INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: August 22, 2012

RE: Greatbatch Medical

FROM: Matthew Stuckey, Branch 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, Suite N 501E, 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 1/2/08

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REGISTRATION
OFFICE OF AIR QUALITY

Greatbatch Medical
3735 North Arlington Avenue
Indianapolis, Indiana 46218

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

Registration No. R097-31985-00699	
Issued by: Nathan C. Bell, Section Chief Permits Branch Office of Air Quality	Issuance Date: August 22, 2012

SECTION A SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates a stationary medical tray manufacturing facility.

Source Address:	3735 North Arlington Ave., Indianapolis, IN 46218
General Source Phone Number:	317-454-8839
SIC Code:	3841 (Surgical and Medical Instruments and Apparatus)
County Location:	Marion County
Source Location Status:	Nonattainment for PM 2.5 standard Attainment for all other criteria pollutants
Source Status:	Registration

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

Machining and Assembly Operation

(a) Two (2) HAAS VF2 metal cutting machines, identified as EU252 and EUL262, installed in 1997 and 2000, respectively, with maximum design throughputs of 1.94 and 1.55 pounds of metal per hour, respectively, utilizing Trim Sol ND/SF as a lubricant, with emissions exhausted inside the building.

(b) Two (2) AMADA PEGA 345 turret press machines, identified as EU243 and EUL319, installed in 1996 and 2001, respectively, with maximum design throughputs of 67.58 and 15.11 pounds of material per hour, respectively, with emissions exhausted inside the building.

(c) One (1) AMADA tool grinder turret press, indentified as EUL268, installed in 2000, utilizing Trim Sol ND/SF lubricant, with a maximum design throughput of 0.05 pound of material per hour, with emissions exhausted inside the building.

(d) One (1) AMADA VIPROS 345 turret press machine, identified EU422, installed in 1993, with a maximum design throughput of 22.23 pounds of material per hour, with emissions exhausted inside the building.

(e) One (1) AMADA VIPROS 357 turret press, identified as L314, installed in 2001, with a maximum design throughput of 12.65 pounds of material hour, with emissions exhausted inside the building.

(f) Two (2) stainless steel deburr machines, identified as EU505 and EU415, installed in 2007 and 1992, respectively, each with a maximum design throughput of 27.59 pounds of metal per hour, with particulate emissions controlled by one (1) dust collector, identified as DC508, with emissions exhausted through Stack 1.

(g) Two (2) aluminum deburr machines, identified as EU237 and EUL326, and one (1) Clark Buffer, identified as EU113B, installed in 1994, 2004, and 1989, respectively, each with a maximum design throughput of 69.68 pounds of metal per hour, with particulate

emissions controlled by one (1) dust collector, identified as DCL327, with emissions exhausted through Stack 2.

(h) One (1) Gardner buffer, identified as EUL274, installed in 1989, with a maximum design throughput of 8.12 pounds of material per hour, with emissions exhausted inside the building.

(i) One (1) Baldor Buffer, identified as EU317, installed in 2008, with a maximum throughput rate of 8.12 pounds of material per hour, with emissions exhausted inside the building.

(j) Two (2) belt sanders, identified as BS1 and BS2, both installed in 2011, each with a maximum design throughput of 8.46 pounds of material per hour, with emissions exhausted inside the building.

(k) One (1) Delta 14' band saw, identified as EUL310, installed in 2008, with a maximum design throughput of 8.12 pounds of material per hour, with emissions exhausting inside the building.

(l) Four (4) SWECO vibratory bowl deburr machines, identified as VB114, EU305, EU246, and EU255, each installed in 1989, each with a maximum design throughput of 8.12 pounds of material per hour, utilizing A&B TR 300L lubricant, with emissions exhausted inside the building.

(m) One (1) TIPTON burnisher tumbler deburr machine, identified as EUL301, installed in 1989, with a maximum design throughput of 12.89 pounds of material per hour, utilizing A&B TR 300L lubricant, with emissions exhausted inside the building.

(n) One (1) Trumpf laser cutter, identified as EUTrumpf, installed in 2010, with a maximum design throughput of 8.38 pounds of metal per hour, with emissions controlled by one (1) machine controller, identified as MC3, with all emissions exhausted inside the building.

(o) One (1) LASMAC laser cutter, identified as EU507, installed in 2008, with a maximum design throughput of 1.39 pounds of metal per hour, with emissions controlled by one (1) dust collector, identified as DC4, with emissions exhausted inside the building.

(p) One (1) LASMAC laser cutter, identified as EUL341, installed in 2007, with a maximum design throughput of 3.07 pounds of metal per hour, with emissions controlled by one (1) dust collector, identified as DC5, with emissions exhausted inside the building.

(q) Three (3) HAAS VF2 CNC mill machines, identified as L320, L321, and L328, installed in 2003, 2003, and 2004, respectively, each with a maximum design throughput of 0.72 pounds of material per hour, with emissions exhausted inside the building.

(r) Two (2) HAAS VF1 CNC cutting machines, identified as EU195 and EU401, both installed in 1991, each with a maximum design throughput of 2.46 pounds of material per hour, with emissions exhausted inside the building.

(s) One (1) HAAS VF3 CNC mill, identified as EUL336, installed in 1996, with a maximum design throughput rate of 0.54 pounds of plastic per hour, with emissions exhausted inside the building.

(t) One (1) water jet cutting machine, identified as EUL302, installed in 2002, with a maximum design throughput of 4.2 pound of stainless steel per hour, with emissions exhausted inside the building.

(u) One (1) water jet cutting machine, identified as EUL333, installed in 2005, with a design throughput of 2.8 pounds of silicone per hour, with emissions exhausted inside the building.

(v) One (1) DMS router, identified as EUDMS, installed in 2010, with a maximum design throughput of 11.74 pound of plastic per hour, with emissions exhausted inside the building.

(w) One (1) SCMI panel saw, identified as EU219, installed in 1989, with a maximum design throughput of 0.27 pound plastic per hour, with emissions exhausted inside the building.

(x) One (1) Powermatic Drill Press DP-66, identified as EUDP66, installed in 2011, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(y) One (1) Clausing Drill Press (DP-82), identified as EUDP82, installed in 2011, with a maximum design throughput of 0.27 pound per metal per hour, with emissions exhausted inside the building.

(z) One (1) HVBS Jet Band Saw, identified as EUHVBS, installed in 1989, with a maximum design throughput of 8.12 pound per metal per hour, with emissions exhausted inside the building.

(aa) One (1) Abrasive Saw, identified as EUABR, installed in 1989, with a maximum design throughput of 8.12 pound per metal per hour, with emissions exhausted inside the building.

(bb) One (1) Jet Drill Press, identified as EUL312, installed in 1989, with a maximum design throughput of 0.27 pound per metal per hour, with emissions exhausted inside the building.

Silk Screen Operation

(cc) One (1) automatic ATW silkscreen machine, identified as EUL330, installed in 2004, with emissions exhausted inside the building

(dd) Four (4) additional Manual silkscreen tables, identified as EUSC1, EUSC2, EUSC3, and EUSC4, installed in 1989, with emissions exhausted inside the building.

Welding Operation

(ee) One (1) MIG welding station, identified as EU510, installed in 1989, with a maximum electrode consumption rate of 0.8 pound per hour, with emissions exhausting inside the building.

(ff) One (1) TIG welding station, identified as EU509, installed in 1989, with a maximum electrode consumption rate of 0.99 pound per hour, with emissions exhausted inside the building.

Shot Blasting Operation

(gg) Two (2) Shot blast units, identified as EU501, and EUL316, installed in 2007 and 2003, respectively, with emissions controlled by one (1) dust collector, identified as DCL303, with emissions exhausted through Stack 3.

Parts Washing Operation

(hh) One (1) parts washer, identified as EUPW1, installed in 2012, with emissions exhausted inside the building.

Tool Room Operation

(ii) One (1) Clausing drill press, identified as EU143, installed in 2005, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(jj) One (1) DOALL band saw, identified as EUM04, installed in 2007, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(kk) One (1) ECLIPSE surface grinder, identified as EU78, installed in 1989, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(ll) One (1) HARDING BROTHERS lathe, identified as EU514, installed in 1989, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(mm) One (1) Ibarmia drill press, identified as EU61, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(nn) One (1) LeBlond Makino Lathe, identified as EU197, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(oo) One (1) Lee Surface Grinder, identified as EU250, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(pp) Two (2) Tree Mills, identified as EU247 and EU198, each installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

Space Heaters

(qq) Ten (10) space heaters, identified as SH1-SH6 and SH12-SH15, each with a maximum heat input capacity of 0.03 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(rr) One (1) space heater, identified as SH7, with a maximum heat input capacity of 0.01 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(ss) Five (5) space heaters, identified as SH8, SH16, and SH20 - SH22, each with a maximum heat input capacity of 0.001 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(tt) One (1) space heater, identified as SH11, with a maximum heat input capacity of 0.003 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(uu) One (1) space heater, identified as SH9, with a maximum heat input capacity of 0.05 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(vv) Four (4) space heaters, identified as SH10 and SH17 - SH19, each with a maximum heat input capacity of 0.02 British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

(a) Violation of any conditions of this registration.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.

(d) For any cause which establishes in the judgment of IDEM the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of permits established prior to Registration No. R097-31985-00699 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

(a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.

(b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

(c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), 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.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

B.8 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this registration, the Registrant shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this registration or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Registrant's control, the PMPs cannot be prepared and maintained within the above time frame, the Registrant may extend the date an additional ninety (90) days provided the Registrant notifies:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The Registrant shall implement the PMPs.

(b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Registrant to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions.

(c) To the extent the Registrant is required by 40 CFR Part 60 or 40 CFR Part 63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such OMM Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

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 registration:

(a) Opacity shall not exceed an average of forty percent (30%) 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 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.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

SECTION D.1 OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

Machining and Assembly Operation

(a) Two (2) HAAS VF2 metal cutting machines, identified as EU252 and EUL262, installed in 1997 and 2000, respectively, with maximum design throughputs of 1.94 and 1.55 pounds of metal per hour, respectively, utilizing Trim Sol ND/SF as a lubricant, with emissions exhausted inside the building.

(b) Two (2) AMADA PEGA 345 turret press machines, identified as EU243 and EUL319, installed in 1996 and 2001, respectively, with maximum design throughputs of 67.58 and 15.11 pounds of material per hour, respectively, with emissions exhausted inside the building.

(c) One (1) AMADA tool grinder turret press, indentified as EUL268, installed in 2000, utilizing Trim Sol ND/SF lubricant, with a maximum design throughput of 0.05 pound of material per hour, with emissions exhausted inside the building.

(d) One (1) AMADA VIPROS 345 turret press machine, identified EU422, installed in 1993, with a maximum design throughput of 22.23 pounds of material per hour, with emissions exhausted inside the building.

(e) One (1) AMADA VIPROS 357 turret press, identified as L314, installed in 2001, with a maximum design throughput of 12.65 pounds of material hour, with emissions exhausted inside the building.

(f) Two (2) stainless steel deburr machines, identified as EU505 and EU415, installed in 2007 and 1992, respectively, each with a maximum design throughput of 27.59 pounds of metal per hour, with particulate emissions controlled by one (1) dust collector, identified as DC508, with emissions exhausted through Stack 1.

(g) Two (2) aluminum deburr machines, identified as EU237 and EUL326, and one (1) Clark Buffer, identified as EU113B, installed in 1994, 2004, and 1989, respectively, each with a maximum design throughput of 69.68 pounds of metal per hour, with particulate emissions controlled by one (1) dust collector, identified as DCL327, with emissions exhausted through Stack 2.

(h) One (1) Gardner buffer, identified as EUL274, installed in 1989, with a maximum design throughput of 8.12 pounds of material per hour, with emissions exhausted inside the building.

(i) One (1) Baldor Buffer, identified as EU317, installed in 2008, with a maximum throughput rate of 8.12 pounds of material per hour, with emissions exhausted inside the building.

(j) Two (2) belt sanders, identified as BS1 and BS2, both installed in 2011, each with a maximum design throughput of 8.46 pounds of material per hour, with emissions exhausted inside the building.

(k) One (1) Delta 14' band saw, identified as EUL310, installed in 2008, with a maximum design throughput of 8.12 pounds of material per hour, with emissions exhausting inside the building.

(l) Four (4) SWECO vibratory bowl deburr machines, identified as VB114, EU305, EU246, and EU255, each installed in 1989, each with a maximum design throughput of 8.12 pounds of material per hour, utilizing A&B TR 300L lubricant, with emissions exhausted inside the building.

(m) One (1) TIPTON burnisher tumbler deburr machine, identified as EUL301, installed in 1989, with a maximum design throughput of 12.89 pounds of material per hour, utilizing A&B TR 300L lubricant, with emissions exhausted inside the building.

(n) One (1) Trumpf laser cutter, identified as EUTrumpf, installed in 2010, with a maximum design throughput of 8.38 pounds of metal per hour, with emissions controlled by one (1) machine controller, identified as MC3, with all emissions exhausted inside the building.

(o) One (1) LASMAC laser cutter, identified as EU507, installed in 2008, with a maximum design throughput of 1.39 pounds of metal per hour, with emissions controlled by one (1) dust collector, identified as DC4, with emissions exhausted inside the building.

(p) One (1) LASMAC laser cutter, identified as EUL341, installed in 2007, with a maximum design throughput of 3.07 pounds of metal per hour, with emissions controlled by one (1) dust collector, identified as DC5, with emissions exhausted inside the building.

(q) Three (3) HAAS VF2 CNC mill machines, identified as L320, L321, and L328, installed in 2003, 2003, and 2004, respectively, each with a maximum design throughput of 0.72 pounds of material per hour, with emissions exhausted inside the building.

(r) Two (2) HAAS VF1 CNC cutting machines, identified as EU195 and EU401, both installed in 1991, each with a maximum design throughput of 2.46 pounds of material per hour, with emissions exhausted inside the building.

(s) One (1) HAAS VF3 CNC mill, identified as EUL336, installed in 1996, with a maximum design throughput rate of 0.54 pounds of plastic per hour, with emissions exhausted inside the building.

(t) One (1) water jet cutting machine, identified as EUL302, installed in 2002, with a maximum design throughput of 4.2 pound of stainless steel per hour, with emissions exhausted inside the building.

(u) One (1) water jet cutting machine, identified as EUL333, installed in 2005, with a design throughput of 2.8 pounds of silicone per hour, with emissions exhausted inside the building.

(v) One (1) DMS router, identified as EUDMS, installed in 2010, with a maximum design throughput of 11.74 pound of plastic per hour, with emissions exhausted inside the building.

(w) One (1) SCMI panel saw, identified as EU219, installed in 1989, with a maximum design throughput of 0.27 pound plastic per hour, with emissions exhausted inside the building.

(x) One (1) Powermatic Drill Press DP-66, identified as EUDP66, installed in 2011, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(y) One (1) Clausing Drill Press (DP-82), identified as EUDP82, installed in 2011, with a maximum design throughput of 0.27 pound per metal per hour, with emissions exhausted inside the building.

(z) One (1) HVBS Jet Band Saw, identified as EUHVBS, installed in 1989, with a maximum design throughput of 8.12 pound per metal per hour, with emissions exhausted inside the building.

(aa) One (1) Abrasive Saw, identified as EUABR, installed in 1989, with a maximum design throughput of 8.12 pound per metal per hour, with emissions exhausted inside the building.

(bb) One (1) Jet Drill Press, identified as EUL312, installed in 1989, with a maximum design throughput of 0.27 pound per metal per hour, with emissions exhausted inside the building.

Welding Operation

(ee) One (1) MIG welding station, identified as EU510, installed in 1989, with a maximum electrode consumption rate of 0.8 pound per hour, with emissions exhausting inside the building.

(ff) One (1) TIG welding station, identified as EU509, installed in 1989, with a maximum electrode consumption rate of 0.99 pound per hour, with emissions exhausted inside the building.

Shot Blasting Operation

(gg) Two (2) Shot blast units, identified as EU501, and EUL316, installed in 2007 and 2003, respectively, with emissions controlled by one (1) dust collector, identified as DCL303, with emissions exhausted through Stack 3.

Tool Room Operation

(ii) One (1) Clausing drill press, identified as EU143, installed in 2005, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(jj) One (1) DOALL band saw, identified as EUM04, installed in 2007, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(kk) One (1) ECLIPSE surface grinder, identified as EU78, installed in 1989, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(ll) One (1) HARDING BROTHERS lathe, identified as EU514, installed in 1989, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(mm) One (1) Ibarmia drill press, identified as EU61, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(nn) One (1) LeBlond Makino Lathe, identified as EU197, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(oo) One (1) Lee Surface Grinder, identified as EU250, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(pp) Two (2) Tree Mills, identified as EU247 and EU198, each installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

Space Heaters

(qq) Ten (10) space heaters, identified as SH1-SH6 and SH12-SH15, each with a maximum heat input capacity of 0.03 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(rr) One (1) space heater, identified as SH7, with a maximum heat input capacity of 0.01 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(ss) Five (5) space heaters, identified as SH8, SH16, and SH20 - SH22, each with a maximum heat input capacity of 0.001 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(tt) One (1) space heater, identified as SH11, with a maximum heat input capacity of 0.003 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(uu) One (1) space heater, identified as SH9, with a maximum heat input capacity of 0.05 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(vv) Four (4) space heaters, identified as SH10 and SH17 - SH19, each with a maximum heat input capacity of 0.02 British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Emission Limitations [326 IAC 6.5]

Pursuant to 326 IAC 6.5, the particulate matter (PM) from the machining and assembly operation, welding operation, shot blasting operation, tool room operation, and the space heaters shall each be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for the machining and assembly operation, the shot blasting operation, and their associated control devices. Section B- Preventive Maintenance Plan contains the Registrant's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.1.3 Particulate Control

(a) In order to comply with Condition D.1.1, the dust collectors for particulate control shall be in operation and control emissions from the machining and assembly operation and shot blasting operation at all times these facilities are in operation.

(b) In the event that dust collector is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Registrant shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

Parts Washing Operation

(hh) One (1) parts washer, identified as EUPW1, installed in 2012, with emissions exhausted inside the building.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.2.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), for cold cleaning operations constructed after January 1, 1980, the Registrant 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; and

(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.

D.2.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]

(a) Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Registrant shall ensure that the following control equipment requirements are met:

(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°C) (one hundred degrees Fahrenheit (100°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°C) (one hundred degrees Fahrenheit (100°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 subsection (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°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°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.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the Registrant shall ensure that the following operating requirements are met:

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

(2) Drain cleaned articles for at least fifteen (15) seconds or until 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.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

REGISTRATION
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

Company Name:	Greatbatch Medical
Address:	3735 North Arlington Avenue
City:	Indianapolis, Indiana 46218
Phone Number:	317-454-8839
Registration No.:	R097-31985-00699

I hereby certify that Greatbatch Medical is :
☐ still in operation.
☐ no longer in operation.

I hereby certify that Greatbatch Medical is :
☐ in compliance with the requirements of Registration No. R097-31985-00699.
☐ not in compliance with the requirements of Registration No. R097-31985-00699.

Authorized Individual (typed):
Title:
Signature:
Phone Number:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Description and Location

Source Name:	**Greatbatch Medical**
Source Location:	**3735 North Arlington Avenue, Indianapolis, IN 46218**
County:	**Marion**
SIC Code:	**3841 (Surgical and Medical Instruments and Apparatus)**
Registration No.:	**R097-31985-00699**
Permit Reviewer:	**Deena Patton**

On June 5, 2012, the Office of Air Quality (OAQ) received an application from Greatbatch Medical related to the construction and operation of a new medical tray manufacturing facility.

Existing Approvals

There have been no previous approvals issued to this source.

County Attainment Status

The source is located in Marion County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O3	Attainment effective November 8, 2007, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Attainment effective July 10, 2000, for the part of Franklin Township bounded by Thompson Road on the south; Emerson Avenue on the west; Five Points Road on the east; and Troy Avenue on the north. Attainment effective July 10, 2000, for the part of Wayne Township bounded by Rockville Road on the north; Girls School Road on the east; Washington Street on the south; and Bridgeport Road on the west. The remainder of the county is not designated.

[1]Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005.
Basic nonattainment designation effective federally April 5, 2005, for $PM_{2.5}$.

(a) Ozone Standards

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 ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Marion County has been classified as nonattainment for $PM_{2.5}$ in 70 FR 943 dated January 5, 2005. On May 8, 2008, U.S. EPA promulgated specific New Source Review rules for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. Therefore, direct $PM_{2.5}$ and SO_2 emissions were reviewed pursuant to the requirements of Nonattainment New Source Review, 326 IAC 2-1.1-5. See the State Rule Applicability – Entire Source section.

(c) Other Criteria Pollutants
Marion County has been classified as attainment or unclassifiable in Indiana for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-5.1-2 (Registrations) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Greatbatch Medical on June 5, 2012, relating to the operation of a medical tray manufacturing facility.

The following is a list of the new emission units and pollution control devices:

Machining and Assembly Operation

(a) Two (2) HAAS VF2 metal cutting machines, identified as EU252 and EUL262, installed in 1997 and 2000, respectively, with maximum design throughputs of 1.94 and 1.55 pounds of metal per hour, respectively, utilizing Trim Sol ND/SF as a lubricant, with emissions exhausted inside the building.

(b) Two (2) AMADA PEGA 345 turret press machines, identified as EU243 and EUL319, installed in 1996 and 2001, respectively, with maximum design throughputs of 67.58 and 15.11 pounds of material per hour, respectively, with emissions exhausted inside the building.

(c) One (1) AMADA tool grinder turret press, indentified as EUL268, installed in 2000, utilizing Trim Sol ND/SF lubricant, with a maximum design throughput of 0.05 pound of material per hour, with emissions exhausted inside the building.

(d) One (1) AMADA VIPROS 345 turret press machine, identified EU422, installed in 1993, with a maximum design throughput of 22.23 pounds of material per hour, with emissions exhausted inside the building.

(e) One (1) AMADA VIPROS 357 turret press, identified as L314, installed in 2001, with a maximum design throughput of 12.65 pounds of material hour, with emissions exhausted inside the building.

(f) Two (2) stainless steel deburr machines, identified as EU505 and EU415, installed in 2007 and 1992, respectively, each with a maximum design throughput of 27.59 pounds of metal per hour, with particulate emissions controlled by one (1) dust collector, identified as DC508, with emissions exhausted through Stack 1.

(g) Two (2) aluminum deburr machines, identified as EU237 and EUL326, and one (1) Clark Buffer, identified as EU113B, installed in 1994, 2004, and 1989, respectively, each with a maximum design throughput of 69.68 pounds of metal per hour, with particulate emissions controlled by one (1) dust collector, identified as DCL327, with emissions exhausted through Stack 2.

(h) One (1) Gardner buffer, identified as EUL274, installed in 1989, with a maximum design throughput of 8.12 pounds of material per hour, with emissions exhausted inside the building.

(i) One (1) Baldor Buffer, identified as EU317, installed in 2008, with a maximum throughput rate of 8.12 pounds of material per hour, with emissions exhausted inside the building.

(j) Two (2) belt sanders, identified as BS1 and BS2, both installed in 2011, each with a maximum design throughput of 8.46 pounds of material per hour, with emissions exhausted inside the building.

(k) One (1) Delta 14' band saw, identified as EUL310, installed in 2008, with a maximum design throughput of 8.12 pounds of material per hour, with emissions exhausting inside the building.

(l) Four (4) SWECO vibratory bowl deburr machines, identified as VB114, EU305, EU246, and EU255, each installed in 1989, each with a maximum design throughput of 8.12 pounds of material per hour, utilizing A&B TR 300L lubricant, with emissions exhausted inside the building.

(m) One (1) TIPTON burnisher tumbler deburr machine, identified as EUL301, installed in 1989, with a maximum design throughput of 12.89 pounds of material per hour, utilizing A&B TR 300L lubricant, with emissions exhausted inside the building.

(n) One (1) Trumpf laser cutter, identified as EUTrumpf, installed in 2010, with a maximum design throughput of 8.38 pounds of metal per hour, with emissions controlled by one (1) machine controller, identified as MC3, with all emissions exhausted inside the building.

(o) One (1) LASMAC laser cutter, identified as EU507, installed in 2008, with a maximum design throughput of 1.39 pounds of metal per hour, with emissions controlled by one (1) dust collector, identified as DC4, with emissions exhausted inside the building.

(p) One (1) LASMAC laser cutter, identified as EUL341, installed in 2007, with a maximum design throughput of 3.07 pounds of metal per hour, with emissions controlled by one (1) dust collector, identified as DC5, with emissions exhausted inside the building.

(q) Three (3) HAAS VF2 CNC mill machines, identified as L320, L321, and L328, installed in 2003, 2003, and 2004, respectively, each with a maximum design throughput of 0.72 pounds of material per hour, with emissions exhausted inside the building.

(r) Two (2) HAAS VF1 CNC cutting machines, identified as EU195 and EU401, both installed in 1991, each with a maximum design throughput of 2.46 pounds of material per hour, with emissions exhausted inside the building.

(s) One (1) HAAS VF3 CNC mill, identified as EUL336, installed in 1996, with a maximum design throughput rate of 0.54 pounds of plastic per hour, with emissions exhausted inside the building.

(t) One (1) water jet cutting machine, identified as EUL302, installed in 2002, with a maximum design throughput of 4.2 pound of stainless steel per hour, with emissions exhausted inside the building.

(u) One (1) water jet cutting machine, identified as EUL333, installed in 2005, with a design throughput of 2.8 pounds of silicone per hour, with emissions exhausted inside the building.

(v) One (1) DMS router, identified as EUDMS, installed in 2010, with a maximum design throughput of 11.74 pound of plastic per hour, with emissions exhausted inside the building.

(w) One (1) SCMI panel saw, identified as EU219, installed in 1989, with a maximum design throughput of 0.27 pound plastic per hour, with emissions exhausted inside the building.

(x) One (1) Powermatic Drill Press DP-66, identified as EUDP66, installed in 2011, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(y) One (1) Clausing Drill Press (DP-82), identified as EUDP82, installed in 2011, with a maximum design throughput of 0.27 pound per metal per hour, with emissions exhausted inside the building.

(z) One (1) HVBS Jet Band Saw, identified as EUHVBS, installed in 1989, with a maximum design throughput of 8.12 pound per metal per hour, with emissions exhausted inside the building.

(aa) One (1) Abrasive Saw, identified as EUABR, installed in 1989, with a maximum design throughput of 8.12 pound per metal per hour, with emissions exhausted inside the building.

(bb) One (1) Jet Drill Press, identified as EUL312, installed in 1989, with a maximum design throughput of 0.27 pound per metal per hour, with emissions exhausted inside the building.

Silk Screen Operation

(cc) One (1) automatic ATW silkscreen machine, identified as EUL330, installed in 2004, with emissions exhausted inside the building

(dd) Four (4) additional Manual silkscreen tables, identified as EUSC1, EUSC2, EUSC3, and EUSC4, installed in 1989, with emissions exhausted inside the building.

Welding Operation

(ee) One (1) MIG welding station, identified as EU510, installed in 1989, with a maximum electrode consumption rate of 0.8 pound per hour, with emissions exhausting inside the building.

(ff) One (1) TIG welding station, identified as EU509, installed in 1989, with a maximum electrode consumption rate of 0.99 pound per hour, with emissions exhausted inside the building.

Shot Blasting Operation

(gg) Two (2) Shot blast units, identified as EU501, and EUL316, installed in 2007 and 2003, respectively, with emissions controlled by one (1) dust collector, identified as DCL303, with emissions exhausted through Stack 3.

Parts Washing Operation

(hh) One (1) parts washer, identified as EUPW1, installed in 2012, with emissions exhausted inside the building.

Tool Room Operation

(ii) One (1) Clausing drill press, identified as EU143, installed in 2005, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(jj) One (1) DOALL band saw, identified as EUM04, installed in 2007, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(kk) One (1) ECLIPSE surface grinder, identified as EU78, installed in 1989, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(ll) One (1) HARDING BROTHERS lathe, identified as EU514, installed in 1989, with a maximum design throughput of 0.27 pound of metal per hour, with emissions exhausted inside the building.

(mm) One (1) Ibarmia drill press, identified as EU61, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(nn) One (1) LeBlond Makino Lathe, identified as EU197, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(oo) One (1) Lee Surface Grinder, identified as EU250, installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

(pp) Two (2) Tree Mills, identified as EU247 and EU198, each installed in 1989, with a maximum design throughput of 0.27 pound metal per hour, with emissions exhausted inside the building.

Space Heaters

(qq) Ten (10) space heaters, identified as SH1-SH6 and SH12-SH15, each with a maximum heat input capacity of 0.03 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(rr) One (1) space heater, identified as SH7, with a maximum heat input capacity of 0.01 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(ss) Five (5) space heaters, identified as SH8, SH16, and SH20 - SH22, each with a maximum heat input capacity of 0.001 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(tt) One (1) space heater, identified as SH11, with a maximum heat input capacity of 0.003 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(uu) One (1) space heater, identified as SH9, with a maximum heat input capacity of 0.05 million British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

(vv) Four (4) space heaters, identified as SH10 and SH17 - SH19, each with a maximum heat input capacity of 0.02 British thermal units (MMBtu) per hour, with emissions exhausted inside the building.

Enforcement Issues

IDEM is aware that equipment has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Registration

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Machining Operation	2.31	2.31	2.31	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Silkscreen Operation	0.0	0.0	0.0	0.0	0.0	2.39	0.0	0.0	0.54	0.26 (Xylene)
Welding	0.04	0.04	0.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shot Blasting	19.54	13.68	13.68	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Parts Washing Operation	0.0	0.0	0.0	0.0	0.0	0.13	0.0	0.0	0.0	0.0
Tool Room	0.01	0.01	0.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous Solvents	0.00	0.00	0.00	0.0	0.0	0.90	0.0	0.0	0.0	0.0
Space Heaters	3.7E-3	0.01	0.01	1.2E-3	0.19	0.01	0.16	232	3.6E-3	3.5E-3 (Hexane)
Paved Roads	0.08	0.02	0.004	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total PTE of Entire Source	**21.99**	**16.08**	**16.06**	**1.2E-3**	**0.19**	**3.44**	**0.16**	**232**	**0.55**	**0.26 (Xylene)**
Exemptions Levels**	5	5	5	10	10	10	25	100,000	25	10
Registration Levels**	25	25	25	25	25	25	100	100,000	25	10

negl. = negligible
*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of PM and PM10 are within the ranges listed in 326 IAC 2-5.5-1(b)(1). The PTE of all other regulated criteria pollutants are less than the ranges listed in 326 IAC 2-5.5-1(b)(1). Therefore, the source is subject to the provisions of 326 IAC 2-5.5 (Registrations). A Registration will be issued.

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) 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, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

(c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standard for Surface Coating of Metal Furniture, 40 CFR 60, Subpart EE (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not metal furniture.

(b) The requirements of the New Source Performance Standard for Automobile and Light Duty Truck Surface Coating Operations, 40 CFR 60, Subpart MM (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not automobiles and/or light duty trucks.

(c) The requirements of the New Source Performance Standard for Pressure Sensitive Tape and Label Surface Coating Operations, 40 CFR 60, Subpart RR (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not pressure sensitive tape and or labels.

(d) The requirements of the New Source Performance Standard for Industrial Surface Coating: Large Appliances, 40 CFR 60, Subpart SS (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not large appliances.

(e) The requirements of the New Source Performance Standard for Metal Coil Surface Coating, 40 CFR 60, Subpart TT (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not metal coils.

(f) The requirements of the New Source Performance Standard for the Beverage Can Surface Coating Industry, 40 CFR 60, Subpart WW (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not beverage cans.

(g) The requirements of the New Source Performance Standard for Industrial Surface Coating: Surface Coating of Plastic Parts for Business Machines, 40 CFR 60, Subpart TTT (326 IAC 12), are not included in the permit, since the silk screening operation coats metal medical trays and not plastic parts for business machines.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Halogenated Solvent Cleaning 40 CFR 63, Subpart T (63.460 through 63.470) (326 IAC 20-6), are not included in the permit, because this operation does not use a degreasing solvent that contains any of the halogenated compounds listed in 40 CFR 63.460(a).

(j) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Automobiles and Light-Duty Trucks, 40 CFR 63.3080, Subpart IIII (326 IAC 20-85), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(k) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paper and Other Web Coating, 40 CFR 63.3280, Subpart JJJJ (326 IAC 20-65), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(l) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Metal Cans, 40 CFR 63.3480, Subpart KKKK (326 IAC 20-86), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs

(m) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63.3880, Subpart MMMM (326 IAC 20-80), are not included in the permit, since the silk screening operation is not a major source of HAPs as defined in §63.3881(b).

(n) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Large Appliances, 40 CFR 63.4080, Subpart NNNN (326 IAC 20-63), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(o) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Plastic Parts and Products, 40 CFR 63.4480, Subpart PPPP (326 IAC 20-81), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(p) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Wood Building Products, 40 CFR 63.4680, Subpart QQQQ (326 IAC 20-79), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(q) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Metal Furniture, 40 CFR 63.4880, Subpart RRRR (326 IAC 20-78), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(r) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Metal Coil, 40 CFR 63.5080, Subpart SSSS (326 IAC 20-64), are not included in the permit, since the silk screening operation coats metal medical trays and is not a major source of HAPs.

(s) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD (63.7480 through 63.7575) (326 IAC 20-95), are not included in this permit, because this source is not a major source of HAPs as defined in 40 CFR 63.2.

(t) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ (63. 11193 through 63.11237), are not included in the permit, because the source does not contain boilers (as defined by 40 CFR 63.11237). This source only contains space heaters.

(u) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHHH, are not included in the permit, since this source does not include a paint stripping operation or autobody refinishing operation, and does not apply coatings containing the compounds of chromium, lead, manganese, nickel, or cadmium as defined in §63.11169(a) - (c).

(v) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) Area Source Standards for Nine Metal Fabrication and Finishing Source Categories, 40 CFR 63.11514, Subpart XXXXXX, are not included in the permit, since the source is not primarily engaged in the operations in one of the nine source categories listed in paragraphs (a)(1) through

(9) of 40 CFR 63.11514. In addition, this source does operate under any of the NAICS Codes listed in 73 FR 43000 (July 23, 2008). This source operated under NAICS Code 339112 (Surgical and Medical Instrument Manufacturing).

(w) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

Compliance Assurance Monitoring (CAM)

(x) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

(a) 326 IAC 2-5.5 (Registrations)
Registration applicability is discussed under the Permit Level Determination – Registration section above.

(b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
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. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

(c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

(d) 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:

(1) Opacity shall not exceed an average of forty percent (30%) 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 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.

(e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4.

(f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

(g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

(h) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(i) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

Machining and Assembly Operations

(j) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The machining and assembly operations are each not subject to the requirements of 326 IAC 6-3-2, since the particulate matter (PM) from each unit is less than five hundred fifty-one thousandths (0.551) pounds per hour. In addition, the machining and assembly operations are not subject to the requirements of 326 IAC 6-3, since they each are subject to the requirements of 326 IAC 6.5.

(k) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a) and 326 IAC 6.5-1-2(a), this source is subject to the requirements of 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), because this source is located in Marion County, is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10, and has potential particulate matter emissions greater than 10 tons per year.

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the machining and assembly operations shall each be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

Silk Screening Operation

(l) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The silk screening operation is not subject to the requirements of 326 IAC 6-3-2, since it does not emit particulate emissions.

(m) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
The silk screening operation is not subject to the requirements of 326 IAC 6.5, since it does not emit particulate emissions.

(n) 326 IAC 8-1-6 (New facilities; general reduction requirements)
The silk screening operation is not subject to the requirements of 326 IAC 8-1-6, since it does not have potential to emit of volatile organic compounds (VOC) equal to or greater than twenty-five (25) tons per year.

Welding Operation

(o) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The welding operation is not subject to the requirements of 326 IAC 6-3-2, since the particulate matter (PM) from the welding operation is less than five hundred fifty-one thousandths (0.551) pounds per hour. In addition, the welding operation is not subject to the requirements of 326 IAC 6-3, since it is subject to the requirements of 326 IAC 6.5.

(p) 326 IAC 6.5 (Particulate Matter Limitation Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a) and 326 IAC 6.5-1-2(a), this source is subject to the requirements

of 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), because this source is located in Marion County, is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10, and has potential to emit particulate matter.

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the welding operation shall each be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

Shot Blasting Operation

(q) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(c)(3), this rule does not apply if a particulate limitation established in 326 IAC 6.5 is more stringent than the particulate limitation established in 326 IAC 6-3-2. Since the particulate limitations established by 326 IAC 6.5-1-2 for each facility are more stringent than the particulate limitations that would be established by 326 IAC 6-3-2, the source is not subject to the requirements of 326 IAC 6-3-2.

(r) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a) and 326 IAC 6.5-1-2(a), this source is subject to the requirements of 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), because this source is located in Marion County, is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10, and has potential particulate matter emissions greater than 10 tons per year.

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the shot blasting operation shall each be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

Parts Washing Operation

(s) 326 IAC 8-1-6 (New facilities; general reduction requirements)
The parts washing operation is not subject to the requirements of 326 IAC 8-1-6. The parts washing operations potential to emit volatile organic compounds (VOC) is less than twenty-five (25) tons per year.

(t) 326 IAC 8-3 (Organic Solvent Degreasing Operation)
Pursuant to 326 IAC 8-3-1(a)(2), this source is subject to the requirements of 326 IAC 8-3-2 (Cold Cleaner Operation), because the parts washing operation is considered a new cold cleaner degreaser constructed after January 1, 1980.

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operation), for cold cleaning operations constructed after January 1, 1980, the Registrant 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; and

(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 (Cold Cleaner Degreaser Operation and Control)
Pursuant to 326 IAC 8-3-1(b)(2), this source is subject to the requirements of 326 IAC 8-3-5 (Cold Cleaner Degreaser Operation and Control), because the parts washing operation is considered a new cold cleaner degreaser constructed after July 1, 1990, and does not have a remote solvent reservoir.

Pursuant to 326 IAC 8-3-5(a) (Cold Cleaner Degreaser Operation and Control), for cold cleaner degreaser operations without remote solvent reservoirs constructed after July 1, 1990, the Registrant shall ensure that the following control equipment requirements are met:

(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°C) (one hundred degrees Fahrenheit (100°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°C) (one hundred degrees Fahrenheit (100°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 subsection (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°C) (one hundred degrees Fahrenheit (100°F)), or if the solvent is heated to a temperature greater than forty-eight and nine-tenths degrees Celsius (48.9°C) (one hundred twenty degrees Fahrenheit (120°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.

(b) Pursuant to 326 IAC 8-3-5(b) (Cold Cleaner Degreaser Operation and Control), the Registrant shall ensure that the following operating requirements are met:

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

(2) Drain cleaned articles for at least fifteen (15) seconds or until 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.

Tool Room Operation

(u) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The tool room operation is not subject to the requirements of 326 IAC 6-3-2, since the particulate matter (PM) from the tool room operation is less than five hundred fifty one thousandths (0.551) pounds per hour. In addition, the tool room operation is not subject to the requirements of 326 IAC 6-3, since it is subject to the requirements of 326 IAC 6.5.

(v) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a) and 326 IAC 6.5-1-2(a), this source is subject to the requirements of 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), because this source is located in Marion County, is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10, and has potential to emit particulate matter.

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the tool room operation shall each be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

Space Heaters

(w) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
The space heaters are not subject to the requirements of 326 IAC 6-2, since they each are not sources of indirect heating as defined in 326 IAC 1-2-19.

(x) 326 IAC 6-3 (Particulate Emission Limitations for Manufacturing Processes)
The space heaters are not subject to the requirements of 326 IAC 6-3-2, since the particulate matter (PM) from the space heaters is less than five hundred fifty one thousandths (0.551) pounds per hour. In addition, the space heaters are not subject to the requirements of 326 IAC 6-3, since they are subject to the requirements of 326 IAC 6.5.

(y) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a) and 326 IAC 6.5-1-2(a), this source is subject to the requirements of 326 IAC 6.5-1-2 (Particulate Matter Limitations Except Lake County), because this source is located in Marion County, is not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10, and has potential to emit particulate matter.

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations Except Lake County), particulate matter (PM) emissions from the space heaters shall each be limited to 0.03 grains per dry standard cubic foot (gr/dscf).

(z) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The space heaters are not subject to the requirements of 326 IAC 7-1.1, since the potential to emit sulfur dioxide (SO_2) from the space heaters is less than twenty-five (25) tons per year and ten (10) pounds per hour, respectively.

Conclusion and Recommendation

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 June 5, 2012.

The operation of this source shall be subject to the conditions of the attached proposed Registration No. R097-31985-00699. The staff recommends to the Commissioner that this Registration be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Deena Patton at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 234-5400or toll free at 1-800-451-6027 extension 4-5400.

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.in.gov/idem

Appendix A: Emissions Calculations
Summary PTE

Company Name: Greatbatch Medical
Source Address: 3735 North Arlington Ave., Indianapolis, IN 46218
Permit Number: R097-31985-00699
Reviewer: D. Patton

Uncontrolled Potential to Emit (tons/yr)											
Emission Unit/Operation	**PM**	**PM10**	**PM2.5**	**SO2**	**Nox**	**VOC**	**CO**	**GHGs as CO2e**	**HAP**	**Worst Single HAP**	
Machining Operation	2.31	2.31	2.31	-	-	-	-	-	-	-	-
Silkscreen Operation	0.00	0.00	0.00	-	-	2.39	-	-	0.54	0.26	Xylene
Welding	0.04	0.04	0.04	-	-	-	-	-	-	-	-
Shot Blasting	19.54	13.68	13.68	-	-	-	-	-	-	-	-
Parts Washing Operation	-	-	-	-	-	0.13	-	-	-	-	-
Tool Room	0.01	0.01	0.01	-	-	-	-	-	-	-	-
Miscellaneous Solvents	0.00	0.00	0.00	-	-	0.90	-	-	-	-	-
Space Heaters	3.7E-03	0.01	0.01	1.2E-03	0.19	0.01	0.16	232	3.6E-03	3.5E-03	Hexane
Paved Roads	0.08	0.02	0.004	-	-	-	-	-	-	-	-
Total	**21.99**	**16.08**	**16.06**	**1.2E-03**	**0.19**	**3.44**	**0.16**	**232**	**0.55**	**0.26**	**Xylene**

Controlled Potential to Emit (tons/yr)											
Emission Unit/Operation	**PM**	**PM10**	**PM2.5**	**SO2**	**Nox**	**VOC**	**CO**	**GHGs as CO2e**	**HAP**	**Worst Single HAP**	
Machining Operation	1.17	1.17	1.17	-	-	-	-	-	-	-	-
Silkscreen Operation	0.00	0.00	0.00	-	-	2.39	-	-	0.54	0.26	Xylene
Welding	0.04	0.04	0.04	-	-	-	-	-	-	-	-
Shot Blasting	0.98	0.68	0.68	-	-	-	-	-	-	-	-
Parts Washing Operation	-	-	-	-	-	0.13	-	-	-	-	-
Tool Room	0.01	0.01	0.01	-	-	-	-	-	-	-	-
Miscellaneous Solvents	0.00	0.00	0.00	-	-	0.90	-	-	-	-	-
Space Heaters	3.7E-03	0.01	0.01	1.2E-03	0.19	0.01	0.16	232	3.6E-03	3.5E-03	
Paved Roads	0.08	0.02	0.00	-	-	-	-	-	-	-	-
Total	**2.28**	**1.94**	**1.93**	**1.2E-03**	**0.19**	**3.44**	**0.16**	**232**	**0.55**	**0.26**	**Xylene**

Appendix A: Emission Calculations
Machining Operation PTE

Company Name: Greatbatch Medical
Source Address: 3735 North Arlington Ave., Indianapolis, IN 46218
Permit Number: R097-31985-00699
Reviewer: D. Patton

Emission Unit/ID	Dust Collector	Coolant Used	Throughput (lb/hr)	Process Weight rate (tons/hr)	Fraction Lost PM/PM10/PM2.5 *	Uncontrolled PTE PM/PM10/PM2.5 (lbs/hr)	Uncontrolled PTE PM/PM10/PM2.5 (tons/yr)	Control Effiency	Controlled PTE PM/PM10/PM2.5 (tons/yr)
HAAS Metal Cutting (EU252)	No	Trim Sol	1.94	0.0010	0.001	0.002	0.008	0.0%	0.008
HAAS Metal Cutting (EUL262)	No	Trim Sol	1.55	0.0008	0.001	0.002	0.007	0.0%	0.007
AMADA PEGA 345 (EU243)	No	None	67.58	0.0338	0.001	0.068	0.296	0.0%	0.296
AMADA PEGA 345 (EUL319)	No	None	15.11	0.0076	0.001	0.015	0.066	0.0%	0.066
AMADA tool grinder (EUL268)	No	Trim Sol	0.05	0.0000	0.001	0.000	0.000	0.0%	0.000
AMADA VIPROS 345 (EU422)	No	None	22.23	0.0111	0.001	0.022	0.097	0.0%	0.097
AMADA VIPROS 357 (EUL314)	No	None	12.65	0.0063	0.001	0.013	0.055	0.0%	0.055
Stainless deburr (EU505)	Yes	None	27.59	0.0138	0.001	0.028	0.121	99.0%	0.001
Stainless deburr (EU 415)	Yes	None	27.59	0.0138	0.001	0.028	0.121	99.0%	0.001
Aluminum deburr (EU237)	Yes	None	69.68	0.0348	0.001	0.070	0.305	99.0%	0.003
Aluminum deburr (EUL326)	Yes	None	69.68	0.0348	0.001	0.070	0.305	99.0%	0.003
Clark Buffer (EU113B)	Yes	None	69.68	0.0348	0.001	0.070	0.305	99.0%	0.003
Gardner Buffer (EUL274)	No	None	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
Baldor Buffer (EU317)	No	None	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
Belt Sander (EUBS1)	No	None	8.46	0.0042	0.001	0.008	0.037	0.0%	0.037
Belt Sander (EUBS2)	No	None	8.46	0.0042	0.001	0.008	0.037	0.0%	0.037
Delta 14' Band Saw (EUL310)	No	None	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
HVBS Jet Band Saw (EUHVBS)	No	None	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
Abrasive Saw (EUABR)	No	None	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
SWECO vibe deburr (EUVB114)	No	TR 300L	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
SWECO vibe deburr (EU305)	No	TR 300L	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
SWECO vibe deburr (EU246)	No	TR 300L	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
SWECO vibe deburr (EU255)	No	TR 300L	8.12	0.0041	0.001	0.008	0.036	0.0%	0.036
Tipton deburr (EUL301)	No	TR 300L	12.89	0.0064	0.001	0.013	0.056	0.0%	0.056
TRUMPF laser cutter (EUTRUMPF)	No	None	8.38	0.0042	0.001	0.008	0.037	0.0%	0.037
LASMAC laser cutter (EU507)	No	None	1.39	0.0007	0.001	0.001	0.006	0.0%	0.006
LASMAC laser cutter (EUL341)	No	None	3.07	0.0015	0.001	0.003	0.013	0.0%	0.013
HAAS CNC machine (EUL320)	No	None	0.72	0.0004	0.001	0.001	0.003	0.0%	0.003
HAAS VF CNC mills (EUL321)	No	None	0.72	0.0004	0.001	0.001	0.003	0.0%	0.003
HAAS CNC machine (EUL328)	No	None	0.72	0.0004	0.001	0.001	0.003	0.0%	0.003
HAAS VF1 cut machine (EU195)	No	None	2.46	0.0012	0.001	0.002	0.011	0.0%	0.011
HAAS VF1 cut machine (EU401)	No	None	2.46	0.0012	0.001	0.002	0.011	0.0%	0.011
HAAS VF CNC mills (EUL336)	No	None	0.54	0.0003	0.001	0.001	0.002	0.0%	0.002
Steel water jet (EUL302)	No	None	4.2	0.0021	0.001	0.004	0.018	0.0%	0.018
Silicone water jet (EUL333)	No	None	2.8	0.0014	0.001	0.003	0.012	0.0%	0.012
DMS router (EUDMS)	No	None	11.74	0.0059	0.001	0.012	0.051	0.0%	0.051
Jet Drill Press (EUL312)	No	None	0.27	0.0001	0.001	0.000	0.001	0.0%	0.001
SCMI panel saw (EU219)	No	None	0.27	0.0001	0.001	0.000	0.001	0.0%	0.001
Powermatic Drill Press (EUDP-66)	No	None	0.27	0.0001	0.001	0.000	0.001	0.0%	0.001
Clausing Drill Press (EUDP-82)	No	None	0.27	0.0001	0.001	0.000	0.001	0.0%	0.001
Total			**528.5**	**0.26**		**0.529**	**2.315**		**1.169**

* Note: the use of 0.001 fraction loss used in the emission calculations is based on the same methodology used for similar source (Mitsubishi Heavy Industries Climate Control , Inc. Registration 081-29555-00043, issued on September 23, 2010.)

Methodology

Uncontrolled PTE PM/PM10/PM2.5 (lbs/hr) = [Throughput (lb/hr)] * [PM/PM10/PM2.5 Emission Factor (lb/lb)]

Uncontrolled PTE PM/PM10/PM2.5 (tons/yr) = [Throughput (lb/hr)] * [PM/PM10/PM2.5 Emission Factor (lb/lb)] * [8760 hours/year] * [ton/2000 lbs]

Controlled PTE PM/PM10/PM2.5 (tons/yr) = Uncontrolled PTE PM/PM10/PM2.5 (tons/yr) * (1-Control Efficiency)

Appendix A: Emissions Calculation
VOC and Particulate
From Silkscreen Operatior

Company Name: Greatbatch Medica
Source Address: 3735 North Arlington Ave., Indianapolis, IN 4621
Permit Number: R097-31985-00699
Reviewer: D. Patton

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/yr)	Gal of Mat. (gal/unit)	Maximum (unit/hour)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC pounds per hour	Potential VOC pounds per day	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency
Liquid Haze Remover*	9.0	90.00%	40.0%	50.0%	40.0%	90.00%	2.00	0.00000	0.000	7.50	6.94	0.00	0.04	0.01	0.00	100%
ADE 677 Catalyst*	8.4	49.40%	0.0%	49.4%	0.0%	0.00%		0.00200	4.770	4.16	4.16	0.04	0.95	0.17	0.00	100%
ADE 12 Med Yellow*	9.9	31.00%	0.0%	31.0%	0.0%	0.00%		0.00200	4.770	3.07	3.10	0.03	0.71	0.13	0.00	100%
ADE 19 Fire Red*	9.0	40.00%	0.0%	40.0%	0.0%	0.00%		0.00200	4.770	3.60	3.60	0.03	0.82	0.15	0.00	100%
ADE 26 Metallic Clear*	9.1	37.00%	0.0%	37.0%	0.0%	0.00%		0.00200	4.770	3.37	3.40	0.03	0.78	0.14	0.00	100%
ADE 315 Emerald Green*	9.4	35.00%	0.0%	35.0%	0.0%	0.00%		0.00200	4.770	3.29	3.30	0.03	0.76	0.14	0.00	100%
ADE 456 HT Process Blue*	9.2	36.00%	0.0%	36.0%	0.0%	0.00%		0.00200	4.770	3.31	3.30	0.03	0.76	0.14	0.00	100%
ADE 52 Opaque Black*	9.3	35.00%	0.0%	35.0%	0.0%	0.00%		0.00200	4.770	3.26	3.30	0.03	0.76	0.14	0.00	100%
ADE 568 Permanent Magenta	9.7	34.00%	0.0%	34.0%	0.0%	0.00%		0.00200	4.770	3.30	3.30	0.03	0.76	0.14	0.00	100%
ADE 75 Opaque White*	11.8	26.00%	0.0%	26.0%	0.0%	0.00%		0.00200	4.770	3.07	3.10	0.03	0.71	0.13	0.00	100%
ADE 80 Process Yellow*	9.1	36.00%	0.0%	36.0%	0.0%	0.00%		0.00200	4.770	3.28	3.30	0.03	0.76	0.14	0.00	100%
ADE 84 Maroon*	9.2	36.00%	0.0%	36.0%	0.0%	0.00%		0.00200	4.770	3.31	3.30	0.03	0.76	0.14	0.00	100%
ADE 88 Violet*	9.0	40.00%	0.0%	40.0%	0.0%	0.00%		0.00200	4.770	3.60	3.60	0.03	0.82	0.15	0.00	100%
ADE 364 Rhodamine Red†	**9.0**	**41.00%**	**0.0%**	**41.0%**	**0.0%**	0.00%		**0.00200**	**4.770**	**3.69**	**3.70**	**0.04**	**0.85**	**0.15**	**0.00**	**100%**
Care ® Flow Agent*	7.8	51.25%	0.0%	51.3%	0.0%	0.00%		0.00200	4.770	3.99	3.99	0.04	0.91	0.17	0.00	100%
IMS 601 Stencil Remover	8.6	94.00%	94.0%	0.0%	0.0%	0.00%		0.00200	4.770	0.00	0.00	0.00	0.00	0.00	0.00	100%
RE-180 Thinner*	7.5	100.00%	0.0%	100.0%	0.0%	0.00%		0.00200	4.770	7.50	7.52	0.07	1.72	0.31	0.00	100%
Re-182 Retarder*	8.0	100.00%	0.0%	100.0%	0.0%	0.00%		0.00200	4.770	8.00	7.97	0.08	1.82	0.33	0.00	100%
S-0748 Screen Wash	7.8	100.00%	0.0%	100.0%	0.0%	0.00%	276.00	0.00000	0.000	7.75	7.75	0.00	0.00	1.07	0.00	100%
Lacquer Thinner	6.5	100.00%	0.0%	100.0%	0.0%	0.00%	42.00	0.00000	0.000	6.51	6.51	0.00	0.00	0.14	0.00	100%
Aircraft Remover	10.0	95.00%	0.0%	95.0%	0.0%	0.00%	7.00	0.00000	0.000	9.49	9.49	0.00	0.00	0.03	0.00	100%
								Worst Case PTE (worst case coating plus all solvents)				**0.26**	**6.30**	**2.39**	**0.00**	

* indicates that the Pounds VOC per gallon of coating was provided directly from the MSDS for that solvent.
†ADE 364 Rhodamine Red is the worst case paint, for the silkscreen operation Greatbatch Medical uses one type of paint at a time at the maximum usage r

METHODOLOGY

Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)
Total = Worst Coating + Sum of all solvents used

Appendix A: Emission Calculations
HAP Emission Calculations
From Silkscreen Operaton

Company Name: Greatbatch Medical
Source Address: 3735 North Arlington Ave., Indianapolis, IN 46218
Permit Number: R097-31985-00699
Reviewer: D. Patton

Material	Density (Lb/Gal)	Max Usage (gal/yr)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Toulene	Weight % Xylene	Weight % MIBK	Weight % Ethylbenzene	Weight % Naphtalene	Weight % Methylene Chloride	Weight % Methanol	Toulene Emissions (ton/yr)	Xylene Emissions (ton/yr)	MIBK Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)	Naphtalene Emissions (ton/yr)	Methylene Chloride Emissions (ton/yr)	Methanol Emissions (ton/yr)
Liquid Haze Remover*	9	2.00			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0	0	0
ADE 677 Catalyst*	8.42		0.002	4.77	0.0%	30.0%	30.0%	5.0%	0.0%	0.0%	0.0%	0	0.106	0.106	0.018	0	0	0
ADE 364 Rhodamine Red*	9		0.002	4.77	2.00%	3.00%	0.0%	0.75%	0.0%	0.0%	0.0%	0.008	0.011	0	0.003	0	0	0
Care 8 Flow Agent*	7.779		0.002	4.77	0.0%	45.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0	0.146	0	0.033	0	0	0
IMS 601 Stencil Remover	8.64		0.002	4.77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0	0	0
RE-180 Thinner*	7.5		0.002	4.77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0	0	0
Re-182 Retarder*	8		0.002	4.77	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0	0	0	0	0	0	0
S-0748 Screen Wash	7.75	276.00			0.0%	0.0%	0.0%	0.0%	2.50%	0.0%	0.0%	0	0	0	0	0.027	0	0
Lacquer Thinner	6.51	42.00			10.0%	0.0%	0.0%	0.0%	0.0%	0.0%	25.0%	0.014	0	0	0	0	0	0.034
Aircraft Remover	9.99	7.00			0.0%	5.00%	0.0%	0.0%	0.0%	100.0%	10.0%	0	0.002	0	0	0	0.035	0.003
											Totals	**0.02**	**0.26**	**0.11**	**0.05**	**0.03**	**0.03**	**0.04**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs

Combined Total =	**0.54**

Appendix A: Emissions Calculations
Welding and Thermal Cutting

Company Name: **Greatbatch Medical**
Source Address: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)	EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING			PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG) (carbon steel)	1	0.8	0.0055	0.0005			0.004	0.0004	0.0	0.0	0.0004
Tungsten Inert Gas (TIG)(carbon steel)	1	0.99	0.0055	0.0005			0.005	0.0005	0.0	0.0	0.0005
EMISSION TOTALS											
Potential Emissions lbs/hr							0.01				0.0009
Potential Emissions lbs/day							0.24				0.02
Potential Emissions tons/year							0.04				0.004

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

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.

Appendix A: Emission Calculations
Abrasive Blasting - Confined

Company Name: **Greatbatch Medical**
Source Address: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

Table 1 - Emission Factors for Abrasives

	Emission Factor (EF)	
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	

Potential to Emit Before Control		
FR = Flow rate of actual abrasive (lb/hr) =	223.03	lb/hr (per nozzle)
w = fraction of time of wet blasting =	0	%
N = number of nozzles =	2	
EF = PM emission factor for actual abrasive from Table 1 =	0.010	lb PM/ lb abrasive
PM10 emission factor ratio for actual abrasive from Table 1 =	0.70	lb PM10 / lb PM

	PM	**PM10**	
Potential to Emit (before control) =	**4.46**	**3.12**	**lb/hr**
=	**107.05**	**74.94**	**lb/day**
=	**19.54**	**13.68**	**ton/yr**

Potential to Emit After Control	**PM**	**PM10**	
Emission Control Device Efficiency =	**95.0%**	**95.0%**	
Potential to Emit (after control) =	**0.22**	**0.16**	**lb/hr**
=	**5.35**	**3.75**	**lb/day**
=	**0.98**	**0.68**	**ton/yr**

METHODOLOGY

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Potential to Emit (before control) = EF x FR x (1 - w/200) x N (where w should be entered in as a whole number (if w is 50%, enter 50))
Potential to Emit (after control) = [Potential to Emit (before control)] * [1 - control efficiency]
Potential to Emit (tons/year) = [Potential to Emit (lbs/hour)] x [8760 hours/year] x [ton/2000 lbs]

Compliance with 326 IAC 6-3-2
Allowable Emissions , E = 4.10 * P^0.67 (for weight rates up to 60,000 lb/hr)
where E = emissions in lbs/hr
P= process weight in tons/hr

	P=	446.06	lb/hr
	P=	0.22	tons/hr
Allowable PM Emissions,	E=	1.50	lbs/hr
	E=	6.57	ton/yr

The use of the control will ensure compliance with the limit above.

Appendix A: Emissions Calculations
VOC and Particulate
Parts Washing Operation

Company Name: **Greatbatch Medical**
Source Address: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Mas Usage (gal/yr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC tons per year
Crystal Clean Mineral Spirits	6.7	100.00%	0.0%	100.0%	0.0%	0.00%	40	6.67	6.67	0.13
									Total	**0.13**

Methodology
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

Appendix A: Emission Calculations
Tool Room PTE

Company Name: Greatbatch Medical
Source Address: 3735 North Arlington Ave., Indianapolis, IN 46218
Permit Number: R097-31985-00699
Reviewer: D. Patton

Emission Unit/ ID	Dust Collector	Coolant Used	Throughput (lb/hr)	Fraction Lost PM/PM10/PM2.5 *	Uncontrolled PTE PM/PM10/PM2.5 (lbs/hr)	Uncontrolled PTE PM/PM10/PM2.5 (tons/yr)	Control Efficiency	Controlled PTE PM/PM10/PM2.5 (tons/yr)
Clausing drill press (EU143)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
DOALL band saw (EUMO4)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
ECLIPSE surface grind (EU78)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Harding Lathe (EU514)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Ibarmia Drill Press (EU61)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Makino 15' Lathe (EU197)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Lee surface grinder (EU250)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Tree Vert. Mill Machine (EU198)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Tree mill machine (EU247)	No	None	0.27	0.001	2.7E-04	0.0012	0.0%	0.0012
Total					**0.0024**	**0.0106**		**0.0106**

*Note: The use of the 0.001 fraction loss used in the emission calculations is based on the same methodology used for a similar source (Mitsubishi Heavy Industries Climate Control, Inc Registration 081-29555-00043, issued on September 23, 2010)

Methodology
Uncontrolled PTE PM/PM10/PM2.5 (lbs/hr) = [Throughput (lb/hr)] * [PM/PM10/PM2.5 Emission Factor (lb/lb)
Uncontrolled PTE PM/PM10/PM2.5 (tons/yr) = [Throughput (lb/hr)] * [PM/PM10/PM2.5 Emission Factor (lb/lb)] * [8760 hours/year] * [ton/2000 lbs
Controlled PTE PM/PM10/PM2.5 (tons/yr) = Uncontrolled PTE PM/PM10/PM2.5 (tons/yr) * (1-Control Efficiency

Appendix A: Emissions Calculations
VOC and Particulate
Miscellaneous Lubricants, Sealants, and Solvents

Company Name: Greatbatch Medical
Source Address: 3735 North Arlington Ave., Indianapolis, IN 46218
Permit Number: R097-31985-00699
Reviewer: D. Patton

Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/yr)	Pounds VOC per gallon of coating less water	Pounds VOC per gallon of coating	Potential VOC tons per year	Particulate Potential (ton/yr)	Transfer Efficiency
Sealant 732	8.7	10.00%	0.0%	10.0%	0.0%	90.00%	5	0.87	0.87	0.00	0.0000	100%
WD40 Lubricant	6.8	75.00%	24.0%	51.0%	0.0%	0.00%	12	3.49	3.49	0.02	0.0000	100%
Trim Sol Lubricant*	8.4	50.00%	27.0%	23.0%	0.0%	0.00%	66	1.93	1.95	0.06	0.0000	100%
EDM Lubricant	10.4	85.00%	15.0%	70.0%	0.0%	0.00%	4	7.30	7.30	0.01	0.0000	100%
Isopropanol	8.1	100.00%	0.0%	100.0%	0.0%	0.00%	198	8.09	8.09	0.80	0.0	100%
									Totals	**0.90**	**0.00**	

*The VOC content was provided via the MSDS.

Methodology
Pounds of VOC per Gallon Coating less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Coating = (Density (lb/gal) * Weight % Organics)
Potential VOC Pounds per Hour = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr)
Potential VOC Pounds per Day = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (24 hr/day)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/hr) * (8760 hr/yr) * (1 ton/2000 lbs)
Particulate Potential Tons per Year = (units/hour) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Pounds VOC per Gallon of Solids = (Density (lbs/gal) * Weight % organics) / (Volume % solids)

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

Company Name: **Greatbatch Medical**
Source Address: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

Unit	Maximum Heat Input Capacity (MMBtu/hr)
SH1-SH6 and SH12-SH15	0.300
SH7	0.010
SH8, SH16, and SH20 - SH22	0.005
SH11	0.003
SH9	0.050
SH10 and SH17 - SH19	0.080
Totals	**0.448**

HHV mmBtu / mmscf	Potential Throughput MMCF/yr
1020	3.8

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	3.7E-03	0.015	0.015	1.2E-03	0.19	0.011	0.16

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
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
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

See page 2 for HAPs emissions calculations.

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

Company Name: **Greatbatch Medical**
Address City IN Zip: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

	HAPs - Organics				
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	4.0E-06	2.3E-06	1.4E-04	3.5E-03	6.5E-06

	HAPs - Metals				
	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	9.6E-07	2.1E-06	2.7E-06	7.3E-07	4.0E-06

Methodology is the same as page 1.

3.6E-03

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.
See Page 3 for Greenhouse Gas calculations.

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

Company Name: **Greatbatch Medical**
Address City IN Zip: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	231	0.004	0.004
Summed Potential Emissions in tons/yr	231		
CO2e Total in tons/yr	232		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: **Greatbatch Medical**
Source Address: **3735 North Arlington Ave., Indianapolis, IN 46218**
Permit Number: **R097-31985-00699**
Reviewer: **D. Patton**

Paved Roads at Industrial Site
The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Informtation (provided by source)

Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
Vehicle (entering plant) (one-way trip S-Lot)	1.0	1.0	1.0	35.0	35.0	450	0.085	0.1	31.1
Vehicle (entering plant) (one-way trip N-Lot)	7.0	1.0	1.0	28.0	28.0	375	0.071	0.1	25.9
Vehicle (leaving plant) (one-way trip S-Lot)	1.0	1.0	1.0	35.0	35.0	450	0.085	0.1	31.1
Vehicle (leaving plant) (one-way trip N-Lot)	7.0	1.0	1.0	28.0	28.0	375	0.071	0.1	25.9
		Totals	**4.0**		**126.0**			**0.3**	**114.1**

Average Vehicle Weight Per Trip = 31.5 tons/trip
Average Miles Per Trip = 0.08 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	31.5	31.5	31.5	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)
Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	2.935	0.587	0.1441	lb/mile
Mitigated Emission Factor, Eext =	2.684	0.537	0.1318	lb/mile

Process	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)
Vehicle (entering plant) (one-way trip)	0.05	0.01	0.00	0.04	0.01	0.00
Vehicle (leaving plant) (one-way trip)	0.04	0.01	0.00	0.03	0.01	0.00
Totals	**0.08**	**0.02**	**0.00**	**0.08**	**0.02**	**0.00**

Methodology
Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

Abbreviations
PM = Particulate Matter
PM10 = Particulate Matter (<10 um)
PM2.5 = Particle Matter (<2.5 um)
PTE = Potential to Emit

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: William Schulenberg
Greatbatch Medical
3735 N Arlington Avenue
Indianapolis, Indiana 46218

DATE: August 22, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Registration
097-31985-00599

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
Scott Fulton, Consultant
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Mail Code 61-53

IDEM Staff	PWAY 8/22/2012 Greatbatch Medical 097-31985-00699 (final)		
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3		Indianapolis City Council and Mayors Office 200 East Washington Street, Room E Indianapolis IN 46204 *(Local Official)*									
4		Marion County Commissioners 200 E. Washington St. City County Bldg., Suite 801 Indianapolis IN 46204 *(Local Official)*									
5		Matt Mosier Office of Sustainability 1200 S Madison Ave #200 Indianapolis IN 46225 *(Local Official)*									
6		Scott Fulton August Mack Environmental, Inc. 1302 N. Meridian Street, Suite 300 Indianapolis IN 46202 *(Consultant)*									
7		Escape Salon & Day Spa 3619 N Arlington Ave Indianapolis IN 46218 *(Affected Party)*									
8		IPL, Arlington Service Center 3600 N. Arlington Ave Indianapolis IN 46218 *(Affected Party)*									
9		D & C Pizza 3790 N. Arlington Ave. Suite B Indianapolis IN 46218 *(Affected Party)*									
10		HAWA African Hair Braiding 3790 N. Arlington Ave, Suite C Indianapolis IN 46218 *(Affected Party)*									
11		Cpreys Barber Shop 3790 N. Arlington Ave., Suite D Indianapolis IN 46218 *(Affected Party)*									
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