INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
(800) 451-6027
www.IN.gov/idem

TO: Interested Parties / Applicant

DATE: April 7, 2005

RE: Symmetry Medical - Othy Division / 085-21029-00059

FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision: Approval - Registration

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to IC 4-21.5-3-4(d) this order is effective when it is served. When served by U.S. mail, the order is effective three (3) calendar days from the mailing of this notice pursuant to IC 4-21.5-3-2(e).

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

(1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
(2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
(3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

(1) the name and address of the person making the request;
(2) the interest of the person making the request;
(3) identification of any persons represented by the person making the request;
(4) the reasons, with particularity, for the request;
(5) the issues, with particularity, proposed for considerations at any hearing; and
(6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FN-REGIS.dot 1/10/05

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April 7, 2005

Steve Littlejohn
Symmetry Medical – Othy Division
486 West 350 North
Warsaw, Indiana 46580

Re: Registered Construction and Operation Status,
085-21029-00059

Dear Mr. Littlejohn:

On March 28, 2005, the Office of Air Quality (OAQ) received a letter from Symmetry Medical – Othy Division requesting that the permit be updated to include new equipment consisting of two (2) natural gas-fired water evaporators, each rated at 0.2 million british thermal units (MMBtu). Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following emission units of a medical instrument manufacturing company, located at 486 West 350 North, Warsaw, Indiana 46580 (the North Street plant), and 2094 North Boeing Drive, Warsaw, Indiana 46582 (the Boeing Plant), is classified as registered:

The following emission units at the North Street Plant:

(a) One (1) metal fabrication process, with a maximum throughput rate of 200 lbs/hr, consisting of the following:

(1) Eight (8) grinders.

(2) Thirty-five (35) CNC lathes.

(3) Forty-seven (47) milling machines.

(4) Two (2) electrical discharge machines (EDMs).

(5) Cutting and grinding instruments.

(6) One (1) metal inert gas (MIG) welding station, with a maximum wire consumption rate of 0.05 lbs/hr mild steel wire, controlled by a Torit dust collector.

(7) Four (4) tungsten inert gas (TIG) stations, each with a maximum wire consumption rate less than 625 lbs/day.

(8) Two (2) oxyacethylene stations, each with a maximum cutting rate of less than 3,400 inches per hour of stock with one (1) inch thickness.

(9) Six (6) TIG stations, each with a maximum metal consumption of 2.43 lbs/hr.

(10) Six (6) CNC vertical machining centers.

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(11) Four (4) EDM rams.

(b) One (1) polishing process, including forty-two (42) polishing stations, identified as PJC-01 through PJC-42, with a total throughput rate of 200 lbs/hr, each controlled by a dust collector.

(c) Nineteen (19) natural gas fired heaters, including the following:

(1) One (1) natural gas fired heater, identified as H-1, with a maximum heat input capacity of 0.8 MMBtu/hr.

(2) One (1) natural gas fired heater, identified as H-2, with a maximum heat input capacity of 0.17 MMBtu/hr.

(3) Two (2) natural gas fired heaters, identified as H-3 and H-4, each with a maximum heat input capacity of 0.1 MMBtu/hr.

(4) One (1) natural gas fired heater, identified as H-5, with a maximum heat input capacity of 0.08 MMBtu/hr.

(5) One (1) natural gas fired heater, identified as H-6, with a maximum heat input capacity of 0.15 MMBtu/hr.

(6) One (1) natural gas fired heater, identified as H-7, with a maximum heat input capacity of 0.154 MMBtu/hr.

(7) One (1) natural gas fired heater, identified as HVAC#1, with a maximum heat input capacity of 1.2 MMBtu/hr.

(8) One (1) natural gas fired heater, identified as HVAC#2, with a maximum heat input capacity of 0.6 MMBtu/hr.

(9) One (1) natural gas fired heater, identified as HVAC#3, with a maximum heat input capacity of 0.8 MMBtu/hr.

(10) One (1) natural gas fired heater, identified as HVAC#4, with a maximum heat input capacity of 1.5 MMBtu/hr.

(11) One (1) natural gas fired heater, identified as HVAC#5, with a maximum heat input capacity of 0.5 MMBtu/hr.

(12) One (1) natural gas fired heater, identified as HVAC#6, with a maximum heat input capacity of 0.6 MMBtu/hr.

(13) One (1) natural gas fired heater, identified as HVAC#7, with a maximum heat input capacity of 0.9 MMBtu/hr.

(14) Two (2) natural gas fired heaters, identified as HVAC#8 and HVAC#9, each with a maximum heat input capacity of 0.188 MMBtu/hr.

(15) Two (2) natural gas fired heaters, identified as HVAC#10 and HVAC#11, each with a maximum heat input capacity of 0.388 MMBtu/hr.

(16) One (1) natural gas fired heater, identified as ID48, with a maximum heat input capacity of 0.049 MMBtu/hr.

(d) Two (2) natural gas-fired water evaporators, identified as EV-01 and EV-02, constructed in 2005, each with a maximum heat input capacity of 0.2 MMBtu/hr, and exhausting to stack vents EVSV-01 and EVSV-02, respectively.

The following emission units at the Boeing Plant:

(a) One (1) machining and milling process, constructed in 2004, with a maximum throughput rate of 181 lbs/hr, consisting of the following:

(1) One (1) CNC grinder.

(2) Four (4) CNC lathes.

(3) Four (4) CNC vertical machining centers.

(4) Three (3) electrical discharge machines (EDM) for wire.

(5) Four (4) laser cutters.

(6) Two (2) electric ovens.

(7) Six (6) standard lathes.

(8) Eleven (11) vertical mills.

(9) Four (4) surface grinders.

(10) Seven (7) hydraulic presses.

(b) One (1) polishing process, constructed in 2004, with a maximum throughput rate of 172 lbs/hr, consisting of the following:

(1) Eight (8) polishing jacks, identified as D-1 through D-8, each controlled by a dust collector.

(2) Five (5) shot blasters, identified as SB-1 through SB-5, using glass beads as the blast media, each controlled by a dust collector.

(c) Five (5) parts washers, identified as W1 through W5, constructed in 2004, each with a maximum solvent usage less than 145 gallons per 12 months, using non-halogenated solvents.

(d) One (1) natural gas fired heater, identified as #3107, constructed in 2004, with a maximum heat input capacity of 0.4 MMBtu/hr.

The following conditions shall be applicable:

(a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period as measured

according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

(b) Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), Particulate emissions from each of the following processes shall be limited to the pounds per hour limits listed in the table below:

Process	Max. Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
Metal Fabricating Process at North Street Plant	200	0.88
Polishing Process at North Street Plant	200	0.88
Machining and Milling Process at Boeing Plant	181	0.82
Polishing Process at Boeing Plant	172	0.79

The pounds per hour limitations were calculated using the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

(c) Pursuant to 326 IAC 8-3-2 (Cold Cleaning Operations), the Permittee shall comply with the following operating requirements for each of the parts washers (W1 through W5):

(1) Equip the cleaner with a cover;

(2) Equip the cleaner with a facility for draining cleaned parts;

(3) Close the degreaser cover whenever parts are not being handled in the cleaner;

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label summarizing the operation requirements; and

(6) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

(d) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for each of the parts washers (W1 through W5), the owner or operator shall ensure that the following control equipment requirements are met for each of the cold cleaner degreasing units:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius (38^{O}C) (one hundred degrees Fahrenheit (100^{O}F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9^{O}C) (one hundred twenty degrees Fahrenheit (120^{O}F)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

(e) Pursuant 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), for each of the parts washers (W1 through W5), the owner or operator shall ensure that the following operating requirements are met for each of the cold cleaner degreasing units:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or unit dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

(f) Any change or modification that would increase the potential to emit of Volatile Organic Compounds (VOCs) or a combination of hazardous air pollutants (HAPs) to 25 tons per year or greater, or that of individual HAP to 10 tons per year or greater, shall require prior approval of IDEM, Office of Air Quality

This registration is a revised registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
Indianapolis, IN 46204

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Nathan C. Bell, 100 North Senate Avenue, Indianapolis, Indiana, 46204, at 317-234-3350 or at 1-800-451-6027 (ext 43350).

Sincerely,

Original signed by

Nysa L. James, Section Chief
Permits Branch
Office of Air Quality

NCB
cc: File - Kosciusko County
Kosciusko County Health Department
IDEM Northern Regional Office
Air Compliance - Doyle Houser
Permit Tracking
Compliance Data Section
Administrative and Development

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name:	Symmetry Medical - Othy Division
Address (North Street Plant): **Address (Boeing Plant):**	486 West 350 North, Warsaw, Indiana 46580 2094 North Boeing Drive, Warsaw, Indiana 46582,
City:	Warsaw
Authorized individual:	Steve Littlejohn
Phone #:	(574) 267-8700
Registration #:	085-21029-00059

I hereby certify that Symmetry Medical - Othy Division is still in operation and is in compliance with the requirements of Registration 085-21029-00059.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration Revision

Source Background and Description

Source Name:	**Symmetry Medical – Othy Division**
Address (North Street Plant):	**486 West 350 North, Warsaw, Indiana 46580**
Address (Boeing Plant):	**2094 North Boeing Drive, Warsaw, Indiana 46582,**
County:	**Kosciusko**
SIC Code:	**3842**
Registration No.:	**085-21029-00059**
Permit Reviewer:	**Nathan C. Bell**

On March 28, 2005, the Office of Air Quality (OAQ) received an application from Symmetry Medical – Othy Division relating to the construction and operation of two (2) natural gas-fired water evaporators that are being added to the existing stationary medical instrument manufacturing plant.

History

The source consists of two plants, the North Street Plant and the Boeing Plant, that are considered to be a single source (see "Source Definition" below).

Source Definition

This medical instrument manufacturing company consists of two (2) plants:

(1) North Street Plant, an existing plant, located at 486 West 350 North, Warsaw, Indiana 46580, started operation in 1996 (SIC code: 3842); and

(2) Boeing Plant, to be constructed in 2004, located at 2094 North Boeing Drive, Warsaw, Indiana 46582, started operation in 2004 (SIC code: 3842).

Since the two (2) plants have the same SIC codes, manufacture the same products, are owned by the same company, and are located 2.6 miles apart, IDEM, OAQ has determined that North Street Plant and Boeing Plant are considered a single source.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following emission units at the North Street Plant:

(a) Two (2) natural gas-fired water evaporators, identified as EV-01 and EV-02, constructed in 2005, each with a maximum heat input capacity of 0.2 MMBtu/hr, and exhausting to stack vents EVSV-01 and EVSV-02, respectively.

Permitted Emission Units and Pollution Control Equipment

The following emission units at the North Street Plant:

(a) One (1) metal fabrication process, with a maximum throughput rate of 200 lbs/hr, consisting of the following:

(1) Eight (8) grinders.

(2) Thirty-five (35) CNC lathes.

(3) Forty-seven (47) milling machines.

(4) Two (2) electrical discharge machines (EDMs).

(5) Cutting and grinding instruments.

(6) One (1) metal inert gas (MIG) welding station, with a maximum wire consumption rate of 0.05 lbs/hr mild steel wire, controlled by a Torit dust collector.

(7) Four (4) tungsten inert gas (TIG) stations, each with a maximum wire consumption rate less than 625 lbs/day.

(8) Two (2) oxyacethylene stations, each with a maximum cutting rate of less than 3,400 inches per hour of stock with one (1) inch thickness.

(9) Six (6) TIG stations, each with a maximum metal consumption of 2.43 lbs/hr.

(10) Six (6) CNC vertical machining centers.

(11) Four (4) EDM rams.

(b) One (1) polishing process, including forty-two (42) polishing stations, identified as PJC-01 through PJC-42, with a total throughput rate of 200 lbs/hr, each controlled by a dust collector.

(c) Nineteen (19) natural gas fired heaters, including the following:

(1) One (1) natural gas fired heater, identified as H-1, with a maximum heat input capacity of 0.8 MMBtu/hr.

(2) One (1) natural gas fired heater, identified as H-2, with a maximum heat input capacity of 0.17 MMBtu/hr.

(3) Two (2) natural gas fired heaters, identified as H-3 and H-4, each with a maximum heat input capacity of 0.1 MMBtu/hr.

(4) One (1) natural gas fired heater, identified as H-5, with a maximum heat input capacity of 0.08 MMBtu/hr.

(5) One (1) natural gas fired heater, identified as H-6, with a maximum heat input capacity of 0.15 MMBtu/hr.

(6) One (1) natural gas fired heater, identified as H-7, with a maximum heat input capacity of 0.154 MMBtu/hr.

(7) One (1) natural gas fired heater, identified as HVAC#1, with a maximum heat input capacity of 1.2 MMBtu/hr.

(8) One (1) natural gas fired heater, identified as HVAC#2, with a maximum heat input capacity of 0.6 MMBtu/hr.

(9) One (1) natural gas fired heater, identified as HVAC#3, with a maximum heat input capacity of 0.8 MMBtu/hr.

(10) One (1) natural gas fired heater, identified as HVAC#4, with a maximum heat input capacity of 1.5 MMBtu/hr.

(11) One (1) natural gas fired heater, identified as HVAC#5, with a maximum heat input capacity of 0.5 MMBtu/hr.

(12) One (1) natural gas fired heater, identified as HVAC#6, with a maximum heat input capacity of 0.6 MMBtu/hr.

(13) One (1) natural gas fired heater, identified as HVAC#7, with a maximum heat input capacity of 0.9 MMBtu/hr.

(14) Two (2) natural gas fired heaters, identified as HVAC#8 and HVAC#9, each with a maximum heat input capacity of 0.188 MMBtu/hr.

(15) Two (2) natural gas fired heaters, identified as HVAC#10 and HVAC#11, each with a maximum heat input capacity of 0.388 MMBtu/hr.

(16) One (1) natural gas fired heater, identified as ID48, with a maximum heat input capacity of 0.049 MMBtu/hr.

The following emission units at the Boeing Plant:

(a) One (1) machining and milling process, constructed in 2004, with a maximum throughput rate of 181 lbs/hr, consisting of the following:

(1) One (1) CNC grinder.

(2) Four (4) CNC lathes.

(3) Four (4) CNC vertical machining centers.

(4) Three (3) electrical discharge machines (EDM) for wire.

(5) Four (4) laser cutters.

(6) Two (2) electric ovens.

(7) Six (6) standard lathes.

(8) Eleven (11) vertical mills.

(9) Four (4) surface grinders.

(10) Seven (7) hydraulic presses.

(b) One (1) polishing process, constructed in 2004, with a maximum throughput rate of 172 lbs/hr, consisting of the following:

(1) Eight (8) polishing jacks, identified as D-1 through D-8, each controlled by a dust collector.

(2) Five (5) shot blasters, identified as SB-1 through SB-5, using glass beads as the blast media, each controlled by a dust collector.

(c) Five (5) parts washers, identified as W1 through W5, constructed in 2004, each with a maximum solvent usage less than 145 gallons per 12 months, using non-halogenated solvents.

(d) One (1) natural gas fired heater, identified as #3107, constructed in 2004, with a maximum heat input capacity of 0.4 MMBtu/hr.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted emission units operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Exemption #085-15794-00059, issued on September 12, 2002.

(b) Registration #085-19142-00059, issued on September 24, 2004.

All conditions from previous approvals were incorporated into this permit.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on March 28, 2004.

Emission Calculations

See Appendix A of this document for detailed emissions calculations for the following emission units:

(a) Polishing jacks and shot blasters;
(b) Natural gas-fired heaters;
(c) Degreasing operations; and
(d) Metal inter gas (MIG) welding operations.

Based on the previous approvals for this source, emissions of regulated pollutants and hazardous air pollutants (HAPs) are negligible for the following emission units at the North Street Plant and Boeing Plant:

(a) Milling and machining operations (grinders, lathes, milling machines, EDMs, cutting machines, CNC machining centers, EDM rams, presses);
(b) Electric ovens;
(c) Tungsten inert gas (TIG) stations; and
(d) Oxyacethylene stations

Potential to Emit of the Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential to Emit (tons/year)
PM	11.32
PM10	11.56
SO_2	0.03
NO_x	4.23
VOC	0.3
CO	3.55

HAPs	Potential to Emit (tons/yr)
Diethanolamine	0.01
Benzene	negligible
Dichlorobenzene	negligible
Formaldehyde	negligible
n-Hexane	0.08
Toluene	negligible
Lead	negligible
Cadmium	negligible
Chromium	negligible
Cobalt	negligible
Manganese	negligible
Nickel	negligible
Total HAPs	0.09

(a) The PTE (as defined in 326 IAC 2-1.1-1(16)) of regulated criteria pollutants are less than twenty-five (25) tons per year, but the PTE of particulate matter (PM or PM-10) is greater than five (5) tons per year and/or the PTE of all other regulated criteria pollutants are greater than ten (10) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-5.5. A registration will be issued.

(b) The PTE (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(c) Fugitive Emissions
Since this type of operation is not in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset.

County Attainment Status

The source is located in Kosciusko County.

Pollutant	Status
PM10	Attainment or Unclassifiable
SO_2	Attainment
NO_2	Attainment or Unclassifiable
1-Hour Ozone	Attainment or Unclassifiable
8-Hour Ozone	Attainment or Unclassifiable
CO	Attainment or Unclassifiable
Lead	Attainment or Unclassifiable

(a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NOx emissions are considered when evaluating the rule applicability relating to the ozone standard. Kosciusko County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions and NOx were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(b) Kosciusko County has been classified as attainment or unclassifiable in Indiana for all the other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	0.19
PM10	0.43
SO_2	0.03
NO_x	4.23
VOC	0.3
CO	3.55
Combination HAPs	0.09
Worse Case HAP	0.08

(a) This new source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

(b) This new source is not a Emission Offset major stationary source because no regulated nonattainment pollutant is emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, is not subject to the Part 70 Permit requirements because the PTE of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons per year.

This status is based on the potential to emit calculations of the source (see Appendix A).

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.

(b) This source is not subject to the requirements of 40 CFR 63, Subpart DDDDD, (63.7480 through 63.7575), NESHAPs for Industrial, Commercial, and Institutional Boilers and Process Heaters, because the source is not a major source of HAPs.

(c) This source is not subject to the requirements of the 40 CFR Subpart T (63.460 through 63.470), NESHAP for for Halogenated Solvent Cleaning, because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the permit for this source.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source was constructed after the applicability date of August 7, 1977, however, it is not one of the 28 listed source categories defined in 326 IAC 2-2-1(y)(1), no major modifications were done to this source, and the uncontrolled potential to emit of all attainment regulated pollutants is less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The requirements of 326 IAC 2-4.1 are not applicable to this source, since the potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is located in Kosciusko County, it is not required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, and it does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (VOC rules: General Reduction Requirements for New Facilities)

The requirements of 326 IAC 8-1-6 are not applicable, since each of the emission units at this source does not have the potential to emit greater than twenty-five (25) tons of VOCs per year.

State Rule Applicability – Metal Fabricating, Machining and Milling, and Polishing Processes

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Particulate emissions from each of the following process shall be limited to the pounds per hour limits listed in the table below:

Process	Max. Throughput Rate (lbs/hr)	Particulate Emission Limit (lbs/hr)
Metal Fabricating Process at North Street Plant	200	0.88
Polishing Process at North Street Plant	200	0.88
Machining and Milling Process at Boeing Plant	181	0.82
Polishing Process at Boeing Plant	172	0.79

The pounds per hour limitations were calculated using the following equation:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

The use of dust collectors for the polishing units ensures compliance with the limits above.

State Rule Applicability – Natural Gas Combustion Sources

326 IAC 4-2-2 (Incinerators)

The natural gas-fired heaters and water evaporators are not incinerators, as defined by 326 IAC 1-2-34, since they do not burn waste sustances. Therefore, these ovens are not subject to 326 IAC 4-2-2.

326 IAC 6-2 (Particulate Emissions from Indirect Heating Units)

The natural gas-fired heaters and water evaporators are not subject to 326 IAC 6-2 as they are not sources of indirect heating.

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(14), each of the natural gas-fired heaters and water evaporators are exempt from the requirements of 326 IAC 6-3, because they each have a potential particulate emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

326 IAC 7-1 (Sulfur dioxide emission limitations: applicability)

The natural gas-fired heaters and water evaporators are each not subject to the requirements of 326 IAC 7-1, because the potential and the actual emissions are less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

State Rule Applicability – Parts Washers (W1 through W5)

326 IAC 8-3-2 (Cold Cleaning Operations)

Pursuant to 326 IAC 8-3-1 (Organic Solvent Degreasing Operations), the parts washers (W1 through W5) are each subject to the requirements of 326 IAC 8-3-2 (Cold Cleaner Operations), since they were each constructed after the applicability date of January 1, 1980. Pursuant to this rule, the Permittee shall:

(a) Equip the cleaner with a cover;

(b) Equip the cleaner with a facility for draining cleaned parts;

(c) Close the degreaser cover whenever parts are not being handled in the cleaner;

(d) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(e) Provide a permanent, conspicuous label summarizing the operation requirements;

(f) Store waste solvent only in covered containers and not dispose of waste solvent or transfer it to another party, in such a manner that greater than twenty percent (20%) of the waste solvent (by weight) can evaporate into the atmosphere.

326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control)

Pursuant to 326 IAC 8-3 (Organic Solvent Degreasing Operations), each of the parts washers (W1 through W5) are subject to the requirements of 326 IAC 8-3-5, since each of the units were constructed after the July 1, 1990 applicability date. Pursuant 326 IAC 8-3-5(a), for each of the cold cleaner degreasing units, the owner or operator shall ensure that the following control equipment requirements are met for each of the cold cleaner degreasing units:

(1) Equip the degreaser with a cover. The cover must be designed so that it can be easily operated with one (1) hand if:

(A) The solvent volatility is greater than two (2) kiloPascals (fifteen (15) millimeters of mercury or three-tenths (0.3) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$));

(B) The solvent is agitated; or

(C) The solvent is heated.

(2) Equip the degreaser with a facility for draining cleaned articles. If the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$)), then the drainage facility must be internal such that articles are enclosed under the cover while draining. The drainage facility may be external for applications where an internal type cannot fit into the cleaning system.

(3) Provide a permanent, conspicuous label which lists the operating requirements outlined in 326 IAC 8-3-5(b).

(4) The solvent spray, if used, must be a solid, fluid stream and shall be applied at a pressure which does not cause excessive splashing.

(5) Equip the degreaser with one (1) of the following control devices if the solvent volatility is greater than four and three-tenths (4.3) kiloPascals (thirty-two (32) millimeters of mercury) or six-tenths (0.6) pounds per square inch) measured at thirty-eight degrees Celsius ($38^{O}C$) (one hundred degrees Fahrenheit ($100^{O}F$)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius ($48.9^{O}C$) (one hundred twenty degrees Fahrenheit ($120^{O}F$)):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent is used is insoluble in, and heavier than, water.

(C) Other systems of demonstrated equivalent control such as a refrigerated chiller of carbon adsorption. Such systems shall be submitted to the U.S. EPA as a SIP revision.

326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control)

Pursuant to 326 IAC 8-3 (Organic Solvent Degreasing Operations), each of the parts washers (W1 through W5) are subject to the requirements of 326 IAC 8-3-5, since each unit was constructed after the July 1, 1990 applicability date. Pursuant 326 IAC 8-3-5(b), for each of the cold cleaner degreasing units, the owner or operator shall ensure that the following operating requirements are met for each of the cold cleaner degreasing units:

(1) Close the cover whenever articles are not being handled in the degreaser.

(2) Drain cleaned articles for at least fifteen (15) seconds or unit dripping ceases.

(3) Store waste solvent only in covered containers and prohibit the disposal or transfer of waste solvent in any manner in which greater than twenty percent (20%) of the waste solvent by weight could evaporate.

326 IAC 20-6-1 (Halogenated Solvent Cleaning)

This source is not subject to the requirements of the 326 IAC 20-6-1, since the degreasing operations do not use a solvent that contains any of the halogenated compounds listed in 326 IAC 20-6-1(a).

State Rule Applicability - Welding Operations

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(9), the metal inert gas (MIG) welding station is exempt from the requirements of 326 IAC 6-3, because the potential to consume welding wire is less than six hundred twenty-five (625) pounds per day.

State Rule Applicability - Torch Cutting Operations

326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1(b)(9), each of the two (2) oxyacethylene stations are exempt from the requirements of 326 IAC 6-3, because each station has a maximum cutting rate of less than 3,400 inches per hour of stock with one (1) inch thickness

Conclusion

The operation of this medical instrument manufacturing plant shall be subject to the conditions of the Registration No.: 085-21029-00059.

Appendix A: Emissions Calculations
Emission Summary

Company Name: Symmetry Medical - Othy Division
Address (North Street Plant): 486 West 350 North, Warsaw, IN 46580
Address (Boeing Plant): 2094 North Boeing Drive, Warsaw, IN 46582
Permit Number: 085-21029
Plt ID: 085-00059
Reviewer: Nathan C. Bell
Date: March 30, 2005

	Uncontrolled Potential Emissions (tons/year)					
		Emissions Generating Activity				
Category	Pollutant	Polishing and Shotblasting	Natural Gas Combustion	Parts Washers	MIG Welding Stations	**TOTAL**
Criteria Pollutants	PM	11.23	0.08		1.2E-03	11.32
	PM10	11.23	0.32		1.2E-03	11.56
	SO2		2.5E-02			0.03
	NOx		4.23			4.23
	VOC		0.23	0.10		0.3
	CO		3.55			3.55
Hazardous Air Pollutants	Diethanolamine			0.01		0.01
	Benzene		8.9E-05			8.9E-05
	Dichlorobenzene		5.1E-05			5.1E-05
	Formaldehyde		3.2E-03			3.2E-03
	n-Hexane		0.08			0.08
	Toluene		1.4E-04			1.4E-04
	Lead		2.1E-05			2.1E-05
	Cadmium		4.7E-05			4.7E-05
	Chromium		5.9E-05		2.2E-07	5.9E-05
	Cobalt				2.2E-07	2.2E-07
	Manganese		1.6E-05		7.0E-05	8.6E-05
	Nickel		8.9E-05		2.2E-07	8.9E-05
	Totals	**0**	**0.08**	**0.01**	**7.0E-05**	**0.09**
					Worse Case HAP	**0.08**

Total emissions based on rated capacity at 8,760 hours/year.

	Controlled Potential Emissions (tons/year)					
		Emissions Generating Activity				
Category	Pollutant	Polishing and Shotblasting	Natural Gas Combustion	Parts Washers	MIG Welding Stations	**TOTAL**
Criteria Pollutants	PM	0.11	0.08		1.2E-03	0.19
	PM10	0.11	0.32		1.2E-03	0.43
	SO2		2.5E-02			0.03
	NOx		4.23			4.23
	VOC		0.23	0.10		0.3
	CO		3.55			3.55
Hazardous Air Pollutants	Diethanolamine			0.01		0.01
	Benzene		8.9E-05			8.9E-05
	Dichlorobenzene		5.1E-05			5.1E-05
	Formaldehyde		3.2E-03			3.2E-03
	n-Hexane		0.08			0.08
	Toluene		1.4E-04			1.4E-04
	Lead		2.1E-05			2.1E-05
	Cadmium		4.7E-05			4.7E-05
	Chromium		5.9E-05		2.2E-07	5.9E-05
	Cobalt				2.2E-07	2.2E-07
	Manganese		1.6E-05		7.0E-05	8.6E-05
	Nickel		8.9E-05		2.2E-07	8.9E-05
	Totals	**0**	**0.08**	**0.01**	**7.0E-05**	**0.09**
					Worse Case HAP	**0.08**

Total emissions based on rated capacity at 8,760 hours/year.

Appendix A: Emission Calculations
PM10 and PM10 Emissions
From the Polishing Process

Company Name: **Symmetry Medical - Othy Division**
Address (North Street Plant): **486 West 350 North, Warsaw, IN 46580**
Address (Boeing Plant): **2094 North Boeing Drive, Warsaw, IN 46582**
Permit Number: **085-21029**
Plt ID: **085-00059**
Reviewer: **Nathan C. Bell**
Date: **March 30, 2005**

North Street Plant

Potential PM/PM10 emissions before control

One (1) polishing process, including forty-two (42) polishing stations, identified as PJC-01 through PJC-42, with a total throughput rate of 200 lbs/hr, each controlled by a dust collector with 99% control efficiency.

Dry dust collected (42 dust collectors) =	3.60	tons/yr	
Potential PM/PM10 emissions =	Dust collected (tons/yr) / Control Efficiency		
=	3.60	tons/yr /	0.99
=	**3.64**	**tons/yr**	**before control**
=	0.83	lb/hr	before control

Potential PM/PM10 emissions after control

Dust out =	Potential emissions (tons/yr) * (1 - control efficiency)		
=	3.64	tons/yr * (1-0.99)	
=	**3.6E-02**	**tons/yr**	**after control**
=	2.0E-01	lb/day	after control
=	8.3E-03	lb/hr	after control

Boeing Plant

Dust Collection Control Efficiciency = 99%

Unit ID	Max. Throughput Rate (lbs/hr)	*PM/PM10 Loss %	PTE of PM/PM10 (before control) (lbs/hr)	PTE of PM/PM10 (before control) (tons/yr)	PTE of PM/PM10 (after control) (lbs/hr)	PTE of PM/PM10 (after control) (tons/yr)
8 Polishing Jacks	172	0.2%	1.72	7.53	0.02	0.08
5 Shot Blasters	172	1.0%	0.01	0.06	1.5E-04	6.5E-04
Total				**7.60**		**0.08**

* This information is provided by the source based on the dust collected from the process and the mass balance method.

Methodology

PTE of PM/PM10 before Control (lbs/hr) = Max. Throughput Rate (lbs/hr) x PM/PM10 Loss %

PTE of PM/PM10 before Control (tons/yr) = Max. Throughput Rate (lbs/hr) x PM/PM10 Loss % x 8760 hrs/yr x 1 ton/2000 lbs

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **Symmetry Medical - Othy Division**
Address (North Street Plant): **486 West 350 North, Warsaw, IN 46580**
Address (Boeing Plant): **2094 North Boeing Drive, Warsaw, IN 46582**
Permit Number: **085-21029**
Plt ID: **085-00059**
Reviewer: **Nathan C. Bell**
Date: **March 30, 2005**

		Pollutant	PM*	PM10*	SO2	NOx**	VOC	CO
		Emission Factor (lb/MMCF)	1.9	7.6	0.6	100	5.5	84.0
Emission Unit	Combined Total Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr	Potential Emission tons/yr					
			PM*	PM10*	SO2	NOx**	VOC	CO
Heater H-1 through H-7	1.6	13.61	0.013	0.052	0.004	0.681	0.037	0.572
HVAC #1 through #11	7.3	63.53	0.060	0.241	0.019	3.176	0.175	2.668
Heater ID48	0.049	0.43	0.000	0.002	0.000	0.021	0.001	0.018
Heater #3107	0.4	3.50	0.003	0.013	0.001	0.175	0.010	0.147
Water Evaporators	0.40	3.50	3.3E-03	0.013	0.001	0.175	0.010	0.147
Totals	**9.66**		**0.080**	**0.321**	**0.025**	**4.229**	**0.233**	**3.552**

Pollutant	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Emission Factor (lb/MMCF)	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
	Potential Emission tons/yr									
Emission Unit	Benzene	DCB	Formaldehyde	Hexane	Toluene	Pb	Cd	Cr	Mn	Ni
Heater H-1 through H-7	1.4E-05	8.2E-06	5.1E-04	0.012	2.3E-05	3.4E-06	7.5E-06	9.5E-06	2.6E-06	1.4E-05
HVAC #1 through #11	6.7E-05	3.8E-05	2.4E-03	0.057	1.1E-04	1.6E-05	3.5E-05	4.4E-05	1.2E-05	6.7E-05
Heater ID48	4.5E-07	2.6E-07	1.6E-05	0.000	7.3E-07	1.1E-07	2.4E-07	3.0E-07	8.2E-08	4.5E-07
Heater #3107	3.7E-06	2.1E-06	1.3E-04	0.003	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Water Evaporators	3.7E-06	2.1E-06	1.3E-04	0.003	6.0E-06	8.8E-07	1.9E-06	2.5E-06	6.7E-07	3.7E-06
Totals	**8.9E-05**	**5.1E-05**	**3.2E-03**	**0.076**	**1.4E-04**	**2.1E-05**	**4.7E-05**	**5.9E-05**	**1.6E-05**	**8.9E-05**

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32
The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Methodology

Potential Throughput (MMCF) = Combined Total Heat Input Capacity (MMBtu/hr) * 8,760 hrs/yr * 1 MMCF/1,000 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) * Emission Factor (lb/MMCF) / 2,000 lb/ton
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu, MMCF = 1,000,000 Cubic Feet of Gas

Abbreviations

PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
SO2 = Sulfur Dioxide
NOx = Nitrous Oxides
VOC - Volatile Organic Compounds
CO = Carbon Monoxide
DCB = Dichlorobenzene
Pb = Lead
Cd = Cadmium
Cr = Chromium
Mn = Manganese
Ni = Nickel

Appendix A: Emission Calculations
VOC Emissions
From Five (5) Parts Washers (W1 through W5)

Company Name: Symmetry Medical - Othy Division
Address (North Street Plant): 486 West 350 North, Warsaw, IN 46580
Address (Boeing Plant): 2094 North Boeing Drive, Warsaw, IN 46582
Permit Number: 085-21029
Plt ID: 085-00059
Reviewer: Nathan C. Bell
Date: March 30, 2005

Volatile Organic Compounds (VOCs)

Unit	Material	Density (lbs/gal)	Weight % VOC	Maximum Usage (gal/day)	PTE of VOC (lbs/day)	PTE of VOC (tons/yr)
W1	Inpro Clean 1300*	10.02	5%	0.097	0.05	0.01
W2	Inpro Clean 1300*	10.02	5%	0.097	0.05	0.01
W3	Inpro Clean 1300*	10.02	5%	0.097	0.05	0.01
W4	Dusqueeze**	8.22	28%	0.142	0.33	0.06
W5	Inpro Clean 1300*	10.02	5%	0.097	0.05	0.01
Total						**0.10**

* Inpro Clean 1300 is a low volatility (excluding water) alkaline liquid cleaner containing potassium phosphate and proprietary organic compounds (surfactants, anti-foaming agents, etc.), but does not contain any regulated HAPs. For this TSD it is assumed that Inpro Clean 1300 will be used for metal cleaning at a concentration of 5% in water, with the cleaning solution have a worse case volatile organic compound (VOC) content of 5% by weight.
** Dusqueeze has a VOC content of 28% by weight (2.33 lb VOC/gal cleaner)

METHODOLOGY
PTE of VOC (lbs/day) = Density (lbs/gal) x Weight % VOC x Max. Usage (gal/day)
PTE of VOC (tons/yr) = Density (lbs/gal) x Weight % VOC x Max. Usage (gal/day) x 365 days/yr x 1 ton/2000 lbs

Hazardous Air Pollutants (HAPs)

Unit	Material	Density (Lb/Gal)	Maximum Usage (gal/day)	Weight % Diethanolamine	Diethanolamine Emissions (tons/yr)
W4	Dusqueeze	8.22	0.142	5.0%	0.01
				Totals	**0.01**

Dusqueeze contains the regulated HAP 2,2'-Iminobisethanol (a.k.a. Diethanolamine, CAS# 111-42-2)

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Maximum Usage (gal/day) * Weight % HAP * 365 days/yr * 1 ton/2000 lbs

Appendix A: Emissions Calculations
Welding Operations

Company Name: Symmetry Medical - Othy Division
Address (North Street Plant): 486 West 350 North, Warsaw, IN 46580
Address (Boeing Plant): 2094 North Boeing Drive, Warsaw, IN 46582
Permit Number: 085-21029
Plt ID: 085-00059
Reviewer: Nathan C. Bell
Date: March 30, 2005

Particulate Matter (PM) and Hazardous Air Pollutants (HAPs)

PROCESS	Max. electrode consumption per station (lbs/hr)	Max. electrode consumption per station (lbs/day)	Number of Stations	Max. electrode consumption (lbs/year)	EMISSION FACTORS* (lb pollutant/lb electrode)					EMISSIONS (lbs/hr)					HAPS (lbs/hr)
WELDING					PM = PM10	Cr	Co	Mn	Ni	PM = PM10	Cr	Co	Mn	Ni	
Gas Metal Arc Welding (ER70S)	0.050	1.20	1	438	5.4E-03	1.0E-06	1.0E-06	3.2E-04	1.0E-06	2.7E-04	5.0E-08	5.0E-08	1.6E-05	5.0E-08	1.6E-05
Total Potential Emissions lbs/hr										2.7E-04	5.0E-08	5.0E-08	1.6E-05	5.0E-08	1.6E-05
Total Potential Emissions lbs/day										6.5E-03	1.2E-06	1.2E-06	3.8E-04	1.2E-06	3.9E-04
Total Potential Emissions tons/year										1.2E-03	2.2E-07	2.2E-07	7.0E-05	2.2E-07	7.0E-05

Abbreviations

Cr = Chromium
Co = Cobalt
Mn = Manganese
Ni = Nickel

METHODOLOGY

Maximum electrode consuption rate = 60 lbs/year (maximum) * 6.54654 (potential factor) / 8,760 hrs/year
Emission Factors are default values for Gas Metal Arc Welding (GMAW) (SCC 3-09-052) Electrode Type ER70S, AP-42
Welding emissions, lb/hr: (# of stations) * (max. lbs of electrode used/hr/station) * (emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.