tyco
Healthcare

United States Surgical

United States Surgical
195 Mc Dermott Road
North Haven, CT 06473

Tele: 203 492 5000
www.ussurg.com

July 1, 2011

Central Permit Processing Unit
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

**Re: Permit Application for Stationary Sources of Air Pollution**
**United States Surgical, Division of Tyco Healthcare Group LP**

Dear Sir/Madam:

Enclosed please find a *Permit Application for Stationary Sources of Air Pollution* and a *Permit Application Transmittal Form* for the United States Surgical, Division of Tyco Healthcare Group LP facility located at 195 McDermott Road in North Haven. A check in the amount of $3,760 for the applicable individual permit application fee will be mailed directly to the Department in a separate correspondence.

If you have any questions or require any additional information please contact me at (203) 492-6254.

Sincerely,

Steven Burke
Principal Environmental, Health and Safety Engineer

Enclosure

## Burke, Steven

**From:** TrackingUpdates@fedex.com
**Sent:** Tuesday, July 05, 2011 9:58 AM
**To:** Burke, Steven
**Subject:** FedEx Shipment 912084842168 Delivered

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This tracking update has been requested by:

Company Name: COVIDIEN
Name: OFFICE SERVICES
E-mail: 'not provided by requestor'

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Our records indicate that the following shipment has been delivered:

| | |
|---|---|
| Purchase order number: | STEVEN.BURKE |
| Reference: | 310255 |
| Ship (P/U) date: | Jul 1, 2011 |
| Delivery date: | Jul 5, 2011 9:55 AM |
| Sign for by: | M.FERRARI |
| Delivery location: | WINDSOR LOCKS, CT |
| Delivered to: | Shipping/Receiving |
| Service type: | FedEx Express Saver |
| Packaging type: | FedEx Envelope |
| Number of pieces: | 1 |
| Weight: | 0.50 lb. |
| Special handling/Services: | Deliver Weekday |

Tracking number: 912084842168

| Shipper Information | Recipient Information |
|---|---|
| OFFICE SERVICES | CENTRAL PERMIT PROCESSING UNIT |
| COVIDIEN | CT. DEPT. OF ENVIRON. PROTECTION |
| 60 MIDDLE TOWN AVE. | 79 ELM STREET |
| NORTH HAVEN | BUREAU OF WATER MANAGEMENT |
| CT | HARTFORD |
| US | CT |
| 06473 | US |
| | 06106 |

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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Central Permit Processing Unit
79 Elm Street
Hartford, CT 06106-5127

| CPPU USE ONLY |
|---|
| App #: |
| Doc #: |
| Check #: |

# Permit Application Transmittal Form

*Please complete this transmittal form in accordance with the instructions in order to ensure the proper handling of your application(s) and the associated fee(s). Print legibly or type.*

## Part I: Applicant Information:

- **If an applicant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of State. If applicable, applicant's name shall be stated **exactly** as it is registered with the Secretary of State.*
- *If an applicant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).*

Applicant: **United States Surgical, Division of Tyco Healthcare Group LP**

Mailing Address: **195 McDermott Road**

City/Town: **North Haven** State: **CT** Zip Code: **06473**

Business Phone: **203 492-7188** ext.: Fax: **203 492-6289**

Contact Person: **William Richardson** Phone: **203 492-7188** ext.

E-Mail: **bill.richardson@covidien.com**

Applicant (check one): ☐ individual ☒ *company ☐ federal gov't ☐ state agency ☐ municipality

*If a company, list company type (e.g., corporation, limited partnership, etc.): **Limited Partnership**

☐ Check if any co-applicants. If so, attach additional sheet(s) with the required information as supplied above.

Please provide the following information to be used for *billing purposes only*, if different:

Company/Individual Name:

Mailing Address:

City/Town: State: Zip Code:

Contact Person: Phone: ext.

## Part II: Project Information

Brief Description of Project: *(Example: Development of a 50 slip marina on Long Island Sound)*
**Installation and operation of four sterilizers**

Location (City/Town): **North Haven**

Other Project Related Permits (*not* included with this form):

| Permit Description | Issuing Authority | Submittal Date | Issuance Date | Denial Date | Permit # |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |

## Part III: Individual Permit Application and Fee Information

| New, Mod. or Renew | Individual Permit Applications | Initial Fees | No. of Permits Applied For | Total Initial Fees | Original + Required Copies |
|---|---|---|---|---|---|
| | AIR EMISSIONS | | | | |
| N | New Source Review | $940.00 | 4 | $3,760 | 1 + 0 |
| | Title V Operating Permits | none | | | 1 + 0 |
| | Title IV | none | | | 1 + 0 |
| | Clean Air Interstate Rule (CAIR) | none | | | 1 + 0 |
| | WATER DISCHARGES | | | | |
| | To Groundwater | $1300.00 | | | 1 + 1 |
| | To Sanitary Sewer (POTW) | $1300.00 | | | 1 + 1 |
| | To Surface Water (NPDES) | $1300.00 | | | 1 + 2 |
| | INLAND WATER RESOURCES-multiple permits 1 + 6 total copies | | | | |
| | Dam Construction | none | | | 1 + 2 |
| | Flood Management Certification | none | | | 1 + 1 |
| | Inland 401 Water Quality Certification | none | | | 1 + 5 |
| | Inland Wetlands and Watercourses | none | | | |
| | Stream Channel Encroachment Lines | ★ | | | |
| | Water Diversion | ★ | | | 1 + 5 |
| | OFFICE OF LONG ISLAND SOUND PROGRAMS | | | | |
| | Certificate of Permission | $375.00 | | | 1 + 3 |
| | Coastal 401 Water Quality Certification | none | | | 1 + 3 |
| | Structures and Dredging/Tidal Wetlands | $660.00 | | | 1 + 3 |
| | WASTE MANAGEMENT | | | | |
| | Aerial Pesticide Application | ★ | | | 1 + 2 |
| | Aquatic Pesticide Application | $200.00 | | | 1 + 0 |
| | CGS Section 22a-454 Waste Facilities | ★ | | | 1 + 1 |
| | Hazardous Waste Treatment, Storage and Disposal Facilities | ★ | | | 1 + 1 |
| | Marine Terminal License | $125.00 | | | 1 + 0 |
| | Stewardship | $4000.00 | | | 1 + 1 |
| | Solid Waste Facilities | ★ | | | 1 + 1 |
| | Waste Transportation | ★ | | | 1 + 0 |
| | | Subtotal ➡ | 4 | $3,760 | |
| | GENERAL PERMITS and AUTHORIZATIONS Subtotals Page 3 ➡ | | 0 | 0 | |
| | Enter subtotals from Part IV, pages 3 & 4 & 5 of this form Subtotals Page 4 ➡ | | 0 | 0 | |
| | Subtotals Page 5 ➡ | | 0 | 0 | |
| | TOTAL ➡ | | 4 | $3,760 | |
| | ☐ Indicate whether municipal discount or state waiver applies. Less Applicable Discount ➡ | | | | |
| | AMOUNT REMITTED ➡ | | | $3,760 | |

Check # ➡ _____ Check or money order should be made payable to: "Department of Environmental Protection"

★ See fee schedule on individual application.

## Part IV: General Permit Registrations and Requests for Other Authorizations Application and Fee Information

| ✓ | General Permits and Other Authorizations | Initial Fees | No. of Permits Applied For | Total Initial Fees | Original + Required Copies |
|---|---|---|---|---|---|
| | AIR EMISSIONS | | | | |
| ☐ | Limit Potential to Emit from Major Stationary Sources of Air Pollution | $2760.00 | | | 1 + 0 |
| ☐ | Ionizing Radiation Registration | $200.00 | | | 1 + 0 |
| ☐ | Emergency/Temporary Authorization | ★★ | | | ★★ |
| ☐ | Other, (please specify): | | | | |
| | WATER DISCHARGES | | | | |
| ☐ | Domestic Sewage | $500.00 | | | 1 + 0 |
| ☐ | Food Processing Wastewater | $500.00 | | | 1 + 0 |
| ☐ | Groundwater Remediation Wastewater to a Sanitary Sewer | $500.00 | | | 1 + 0 |
| ☐<br>☐ | Groundwater Remediation Wastewater to a Surface Water<br>Registration Only<br>Approval of Registration by DEP | <br>$625.00<br>$1250.00 | | | 1 + 0 |
| ☐<br>☐ | Hydrostatic Pressure Testing Wastewater<br>Registration Only<br>Approval of Registration by DEP (natural gas pipelines) | <br>$625.00<br>$1250.00 | | | 1 + 0 |
| ☐<br>☐ | Miscellaneous Discharges of Sewer Compatible Wastewater<br>Flow < 5,000 gpd and fire sprinkler system testwater<br>Flow > 5,000 gpd | <br>$500.00<br>$1000.00 | | | 1 + 1 |
| ☐ | Non-Contact Cooling and Heat Pump Water (Minor) | $625.00 | | | 1 + 1 |
| ☐ | Photographic Processing Wastewater (Minor) | $100.00 | | | 1 + 0 |
| ☐ | Printing & Publishing Wastewater (Minor)<br>Flow < 40 gpd | $500.00<br>$100.00 | | | 1 + 0 |
| ☐ | Stormwater Associated with Commercial Activities | $500.00 | | | 1 + 0 |
| ☐ | Stormwater Associated with Industrial Activities | $500.00 | | | 1 + 0 |
| ☐<br>☐ | Stormwater & Dewatering Wastewaters-Construction Activities<br>5 – 10 acres<br>> 10 acres | <br>$625.00<br>$1250.00 | | | 1 + 0 |
| ☐ | Stormwater from Small Municipal Separate Storm Sewer Systems (MS4) | $250.00 | | | 1 + 0 |
| ☐ | Swimming Pool Wastewater - Public Pools and Contractors | $500.00 | | | 1 + 0 |
| ☐ | Tumbling or Cleaning of Parts Wastewater (Minor) | $1000.00 | | | 1 + 1 |
| ☐<br>☐ | Vehicle Maintenance Wastewater<br>Registration Only<br>Approval of Registration by DEP | <br>$625.00<br>$1250.00 | | | 1 + 0 |
| ☐ | Water Treatment Wastewater | $625.00 | | | 1 + 0 |
| ☐ | Emergency/Temporary Authorization - Discharge to POTW | $1500.00 | | | 1 + 0 |
| ☐ | Emergency/Temporary Authorization - Discharge to Surface Water | $1500.00 | | | 1 + 0 |
| ☐ | Emergency/Temporary Authorization - Discharge to Groundwater | $1500.00 | | | 1 + 0 |
| ☐ | Other, (please specify): | | | | |
| | Note: Carry subtotals over to Part III, page 2 of this form. | Subtotal ➡ | 0 | 0 | |

★★ Contact the specific permit program for this information (Contact numbers are provided in the instructions).

## Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

| ✓ | General Permits and Other Authorizations | Initial Fees | No. of Permits Applied For | Total Initial Fee | Original + Required Copies |
|---|---|---|---|---|---|
| | AQUIFER PROTECTION PROGRAM | | | | |
| ☐ | Registration for Regulated Activities | $625.00 | | | 1 + 0 |
| ☐ | Permit Application to Add a Regulated Activity | $1250.00 | | | 1 + 0 |
| ☐ | Exemption Application from Registration | $1250.00 | | | 1 + 0 |
| | INLAND WATER RESOURCES | | | | |
| ☐ | Dam Safety Repair and Alteration | $1000.00 | | | 1 + 2 |
| ☐ | Diversion of Water for Consumptive Use: Reauthorization Categories | $1000.00 | | | 1 + 2 |
| ☐ | Diversion of Water for Consumptive Use: Authorization Required | $2500.00 | | | 1 + 5 |
| ☐ | Diversion of Water for Consumptive Use: Filing Only | $1500.00 | | | 1 + 4 |
| ☐ | Habitat Conservation | $1000.00 | | | 1 + 2 |
| ☐ | Lake, Pond and Basin Dredging | $1000.00 | | | 1 + 2 |
| ☐ | Minor Grading | $1000.00 | | | 1 + 2 |
| ☐ | Minor Structures | $1000.00 | | | 1 + 2 |
| ☐ | Utilities and Drainage | $1000.00 | | | 1 + 2 |
| ☐ | Emergency/Temporary Authorization | ★★ | | | ★★ |
| ☐ | Other, (please specify): | | | | |
| | OFFICE OF LONG ISLAND SOUND PROGRAMS | | | | |
| ☐ | 4/40 Docks | $700.00 | | | 1 + 1 |
| ☐ | Beach Grading | $100.00 | | | 1 + 1 |
| ☐ | Coastal Remedial Activities Required by Order | $700.00 | | | 1 + 1 |
| ☐ | Marina and Mooring Field Reconfiguration | $700.00 | | | 1 + 1 |
| ☐ | Non-harbor Moorings | $100.00 | | | 1 + 1 |
| ☐ | Osprey Platforms and Perch Poles | none | | | 1 + 1 |
| ☐ | Pump-out Facilities (no fee for Clean Vessel Act grant recipients) | $100.00 | | | 1 + 1 |
| ☐ | Removal of Derelict Structures | $100.00 | | | 1 + 1 |
| ☐ | Residential Flood Hazard Mitigation | $100.00 | | | 1 + 1 |
| ☐ | Swim Floats | $100.00 | | | 1 + 1 |
| ☐ | Emergency/Temporary Authorization | ★★ | | | ★★ |
| ☐ | Other, (please specify): | | | | |
| | Note: Carry subtotals over to Part III, page 2 of this form. Subtotal | | 0 | 0 | |

★ See fee schedule on registration/application. ★★ Contact the specific permit program for this information.

## Part IV: General Permit Registrations and Requests for Other Authorizations (continued)

| ✓ | General Permits and Other Authorizations | Initial Fees | No. of Permits Applied For | Total Initial Fee | Original + Required Copies |
|---|---|---|---|---|---|
| | WASTE MANAGEMENT | | | | |
| ☐ | Addition of Grass Clippings at Registered Leaf Composting Facilities | $500.00 | | | 1 + 0 |
| ☐ | Asbestos Disposal Authorization | $300.00 | | | 1 + 0 |
| | Certain Recycling Facilities | | | | |
| ☐ | Drop-site Recycling Facility | $200.00 | | | 1 + 0 |
| ☐ | Limited Processing Recycling Facility | $500.00 | | | 1 + 0 |
| ☐ | Recyclables Transfer Facility | $500.00 | | | 1 + 0 |
| ☐ | Single Item Recycling Facility | $500.00 | | | 1 + 0 |
| | Contaminated Soil and/or Staging Management (Staging/Transfer) | | | | |
| ☐ | Registration Only | $250.00 | | | 1 + 0 |
| ☐ | Approval of Registration by DEP | $1500.00 | | | 1 + 0 |
| ☐ | Connecticut Solid Waste Demonstration Project | $1000.00 | | | 1 + 0 |
| ☐ | Disassembling Used Electronics | $400.00 | | | 1 + 0 |
| ☐ | Leaf Composting Facility | none | | | 1 + 1 |
| ☐ | Municipal Transfer Station | $800.00 | | | 1 + 1 |
| ☐ | One Day Collection of Certain Wastes and Household Hazardous Waste | $1000.00 | | | 1 + 0 |
| ☐ | Special Waste Authorization | $660.00 | | | 1 + 0 |
| ☐ | Storage and Distribution of Two (2) Inch Nominal Tire Chip Aggregate | $500.00 | | | 1 + 0 |
| ☐ | Storage and Processing of Asphalt Roofing Shingle Waste and/or Storage and Distribution of Ground Asphalt Aggregate | ★ | | | 1 + 0 |
| ☐ | Storage and Processing of Scrap Tires for Beneficial Use | $1000.00 | | | 1 + 0 |
| ☐ | Emergency/Temporary Authorization | ★★ | | | ★★ |
| ☐ | Other, (please specify): | | | | |
| | REMEDIATION | | | | |
| ☐ | In Situ Groundwater Remediation: Enhance Aerobic Biodegradation | ★ | | | 1 + 2 |
| | Note: Carry subtotals over to Part III, page 2 of this form. Subtotal ➡ | | 0 | 0 | |

★See fee schedule on registration/application. ★★Contact the specific permit program for this information.

In conformance with the ADA, individuals with disabilities who need information in an alternative format to allow them to benefit and/or participate in the agency's programs and services, should call 860-424-3051 or 860-418-5937, or e-mail Marcia Z. Bonitto, ADA Coordinator at Marcia.Bonitto@ct.gov.

# Permit Application for Stationary Sources of Air Pollution

(CGS Section 22a-174, RCSA Sections 22a-174-1, 2a and 3a)

Complete this form in accordance with the permit application instructions (DEP-AIR-INST-200). Print legibly or type.

## Part I: Contact Information

1. **Name of the applicant(s) as indicated on the *Permit Application Transmittal Form* (DEP-APP-001).**

   Applicant: **United States Surgical, Division of Tyco Healthcare Group LP**

   Applicant is ☐ Owner ☒ Operator (check all that apply) of this equipment.

   ☐ Check if there are co-applicants. If so, attach additional sheet(s) with the required information as above.

2. **Primary contact for departmental correspondence and inquiries.**

   Contact Person: **William Richardson** Title: **Plant EHS Manager**

   Company/Individual Name: **United States Surgical, Division of Tyco Healthcare Group LP**

   Mailing Address: **195 McDermott Road**

   City/Town: **North Haven** State: **CT** Zip Code: **06473**

   Business Phone: **203 492-7188** ext. Fax: **203 492-6289**

   Email: **bill.richardson@covidien.com**

3. **Equipment owner or operator, if different than the applicant.**

   Contact Person: **David Senft** Title: **Senior Director EHS**

   Company/Individual Name: **United States Surgical Corporation**

   Mailing Address: **555 Long Wharf Drive**

   City/Town: **New Haven** State: **CT** Zip Code: **06511**

   Business Phone: **203 492-8219** ext. Fax: **203 492-8226**

   Email: **dave.senft@covidien.com**

4. **Preparer of this application.**

   Contact Person: **Raymond F. Yarmac, P.E.** Title: **Principal Consulting Engineer**

   Company/Individual Name: **SCI-TECH, Inc.**

   Mailing Address: **185 Silas Deane Highway**

   City/Town: **Wethersfield** State: **CT** Zip Code: **06109**

   Business Phone: **860 218-6393** ext. Fax: **860 257-3530**

   Email: **ryarmac@sci-techinc.com**

## Part II: Premises Information

1. FACILITY NAME AND LOCATION

Name of facility: **United States Surgical, Division of Tyco Healthcare Group LP**

Street Address or Description of Location: **195 McDermott Road**

City/Town: **North Haven** State: **CT** Zip Code: **06473**

2. **INDIAN LANDS:** Is or will the premises be located on federally recognized Indian lands? ☐ Yes ☒ No

3. **COASTAL AREA:** Is or will the premises be located in a municipality within the coastal area? (check town list in the instructions) ☒ Yes ☐ No

If yes, you must submit a *Coastal Consistency Review Form* (DEP-APP-004) with your application as Attachment L.

4. **ENDANGERED OR THREATENED SPECIES:** Is the project site located within an area identified as a habitat for endangered, threatened or special concern species as identified on the "State and Federal Listed Species and Natural Communities Map"? ☐ Yes ☒ No Date of Map: **December 2010**

If yes, complete and submit a *Connecticut Natural Diversity Data Base* (CT NDDB) *Review Request Form* (DEP-APP-007) to the address specified on the form. **Please note NDDB review generally takes 4 to 6 weeks and may require additional documentation from the applicant. DEP strongly recommends that applicants complete this process before submitting the subject application.**

When submitting this application form, include copies of any correspondence to and from the NDDB, including copies of the completed *CT NDDB Review Request Form*, as Attachment M.

For more information visit the DEP website at www.ct.gov/dep/endangeredspecies (Review/Data Requests) or call the NDDB at 860-424-3011.

5. **CONSERVATION OR PRESERVATION RESTRICTION:** Is the premises subject to a conservation or preservation restriction? ☐ Yes ☒ No

If Yes, proof of written notice of this application to the holder of such restriction or a letter from the holder of such restriction verifying that this application is in compliance with the terms of the restriction, must be submitted as Attachment N.

6. **ENVIRONMENTAL JUSTICE COMMUNITY:** Does the site include an applicable facility which is located within an Environmental Justice Community, as defined in the Environmental Justice Public Participation Guidelines (Guidelines) www.ct.gov/dep/environmentaljustice? ☐ Yes ☒ No

If yes and this application is for a new or expanded permit, you must prepare an Environmental Justice Public Participation Plan (DEP-EJ-PLAN-001) in accordance with the Guidelines and submit such plan to:

Environmental Justice Program
Office of the Commissioner
Department of Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

***prior*** to submitting this application. Once you have received written approval for your Environmental Justice Public Participation Plan from the DEP, submit this completed application with a copy of the Plan approval as Attachment O.

7. Indicate the air quality status of the area in which the premises is or will be located.
(Check all that apply. See instructions for the air quality attainment status of Connecticut municipalities).

Ozone: ☐ Severe Non-Attainment ☒ Serious Non-Attainment

$PM_{2.5}$: ☒ Non-Attainment

8. Indicate the pollutant(s) for which the premises exceeds the major stationary source threshold.

☐ PM ☐ $SO_2$ ☐ NOx ☐ CO ☐ VOC ☐ Pb ☐ HAPs

9. SIC Codes:
Primary **3841** Secondary Other **NAICS 339112** Other

## Part III: Application and Source Type

More than one permit may be applied for using just one application if the sources are located at the same premises. *Each* unit or process line requires a separate permit. Duplicate this page as necessary.

| Unit No. | Source Type | App. Type (N, R, M) | If Renewal or Modification/Revision, Indicate Existing Permit/Registration No. | DEP Use Only | |
|---|---|---|---|---|---|
| | | | | Application No. | Permit No. |
| S-7 | Mfg or Processing | N | | | |
| S-8 | Mfg or Processing | N | | | |
| S-9 | Mfg or Processing | N | | | |
| S-10 | Mfg or Processing | N | | | |
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## Part IV: Supporting Documents

Check **all applicable** attachments that have been submitted with this Permit Application Form. When submitting any supporting documents, label the documents as indicated in this Part (e.g., Attachment A, etc.) and include the applicant's name as indicated on the *Permit Application Transmittal Form*.

- ☒ Attachment A: *Executive Summary* (DEP-AIR-APP-222)
- ☒ Attachment B: *Applicant Background Information* (DEP-APP-008)
- ☒ Attachment C: An 8 ½" X 11" copy of the Site Plan
- ☒ Attachment D: An 8 ½" X 11" copy of the relevant portion of a USGS Quadrangle Map indicating the exact location of the facility or site.
- ☒ Attachment E: Supplemental Application Forms

  For each activity to be permitted, attach a detailed process flow diagram indicating, at a minimum, all materials and quantities entering and leaving, all units, air pollution control equipment and stacks, as applicable.

  - ☒ *Manufacturing or Processing Operations* (DEP-AIR-APP-201)
  - ☐ *Fuel Burning Equipment* (DEP-AIR-APP-202
  - ☐ *Incinerators* (DEP-AIR-APP-203): Attach documentation of waste heat contents and waste analysis.
  - ☐ *Volatile Liquid Storage* (DEP-AIR-APP-204): Attach the MSDS for each product stored.
  - ☐ *Surface Coating or Printing Operations* (DEP-AIR-APP-205): Attach the MSDS for each coating, ink, thinner, catalyst, cleanup solvent, or other compound, and documentation to support transfer efficiency of spray applicators, if applicable.
  - ☐ *Metal Cleaning Degreasers* (DEP-AIR-APP-207): Attach the MSDS for each solvent used.
  - ☐ *Concrete, Asphalt Concrete, Mineral Processing and other Similar Equipment* (DEP-AIR-APP-208)
  - ☐ *Site Remediation Equipment* (DEP-AIR-APP-209): Attach documentation, such as pilot test data, which characterizes the site's degree of contamination.
  - ☒ *Air Pollution Control Equipment* (DEP-AIR-APP-210)
  - ☒ *Stack Parameters* (DEP-AIR-APP-211)
  - ☒ *Unit Emissions* (DEP-AIR-APP-212): Attach all calculations by which emissions were determined.
- ☐ Attachment F: *Major Modification Determination Form* (DEP-AIR-APP-213)
- ☒ Attachment G: *BACT/LAER Determination Form* (DEP-AIR-APP-214)
- ☒ Attachment H: Operation and Maintenance Plan
- ☐ Attachment I: Ambient Air Quality Analysis
- ☒ Attachment J: *Applicant Compliance Information* (DEP-APP-002)

## Part IV: Supporting Documents (continued)

| | | |
|---|---|---|
| ☐ | Attachment K: | For renewals or modification/revisions attach a marked up copy of the original NSR permit noting proposed changes. |
| ☒ | Attachment L: | *Coastal Consistency Review Form* (DEP-APP-004), if applicable. |
| ☐ | Attachment M: | *CT NDDB Review Request Form* (DEP-APP-007) and additional documentation, if applicable. |
| ☐ | Attachment N: | Conservation or Preservation Restriction Information, if applicable |
| ☐ | Attachment O: | Copy of the Written Environmental Justice Public Participation Plan Approval Letter, if applicable. (Also, a final report documenting the implementation of the Environmental Justice Public Participation Plan is to be prepared and submitted before the Department issues a Notice of Tentative Determination.) |

## Part V: Applicant Certification

The authorized representative and the individual(s) responsible for actually preparing the application must sign this part. An application will be considered incomplete unless all required signatures are provided.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute.

I certify that this application is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I certify that I will comply with all notice requirements as listed in section 22a-6g of the General Statutes."

| | |
|---|---|
| William Richardson | 6/30/11 |
| Signature of Applicant | Date |
| William Richardson | Plant EHS Manager |
| Name of Applicant (print or type) | Title (if applicable) |
| Ray Yar | 6/29/2011 |
| Signature of Preparer (if different than above) | Date |
| Raymond F. Yarmac | Principal Consulting Engineer |
| Name of Preparer (print or type) | Title (if applicable) |

Note: Submit the Permit Application Transmittal Form, Application Form, an initial fee of $940.00 for *each* permit that you are applying for, and all Supporting Documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

**Remember to publish notice of the permit application immediately after submitting your completed application to DEP. Also send a copy of the notice to the chief elected official of the municipality in which the regulated activity is proposed.**

# Attachment A: Executive Summary

Applicant Name as indicated on the *Permit Application Transmittal Form* (DEP-APP-001):

**United States Surgical, Division of Tyco Healthcare Group LP**

Location of Facility or Activity: **195 McDermott Road, North Haven, CT 06473**

Contact Person: **William Richardson** Phone: **203-492-7188**

For Renewals, Modifications, and Revisions provide the following:

Existing Permit or Registration #: Expiration Date: / /

Provide a Table of Contents of the application which includes the *Permit Application Transmittal Form* (DEP-APP-001), the Permit Application Form (DEP-AIR-APP-100 or 200), and a list of all supplemental application forms, plans, drawings, reports, studies, or other supporting documentation which are attached as part of the application, along with the corresponding attachment label and the number of pages (e.g., Executive Summary - Attachment A - 4 pgs.).

**Table of Contents**


**Permit Application Transmittal Form - DEP-APP-001 - 5 pgs.**
**Permit Application Form - DEP-AIR-APP-200 - 5 pgs.**
**Attachment A - Executive Summary - DEP-AIR-APP-222 - 2 pgs.**
**Attachment B - Applicant Background Information - 6 pgs.**
**Attachment C - Site Plans & Process Schematic – 3 pgs.**
**Attachment D - Topographic Map – 1 pg.**
**Attachment E - Supplemental Permit Application Forms**
**E-1 Manufacturing or Processing Operations - DEP-APP-205 - 8 pgs plus attached tables**
**E-2 Air Pollution Control Equipment – DEP-APP-210 - 7 pgs plus attached information**
**E-3 Stack Parameters - DEP-AIR-APP-211 – 1 pg.**
**E-4 Unit Emissions - DEP-AIR-APP-212 - 4 pgs. plus attached tables**
**Attachment G - BACT Determination Forms - DEP AIR-APP-214 – 16 pgs**
**Attachment H - Operation and Maintenance Plan – 1 pg**
**Attachment J - Applicant Compliance Information - DEP-APP-002 - 2 pgs.**
**Attachment L - Coastal Consistency Review Form – DEP-APP-004 – 5 pgs**


(OVER)

## Attachment A: Executive Summary (continued)

Provide a brief project description which includes: a description of the proposed regulated activities; a synopsis of the environmental and engineering analyses; summaries of data analysis; a conclusion of any environmental impacts and the proposed timeline for construction. For renewals, modifications, and revisions, provide a list of changes in circumstances or information on which the previous permit was based.

PROJECT DESCRIPTION

**United States Surgical, Division of Tyco Healthcare Group LP hereby submits a New Source Review Permit application for the installation and operation of four new sterilization systems with a common air pollution control device. The proposed systems are intended to replace similar existing sterilization equipment at the facility. The proposed equipment will have lower ethylene oxide emissions than the existing sterilizers and no HCFC-124 diluent emissions. The proposed allowable pollutant emissions are as follows.**

| Pollutant | Proposed Allowable Emissions (tons/year) |
|---|---|
| $PM_{10}$ | 0.044 |
| $PM_{2.5}$ | 0.044 |
| SOx | 0.003 |
| NOx | 0.582 |
| CO | 0.488 |
| VOC | 0.032 |
| Pb | 0.000 |
| Ethylene Oxide | 0.213 |
| HCFC-124 | 0.000 |

**The emission calculations are included in Attachment E of this application. The calculations indicate that the hazardous air pollution emissions from the process will be significantly less than the maximum allowable stack concentrations.**

☐ If additional sheets are necessary, please label and attach them to this sheet and enter a check mark.

# Attachment B Applicant Background Information

Please enter a check mark by the entity which best describes the applicant and complete the requested information. **You must choose one of the following.**

☐ **Corporation**

1. Parent Corporation
   Name: **N/A**
   Mailing Address:
   City/Town: State: Zip Code: -
   Business Phone: - - ext. Fax: - -
   Contact Person: Title:

2. Subsidiary Corporation:
   Name:
   Mailing Address:
   City/Town: State: Zip Code: -
   Business Phone: - - ext. Fax: - -
   Contact Person: Title:

3. Directors:
   Name:
   Mailing Address:
   City/Town: State: Zip Code: -
   Business Phone: - - ext. Fax: - -

   Name:
   Mailing Address:
   City/Town: State: Zip Code: -
   Business Phone: - - ext. Fax: - -

   ☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

4. Officers:
   Name:
   Mailing Address:
   City/Town: State: Zip Code: -
   Business Phone: - - ext. Fax: - -

   ☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

## Applicant Background Information (continued)

☐ **Limited Liability Company**

1. List each member.

Name: N/A
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

2. List any manager(s) who, through the articles of organization, are vested the management of the business, property and affairs of the limited liability company.

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

## Applicant Background Information (continued)

☒ **Limited Partnership**

1. General Partners:

Name: **SWD Holding Inc. I**

Mailing Address: **273 Corporate Drive, Suite 100**

City/Town: **Portsmouth** State: **NH** Zip Code: **03801-**

Business Phone: **203-492-8219** ext. Fax: **203-492-8226**

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

2. Limited Partners:

Name: **Please see the attached list**

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

Name:

Mailing Address:

City/Town: State: Zip Code: -

Business Phone: - - ext. Fax: - -

☒ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

## Applicant Background Information (continued)

☐ **General Partnership**

1. General Partners:

Name: N/A
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

## Applicant Background Information (continued)

☐ **Voluntary Association**

1. List authorized persons of association or list all members of association.

Name: N/A
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

Name:
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

☐ **Individual or Other Business Type**

1. Name: N/A
Mailing Address:
City/Town: State: Zip Code: -
Business Phone: - - ext. Fax: - -

2. State other names by which the applicant is known, including business names.
Name:

☐ Please enter a check mark, if additional sheets are necessary. If so, label and attach additional sheet(s) to this sheet with the required information as supplied above.

## Attachment B: Applicant Background Information
## United States Surgical, Division of Tyco Healthcare Group LP

**2. Limited Partners (con't):**

United States Surgical Corporation, 555 Long Wharf Drive, Suite 7 N-S, New Haven, CT 06511
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Covidien Inc., 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Valleylab Holding Corporation, 5920 Long Bow Drive, Boulder, CO 80301
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Nellcor Puritan Bennett LLC, 675 McDonnell Boulevard, St. Louis, Missouri 63042
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Life Design Systems, Inc., 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Liebel-Flarsheim Company, 675 McDonnell Boulevard, St. Louis, Missouri 63042
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Mallinckrodt Inc. (Delaware), 675 McDonnell Boulevard, St. Louis, Missouri 63042
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

InnerDyne, Inc., 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Ludlow Company LP, The 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

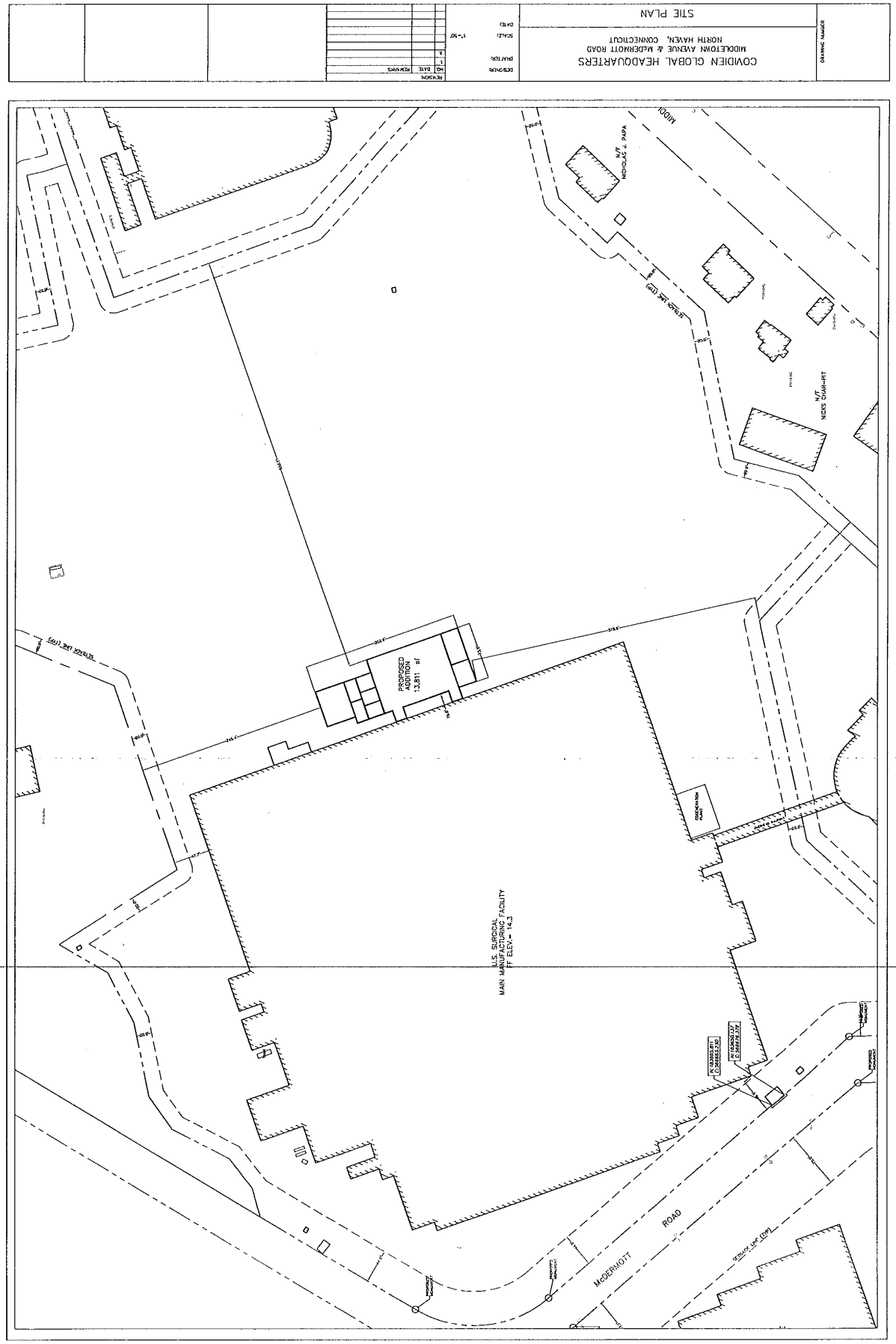
Ludlow Technical Products Corporation, 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Sherwood Medical Company I, 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

Lafayette Pharmaceuticals, Incorporated, 675 McDonnell Boulevard, St. Louis, Missouri 63042
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

VNUS Medical Technologies II, Inc., 15 Hampshire Street, Mansfield, MA 02048
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226

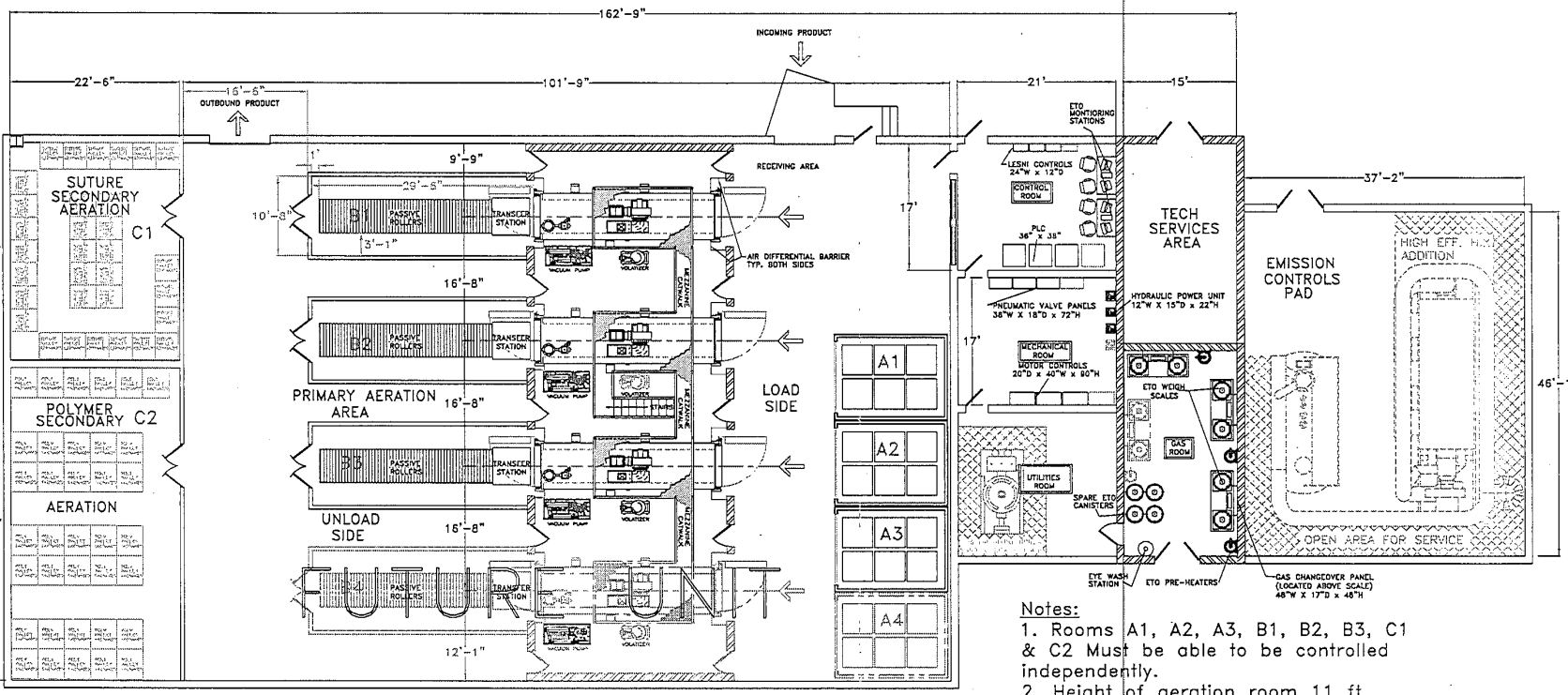
Ev3, Inc., 3033 Campus Drive, Plymouth, Minnesota 55441
Business Phone: (203) 492-8219 Business Fax: (203) 492-8226


COVIDIEN GLOBAL HEADQUARTERS
MIDDLETOWN AVENUE & McDERMOTT ROAD
NORTH HAVEN, CONNECTICUT
STIE PLAN
DRAWING NUMBER
DESIGNER
DRAFTER
SCALE
DATE
REVISION
NO
DATE
REMARKS
N/F
NICHOLAS J. PAPA
N/F
NICKS CHAR-PIT
PROPOSED
ADDITION
13,811 sf
U.S. SURGICAL
MAIN MANUFACTURING FACILITY
FF ELEV.= 14.3
McDERMOTT
ROAD

ATTACHMENT C

SITE PLANS
&
PROCESS FLOW SCHEMATIC

# PRELIMINARY




Notes:
1. Rooms A1, A2, A3, B1, B2, B3, C1 & C2 Must be able to be controlled independently.
2. Height of aeration room 11 ft. min.

C – Secondary Aeration:
Poly 87–93°F / 16–24% RH
Suture 105–115°F / 9–13% RH

B – Primary Aeration:
95–105°F / No RH Control

A – Pre-Condition:
Mech 95–115°F / 40–60% RH
Suture 67–77°F / 40–60% RH

# PRELIMINARY

| REVISIONS | | | | |
|---|---|---|---|---|
| ECN | REV | DESCRIPTION | DATE | APPROVED |
| — | A | ADDED ETO CHAMBER | | |

FMA6102

An ISO 9001 Certified Company

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THE INFORMATION CONTAINED HEREON IS PROPRIETARY AND CONFIDENTIAL, AND MAY NOT BE COPIED OR DISCLOSED TO A THIRD PARTY WITHOUT WRITTEN AUTHORIZATION FROM ENVIRONMENTAL TECTONICS CORPORATION.

| APPLICATION | |
|---|---|
| NEXT ASSY | USED ON |
| N/A | N/A |

MATERIAL: N/A

INTERPRET DRAWING IAW ML-STD-100
TOLERANCES SHALL NOT BE CUMULATIVE
UNLESS SPECIFIED, DIMENSIONS ARE INCHES
FRACTIONS ±1/16 DECIMALS .XX ±.02 .XXX ±.005 ANGLES ±1°
DIMENSIONS ARE IN MILLIMETERS
DECIMALS X ±1.6 .X ±.5 .XX ±.13 ANGLES ±.0175 RAD
FINISH: N/A
ALL MACHINED SURFACES 125√ UNLESS OTHERWISE SPECIFIED. REMOVE ALL BURRS. BREAK SHARP EDGES .005-.015

ENVIRONMENTAL TECTONICS CORP. COUNTY LINE INDUSTRIAL PARK SOUTHAMPTON, PA 18966

| | | |
|---|---|---|
| DRAFTSMAN: | | 1/28/11 |
| CHECKED BY: | | 1/28/11 |
| APPROVED BY: | | 1/28/11 |
| QUALITY ASSURANCE: | | |
| CONTRACT NO.: SALES | | |
| ITEM NO.: SALES | | |

ENVIRONMENTAL TECTONICS CORPORATION

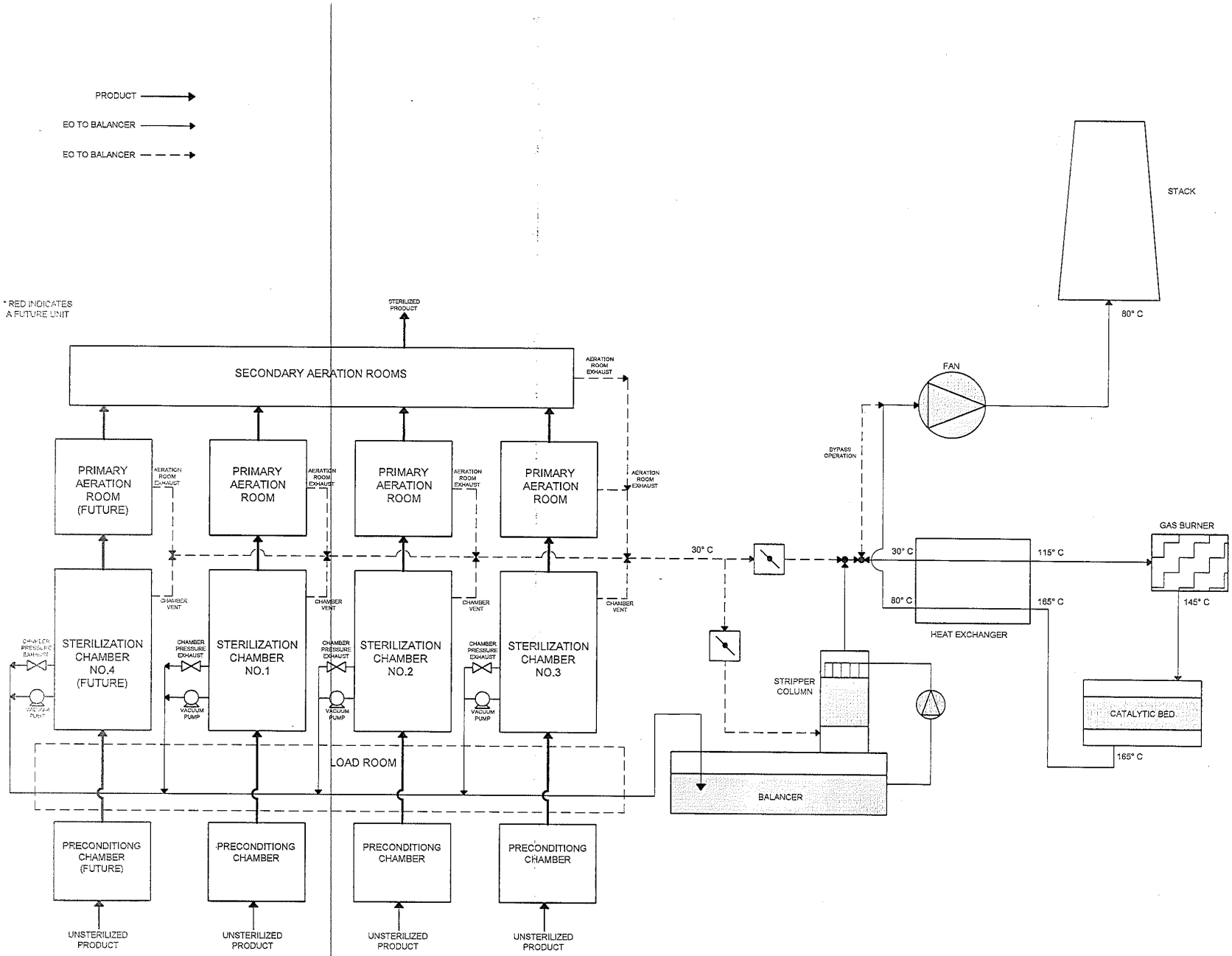
TITLE: ETO CHAMBER ARRG'T. 54" X 84" X 276", DD, ROLER LOCK 724.5 CU. FT.

| SIZE | CAGE NO. | DWG. NO. | REV. |
|---|---|---|---|
| D | 33714 | 134-445 | A |

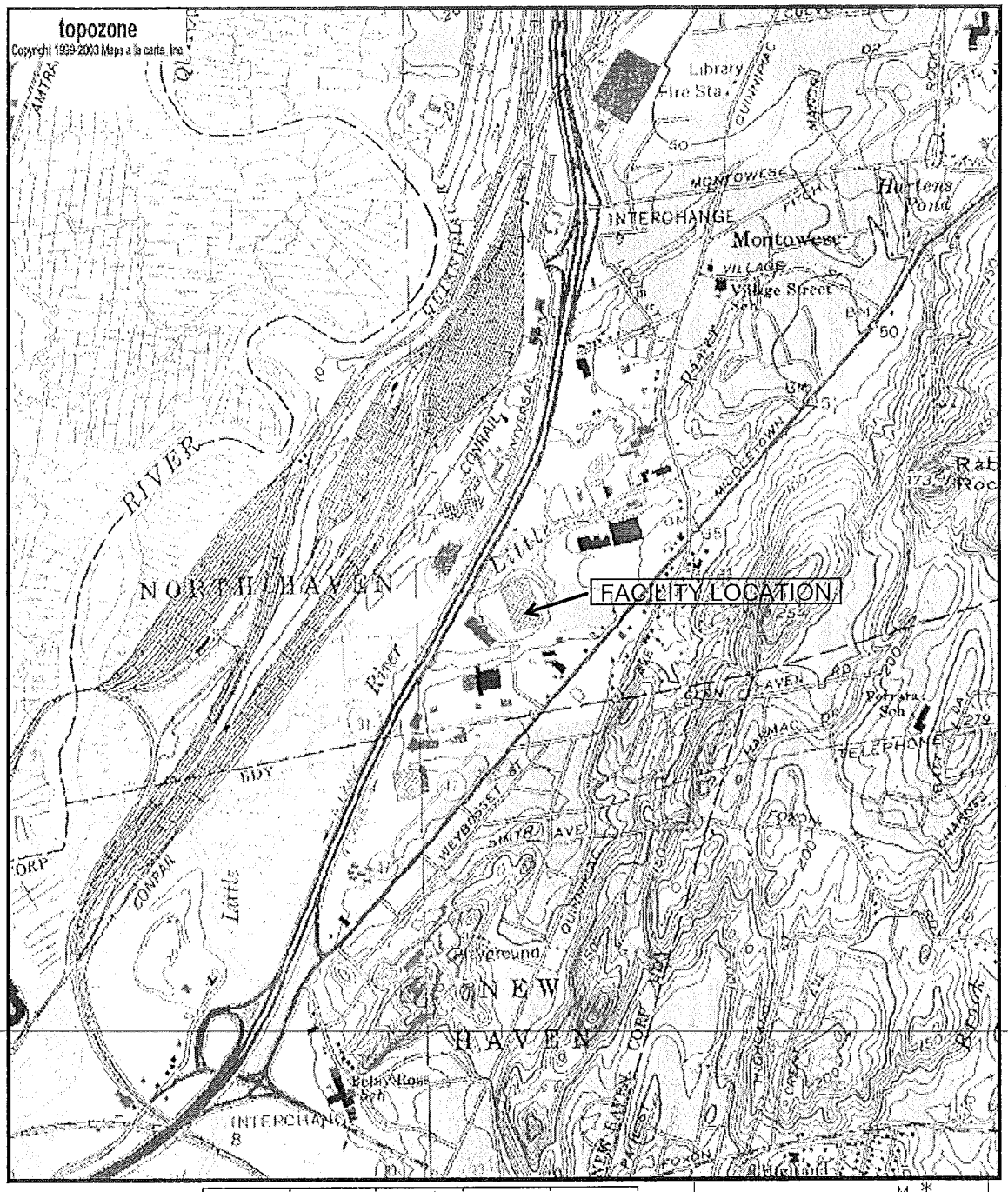
SCALE: 1:160 CAD FILE NO.: 134445 SHEET 1 OF 1

134-4445 A

Covidien_North Haven_2011_PermitApp_NonCBI - 000023


PRODUCT
EO TO BALANCER
EO TO BALANCER
* RED INDICATES A FUTURE UNIT
STERILIZED PRODUCT
SECONDARY AERATION ROOMS
AERATION ROOM EXHAUST
PRIMARY AERATION ROOM (FUTURE)
PRIMARY AERATION ROOM
PRIMARY AERATION ROOM
PRIMARY AERATION ROOM
CHAMBER VENT
STERILIZATION CHAMBER NO.4 (FUTURE)
STERILIZATION CHAMBER NO.1
STERILIZATION CHAMBER NO.2
STERILIZATION CHAMBER NO.3
CHAMBER PRESSURE EXHAUST
VACUUM PUMP
LOAD ROOM
PRECONDITIONG CHAMBER (FUTURE)
PRECONDITIONG CHAMBER
PRECONDITIONG CHAMBER
PRECONDITIONG CHAMBER
UNSTERILIZED PRODUCT
UNSTERILIZED PRODUCT
UNSTERILIZED PRODUCT
UNSTERILIZED PRODUCT
30° C
BYPASS OPERATION
FAN
STACK
80° C
30° C
115° C
80° C
165° C
HEAT EXCHANGER
GAS BURNER
145° C
STRIPPER COLUMN
CATALYTIC BED
165° C
BALANCER

ATTACHMENT D




0 0.3 0.6 0.9 1.2 1.5 km

0 0.2 0.4 0.6 0.8 1 mi

M *
G

M=-14.286
G=1.407

Map center is 41° 20' 19"N, 72° 52' 15"W (WGS84/NAD83)
**Branford** quadrangle
Projection is UTM Zone 18 NAD83 Datum

# Attachment E-1 Supplemental Application Form
## Manufacturing or Processing Operations

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*
Please complete a separate form for each distinct process line. Reproduce this form as necessary.

| DEP USE ONLY |
|---|
| App. No.: |
| EPE No.: |

Process Line No.(Unit No.): **S-7** Process Description: **Sterilizer System**

Is this unit subject to Title 40 CFR Part 60, NSPS? ☐ Yes or ☒ No

If yes, indicate the subpart(s):

Is this unit subject to Title 40 CFR Part 63, MACT? ☒ Yes or ☐ No

If yes, indicate the subpart(s): **Subpart O**

| Subunit No. (1) | Make & Model (2) | Unit Function (3) | C or B (4) | Hrs/Batch Batches/Day (5) | Percent of Production Per Annual Quarter (6) | | | | Maximum Operating Schedule (7) | Construction Date (8) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1st | 2nd | 3rd | 4th | | |
| S-7 | ETC Sterilization Chamber 724 cf | Sterilization | B | 4 batches/day | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| PAR7 | Primary Aeration Room 3488 cf | Primary aeration room for S-7 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| POLSAR | Secondary Aeration Room | Common polymer secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| SUTSAR | Secondary Aeration Room | Common suture secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |

| Subunit No. (1) | Raw Materials Used (9a) | Maximum Quantity Input of Each Raw Material (9b) | List of Products (10) | Quantity Output (Specify Units) | |
|---|---|---|---|---|---|
| | | | | Maximum Hourly (11a) | Maximum Annual (11b) |
| S-7 | Medical Devices<br>Ethylene Oxide<br>Nitrogen<br>Steam | Medical Devices<br>50 lb Ethylene Oxide/batch<br>100 lb Nitrogen/batch<br>2 lb Steam/batch | Sterilized Medical Devices | Variable Depending Upon Devices Sterilized | Variable Depending Upon Devices Sterilized |
| PAR7 | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| POLSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| SUTSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |



Covidien_North Haven_2011_PermitApp_NonCBI - 000026

*Complete this page **only** if the fuel burning source is **not** currently permitted and the fuel burning source does **not** meet the requirements indicated in the Fuel Burning Equipment form (DEP-AIR-APP-202), i.e., the primary purpose of the fuel burning source is **not** for heat or power generation.*

| Subunit No. (1) | Fuel Type for Process Heat (12) | Rated Burner Capacity (13) | Fuel Composition | | | Fuel Usage Rates | |
|---|---|---|---|---|---|---|---|
| | | | % Sulfur (14a) | % Nitrogen (14b) | % Ash (14c) | Maximum Hourly (15a) | Maximum Annual (15b) |
| E-401<br><br>common control device for S-7, S-8, S-9 & S-10 | Natural Gas<br>See DEP-Air-App-210 for oxidizer information | 1.365 MMBtu/hr (400 kW) | NA | NA | NA | 1,328 scf/hr | 11.63 MMscf/yr |
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Covidien_North Haven_2011_PermitApp_NonCBI - 000027

# Attachment E-1 Supplemental Application Form
## Manufacturing or Processing Operations

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*
Please complete a separate form for each distinct process line. Reproduce this form as necessary.

| DEP USE ONLY |
|---|
| App. No.: |
| EPE No.: |

Process Line No.(Unit No.): **S-8** Process Description: **Sterilizer System**

Is this unit subject to Title 40 CFR Part 60, NSPS? ☐ Yes or ☒ No

If yes, indicate the subpart(s):

Is this unit subject to Title 40 CFR Part 63, MACT? ☒ Yes or ☐ No

If yes, indicate the subpart(s): **Subpart O**

| Subunit No. (1) | Make & Model (2) | Unit Function (3) | C or B (4) | Hrs/Batch Batches/Day (5) | Percent of Production Per Annual Quarter (6) | | | | Maximum Operating Schedule (7) | Construction Date (8) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1st | 2nd | 3rd | 4th | | |
| S-8 | ETC Sterilization Chamber 724 cf | Sterilization | B | 4 batches/day | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| PAR8 | Primary Aeration Room 3488 cf | Primary aeration room for S-8 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| POLSAR | Secondary Aeration Room | Common polymer secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| SUTSAR | Secondary Aeration Room | Common suture secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |

| Subunit No. (1) | Raw Materials Used (9a) | Maximum Quantity Input of Each Raw Material (9b) | List of Products (10) | Quantity Output (Specify Units) | |
|---|---|---|---|---|---|
| | | | | Maximum Hourly (11a) | Maximum Annual (11b) |
| S-8 | Medical Devices<br>Ethylene Oxide<br>Nitrogen<br>Steam | Medical Devices<br>50 lb Ethylene Oxide/batch<br>100 lb Nitrogen/batch<br>2 lb Steam/batch | Sterilized Medical Devices | Variable Depending Upon Devices Sterilized | Variable Depending Upon Devices Sterilized |
| PAR8 | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| POLSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| SUTSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |



Covidien_North Haven_2011_PermitApp_NonCBI - 000028

*Complete this page **only** if the fuel burning source is **not** currently permitted and the fuel burning source does **not** meet the requirements indicated in the Fuel Burning Equipment form (DEP-AIR-APP-202), i.e., the primary purpose of the fuel burning source is **not** for heat or power generation.*

| Subunit No. (1) | Fuel Type for Process Heat (12) | Rated Burner Capacity (13) | Fuel Composition | | | Fuel Usage Rates | |
|---|---|---|---|---|---|---|---|
| | | | % Sulfur (14a) | % Nitrogen (14b) | % Ash (14c) | Maximum Hourly (15a) | Maximum Annual (15b) |
| E-401<br>common control device for S-7, S-8, S-9 & S-10 | Natural Gas<br>See DEP-Air-App-210 for oxidizer information | 1.365 MMBtu/hr (400 kW) | NA | NA | NA | 1,328 scf/hr | 11.63 MMscf/yr |
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Covidien_North Haven_2011_PermitApp_NonCBI - 000029

# Attachment E-1 Supplemental Application Form
## Manufacturing or Processing Operations

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*
Please complete a separate form for each distinct process line. Reproduce this form as necessary.

DEP USE ONLY
App. No.: _____
EPE No.: _____

Process Line No.(Unit No.): **S-9** Process Description: **Sterilizer System**

Is this unit subject to Title 40 CFR Part 60, NSPS? ☐ Yes or ☒ No

If yes, indicate the subpart(s):

Is this unit subject to Title 40 CFR Part 63, MACT? ☒ Yes or ☐ No

If yes, indicate the subpart(s): **Subpart O**

| Subunit No. (1) | Make & Model (2) | Unit Function (3) | C or B (4) | Hrs/Batch Batches/Day (5) | Percent of Production Per Annual Quarter (6) | | | | Maximum Operating Schedule (7) | Construction Date (8) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1st | 2nd | 3rd | 4th | | |
| S-9 | ETC Sterilization Chamber 724 cf | Sterilization | B | 4 batches/day | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| PAR9 | Primary Aeration Room 3488 cf | Primary aeration room for S-9 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| POLSAR | Secondary Aeration Room | Common polymer secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| SUTSAR | Secondary Aeration Room | Common suture secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |

| Subunit No. (1) | Raw Materials Used (9a) | Maximum Quantity Input of Each Raw Material (9b) | List of Products (10) | Quantity Output (Specify Units) | |
|---|---|---|---|---|---|
| | | | | Maximum Hourly (11a) | Maximum Annual (11b) |
| S-9 | Medical Devices<br>Ethylene Oxide<br>Nitrogen<br>Steam | Medical Devices<br>50 lb Ethylene Oxide/batch<br>100 lb Nitrogen/batch<br>2 lb Steam/batch | Sterilized Medical Devices | Variable Depending Upon Devices Sterilized | Variable Depending Upon Devices Sterilized |
| PAR9 | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| POLSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| SUTSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |



Covidien_North Haven_2011_PermitApp_NonCBI - 000030

*Complete this page **only** if the fuel burning source is **not** currently permitted and the fuel burning source does **not** meet the requirements indicated in the Fuel Burning Equipment form (DEP-AIR-APP-202), i.e., the primary purpose of the fuel burning source is **not** for heat or power generation.*

| Subunit No. (1) | Fuel Type for Process Heat (12) | Rated Burner Capacity (13) | Fuel Composition | | | Fuel Usage Rates | |
|---|---|---|---|---|---|---|---|
| | | | % Sulfur (14a) | % Nitrogen (14b) | % Ash (14c) | Maximum Hourly (15a) | Maximum Annual (15b) |
| E-401<br>common control device for S-7, S-8, S-9 & S-10 | Natural Gas<br>See DEP-Air-App-210 for oxidizer information | 1.365 MMBtu/hr (400 kW) | NA | NA | NA | 1,328 scf/hr | 11.63 MMscf/yr |
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Covidien_North Haven_2011_PermitApp_NonCBI - 000031

# Attachment E-1 Supplemental Application Form
## Manufacturing or Processing Operations

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*
Please complete a separate form for each distinct process line. Reproduce this form as necessary.

DEP USE ONLY
App. No.: _____
EPE No.: _____

Process Line No.(Unit No.): **S-10** Process Description: **Sterilizer System**

Is this unit subject to Title 40 CFR Part 60, NSPS? ☐ Yes or ☒ No

If yes, indicate the subpart(s):

Is this unit subject to Title 40 CFR Part 63, MACT? ☒ Yes or ☐ No

If yes, indicate the subpart(s): **Subpart O**

| Subunit No. (1) | Make & Model (2) | Unit Function (3) | C or B (4) | Hrs/Batch Batches/Day (5) | Percent of Production Per Annual Quarter (6) | | | | Maximum Operating Schedule (7) | Construction Date (8) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1st | 2nd | 3rd | 4th | | |
| S-10 | ETC Sterilization Chamber 724 cf | Sterilization | B | 4 batches/day | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| PAR10 | Primary Aeration Room 3488 cf | Primary aeration room for S-10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| POLSAR | Secondary Aeration Room | Common polymer secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |
| SUTSAR | Secondary Aeration Room | Common suture secondary aeration room for S-7 thru 10 | B | Variable | 25 | 25 | 25 | 25 | 8760 hr/yr | 03/01/2012 |

| Subunit No. (1) | Raw Materials Used (9a) | Maximum Quantity Input of Each Raw Material (9b) | List of Products (10) | Quantity Output (Specify Units) | |
|---|---|---|---|---|---|
| | | | | Maximum Hourly (11a) | Maximum Annual (11b) |
| S-10 | Medical Devices<br>Ethylene Oxide<br>Nitrogen<br>Steam | Medical Devices<br>50 lb Ethylene Oxide/batch<br>100 lb Nitrogen/batch<br>2 lb Steam/batch | Sterilized Medical Devices | Variable Depending Upon Devices Sterilized | Variable Depending Upon Devices Sterilized |
| PAR10 | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| POLSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |
| SUTSAR | Traces of the above | Traces of the above | Sterilized Medical Devices | Variable | Variable |



Covidien_North Haven_2011_PermitApp_NonCBI - 000032

*Complete this page **only** if the fuel burning source is **not** currently permitted and the fuel burning source does **not** meet the requirements indicated in the Fuel Burning Equipment form (DEP-AIR-APP-202), i.e., the primary purpose of the fuel burning source is **not** for heat or power generation.*

| Subunit No. (1) | Fuel Type for Process Heat (12) | Rated Burner Capacity (13) | Fuel Composition | | | Fuel Usage Rates | |
|---|---|---|---|---|---|---|---|
| | | | % Sulfur (14a) | % Nitrogen (14b) | % Ash (14c) | Maximum Hourly (15a) | Maximum Annual (15b) |
| E-401<br>common control device for S-7, S-8, S-9 & S-10 | Natural Gas<br>See DEP-Air-App-210 for oxidizer information | 1.365 MMBtu/hr (400 kW) | NA | NA | NA | 1,328 scf/hr | 11.63 MMscf/yr |
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Covidien_North Haven_2011_PermitApp_NonCBI - 000033

# Attachment E-2 Supplemental Application Form
# Air Pollution Control Equipment

| DEP USE ONLY |
|---|
| App. No.: |
| EPE No.: |

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on *Permit Application Transmittal Form)*

## Section I. Summary Sheet (Make additional copies, if necessary)

| Unit Number (1) | Unit Description (2) | Control Equipment | | Overall Control Efficiency % (5) | Pollutants Controlled (6) | *Basis (7) | Stack No. (8) |
|---|---|---|---|---|---|---|---|
| | | No. (3) | Type (4) | | | | |
| S-7 | ETC Sterilizer 1 | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| PAR7 | S-7 Primary Aeration Room | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| S-8 | ETC Sterilizer 2 | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| PAR8 | S-8 Primary Aeration Room | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| S-9 | ETC Sterilizer 3 | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| PAR9 | S-9 Primary Aeration Room | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| S-10 | ETC Sterilizer 4 | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| PAR10 | S-10 Primary Aeration Room | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| POLSAR | Polymer Secondary Aeration Room | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |
| SUTSAR | Suture Secondary Aeration Room | E-401 | Catalytic Oxidizer | 99.9% or 1 PPM | Ethylene Oxide | Mfg Guarantee | E-401 |

**Note: The catalytic oxidizer is equipped with a balancer to equalize the incoming variation in ethylene oxide concentration.**

** Attach supporting documentation with this form, e.g., stack test data, manufacturer's guarantee, etc.*



Covidien_North Haven_2011_PermitApp_NonCBI - 000034

## Section II: Specific Control Equipment

(Complete the appropriate subsection for each *distinct* piece of control equipment you utilize. You may reproduce the pages of the form as necessary.)

*Adsorption Device*

1a. Designated Reference Number of Adsorption Unit:

1b. Designated Reference Number of Unit which uses Adsorber:

2. Manufacturer:

3. Model Name & Number:

4. Construction Date: / /

5. Adsorbent:

☐ Activated Charcoal Type:

☐ Other (specify):

6. Number of Beds:

7. Dimensions of Bed

Bed No.1

Thickness in direction of gas flow(inches): Cross-section area (sq. inches):

Bed No.2

Thickness in direction of gas flow(inches): Cross-section area (sq. inches):

Bed No.3

Thickness in direction of gas flow(inches): Cross-section area (sq. inches):

8. Inlet Gas Temperature: °F or °C

9. Design Pressure Drop Across Unit: inches $H_2O$

10. Type of Regeneration

☐ Replacement ☐ Steam ☐ Other (specify):

11. Method of Regeneration

☐ Alternate use of beds ☐ Source shut down ☐ Other (specify):

Describe procedures used to ensure that emissions from regeneration process are treated or minimized:

12. Maximum Operation Time Before Regeneration:

13. Is adsorber equipped with a break-through detector? ☐ Yes ☐ No

14. a) Control Efficiency(s) of Adsorber (%):

b) Collection Efficiency(s) of Adsorber (%):

15. Pollutant(s) Controlled:



Covidien_North Haven_2011_PermitApp_NonCBI - 000035

*Afterburner (Incinerator for Air Pollution Control)*

1a. Designated Reference Number of Afterburner: **E-401 Oxidizer**

1b. Designated Reference Number of Unit which uses Afterburner: **S-7 thru 10, PAR7-10, POLSAR, SUTSAR**

2. Manufacturer: **LESNI A/S**

3. Model Name & Serial Number: **CAP 12000 with Ethylene Oxide Balancer which is described below as *"Other Type of Control Equipment"***

4. Construction Date: **03/01/2012**

5. Type of Afterburner: ☐ Thermal ☒ Catalytic ☐ Other (specify):

6. Combustion Chamber Dimensions

   Length (inches): **Skid = 30 ft** Cross-section area (sq. inches): **Skid 12 x 20 ft**

7. Inlet Gas Temperature: °F or **115 °C at Burner Inlet**

8. Operating Temperature of Chamber: °F *or* **145 °C at Catalyst Inlet**

9. Type of Auxiliary Fuel: **Natural Gas** Higher Heating Value: **1028 Btu/scf**

10. a)% Sulfur: **NA** b)% Ash: **NA** c)% Nitrogen: **NA**

11. Maximum Auxiliary Fuel Usage (specify units): a) Hourly: **NA**

    b) Annually: **NA**

12. Number of Burners Per Afterburner: **1**

    Burner No. 1 @: **1.365 MM** BTU per hour **(400 kw)**

    Burner No. 2 @: BTU per hour

    Burner No. 3 @: BTU per hour

13. Catalyst Used: ☒ Yes ☐ No

    Type of Catalyst: **Metal Oxide Low Temperature Catalyst**

14. Catalyst Sampling Interval: **Once per year**

15. Heat Exchanger Used: ☒ Yes ☐ No

    Type of Heat Exchanger: **Recuperative Shell & Tube**

    Heat Recovery: **65-70%**

16. ~~Gas Flow Rate (scfm): 7,100~~

17. Combustion Chamber Design Residence Time (seconds): **0.5**

18. Moisture Content of Exhaust Gas (%): **variable**

19. a) Control Efficiency of Afterburner (%): **99.9% or 1 PPM (combined control of balancer and oxidizer)**

    b) Collection Efficiency of Afterburner (%): **100%**

20. Pollutant(s) Controlled: **Ethylene Oxide**

*Condenser*

1a. Designated Reference Number of Condenser Unit:
1b. Designated Reference Number of Unit which uses Condenser:
2. Manufacturer:
3. Model Name & Number:
4. Construction Date: / /
5. Heat Exchange Area (sq. ft.):
6. Coolant Flow Rate: ☐ Water: gpm ☐ Air: scfm (at 68° F)
☐ Other (specify) : Type: Flow Rate:
7. Gas Flow Rate: scfm (at 68° F)
8. Coolant Temperature (°F): In: Out:
9. Gas Temperature (°F): In: Out:
10. a) Control Efficiency(s) of Condenser:
b) Collection Efficiency(s) of Condenser (%):
11. Pollutant(s) Controlled:

*Electrostatic Precipitator*

1a. Designated Reference Number of Electrostatic Precipitator:
1b. Designated Reference Number of Unit which uses Electrostatic Precipitator:
2. Manufacturer:
3. Model Name & Serial Number:
4. Construction Date: / /
5. Collecting Electrode Area (sq ft):
6. Gas Flow Rate (scfm):
7. Voltage Across the Precipitator Plates (kv):
8. Resistivity of Pollutants (ohms):
9. Number of Fields in the Precipitator:
10. Grain Loading (grains/scf @ 68° F): a) Inlet: b) Outlet:
11. a) Control Efficiency(s) of Electrostatic Precipitator (%):
b) Collection Efficiency(s) of Electrostatic Precipitator (%):
12. Pollutant(s) Controlled:

*Filter*

1a. Designated Reference Number of Filter:
1b. Designated Reference Number of Unit which uses Filter:
2. Manufacturer:
3. Model Name & Serial Number:
4. Construction Date: / /
5. Filtering Material:
6. Air to Cloth Ratio (sq ft):
7. Cleaning Method: ☐ Shaker ☐ Reverse Air ☐ Pulse Air
☐ Pulse Jet ☐ Other (specify):
8. Gas Cooling Method: ☐ Ductwork Length (ft): Diameter (inches):
☐ Heat Exchanger ☐ Bleed-in Air ☐ Water Spray ☐ Other (specify):
9. Gas Flow Rate (from source): scfm (at 68□ F)
10. Cooling Gas Flow Rate
Bleed-in Air: scfm (at 68□ F) Water Spray: gpm
11. Inlet Gas Condition Temperature (□F): Dew Point (□F):
12. Grain Loading (grains/scf @ 68° F): a) Inlet: b) Outlet:
13. Design Pressure Drop Across Unit (inches $H_2O$):
14. a) Control Efficiency of Filter (%):
b) Collection Efficiency of Filter (%):
15. Pollutant(s) Controlled:

*Cyclone*

1a. Designated Reference Number of Cyclone:
1b. Designated Reference Number of Unit which uses Cyclone:
2. Manufacturer:
3. Model Name & Serial Number:
4. Construction Date: / /
5. Type of Cyclone: ☐ Single ☐ Multiple
6. Number of Cyclones in Multiple Cyclone:
7. Gas Flow Rate: scfm (at 68° F)
8. Grain Loading (grains/SCF @ 68° F): a) Inlet: b) Outlet:
9. Design Pressure Drop Across Unit (inches $H_2O$):
10. a) Control Efficiency of Cyclone (%):
b) Collection Efficiency of Cyclone (%):
11. Pollutant(s) Controlled:

*Scrubber*

1a. Designated Reference Number of Scrubber:

1b. Designated Reference Number of Unit which uses Scrubber:

2. Manufacturer:

3. Model Name & Serial Number:

4. Construction Date: / /

5. Type of Scrubber: ☐ Venturi ☐ Wet Fan

☐ Packed: Packing Material:

Size: Packed Height (inches):

☐ Spray: Number of Nozzles:

Nozzle No. 1 Pressure (psig):

Nozzle No. 2 Pressure (psig):

Nozzle No. 3 Pressure (psig):

Nozzle No. 4 Pressure (psig):

☐ Other (specify): ***(Attach description and sketch with dimensions)***

6. Design Pressure Drop Across the Scrubber (inches $H_2O$):

7. Type of Flow: ☐ Concurrent ☐ Countercurrent ☐ Crossflow

8. Scrubber Geometry

Length in direction of Gas Flow (ft): Cross Sectional Area (sq ft):

9. Chemical Composition of Scrubbing Liquid:

10. a. Scrubbing Liquid Flow Rate (gpm):

b. Fresh Liquid Make-Up Rate (gpm):

11. Scrubber Liquid: ☐ One Pass ☐ Recirculated

12. Gas Flow Rate: scfm (at 68□ F)

13. Inlet Gas Temperature (°F):

14. a) Control Efficiency(s) of Scrubber (%):

b) Collection Efficiency(s) of Scrubber (%):

15. Pollutant(s) Controlled:

*Mist Eliminator*

1a. Designated Reference Number of Mist Eliminator:
1b. Designated Reference Number of Unit which uses Mist Eliminator:
2. Manufacturer:
3. Model Name & Number:
4. Construction Date: / /
5. Face Velocity (feet per second):
☐ Vertical Flow ☐ Horizontal Flow ☐ Diagonal
6. Design Pressure Drop Across Mist Eliminator (inches $H_2O$):
7. a) Control Efficiency of Mist Eliminator at:
1 mm Hg: 5 mm Hg: 10 mm Hg:
b) Collection Efficiency of Mist Eliminator (%):
8. Pollutant(s) Controlled:

*Other Type of Control Equipment for Degreasing Equipment*

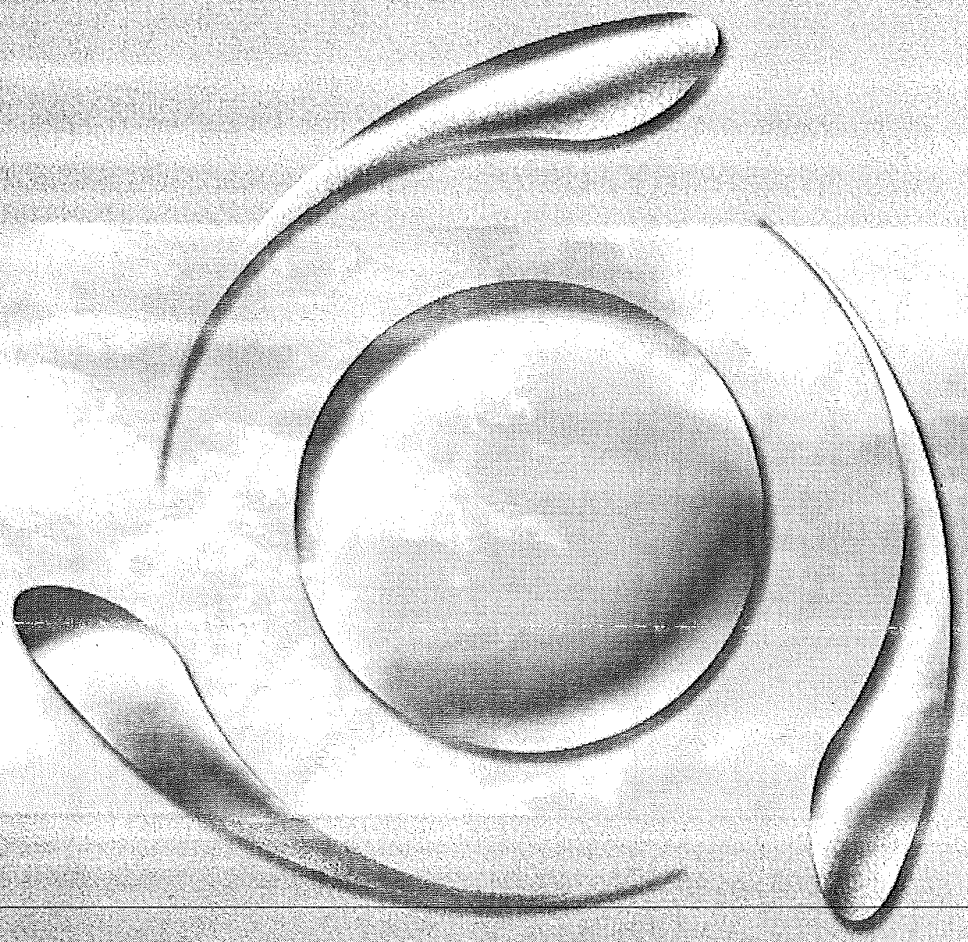
1a. Designated Reference Number of Equipment:
1b. Designated Reference Number of Unit which uses Equipment:
2. Manufacturer:
3. Model Name & Serial Number:
4. Construction Date: / /
5. Method of Controls
☐ Refrigerator Chiller ☐ Water Spray ☐ Other (specify):
6. a) Control Efficiency of Other Type of Control Equipment (%):
b) Collection Efficiency of Other Type of Control Equipment (%):
7. Pollutant(s) Controlled:

*Other Type of Control Equipment*

1a. Designated reference number of other type of control equipment: **E-401 Balancer**
1b. Designated reference number of unit which uses other type of control equipment: **S-7 thru 10, PAR7-10, POLSAR, SUTSAR**
2. Manufacturer: **LESNI A/S**
3. Model Name & Serial Number: **LKV 800**
4. Construction Date: **03/01/2012**
5. Generic name of other equipment: **Ethylene Oxide Balancer**
6. a) Control efficiency of other type of control equipment (%): **variable, combined control of balancer and oxidizer is 99.9% or 1 PPM**
b) Collection efficiency of other type of control equipment (%):**100%**
7. Pollutant(s) Controlled: **Ethylene Oxide**

Industrial air purification

# CATALYTIC ABATOR



## Ethylene Oxide Abatement for Medical Devices

LESNI®

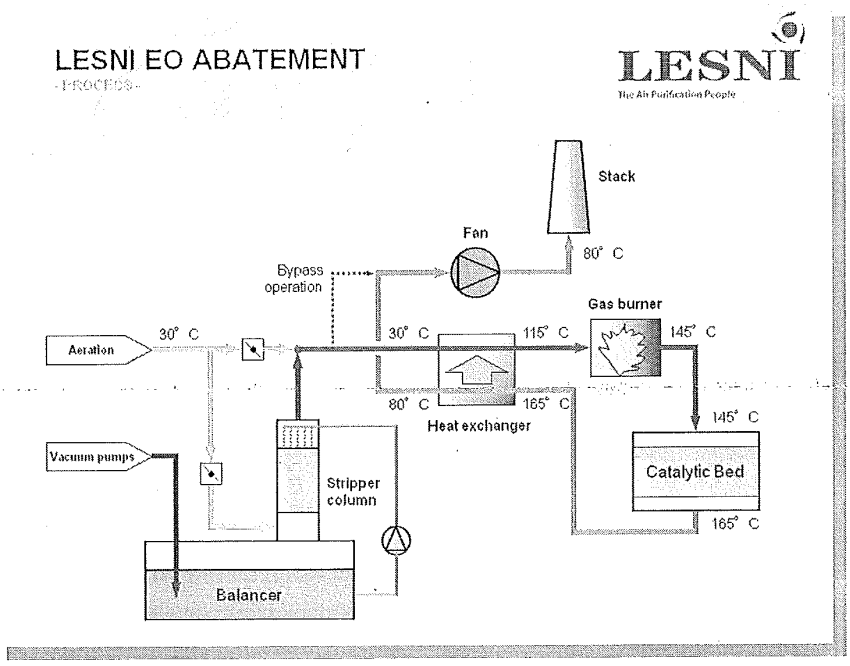
The Air Purification People

## General Description

The LESNI Catalytic abator systems are installed to purify exhaust air from production facilities or processes contaminated with organic compounds, which does not contain any components that can poison the catalyst.

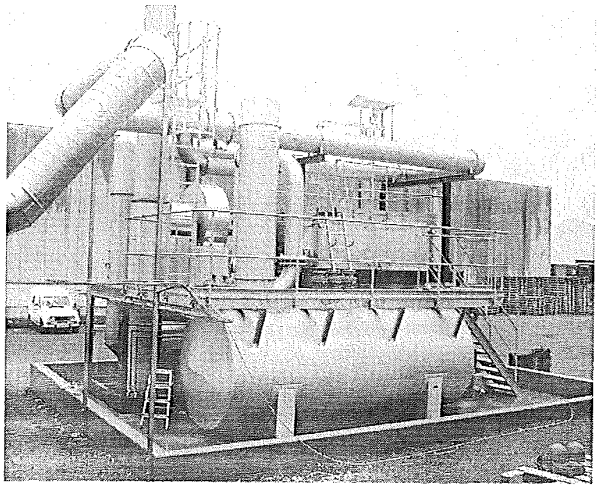
The organic pollutants are converted into $CO_2$ and $H_2O$ on condition that all pollutants are compounds containing only carbon, hydrogen, nitrogen and oxygen.

The plant performs well within limit legislations such as 1,8 mg/Nm³ (1 ppm), 1,0 mg/Nm³ and also 0,5 mg/Nm³ ( TA-Luft).




**Ethylene oxide abatement in medical devices sterilization**

The LESNI A/S catalytic abator two step system has been specifically developed to eliminate the need for using chemicals (sulphuric acid) and to stop the generation of waste (glycol) while offering a total solution for cleaning all fugitive emissions from the degassing and aeration of sterilized product, as well as the high concentrated vent exhaust from the vacuum pumps containing EO (Ethylene Oxide).



The first step is the EO Balancer, where water is circulated from a buffer tank over a column, to generally equalize the variation in the incoming concentration of EO; such that when levels of incoming EO are high, the system absorbs EO in the water and when levels of incoming gas are low the system strips EO out from the water.

The second step is a catalytic abatement where the equalized concentration of EO is converted (catalytically oxidised) into $CO_2$ and $H_2O$.

The process air coming from the balancer is preheated first from a heat recovering air to air pre heater and then the temperature just before the catalytic bed is raised to the needed controlled temperature for the catalyst to complete the conversion of the EO over a gas fired heater (electric or steam also could be used).

The extract fan installed after the catalytic abator; provide necessary suction for extracting the process air through the system; thus keeping the complete plant operation under negative pressure.

The plant is controlled by a control system from which all operating, supervising and controlling of the plant are performed. The control panel shall be installed in a suitable place near to the operating technician or allow some functions to be remotely controlled. In the control panel are all the needed terminals for connection to the balancer, catalytic abator and any other external communication.

LESNI®

The Air Purification People

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COPSO A/S

# Attachment E-3 Supplemental Application Form
## Stack Parameters

| DEP USE ONLY |
|---|
| App. No.: |
| EPE No.: |

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on *Permit Application Transmittal Form)*

**Section I. Stack Parameters** (Make additional copies, if necessary)

| Stack No. (1) | Unit No.(s) (2) | Control Equipment No.(s) (3) | Height ft. (4) | Diameter ft. (5) | Temp °F (6) | Flow ACFM (7) | Exit Dir. H or V (8) | Rain Hat Y or N (9) | Stack Lining (10) | Distance to Property Line ft. (11) |
|---|---|---|---|---|---|---|---|---|---|---|
| E-401 | S-7, PAR7<br>S-8, PAR8<br>S-9, PAR9<br>S-10, PAR10<br>POLSAR<br>SUTSAR | E-401 | 46 | 2 | 176 | 8,552 | V | Y | Stainless Steel | 245 |
| | | | | | | | | | | |
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Covidien_North Haven_2011_PermitApp_NonCBI - 000045

# Attachment E-4 Supplemental Application Form
# Unit Emissions

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form* (DEP-APP-001))

| DEP USE ONLY |
|---|
| App. No.: _____ |

Complete a separate form for each unit.
(Duplicate this form as necessary.)

Unit Number: **E-401,Common Natural Gas Fired Oxidizer for S-7 thru 10, PAR7-10, POLSAR & SUTSAR**
(As indicated on the *Permit Application Form* (DEP-AIR-APP-200))

## Section I: Unit Emission Information

| Pollutant | | Emission Rate (@ *Maximum* Capacity) | | | |
|---|---|---|---|---|---|
| | | Pounds Per Hour (a) | Tons Per Year (b) | Other (Units) (c) | Basis (d) |
| Particulate Matter Less Than 10 Micrograms ($PM_{10}$) | Potential Emissions | 0.010 | 0.044 | | AP-42 7/98 Table 1.4-2 |
| | Proposed Allowable Emissions | 0.010 | 0.044 | | AP-42 7/98 Table 1.4-2 |
| | Regulatory Standard(s) | | | | |
| Particulate Matter Less Than 2.5 Micrograms ($PM_{2.5}$) | Potential Emissions | 0.010 | 0.044 | | AP-42 7/98 Table 1.4-2 |
| | Proposed Allowable Emissions | 0.010 | 0.044 | | AP-42 7/98 Table 1.4-2 |
| | Regulatory Standard(s) | | | | |
| Sulfur Oxides (SOx) | Potential Emissions | 0.001 | 0.003 | | AP-42 7/98 Table 1.4-2 |
| | Proposed Allowable Emissions | 0.001 | 0.003 | | AP-42 7/98 Table 1.4-2 |
| | Regulatory Standard(s) | | | | |
| Nitrogen Oxides (NOx) | Potential Emissions | 0.133 | 0.582 | | AP-42 7/98 Table 1.4-1 |
| | Proposed Allowable Emissions | 0.133 | 0.582 | | AP-42 7/98 Table 1.4-1 |
| | Regulatory Standard(s) | | | | |
| Carbon Monoxide (CO) | Potential Emissions | 0.112 | 0.488 | | AP-42 7/98 Table 1.4-1 |
| | Proposed Allowable Emissions | 0.112 | 0.488 | | AP-42 7/98 Table 1.4-1 |
| | Regulatory Standard(s) | | | | |



Covidien_North Haven_2011_PermitApp_NonCBI - 000046

| Pollutant | | Emission Rate (@ *Maximum* Capacity) | | | |
|---|---|---|---|---|---|
| | | Pounds Per Hour (a) | Tons Per Year (b) | Other (Units) (c) | Basis (d) |
| Volatile Organic Compounds (VOC) | Potential Emissions | 0.007 | 0.032 | | AP-42 7/98 Table 1.4-2 |
| | Proposed Allowable Emissions | 0.007 | 0.032 | | AP-42 7/98 Table 1.4-2 |
| | Regulatory Standard(s) | | | | |
| Lead (Pb) | Potential Emissions | 0.000 | 0.000 | | AP-42 7/98 Table 1.4-2 |
| | Proposed Allowable Emissions | 0.000 | 0.000 | | AP-42 7/98 Table 1.4-2 |
| | Regulatory Standard(s) | | | | |
| Dioxins and Furans | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |



Covidien_North Haven_2011_PermitApp_NonCBI - 000047

| Pollutant | | Emission Rate (@ *Maximum* Capacity) | | | |
|---|---|---|---|---|---|
| | | Pounds Per Hour (a) | Tons Per Year (b) | Other (Units) (c) | Basis (d) |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |
| | Potential Emissions | | | | |
| | Proposed Allowable Emissions | | | | |
| | Regulatory Standard(s) | | | | |



Covidien_North Haven_2011_PermitApp_NonCBI - 000048

## Section II: Compliance with State Hazardous Air Pollutant Regulations

Attach a spreadsheet or table with the information described in Section II of the instructions (DEP-AIR-INST-212).

## Section III: Greenhouse Gas Emissions

Attach the completed GHG spreadsheet with the information described in Section III of the instructions (DEP-AIR-INST-212).

# CT DEP Maximum Allowable Stack Concentration (MASC) Calculator

| | |
|---|---|
| Company Name: | United States Surgical, Division of Tyco Healthcare Group LP |
| Source Description: | ETC Catalytic Oxidizer Sterilizer System Exhaust Stack |

Instructions

| | | |
|---|---|---|
| Stack Parameter Units: | English | |
| Stack Height = | 46 | ft |
| Minimum Distance from Stack to Property Line = | 245 | ft |
| Exhaust Stack Flow Rate = | 8,552 | acfm |
| Hazard Limiting Values (HLV) Averaging Times = | 8-Hour | |
| Adjustments to the MASC for Time Periods < 8 hrs = | No | |

Notes:

Additional HAPs | Clear All | Print | Footnotes

| Hazardous Air Pollutant(s) | CAS No. | HLV ($\mu g/m^3$) | Proposed Allowable Emission Rate (lb/hr) | MASC ($\mu g/m^3$) | ASC ($\mu g/m^3$) | Complies? |
|---|---|---|---|---|---|---|
| Ethylene oxide | 75-21-8 | 20 | 4.87E-02 | 3.87E+03 | 1.52E+03 | yes |
| Benzene | 71-43-2 | 150 | 2.79E-06 | 2.90E+04 | 8.71E-02 | yes |
| p-Dichlorobenzene | 106-46-7 | 9000 | 1.59E-06 | 1.74E+06 | 4.96E-02 | yes |
| Formaldehyde | 50-00-0 | 12 | 9.96E-05 | 2.32E+03 | 3.11E+00 | yes |
| Hexan (n-hexane) | 110-54-3 | 3600 | 2.39E-03 | 6.96E+05 | 7.46E+01 | yes |
| Naphthalene | 91-20-3 | 1000 | 8.10E-07 | 1.93E+05 | 2.53E-02 | yes |
| Polynuclear aromatic hydrocarbons (PAH) * | 50-32-8 | 0.1 | 1.51E-08 | 1.93E+01 | 4.71E-04 | yes |
| Toluene | 108-88-3 | 7500 | 4.51E-06 | 1.45E+06 | 1.41E-01 | yes |
| Arsenic & compounds (as As) | 7440-38-2 | 0.05 | 2.66E-07 | 9.67E+00 | 8.30E-03 | yes |
| Barium (soluble compound) as Ba | 7440-39-3 | 10 | 5.34E-06 | 1.93E+03 | 1.82E-01 | yes |
| Beryllium | 7440-41-7 | 0.01 | 1.59E-08 | 1.93E+00 | 4.96E-04 | yes |
| Cadmium | 7440-43-9 | 0.4 | 1.46E-06 | 7.74E+01 | 4.56E-02 | yes |
| Chromium, metal | 7440-47-3 | 2.5 | 1.86E-06 | 4.84E+02 | 5.80E-02 | yes |
| Cobalt metal, dust & fume (as Co) | 7440-48-4 | 2 | 1.12E-07 | 3.87E+02 | 3.50E-03 | yes |
| Copper-dust & mists (as Cu) | 7440-50-8 | 20 | 1.13E-06 | 3.87E+03 | | yes |
| Manganese fume (as Mn) | 7439-96-5 | 20 | 5.04E-07 | 3.87E+03 | 1.57E-02 | yes |
| Mercury vapor | -- | 1 | 3.45E-07 | 1.93E+02 | 1.08E-02 | yes |
| Molybdenum (insoluble compounds) | -- | 200 | 1.46E-06 | 3.87E+04 | 4.56E-02 | yes |
| Nickel (metal) | 7440-02-0 | 5 | 2.79E-06 | 9.67E+02 | 8.71E-02 | yes |
| Vanadium, as Pentoxide, -Fume | 1314-62-1 | 1 | 3.05E-06 | 1.93E+02 | 9.52E-02 | yes |
| Copper-dust & mists (as Cu) | 7440-50-8 | 20 | 1.13E-06 | 3.87E+03 | 3.53E-02 | yes |

# $CO_2$ Equivalents Calculator

| | |
|---|---|
| Applicant Name: | United States Surgical, Division of Tyco Healthcare |
| Unit Number: | ETC Catalytic Oxidizer |

Clear All

Hydrofluorocarbon/ Perfluorocarbon Gases

| Greenhouse Gas | Global Warming Potential[1] | Emission Rate (@ Maximum Capacity) | | | | | Carbon Dioxide Equivalents | |
|---|---|---|---|---|---|---|---|---|
| | | Potential Emissions | | Proposed Allowable Emissions | | Basis | Potential Emissions | Proposed Allowable Emissions |
| | | lb/hr | tpy | lb/hr | tpy | | tpy | tpy |
| Carbon Dioxide ($CO_2$) | 1 | 1.59E+02 | 6.98E+02 | 1.59E+02 | 6.98E+02 | | 6.98E+02 | 6.98E+02 |
| Methane ($CH_4$) | 21 | 3.00E-03 | 1.31E-02 | 3.00E-03 | 1.30E-02 | | 2.76E-01 | 2.73E-01 |
| Nitrous Oxide ($N_2O$) | 310 | 3.00E-03 | 1.31E-02 | 3.00E-03 | 1.30E-02 | | 4.07E+00 | 4.03E+00 |
| Sulfur Hexafluoride ($SF_6$) | 23,900 | 0.00E+00 | 0.00E+00 | 0.00E+00 | 0.00E+00 | | 0.00E+00 | 0.00E+00 |
| Total GHGs | | | 698 | | | | 702 | 702 |

[1] Global Warming Potentials as listed in Table A-1 of 40 CFR Part 98 Subpart A (Mandatory Greenhouse Gas Reporting)

Natural Gas Criteria Emissions

| Pollutant | Uncontrolled Emission Factor Factor | Emission Factor Units | Uncontrolled Potential Emission Rate (lb/hr) | Uncontrolled Potential Annual Emissions (ton/yr) | Proposed Allowable Emission Rate (lb/hr) | Proposed Allowable Annual Emissions (ton/yr) | Emission Factor Source |
|---|---|---|---|---|---|---|---|
| $PM_{10}$ | 7.6 | lb/ MMscf | 0.010 | 0.044 | 0.010 | 0.044 | USEPA AP-42 7/98 Table 1.4-2 |
| $PM_{2.5}$ | 7.6 | lb/ MMscf | 0.010 | 0.044 | 0.010 | 0.044 | USEPA AP-42 7/98 Table 1.4-2 |
| $SO_x$ (as $SO_2$) | 0.6 | lb/ MMscf | 0.001 | 0.003 | 0.001 | 0.003 | USEPA AP-42 7/98 Table 1.4-2 |
| $NO_x$ | 100.0 | lb/ MMscf | 0.133 | 0.582 | 0.133 | 0.582 | USEPA AP-42 7/98 Table 1.4-1 |
| CO | 84.0 | lb/ MMscf | 0.112 | 0.488 | 0.112 | 0.488 | USEPA AP-42 7/98 Table 1.4-1 |
| VOC | 5.5 | lb/ MMscf | 0.007 | 0.032 | 0.007 | 0.032 | USEPA AP-42 7/98 Table 1.4-2 |
| Pb | 0.0005 | lb/ MMscf | 0.000 | 0.000 | 0.000 | 0.000 | USEPA AP-42 7/98 Table 1.4-2 |
| $CO_2$ | 120,000 | lb/ MMscf | 159.315 | 697.800 | 159.315 | 697.800 | USEPA AP-42 7/98 Table 1.4-2 |
| $CH_4$ | 2.30 | lb/ MMscf | 0.003 | 0.013 | 0.003 | 0.013 | USEPA AP-42 7/98 Table 1.4-2 |
| $N_2O$ | 2.20 | lb/ MMscf | 0.003 | 0.013 | 0.003 | 0.013 | USEPA AP-42 7/98 Table 1.4-2 |

Catalytic Abator Natural Gas Usage

| | | | |
|---|---|---|---|
| Max Firing Rate | 400 kW | | |
| Max Firing Rate | 1.365 MMBtu/hr | 1328 scf/hr | 0.001328 MMscf/hr |
| Potential Annual Usage | 11,956 MMBtu/yr | 11,630,008 scf/yr | 11.63 MMscf/yr |
| HHV | 1028 Btu/scf | | |

Ethylene Oxide Emissions

| Equipment ID | Equipment Description | Potential ETO Usage | | | Potential ETO Emissions | | ETO Control | Proposed ETO Emissions | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | @99.9% Control | @1 PPM Exhaust | Worst Case | | |
| | | lb/batch | batch/day | days/yr | lb/yr | lb/hr | % or PPM | lb/yr | lb/yr | lb/yr | lb/hr | % Control |
| S-7 | Sterilization Chamber | 50 | 4 | 365 | 73,000 | 8.33 | 99.9 % or 1 PPM | 73.0 | 106.7 | 106.7 | 0.01218 | 99.85 |
| PAR7 | Primary Aeration Room | variable | variable | variable | included above | included above | included above | included above | included above | included above | included above | included above |
| S-8 | Sterilization Chamber | 50 | 4 | 365 | 73,000 | 8.33 | 99.9 % or 1 PPM | 73.0 | 106.7 | 106.7 | 0.01218 | 99.85 |
| PAR8 | Primary Aeration Room | variable | variable | variable | included above | included above | included above | included above | included above | included above | included above | included above |
| S-9 | Sterilization Chamber | 50 | 4 | 365 | 73,000 | 8.33 | 99.9 % or 1 PPM | 73.0 | 106.7 | 106.7 | 0.01218 | 99.85 |
| PAR9 | Primary Aeration Room | variable | variable | variable | included above | included above | included above | included above | included above | included above | included above | included above |
| S-10 | Sterilization Chamber | 50 | 4 | 365 | 73,000 | 8.33 | 99.9 % or 1 PPM | 73.0 | 106.7 | 106.7 | 0.01218 | 99.85 |
| PAR10 | Primary Aeration Room | variable | variable | variable | included above | included above | included above | included above | included above | included above | included above | included above |
| PolSAR | Polymer Secondary Aeration Room | variable | variable | variable | included above | included above | included above | included above | included above | included above | included above | included above |
| SutSAR | Suture Secondary Aeration Room | variable | variable | variable | included above | included above | included above | included above | included above | included above | included above | included above |
| Total | Total Sterilizer System | | | | 292,000 | 33.33 | 99.9 % or 1 PPM | 292 | 427 | 427 | 0.0487 | 99.85 |
| Total Sterilizer System | | | | | 146.000 | ton/yr | | | | 0.213 | ton/yr | |

Maximum total sterlizer system exhaust flow 7,100 scfm 8,552 acfm at 80 C / 176 F

Natural Gas HAP Emissions

| CAS No. | Pollutant | AP-42 7/98 Tables 1.4-3 & 1.4-4 Uncontrolled Emission Factor (lb/$10^6$ scf) | Uncontrolled Potential Emission Rate (lb/hr) | Uncontrolled Potential Annual Emissions (ton/yr) | Proposed Allowable Emission Rate (lb/hr) | Proposed Allowable Annual Emissions (ton/yr) |
|---|---|---|---|---|---|---|
| 91-57-6 | 2-Methylnaphthaleneb, [c] | 2.40E-05 | 3.19E-08 | 1.40E-07 | 3.19E-08 | 1.40E-07 |
| 56-49-5 | 3-Methylchloranthreneb, [c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| | 7,12-Dimethylbenz(a)anthracene[b,c] | 1.60E-05 | 2.12E-08 | 9.30E-08 | 2.12E-08 | 9.30E-08 |
| 83-32-9 | Acenaphthene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 203-96-8 | Acenaphthylene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 120-12-7 | Anthracene[b,c] | 2.40E-06 | 3.19E-09 | 1.40E-08 | 3.19E-09 | 1.40E-08 |
| 56-55-3 | Benz(a)anthracene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 71-43-2 | Benzene[b] | 2.10E-03 | 2.79E-06 | 1.22E-05 | 2.79E-06 | 1.22E-05 |
| 50-32-8 | Benzo(a)pyrene[b,c] | 1.20E-06 | 1.59E-09 | 6.98E-09 | 1.59E-09 | 6.98E-09 |
| 205-99-2 | Benzo(b)fluoranthene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 191-24-2 | Benzo(g,h,i)perylene[b,c] | 1.20E-06 | 1.59E-09 | 6.98E-09 | 1.59E-09 | 6.98E-09 |
| 205-82-3 | Benzo(k)fluoranthene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 106-97-8 | Butane[a] | 2.10E+00 | 2.79E-03 | 1.22E-02 | 2.79E-03 | 1.22E-02 |
| 218-01-9 | Chrysene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 53-70-3 | Dibenzo(a,h)anthracene[b,c] | 1.20E-06 | 1.59E-09 | 6.98E-09 | 1.59E-09 | 6.98E-09 |
| 25321-22-6 | Dichlorobenzene[b] | 1.20E-03 | 1.59E-06 | 6.98E-06 | 1.59E-06 | 6.98E-06 |
| 74-84-0 | Ethane[a] | 3.10E+00 | 4.12E-03 | 1.80E-02 | 4.12E-03 | 1.80E-02 |
| 206-44-0 | Fluoranthene[b,c] | 3.00E-06 | 3.98E-09 | 1.74E-08 | 3.98E-09 | 1.74E-08 |
| 86-73-7 | Fluorene[b,c] | 2.80E-06 | 3.72E-09 | 1.63E-08 | 3.72E-09 | 1.63E-08 |
| 50-00-0 | Formaldehyde[b] | 7.50E-02 | 9.96E-05 | 4.36E-04 | 9.96E-05 | 4.36E-04 |
| 110-54-3 | Hexane[b] | 1.80E+00 | 2.39E-03 | 1.05E-02 | 2.39E-03 | 1.05E-02 |
| 193-39-5 | Indeno(1,2,3-cd)pyrene[b,c] | 1.80E-06 | 2.39E-09 | 1.05E-08 | 2.39E-09 | 1.05E-08 |
| 91-20-3 | Naphthalene[b] | 6.10E-04 | 8.10E-07 | 3.55E-06 | 8.10E-07 | 3.55E-06 |
| 109-66-0 | Pentane[a] | 2.60E+00 | 3.45E-03 | 1.51E-02 | 3.45E-03 | 1.51E-02 |
| 85-01-8 | Phenanathrene[b,c] | 1.70E-05 | 2.26E-08 | 9.89E-08 | 2.26E-08 | 9.89E-08 |
| 74-98-6 | Propane[a] | 1.60E+00 | 2.12E-03 | 9.30E-03 | 2.12E-03 | 9.30E-03 |
| 129-00-0 | Pyrene[b, c] | 5.00E-06 | 6.64E-09 | 2.91E-08 | 6.64E-09 | 2.91E-08 |
| 108-88-3 | Toluene[b] | 3.40E-03 | 4.51E-06 | 1.98E-05 | 4.51E-06 | 1.98E-05 |
| 7440-38-2 | Arsenic[b] | 2.0E-04 | 2.66E-07 | 1.16E-06 | 2.66E-07 | 1.16E-06 |
| 7440-39-3 | Barium[a] | 4.4E-03 | 5.84E-06 | 2.56E-05 | 5.84E-06 | 2.56E-05 |
| 7440-41-7 | Beryllium[b] | 1.2E-05 | 1.59E-08 | 6.98E-08 | 1.59E-08 | 6.98E-08 |
| 7440-43-9 | Cadmium[b] | 1.1E-03 | 1.46E-06 | 6.40E-06 | 1.46E-06 | 6.40E-06 |
| 7440-47-3 | Chromium[b] | 1.4E-03 | 1.86E-06 | 8.14E-06 | 1.86E-06 | 8.14E-06 |
| 7440-48-4 | Cobalt[b] | 8.4E-05 | 1.12E-07 | 4.88E-07 | 1.12E-07 | 4.88E-07 |
| 7440-50-8 | Copper | 8.5E-04 | 1.13E-06 | 4.94E-06 | 1.13E-06 | 4.94E-06 |
| 7439-96-5 | Manganese[b] | 3.8E-04 | 5.04E-07 | 2.21E-06 | 5.04E-07 | 2.21E-06 |
| 7439-97-6 | Mercury[b] | 2.6E-04 | 3.45E-07 | 1.51E-06 | 3.45E-07 | 1.51E-06 |
| 7439-98-7 | Molybdenum | 1.1E-03 | 1.46E-06 | 6.40E-06 | 1.46E-06 | 6.40E-06 |
| 7440-02-0 | Nickel[b] | 2.1E-03 | 2.79E-06 | 1.22E-05 | 2.79E-06 | 1.22E-05 |
| 7782-49-2 | Selenium[b] | 2.4E-05 | 3.19E-08 | 1.40E-07 | 3.19E-08 | 1.40E-07 |
| 7440-62-2 | Vanadium[a] | 2.3E-03 | 3.05E-06 | 1.34E-05 | 3.05E-06 | 1.34E-05 |
| 7440-66-6 | Zinc[a] | 2.9E-02 | 3.85E-05 | 1.69E-04 | 3.85E-05 | 1.69E-04 |
| Total | Total CAA HAPs | 1.89E+00 | 2.51E-03 | 1.10E-02 | 2.51E-03 | 1.10E-02 |
| Total | CTDEP Table 1 PAH | 1.14E-05 | 1.51E-08 | 6.63E-08 | 1.51E-08 | 6.63E-08 |

Notes:

a. Not a Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

b. Hazardous Air Pollutant (HAP) as defined by Section 112(b) of the Clean Air Act.

c. HAP because it is Polycyclic Organic Matter (POM). POM is a HAP as defined by Section 112(b) of CAA.

Catalytic Abator Natural Gas Usage

| | | |
|---|---|---|
| Max Firing Rate | 400 kW | |
| Max Firing Rate | 1.365 MMBtu/hr | 0.001328 MMscf/hr |
| Potential Usage | 11,956 MMBtu/yr | 11.63 MMscf/yr |
| HHV | 1028 Btu/scf | |

# Attachment G: BACT/LAER Determination Form

(Complete for each pollutant for which BACT/LAER must be incorporated. Duplicate this section as necessary.)

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*

| DEP USE ONLY |
|---|
| App. No.: _____ |

Unit Number: **S-7, PAR7, POLSAR, SUTSAR**

Unit Description: **Ethylene Oxide Sterilizer with Primary and Secondary Aeration Rooms**

Pollutant: **Ethylene Oxide**

## Section I: Identify LAER

To ensure a sufficiently broad and comprehensive search of control alternatives, sources other than the RBLC database should be investigated and documented. These sources include: EPA/State air quality permits, control equipment vendors, trade associations, international agencies or companies, technical papers or journals. Attach documentation of investigation to this form. The source of information, e.g., RBLC, South Coast AQMD, state permit, vendor, etc. and sufficient information for verification of the achievable limit, e.g. contact information to include: name, affiliation, address, phone, email of contact; any relevant permit; RBLC ID; etc. should be included for each system.

***When using the RLBC database:*** The RACT/BACT/LAER Clearinghouse (RBLC) database on EPA's Technology Transfer Network (TTN), Clean Air Technology Center (CATC) website may be accessed at: (http://cfpub.epa.gov/rblc/cfm/basicsearch.cfm). Select the "Find Lowest Emissions Rate" search option. Choose the process type and pollutant from the dynamic menu, then "run report now". The results will be sorted by the emission limit from lowest to highest. You may print this list and attach to this form.

A. List all available control systems with a practical potential for application to this type of unit.
   1. **Catalytic Oxidizer with Balancer**
   2. **Catalytic Oxidizer**
   3. **Packed Scrubber**
   4.
   5.

B. List control systems included above that are rejected as technically infeasible for this unit. Include an explanation for each rejection.
   1.
   2.
   3.
   4.
   5.



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## Section I: Identify LAER (continued)

C. Determine overall control effectiveness of remaining control systems:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| Description of Control System | Catalytic Oxidizer with Balancer | Catalytic Oxidizer | Packed Scrubber | | |
| 1. Inlet Concentration | 8.33 lb/hr | 8.33 lb/hr | 8.33 lb/hr | | |
| 2. Outlet Concentration | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 3. Collection Efficiency | 100% | 100% | 100% | | |
| 4. Removal Efficiency | 99.9% or 1 PPM | 99.0% | 99.0% | | |
| 5. Overall Control Efficiency | 99.85% | 99.0% | 99.0% | | |
| 6. Emission Estimates | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 7. Source of Emission Estimates | Mfg Guarantee | NJ SOTA | NJ SOTA | | |

D. Identification of LAER:

**Catalytic Oxidizer with Balancer represents LAER, which is selected as BACT for this application.**



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## Section II: Top-Down BACT Analysis

A. Rank the control systems in *decreasing order* of overall control effectiveness. The system identified as LAER in Section I should rank number 1.

1. **Section II of this form is not required since LAER has been selected as BACT.**
2.
3.
4.
5.

B. Complete the cost analysis for each control system:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 1. Type of System | | | | | |
| 2. Installed Capital Cost (ICC) | | | | | |
| 3. Annual Labor Cost | | | | | |
| 4. Annual Maintenance Cost | | | | | |
| 5. Annual Energy Cost | | | | | |
| 6. Replacement Parts and Materials Cost | | | | | |
| 7. Waste Treatment and Disposal Cost | | | | | |
| 8. Miscellaneous Annual Costs | | | | | |
| 9. **Total Direct Annual Cost** (add Items 3 to 8) | | | | | |
| 10. Annual Overhead Cost | | | | | |
| 11 Administrative, Tax and Insurance Costs | | | | | |
| 12. Capital Recovery Cost | | | | | |

*(Continued on next page)*



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## Section II: Top-Down BACT Analysis (continued)

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 13. Tax Credits | | | | | |
| 14. **Total Indirect Annual Cost** (add Items 10 to 12 and subtract item 13) | | | | | |
| 15. Total Annual Cost for the Control System (add Items 9 and 14) | | | | | |
| 16. Total Pollutant Collected | | | | | |
| 17. Unit Control Cost (item 15 ÷ 16) (dollars per ton) | | | | | |

C. Proposed BACT:

D. Reason or Justification for Proposed BACT:



Covidien_North Haven_2011_PermitApp_NonCBI - 000058

# Attachment G: BACT/LAER Determination Form

(Complete for each pollutant for which BACT/LAER must be incorporated. Duplicate this section as necessary.)

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*

| DEP USE ONLY |
|---|
| App. No.: |

Unit Number: **S-8, PAR8, POLSAR, SUTSAR**

Unit Description: **Ethylene Oxide Sterilizer with Primary and Secondary Aeration Rooms**

Pollutant: **Ethylene Oxide**

## Section I: Identify LAER

To ensure a sufficiently broad and comprehensive search of control alternatives, sources other than the RBLC database should be investigated and documented. These sources include: EPA/State air quality permits, control equipment vendors, trade associations, international agencies or companies, technical papers or journals. Attach documentation of investigation to this form. The source of information, e.g., RBLC, South Coast AQMD, state permit, vendor, etc. and sufficient information for verification of the achievable limit, e.g. contact information to include: name, affiliation, address, phone, email of contact; any relevant permit; RBLC ID; etc. should be included for each system.

***When using the RLBC database:*** The RACT/BACT/LAER Clearinghouse (RBLC) database on EPA's Technology Transfer Network (TTN), Clean Air Technology Center (CATC) website may be accessed at: (http://cfpub.epa.gov/rblc/cfm/basicsearch.cfm). Select the "Find Lowest Emissions Rate" search option. Choose the process type and pollutant from the dynamic menu, then "run report now". The results will be sorted by the emission limit from lowest to highest. You may print this list and attach to this form.

A. List all available control systems with a practical potential for application to this type of unit.
   1. **Catalytic Oxidizer with Balancer**
   2. **Catalytic Oxidizer**
   3. **Packed Scrubber**
   4.
   5.

B. List control systems included above that are rejected as technically infeasible for this unit. Include an explanation for each rejection.
   1.
   2.
   3.
   4.
   5.



Covidien_North Haven_2011_PermitApp_NonCBI - 000059

## Section I: Identify LAER (continued)

C. Determine overall control effectiveness of remaining control systems:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| Description of Control System | Catalytic Oxidizer with Balancer | Catalytic Oxidizer | Packed Scrubber | | |
| 1. Inlet Concentration | 8.33 lb/hr | 8.33 lb/hr | 8.33 lb/hr | | |
| 2. Outlet Concentration | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 3. Collection Efficiency | 100% | 100% | 100% | | |
| 4. Removal Efficiency | 99.9% or 1 PPM | 99.0% | 99.0% | | |
| 5. Overall Control Efficiency | 99.85% | 99.0% | 99.0% | | |
| 6. Emission Estimates | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 7. Source of Emission Estimates | Mfg Guarantee | NJ SOTA | NJ SOTA | | |

D. Identification of LAER:

**Catalytic Oxidizer with Balancer represents LAER, which is selected as BACT for this application.**



Covidien_North Haven_2011_PermitApp_NonCBI - 000060

## Section II: Top-Down BACT Analysis

A. Rank the control systems in *decreasing order* of overall control effectiveness. The system identified as LAER in Section I should rank number 1.

1. **Section II of this form is not required since LAER has been selected as BACT.**
2.
3.
4.
5.

B. Complete the cost analysis for each control system:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 1. Type of System | | | | | |
| 2. Installed Capital Cost (ICC) | | | | | |
| 3. Annual Labor Cost | | | | | |
| 4. Annual Maintenance Cost | | | | | |
| 5. Annual Energy Cost | | | | | |
| 6. Replacement Parts and Materials Cost | | | | | |
| 7. Waste Treatment and Disposal Cost | | | | | |
| 8. Miscellaneous Annual Costs | | | | | |
| 9. **Total Direct Annual Cost** (add Items 3 to 8) | | | | | |
| 10. Annual Overhead Cost | | | | | |
| 11 Administrative, Tax and Insurance Costs | | | | | |
| 12. Capital Recovery Cost | | | | | |

*(Continued on next page)*



Covidien_North Haven_2011_PermitApp_NonCBI - 000061

## Section II: Top-Down BACT Analysis (continued)

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 13. Tax Credits | | | | | |
| 14. **Total Indirect Annual Cost** (add Items 10 to 12 and subtract item 13) | | | | | |
| 15. Total Annual Cost for the Control System (add Items 9 and 14) | | | | | |
| 16. Total Pollutant Collected | | | | | |
| 17. Unit Control Cost (item 15 ÷ 16) (dollars per ton) | | | | | |

C. Proposed BACT:

D. Reason or Justification for Proposed BACT:



Covidien_North Haven_2011_PermitApp_NonCBI - 000062

# Attachment G: BACT/LAER Determination Form

(Complete for each pollutant for which BACT/LAER must be incorporated. Duplicate this section as necessary.)

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*

DEP USE ONLY
App. No.: _____

Unit Number: **S-9, PAR9, POLSAR, SUTSAR**

Unit Description: **Ethylene Oxide Sterilizer with Primary and Secondary Aeration Rooms**

Pollutant: **Ethylene Oxide**

## Section I: Identify LAER

To ensure a sufficiently broad and comprehensive search of control alternatives, sources other than the RBLC database should be investigated and documented. These sources include: EPA/State air quality permits, control equipment vendors, trade associations, international agencies or companies, technical papers or journals. Attach documentation of investigation to this form. The source of information, e.g., RBLC, South Coast AQMD, state permit, vendor, etc. and sufficient information for verification of the achievable limit, e.g. contact information to include: name, affiliation, address, phone, email of contact; any relevant permit; RBLC ID; etc. should be included for each system.

***When using the RLBC database:*** The RACT/BACT/LAER Clearinghouse (RBLC) database on EPA's Technology Transfer Network (TTN), Clean Air Technology Center (CATC) website may be accessed at: (http://cfpub.epa.gov/rblc/cfm/basicsearch.cfm). Select the "Find Lowest Emissions Rate" search option. Choose the process type and pollutant from the dynamic menu, then "run report now". The results will be sorted by the emission limit from lowest to highest. You may print this list and attach to this form.

A. List all available control systems with a practical potential for application to this type of unit.
   1. **Catalytic Oxidizer with Balancer**
   2. **Catalytic Oxidizer**
   3. **Packed Scrubber**
   4.
   5.

B. List control systems included above that are rejected as technically infeasible for this unit. Include an explanation for each rejection.
   1.
   2.
   3.
   4.
   5.



Covidien_North Haven_2011_PermitApp_NonCBI - 000063

## Section I: Identify LAER (continued)

C. Determine overall control effectiveness of remaining control systems:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| Description of Control System | Catalytic Oxidizer with Balancer | Catalytic Oxidizer | Packed Scrubber | | |
| 1. Inlet Concentration | 8.33 lb/hr | 8.33 lb/hr | 8.33 lb/hr | | |
| 2. Outlet Concentration | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 3. Collection Efficiency | 100% | 100% | 100% | | |
| 4. Removal Efficiency | 99.9% or 1 PPM | 99.0% | 99.0% | | |
| 5. Overall Control Efficiency | 99.85% | 99.0% | 99.0% | | |
| 6. Emission Estimates | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 7. Source of Emission Estimates | Mfg Guarantee | NJ SOTA | NJ SOTA | | |

D. Identification of LAER:

**Catalytic Oxidizer with Balancer represents LAER, which is selected as BACT for this application.**



Covidien_North Haven_2011_PermitApp_NonCBI - 000064

## Section II: Top-Down BACT Analysis

A. Rank the control systems in *decreasing order* of overall control effectiveness. The system identified as LAER in Section I should rank number 1.

1. **Section II of this form is not required since LAER has been selected as BACT.**
2.
3.
4.
5.

B. Complete the cost analysis for each control system:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 1. Type of System | | | | | |
| 2. Installed Capital Cost (ICC) | | | | | |
| 3. Annual Labor Cost | | | | | |
| 4. Annual Maintenance Cost | | | | | |
| 5. Annual Energy Cost | | | | | |
| 6. Replacement Parts and Materials Cost | | | | | |
| 7. Waste Treatment and Disposal Cost | | | | | |
| 8. Miscellaneous Annual Costs | | | | | |
| 9. **Total Direct Annual Cost** (add Items 3 to 8) | | | | | |
| 10. Annual Overhead Cost | | | | | |
| 11 Administrative, Tax and Insurance Costs | | | | | |
| 12. Capital Recovery Cost | | | | | |

*(Continued on next page)*



Covidien_North Haven_2011_PermitApp_NonCBI - 000065

## Section II: Top-Down BACT Analysis (continued)

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 13. Tax Credits | | | | | |
| 14. **Total Indirect Annual Cost** (add Items 10 to 12 and subtract item 13) | | | | | |
| 15. Total Annual Cost for the Control System (add Items 9 and 14) | | | | | |
| 16. Total Pollutant Collected | | | | | |
| 17. Unit Control Cost (item 15 ÷ 16) (dollars per ton) | | | | | |

C. Proposed BACT:

D. Reason or Justification for Proposed BACT:



Covidien_North Haven_2011_PermitApp_NonCBI - 000066

# Attachment G: BACT/LAER Determination Form

(Complete for each pollutant for which BACT/LAER must be incorporated. Duplicate this section as necessary.)

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(As indicated on the *Permit Application Transmittal Form)*

| DEP USE ONLY |
|---|
| App. No.: _____ |

Unit Number: **S-10, PAR10, POLSAR, SUTSAR**

Unit Description: **Ethylene Oxide Sterilizer with Primary and Secondary Aeration Rooms**

Pollutant: **Ethylene Oxide**

## Section I: Identify LAER

To ensure a sufficiently broad and comprehensive search of control alternatives, sources other than the RBLC database should be investigated and documented. These sources include: EPA/State air quality permits, control equipment vendors, trade associations, international agencies or companies, technical papers or journals. Attach documentation of investigation to this form. The source of information, e.g., RBLC, South Coast AQMD, state permit, vendor, etc. and sufficient information for verification of the achievable limit, e.g. contact information to include: name, affiliation, address, phone, email of contact; any relevant permit; RBLC ID; etc. should be included for each system.

***When using the RLBC database:*** The RACT/BACT/LAER Clearinghouse (RBLC) database on EPA's Technology Transfer Network (TTN), Clean Air Technology Center (CATC) website may be accessed at: (http://cfpub.epa.gov/rblc/cfm/basicsearch.cfm). Select the "Find Lowest Emissions Rate" search option. Choose the process type and pollutant from the dynamic menu, then "run report now". The results will be sorted by the emission limit from lowest to highest. You may print this list and attach to this form.

A. List all available control systems with a practical potential for application to this type of unit.
   1. **Catalytic Oxidizer with Balancer**
   2. **Catalytic Oxidizer**
   3. **Packed Scrubber**
   4.
   5.

B. List control systems included above that are rejected as technically infeasible for this unit. Include an explanation for each rejection.
   1.
   2.
   3.
   4.
   5.



Covidien_North Haven_2011_PermitApp_NonCBI - 000067

## Section I: Identify LAER (continued)

C. Determine overall control effectiveness of remaining control systems:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| Description of Control System | Catalytic Oxidizer with Balancer | Catalytic Oxidizer | Packed Scrubber | | |
| 1. Inlet Concentration | 8.33 lb/hr | 8.33 lb/hr | 8.33 lb/hr | | |
| 2. Outlet Concentration | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 3. Collection Efficiency | 100% | 100% | 100% | | |
| 4. Removal Efficiency | 99.9% or 1 PPM | 99.0% | 99.0% | | |
| 5. Overall Control Efficiency | 99.85% | 99.0% | 99.0% | | |
| 6. Emission Estimates | 0.01218 lb/hr | 0.0833 lb/hr | 0.0833 lb/hr | | |
| 7. Source of Emission Estimates | Mfg Guarantee | NJ SOTA | NJ SOTA | | |

D. Identification of LAER:

**Catalytic Oxidizer with Balancer represents LAER, which is selected as BACT for this application.**



Covidien_North Haven_2011_PermitApp_NonCBI - 000068

## Section II: Top-Down BACT Analysis

A. Rank the control systems in *decreasing order* of overall control effectiveness. The system identified as LAER in Section I should rank number 1.

1. **Section II of this form is not required since LAER has been selected as BACT.**
2.
3.
4.
5.

B. Complete the cost analysis for each control system:

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 1. Type of System | | | | | |
| 2. Installed Capital Cost (ICC) | | | | | |
| 3. Annual Labor Cost | | | | | |
| 4. Annual Maintenance Cost | | | | | |
| 5. Annual Energy Cost | | | | | |
| 6. Replacement Parts and Materials Cost | | | | | |
| 7. Waste Treatment and Disposal Cost | | | | | |
| 8. Miscellaneous Annual Costs | | | | | |
| 9. **Total Direct Annual Cost** (add Items 3 to 8) | | | | | |
| 10. Annual Overhead Cost | | | | | |
| 11 Administrative, Tax and Insurance Costs | | | | | |
| 12. Capital Recovery Cost | | | | | |

*(Continued on next page)*



Covidien_North Haven_2011_PermitApp_NonCBI - 000069

## Section II: Top-Down BACT Analysis (continued)

| | System 1 | System 2 | System 3 | System 4 | System 5 |
|---|---|---|---|---|---|
| 13. Tax Credits | | | | | |
| 14. **Total Indirect Annual Cost** (add Items 10 to 12 and subtract item 13) | | | | | |
| 15. Total Annual Cost for the Control System (add Items 9 and 14) | | | | | |
| 16. Total Pollutant Collected | | | | | |
| 17. Unit Control Cost (item 15 ÷ 16) (dollars per ton) | | | | | |

C. Proposed BACT:

D. Reason or Justification for Proposed BACT:



Covidien_North Haven_2011_PermitApp_NonCBI - 000070

## Attachment H
## Operation and Maintenance Plan

Operation, maintenance and inspection procedures for these air pollutant emitting activities and air pollution control equipment will be in accordance with the manufacturers' recommended guidelines so as to achieve compliance with the requirements of the applicable regulations or permit for these sources.

# Attachment J Applicant Compliance Information

| DEP ONLY |
| --- |
| App. No. _____ |
| Co./Ind. No. _____ |

Applicant Name: **United States Surgical, Division of Tyco Healthcare Group LP**
(as indicated on the *Permit Application Transmittal Form*)

If you answer *yes* to any of the questions below, you must complete the Table of Enforcement Actions on the reverse side of this sheet as directed in the instructions for your permit application.

A. During the five years immediately preceding submission of this application, has the applicant been convicted in any jurisdiction of a criminal violation of any environmental law?

☐ Yes ☒ No

B. During the five years immediately preceding submission of this application, has a civil penalty been imposed upon the applicant in any state, including Connecticut, or federal judicial proceeding for any violation of an environmental law?

☐ Yes ☒ No

C. During the five years immediately preceding submission of this application, has a civil penalty exceeding five thousand dollars been imposed on the applicant in any state, including Connecticut, or federal administrative proceeding for any violation of an environmental law?

☐ Yes ☒ No

D. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal court issued any order or entered any judgement to the applicant concerning a violation of any environmental law?

☐ Yes ☒ No

E. During the five years immediately preceding submission of this application, has any state, including Connecticut, or federal administrative agency issued any order to the applicant concerning a violation of any environmental law?

☐ Yes ☒ No

## Table of Enforcement Actions

| (1) Type of Action | (2a) Date Commenced | (2b) Date Terminated | (3) Jurisdiction | (4) Case/Docket/ Order No. | (5) Description of Violation |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

☐ Check the box if additional sheets are attached. Copies of this form may be duplicated for additional space.



Covidien_North Haven_2011_PermitApp_NonCBI - 000073

# Attachment L Coastal Consistency Review Form

Please complete this form in accordance with the instructions (DEP-INST-004). Print or type unless otherwise noted.

*Note: Fill out this form only if your project is in the Coastal Area as defined in CGS Section 22a-94(a).*

| DEP USE ONLY |
|---|
| Application No.: |
| Analyst Assigned: |
| Date Received (OLISP): |

## Part I: Project Information

1. Name and phone number of the applicant exactly as it appears on the *Permit Application Transmittal Form* (DEP-APP-001).

   Applicant: **United States Surgical, Division of Tyco Healthcare Group LP**

   Contact Person: **William Richardson** **Plant EHS Manager**
   Title (Mr., Mrs., Ms., Dr., etc.) Last Name First Name Middle Initial Suffix (Jr., P.E., Ph.D.)

   Phone: **203-492-7188** Date: **06/29/2011**

2. Name of Preparer: **Raymond F. Yarmac, P.E.** **Principal Consulting Engineer**
   Title (if applicable)

3. Street Address or Description of Location of the Project Site:

   **195 McDermott Road**

   City or Town: **North Haven, CT 06473**

4. Brief Project Description:

   **Installation and operation of four new sterilization systems that are intended to replace similar existing sterilization equipment at the site.**

5. Is the project located within the coastal boundary as defined in CGS Section 22a-94(b)?

   ☐ Yes ☒ No

   If you answered **Yes** to this question, complete the entire form.

   If you answered **No** to this question, skip Parts II through V and complete Parts VI, VII and VIII.

## Part II: Identification of Applicable Coastal Use and Activity Policies and Standards

Identify all statutory goals and policies in or referenced by Section 22a-92 of the Coastal Management Act applicable to the proposed activities.

- ☒ General Development* - CGS Sections 22a-92(a)(1), 22a-92(a)(2), 22a-92(a)(9), 22a-92(a)(9)
- ☐ Water-Dependent Uses - CGS Sections 22a-92(a)(3), 22a-92(b)(1)(A)
- ☐ Ports and Harbors - CGS Section 22a-92(b)(1)(C)
- ☐ Coastal Structures and Filling - CGS Section 22a-92(b)(1)(D)
- ☐ Dredging and Navigation - CGS Sections 22a-92(c)(1)(C), 22a-92(c)(1)(D)
- ☐ Boating - CGS Section 22a-92(b)(1)(G)
- ☐ Fisheries - CGS Section 22a-92(c)(1)(I)
- ☐ Coastal Recreation And Access - CGS Sections 22a-92(a)(6), 22a-92(C)(1)(j), 22a-92(c)(1)(K)
- ☐ Sewer and Water Lines - CGS Section 22a-92(b)(1)(B)
- ☐ Fuel, Chemicals And Hazardous Materials - CGS Sections 22a-92(b)(1)(C), 22a-92(b)(1)(E), 22a-92(c)(1)(A)
- ☐ Transportation - CGS Sections 22a-92(b)(10)(F), 22a-92(c)(1)(F), 22a-92(c)(1)(G), 22a-92(c)(1)(H)
- ☐ Solid Waste - CGS Section 22a-92(a)(2)
- ☐ Dams, Dikes and Reservoirs - CGS Section 22a-92(a)(2)
- ☐ Cultural Resources - CGS Section 22a-92(b)(1)(J)
- ☐ Open Space and Agricultural Lands - CGS Section 22a-92(a)(2)

* applicable to all proposed activities

## Part III: Consistency With Applicable Statutory Coastal Use and Activity Goals and Policies

Explain how the proposed activity is consistent with the applicable coastal activities goals and policies identified in Part II and describe any mitigation necessary to offset adverse impacts:

## Part IV: Identification of Applicable Coastal Resources and Coastal Resource Policies

Identify the coastal resources and associated statutory policies that apply to your project by placing a check mark in the appropriate space(s) in the following table.

| Coastal Resources | on-site | adjacent to work site | off-site but potentially affected by the project |
|---|---|---|---|
| General Resources* - CGS Sections 22a-93(7), 22a-92(a)(2) | X | X | X |
| Beaches & Dunes - CGS Sections 22a-93(7)(C), 22a-92-(b)(2)(C), 22a-92(c)(1)(K) | | | |
| Bluffs & Escarpments - CGS Sections 22a-93(7)(A), 22a-92(b)(2)(A) | | | |
| Coastal Hazard Area - CGS Sections 22a-93(7)(H), 22a-92(a)(2), 22a-92(b)(2)(F), 22a-92(b)(2)(J), 22a-92(c)(2)(B), 22a-92(a)(5) | | | |
| Coastal Waters & Estuarine Embayments - CGS Sections 22a-93(5), 22a-93(7)(K), 22a-93(7)(L), 22a-93(7)(G), 22a-92(a)(2), 22a-92(c)(2)(A) | | | |
| Developed Shorefront - CGS Sections 22a-93(7)(I), 22a-92(b)(2)(G) | | | |
| Freshwater Wetlands and Watercourses - CGS Sections 22a-93(7)(F), 22a-92(a)(2) | | | |
| Intertidal Flats - CGS Sections 22a-93(7)(D), 22a-92(b)(2)(D), 22a-92(c)(1)(K) | | | |
| Islands - CGS Sections 22a-93(7)(J), 22a-92(b)(2)(H) | | | |
| Rocky Shorefront - CGS Sections 22a-93(7)(B), 22a-92(b)(2)(B) | | | |
| Shellfish Concentration Areas - CGS Sections 22a-93(7)(N), 22a-92(c)(1)(I) | | | |
| Shorelands - CGS Sections 22a-93(7)(M), 22a-92(b)(2)(I) | | | |
| Tidal Wetlands - CGS Sections 22a-93(7)(E), 22a-92(a)(2), 22a-92(b)(2)(E), 22a-92(c)(1)(B) | | | |

* applicable to all proposed activities

## Part V: Consistency with Applicable Statutory Coastal Resource Goals and Policies

Explain how the proposed activity is consistent with the applicable statutory coastal resource goals and policies identified in Part IV and describe any mitigation necessary to offset adverse impacts:

## Part V: Consistency with Applicable Statutory Coastal Resource Goals and Policies (Cont.)

## Part VI: Identification of Potential Adverse Impacts

Identify the adverse impact categories that apply to the proposed activity. The "applicable" space must be checked if the proposed activity has the potential to generate any adverse impacts defined in the Coastal Management Act and referred to in the following table. If the category is applicable to the proposed activity, you may describe in Part VII project design features which may eliminate or minimize the potential for identified adverse impacts.

| Potential Resource Impacts | Applicable | Not Applicable |
|---|---|---|
| Characteristics & Functions of Resources - CGS Section 22a-93(15)(H) | | x |
| Coastal Flooding - CGS Section 22a-93(15)(E) | | x |
| Coastal Waters Circulation Patterns - CGS Section 22a-93(15)(B) | | x |
| Drainage Patterns - CGS Section 22a-93(15)(D) | | x |
| Patterns of Shoreline Erosion and Accretion - CGS Section 22a-93(15)(C) | | x |
| Visual Quality - CGS Section 22a-93(15)(F) | | x |
| Water Quality - CGS Section 22a-93(15)(A) | | x |
| Wildlife, Finfish, Shellfish Habitat - CGS Section 22a-93(15)(G) | | x |

| Potential Impacts on Water Dependent Uses | Applicable | Not Applicable |
|---|---|---|
| Locating a non-water-dependent use on a site suited to or planned for a water-dependent use - CGS Section 22a-93(17) | | x |
| Replacing an existing water-dependent use with a non-water-dependent use - CGS Section 22a-93(17) | | x |
| Siting a non-water-dependent use which reduces or eliminates public access to marine or tidal waters - CGS Section 22a-93(17) | | x |

## Part VII: Consistency with Statutory Adverse Impact Policies

Explain how all potential adverse impacts identified, as applicable, in Part VI have been avoided, eliminated or minimized.

NA

## Part VIII: Remaining Adverse Impacts

Identify any adverse impacts which remain after incorporating all measures to eliminate or minimize such adverse impacts, and explain why no feasible and prudent alternatives exist that would further avoid or reduce such impacts.

NA



Covidien_North Haven_2011_PermitApp_NonCBI - 000078