submitted to EPA for 45-day review on June 2, 2010. This permit revision includes the addition of an ethylene oxide sterilizer and ethylene oxide abatement system as follows:

Equipment	Application No.	Permit No.	Permit Type
Ethylene oxide sterilizer	507981	na	P/C
Ethylene oxide abatement system	510122	na	P/C

Please review the attached sections carefully. Insert the enclosed sections into your Title V Facility Permit and discard the earlier versions. Questions concerning changes to your permit should be directed to Mr. Marcel Saulis at (909) 396-3093.

Sincerely,

Brian L. Yeh
Senior Manager
General Commercial & Energy Team

BLY:AL:approval
Attachment

cc: Gerardo Rios, EPA Region IX



SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 Copley Drive, Diamond Bar, CA 91765

Title Page	
Facility ID:	800234
Revision #:	1
Date:	July 21, 2010

FACILITY PERMIT TO OPERATE

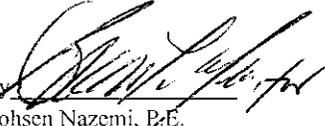
**LOMA LINDA UNIV
10935 PARKLAND AVE
LOMA LINDA, CA 92350**

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By 
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance



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21865 Copley Drive, Diamond Bar, CA 91765

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SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE



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PERMIT TO CONSTRUCT

A/N 507981

Equipment Description:

ETHYLENE OXIDE GAS STERILIZER/AERATOR, STERIS MODEL 3017, 1'-8" W. X 2'-8" L. X 1'-8" H. (INTERNAL DIMENSIONS), ELECTRICALLY HEATED CHAMBER, WATER INJECTION SYSTEM AND ELECTRICALLY HEATED VAPORIZER, WITH A 3 HP AIR COMPRESSOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
3. THIS EQUIPMENT SHALL NOT OPERATE UNLESS IT IS VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS BEEN ISSUED A PERMIT TO CONSTRUCT BY THE EXECUTIVE OFFICER.
[RULE 1405, RULE 1401, 17 CCR § 93108]
4. THE ETHYLENE OXIDE USAGE FOR THE STERILIZER SHALL NOT EXCEED 30 CARTRIDGES (EQUIVALENT TO 3,000 GRAMS OF ETHYLENE OXIDE) PER CALENDAR MONTH.
[RULE 1303(a) – BACT, RULE 1401, RULE 1405, 17 CCR § 93108]
5. THE OWNER OR OPERATOR SHALL MAINTAIN RECORDS FOR THE FOLLOWING:
 - A. DOCUMENTATION AND RESULTS OF THE LEAK TESTS,
 - B. THE NUMBER OF STERILIZER CYCLES AND THE AMOUNT OF ETHYLENE OXIDE USED PER CYCLE FOR THE STERILIZER EACH DAY. THE AMOUNT USED SHALL BE TOTALED FOR EACH MONTH.

RECORDS SHALL BE KEPT FOR A PERIOD OF FIVE YEARS AND SHALL BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.
[RULE 1405, 17 CCR § 93108]

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Periodic Monitoring:

6. THE OWNER OR OPERATOR SHALL CONDUCT LEAK TESTS IN ACCORDANCE WITH ARB TEST METHOD 21 USING A PORTABLE FLAME IONIZATION DETECTOR OR A NON-DISPERSIVE INFRARED ANALYZER CALIBRATED WITH METHANE. THE MONITORING EQUIPMENT SHALL BE CALIBRATED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE MAXIMUM STERILANT GAS FLOW SHALL BE 10 PPM AS MEASURED ONE CENTIMETER AWAY FROM ANY PORTION OF THE EXHAUST SYSTEM AND ETHYLENE OXIDE SUPPLY SYSTEM INCLUDING, BUT NOT LIMITED TO, ANY PIPING, DUCTING, FITTINGS, VALVES, OR FLANGES, THROUGH WHICH ETHYLENE OXIDE-CONTAMINATED AIR IS CONVEYED BETWEEN THE STERILIZER, AERATOR AND CONTROL DEVICE. LEAK TESTS SHALL BE CONDUCTED EVERY SIX MONTHS DURING CONDITIONS OF MAXIMUM STERILANT GAS MASS FLOW.
[RULE 1405, 17 CCR § 93108]

Emissions And Requirements:

7. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

ETHYLENE OXIDE: RULE 1405, SEE RULE FOR EMISSION LIMIT
ETHYLENE OXIDE: 17 CCR § 93108, SEE RULE FOR EMISSION LIMIT

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PERMIT TO CONSTRUCT

A/N 510122

Equipment Description:

AIR POLLUTION CONTROL SYSTEM CONSISTING OF:

- A. ETHYLENE OXIDE ABATEMENT SYSTEM, ADVANCED AIR TECHNOLOGIES, MODEL SAFE CELL II DR-50, 2'-8" D. X 2'-2" H.
- B. NON-REGENERATIVE REACTANT MEDIA, 3 CU. FT., 165 LBS.
- C. INDUCED DRAFT EXHAUST FAN, 1 H.P., VENTING ONE ETHYLENE OXIDE STERILIZER/AERATOR.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.
[RULE 204]
2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]
3. THE CONTROL SYSTEM SHALL HAVE A MINIMUM CONTROL EFFICIENCY OF 99% FOR ETHYLENE OXIDE DURING THE STERIZATION PROCESS OR SHALL NOT EXCEED 0.2 PPM-ETHYLENE OXIDE AT THE OUTLET. THE OVERALL MINIMUM CONTROL EFFICIENCY SHALL BE 98.8% FOR BOTH THE STERILIZATION AND THE AERATION PROCESSES.
[RULE 1405, 17 CCR § 93108]
4. THE OWNER OR OPERATOR SHALL REMOVE AND REPLACE THE SPENT REACTANT MEDIA WITH FRESH REACTANT MEDIA AFTER EVERY 205 STERILIZATION AND AERATION CYCLES (EQUIVALENT TO 20,500 GRAMS OF ETHYLENE OXIDE OR 205 CARTRIDGES).
5. THE OWNER OR OPERATOR SHALL MAINTAIN RECORDS FOR THE FOLLOWING:
 - A. DOCUMENTATION AND RESULTS OF THE LEAK TESTS,
 - B. THE NUMBER OF STERILIZER CYCLES AND THE AMOUNT OF ETHYLENE OXIDE USED PER CYCLE FOR THE STERILIZER EACH DAY. THE AMOUNT USED SHALL BE TOTALED FOR EACH MONTH.
 - C. DOCUMENTATION OF REACTANT MEDIA REPLACEMENT.

RECORDS SHALL BE KEPT FOR A PERIOD OF FIVE YEARS AND SHALL BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

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[RULE 1405, 17 CCR § 93108]

6. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL SOURCE TEST, AND ANNUALLY THEREAFTER, ON THE CONTROL EQUIPMENT TO DEMONSTRATE COMPLIANCE WITH CONDITION NO. 3, UNDER THE FOLLOWING CONDITIONS:
 - A. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO THE DISTRICT ENGINEER IDENTIFIED ON THE PERMIT TO CONSTRUCT NO LATER THAN 30 DAYS BEFORE THE PROPOSED TEST DATE AND SHALL BE APPROVED BY THE DISTRICT BEFORE THE TEST COMMENCES.
 - B. THE SOURCE TEST SHALL DETERMINE CONTROL EFFICIENCY FOR THE STERILIZATION AND AERATION PHASES IN ACCORDANCE WITH ARB TEST METHOD 431. THE TEST SHALL BE RUN UNDER CONDITIONS OF MAXIMUM ETHYLENE OXIDE MASS FLOW TO THE DEVICE, UNDER NORMAL OPERATING CONDITIONS.
 - C. THE INLET AND OUTLET OF THE CONTROL DEVICE SHALL BE SAMPLED SIMULTANEOUSLY.
 - D. TO MEASURE THE CONTROL EFFICIENCY OF THE CONTROL DEVICE ON THE STERILIZER EXHAUST STREAM, SAMPLING SHALL BE DONE DURING THE ENTIRE DURATION OF THE FIRST STERILIZER EVACUATION AFTER ETHYLENE OXIDE HAS BEEN INTRODUCED.
 - E. TO MEASURE THE CONTROL EFFICIENCY OF THE CONTROL DEVICE ON THE AERATOR EXHAUST STREAM, SAMPLING SHALL BE DONE DURING A PERIOD OF AT LEAST 60 MINUTES, STARTING 15 MINUTES AFTER AERATION BEGINS.
 - F. THE SOURCE TEST SHALL DETERMINE THE FOLLOWING:
 1. THE ETHYLENE CONCENTRATION IN PPMV AND MASS EMISSION RATE IN POUNDS PER HOUR AT THE INLET AND OUTLET OF THE CONTROL DEVICE;
 2. FLOW RATES, AND
 3. ETHYLENE OXIDE USAGE RATES.
 - G. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD IN THE REQUIRED TEST METHODS FOR CRITERIA POLLUTANT TO BE MEASURED, AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THE TEST.

7. THE TEST SHALL BE CONDUCTED WITHIN 60 DAYS OF INITIAL OPERATION AND A WRITTEN TEST REPORT SHALL BE SUBMITTED TO THE DISTRICT WITHIN 30 DAYS OF COMPLETION OF THE TEST. TWO COMPLETE COPIES OF SOURCE TEST REPORTS SHALL BE SUBMITTED TO THE DISTRICT (ADDRESSED TO SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT, ATTN: MARCEL SAULIS, PO BOX 4941, DIAMOND BAR, CA 91765-4178,) WITHIN 45 DAYS AFTER THE TEST.



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8. THE DISTRICT ENGINEER IDENTIFIED ON THE PERMIT TO CONSTRUCT SHALL BE NOTIFIED OF THE DATE AND TIME OF THE TEST AT LEAST 10 DAYS PRIOR TO THE TEST, OR WITHIN A TIMEFRAME AGREED UPON BY THE DISTRICT ENGINEER.
9. SAMPLING FACILITIES SHALL COMPLY WITH THE DISTRICT GUIDELINES FOR CONSTRUCTION OF SAMPLING AND TESTING FACILITIES, PURSUANT TO RULE 217.

Periodic Monitoring:

10. THE OWNER OR OPERATOR SHALL CONDUCT LEAK TESTS IN ACCORDANCE WITH ARB TEST METHOD 21 USING A PORTABLE FLAME IONIZATION DETECTOR OR A NON-DISPERSIVE INFRARED ANALYZER CALIBRATED WITH METHANE. THE MONITORING EQUIPMENT SHALL BE CALIBRATED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE MAXIMUM STERILANT GAS FLOW SHALL BE 10 PPM AS MEASURED ONE CENTIMETER AWAY FROM ANY PORTION OF THE EXHAUST SYSTEM AND ETHYLENE OXIDE SUPPLY SYSTEM INCLUDING, BUT NOT LIMITED TO, ANY PIPING, DUCTING, FITTINGS, VALVES, OR FLANGES, THROUGH WHICH ETHYLENE OXIDE-CONTAMINATED AIR IS CONVEYED BETWEEN THE STERILIZER, AERATOR AND CONTROL DEVICE. LEAK TESTS SHALL BE CONDUCTED EVERY SIX MONTHS DURING CONDITIONS OF MAXIMUM STERILANT GAS MASS FLOW.
[RULE 1405, 17 CCR § 93108]

Emissions And Requirements:

11. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:

ETHYLENE OXIDE: RULE 1405, SEE RULE FOR EMISSION LIMIT
ETHYLENE OXIDE: 17 CCR § 93108, SEE RULE FOR EMISSION LIMIT