INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Mitchell E. Daniels, Jr.
Governor

Thomas W. Easterly
Commissioner

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

TO: Interested Parties / Applicant

DATE: March 15, 2006

RE: Delta Faucet / 031-21444-00007

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

Notice of Decision – Approval

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 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from 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
FNPER-AM.dot 1/10/05

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Mr. Larry Meyer
Delta Faucet
P.O. Box 47
Greensburg, IN 47240

March 15, 2006

Re: **031-21444-00007**
Notice-only change to
MSOP 031-11706-00007

Dear Mr. Larry Meyer:

Delta Faucet was issued a permit on May 25, 2000 for a stationary chrome faucet electroplating source. A letter notifying the Office of Air Quality of the construction and operation of a new powder coating booth, dry-off oven, and cure oven, 4160, was received on July 11, 2005. Pursuant to the provisions of 326 IAC 2-6.1-6 the permit is hereby revised as shown in the attached Technical Support Document.

All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this letter and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Jed D. Wolkins, at (800) 451-6027, press 0 and ask for Jed D. Wolkins or extension 3-5670, or dial (317) 233-5670.

Sincerely,

Original Signed By:
Nysa L. James, Section Chief
Permits Branch
Office of Air Quality

Attachments
JDW
cc: File - Decatur County
U.S. EPA, Region V
Decatur County Health Department
Air Compliance Section Inspector – Jennifer Schick
Compliance Data Section
Administrative and Development

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CONSTRUCTION PERMIT
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY

Delta Faucet Company
1425 West Main Street
Greensburg, Indiana 47240

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, (326 IAC 2-5.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 031-11706-00007	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date: May 25, 2000
1st Minor Permit Revision 031-12463-00007	Issuance Date: December 19, 2000
1st Notice Only Change 031-15232-00007	Issuance Date: January 25, 2002
2nd Notice Only Change 031-16811-00007	Issuance Date: February 3, 2003
2nd Minor Permit Revision: 031-17357-00007	Issuance Date: February 3, 2003
3rd Notice Only Change: 031-18239-00007	Issuance Date: December 15, 2003
3rd Minor Permit Revision: 031-18647-00007	Issuance Date: March 15, 2004
4th Notice-Only Change 031-21444-00007	Pages Amended:7, 8a, 27-29
Issued by: Original Signed By: Nysa L. James, Section Chief Office of Air Quality	Issuance Date: March 15, 2006

(ee) One (1) powder spray booth, identified as 4160, equipped with a baghouse and exhausting to stack 4160, capacity: 13.9 pounds of powder per hour and 4760 pounds per hour of parts.

(ff) One (1) dry-off oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.5 million British thermal units per hour.

(gg) One (1) cure oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.8 million British thermal units per hour.

(y) One (1) tool room welding booth, exhausting to stack 1799, capacity: 0.2 pound of Oxyacetylene welding wire per hour.

(z) Two (2) lab hoods.

(aa) One (1) inductively coupled plasma (ICP) unit.

(ff) One (1) dry-off oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.5 million British thermal units per hour.

(gg) One (1) cure oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.8 million British thermal units per hour.

(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 2-6.1-5(1)]

D.2.1 Particulate Matter (PM) [326 IAC 6-3-2]

(a) The particulate matter (PM) from the buffing operations shall be limited to less than 15.8 pounds per hour when operating at a process weight rate of 15,000 pounds per hour.

(b) The particulate matter (PM) from the fluidized bed burn off oven shall be limited to less than 1.15 pounds per hour, when operating at a process weight rate of 303 pounds per hour.

These limits were computed using the following equation:

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

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

(c) The particulate matter (PM) from the brazing operations shall be limited by the following:

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

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

(d) The particulate matter (PM) from the one (1) maintenance welding booth and the one (1) tool room welding booth shall each be limited to less than 0.551 pounds per hour when operating at a process weight rate of less than 100 pounds per hour, each. This limit is calculated using the following equation:

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

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

(e) The particulate matter (PM) from the WWT sludge dryer, strip lines, two (2) lab hoods, and one (1) ICP unit shall be limited by the following:

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

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

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

The requirement from the Registration issued April 26, 1982 and the Registration issued July 5, 1984 that emissions shall be at a level acceptable to 325 IAC 8-3, is not applicable because the solvent recovery facility and degreaser registered by those approvals are no longer in existence at the source.

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.2.3 Particulate Matter (PM)

(a) Pursuant to Pursuant to CP031-9717-00007, issued on May 28, 1998, the cyclone for PM control shall be in operation at all times when the fluidized bed burn off oven is in operation.

(b) The scrubbers for the strip lines and the WWT sludge dryer shall be in operation at all times the strip lines and WWT sludge dryer are in operation.

SECTION D.3.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(n) One (1) powder spray booth, identified as 1421, equipped with a baghouse and exhausting to stack 1421, capacity: 13.9 pounds of powder per hour and 1,000 pounds per hour of raw materials.

(v) One (1) powder spray booth, identified as 1599, constructed in April 1991, equipped with a baghouse and exhausting through stack 1599, capacity: 3.978 pounds of powder per hour and 34 pounds of parts coated per hour.

(ee) One (1) powder spray booth, identified as 4160, equipped with a baghouse and exhausting to stack 4160, capacity: 13.9 pounds of powder per hour and 4760 pounds per hour of parts.

(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 2-6.1-5(1)]

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2]

(a) The particulate matter (PM) from the powder spray booth, identified as 1421, shall be limited to 2.58 pounds per hour when operating at a process weight rate of 1,000 pounds per hour.

(b) The particulate matter (PM) from the powder spray booth, identified as 1599, shall be limited to no more than 0.551 pounds per hour when operating at a process weight rate of less than 100 pounds per hour.

(c) The particulate matter (PM) from the powder spray booth, identified as 4160, shall be limited to 7.33 pounds per hour when operating at a process weight rate of 4160 pounds per hour.

These limitations were determined by the following:

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

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

Compliance Determination Requirements [326 IAC 2-1.1-11]

D.3.2 Particulate Matter (PM)

The baghouses for PM control shall be in operation at all times when their respective powder spray booths**,** identified as 1421 and 4160, is in operation.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Notice Only Change to a Minor Source Operating Permit

Source Background and Description

Source Name:	**Delta Faucet**
Source Location:	**1425 West Main Street, Greensburg, IN 47240**
County:	**Decatur**
SIC Code:	**3432**
Operation Permit No.:	**031-11706-00007**
Operation Permit Issuance Date:	**May 25, 2000**
Notice Only Change No.:	**031-21444-00007**
Permit Reviewer:	**Jed D. Wolkins**

The Office of Air Quality (OAQ) has reviewed an application from Delta Faucet relating to the construction and operation of a new powder coating booth, dry-off oven, and cure oven, 4160, at a stationary chrome faucet electroplating source.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) decorative chromium electroplating tank, identified as T27, constructed prior to December 16, 1993, using a hexavalent chromium bath, using a chemical fume suppressant containing a wetting agent for control and exhausting at stack 1038Cr. This tank is also equipped with a packed-bed scrubber that is not used for compliance.

(b) One (1) decorative chromium electroplating tank, identified as T23, constructed prior to December 16, 1993, using a hexavalent chromium bath, using a chemical fume suppressant containing a wetting agent for control and exhausting at stack 281Cr. This tank is also equipped with a packed-bed scrubber that is not used for compliance.

(c) One (1) nickel electroplating bath, identified as T18, equipped with a wet scrubber and exhausting at stack 281Ni.

(d) One (1) copper plating tank, identified as 1038, equipped with a wet scrubber and exhausting at stack 1038Cu.

(e) One (1) cyanide plating tank, identified as T18, equipped with a wet scrubber and exhausting at stack 574.

(f) One (1) formaldehyde electroless plating tank, identified as EC Tank T12/T13, equipped with a wet scrubber and exhausting at stack 489.

(g) One (1) Brite Dip tank, identified as T14, equipped with a wet scrubber and exhausting at stack 1715.

(h) Two (2) strip lines, identified as 255R and 255P, using nitric acid and sulfuric acid, respectively, and equipped with wet scrubbers and exhausting at stacks 255R and 255P, respectively. A used acid tank and an acid/cleaner tank exhaust to the same scrubber as strip line 255R and stack 255R.

(i) Buffing operations, equipped with three (3) air washers, identified as 2125, 2490 and 3011, and exhausting at stacks 2126, 2491 and 3011, respectively.

(j) Brazing operations, identified as 10200, exhausting at stacks 1183, 1873, 1874, 1212 and 1105, capacity: 10.3 pounds per hour of solder, 1,800 pounds per hour of brass or copper parts, and 5.72 million British thermal units per hour.

(k) One (1) cure oven, identified as 569, fired by natural gas and exhausting at stacks 569 North and 569 South, capacity: 3.6 million British thermal units per hour.

(l) One (1) natural gas fired fluidized bed burn-off oven, rated at 0.99 million British thermal units per hour (mmBtu/hr), with a maximum capacity of 301 pounds per hour of parts and 1.56 pounds per hour of sand, using a cyclone for particulate matter control, and exhausting at one (1) stack identified as 2918.

(m) One (1) powder spray booth, identified as 1421, equipped with a baghouse and exhausting to stack 1421, capacity: 13.9 pounds of powder per hour and 1,000 pounds per hour of raw materials.

(n) One (1) boiler, identified as 1854, constructed in 1993, fired by natural gas and exhausting at stack 1854, capacity: 2.10 million British thermal units per hour.

(o) Two (2) boilers, identified as 1307 and 1308, constructed in 1987, fired by natural gas and exhausting at stack 1307/1308, capacity: 0.75 million British thermal units per hour, each.

(p) One (1) boiler, identified as 586, constructed in 1975, fired by natural gas, exhausting at stack 586, capacity: 25.20 million British thermal units per hour.

(q) One (1) boiler, identified as 1513, constructed in 1990, fired by natural gas, exhausting at stack 1513, capacity: 32.94 million British thermal units per hour.

(r) One (1) boiler, identified as 2256, constructed in 1994, fired by natural gas, exhausting at stack 2256, capacity: 14.70 million British thermal units per hour.

(s) One (1) decorative chromium electroplating tank, identified as T21, using a hexavalent chromium bath, using a chemical fume suppressant containing a wetting agent for control and exhausting at stack 253Cr. This tank is also equipped with a composite mesh pad scrubber that is not used for compliance.

(t) One (1) rack strip line, identified as 1038, consisting of two (2) rack strip tanks, four (4) rinse tanks and one (1) hot rinse tank, equipped with a wet scrubber and exhausting to stack 3230, maximum capacity: 2.05 pounds of alkaline cleaner per hour, 0.09 pounds of aqua ammonia per hour, 0.06 pounds of Acetic Acid per hour, and 0.49 pounds of Nitric Acid per hour.

(u) One (1) powder spray booth, identified as 1599, constructed in April 1991, equipped with a baghouse and exhausting through stack 1599, capacity: 3.978 pounds of powder per hour and 34 pounds of parts coated per hour.

(v) One (1) WWT sludge dryer, identified as 2209, equipped with a wet scrubber.

(w) One (1) maintenance welding booth, identified as Booth 11-1, exhausting to stack 11-1, capacity: 0.2 pound of Oxyacetylene welding wire per hour.

(x) One (1) tool room welding booth, exhausting to stack 1799, capacity: 0.2 pound of Oxyacetylene welding wire per hour.

(y) Two (2) lab hoods.

(z) One (1) inductively coupled plasma (ICP) unit.

(aa) One (1) natural gas-fired drying oven, with a heat input capacity of 0.5 mmBtu/hr, capable of drying a maximum of 300 pounds of plastic parts per hour, in 1300 pounds of steel rack per hour, and exhausting at one (1) stack identified as 3559.

(bb) One (1) 0.8 MMBtu/hr natural gas fired curing oven, identified as curing oven 3641, curing epoxy coating onto parts at a maximum rate of 40 pounds per hour, with emissions exhausted through Stack 3641.

(cc) One (1) multi-finish electroplating line, with a capacity of 1,800 pounds of metal and plastic parts per hour, consisting of the following:

(1) Five (5) nickel plating tanks, identified as stations 32 through 35, 39 through 42, 46, and 49 through 56, equipped with the nickel/clean scrubber, and exhausting through the Multi-Finish Line Nickel/Cleaner Scrubber Stack;

(2) One (1) copper sulfate plating tank, identified as stations 27 and 28, equipped with the nickel/clean scrubber, and exhausting through the Multi-Finish Line Nickel/Cleaner Scrubber Stack;

(3) One (1) decorative chromium plating tank identified as tank 3700-S6869, with two (2) stations identified as stations 68 and 69, using a fume suppressant containing a wetting agent as control, and exhausting through the chromium scrubber, which is a combination packed-bed scrubber and mesh-pad system and is not used for compliance, and the Multi-Finish Line Chromium Scrubber Stack;

(4) One (1) chrome pre-dip tank, identified as station 64, equipped with the chromium scrubber, and exhausting through the Multi-Finish Line Chromium Scrubber Stack;

(5) Two (2) rack strip tanks, identified as stations 207 and 208, equipped with the rack strip scrubber, and exhausting through the Multi-Finish Line Rack Strip Scrubber Stack;

(6) Three (3) chrome strip tanks, identified as stations 15, 197 and 198, equipped with the nickel/clean scrubber, and exhausting through the Multi-Finish Line Nickel/Cleaner Scrubber Stack;

(7) Rinse tanks, equipped with the nickel/clean scrubber, and exhausting through the Multi-Finish Line Nickel/Cleaner Scrubber Stack; and

(8) Ten (10) cleaner tanks, identified as stations 4, 5, 7, 8, 11, 12, 18, 22, 25 and 62, equipped with the nickel/clean scrubber, and exhausting through the Multi-Finish Line Nickel/Cleaner Scrubber Stack.

Unpermitted Emission Units and Pollution Control Equipment

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

Additional Emission Units and Pollution Control Equipment added as Notice only Change

The source has added following emission units and pollution control devices through this Notice Only Change:

(a) One (1) powder spray booth, identified as 4160, equipped with a baghouse and exhausting to stack 4160, capacity: 13.9 pounds of powder per hour and 4760 pounds per hour of parts.

(b) One (1) dry-off oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.5 million British thermal units per hour.

(c) One (1) cure oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.8 million British thermal units per hour.

Additional Emission Units and Pollution Control Equipment added as Notice only Change in Renewal

The source has added following emission units and pollution control devices not requiring approval which will be added to the permit through the renewal. They are listed here since their emissions must be included to ensure the addition of the powder spray booth, 4160, does not cause the source wide PTE of any regulated pollutant to exceed Title V levels:

(a) An additional air washer for the buffing operations, identified as 3915, and exhausting at stack 3915, constructed on February 13, 2004.

(b) Three two wheel buffing stations; each equipped with a baghouse, identified as 1849, 3979, and 3981; constructed on May 1, 1993; June 18, 2004; and June 18, 2004;and exhausting internally, respectively.

(c) Five buffing stations in the automatics area; each equipped with a baghouse; identified as 3213, 3215, 3899, 3997; constructed on January 1, 1974; October 24, 2003; March 23, 2004; March 23, 2004; March 23, 2004; and exhausting internally, respectively.

(d) Four robot buffing stations; each equipped with a baghouse, identified as 1849, 3979, and 3981; constructed on December 5, 2000, January 11, 2001, January, 13, 2004, and July 26, 2004;and exhausting internally, respectively.

(e) One (1) electroplating line, identified as Plater 3466, constructed on May 17, 2001, consisting of the following:

(1) Three (3) copper plating tanks, equipped with the two scrubbers, and exhausting internally;

(2) One (1) acid tanks, exhausting internally;

(3) One (1) caustic tanks, exhausting internally;

(4) Rinse tanks, exhausting internally; and

(5) Three (3) cleaner tanks, exhausting internally.

These emission units are not considered unpermitted since they meet the exemption levels in 326 IAC 2-1.1-3.

Removed Emission Units and Pollution Control Equipment

The source has removed following emission unit and pollution control devices:

One (1) nickel electroplating bath, identified as T23, equipped with a wet scrubber and exhausting at stack 1038Ni. This unit has been completed removed from the source.

Revised Emission Units and Pollution Control Equipment Descriptions

The following units and pollution control devices will be removed during the renewal. They are listed twice in the current permit.

(a) T34. This tank is already accounted for in the Rack Strip Line 1038

(b) T37 and Decorative Chrome electroplating T27. These tanks are already accounted for in the Plater 1038

Existing Approvals

The source has been operating under previous approvals including, but no limited to, the following:

(a) MSOP 031-11706-00007 issued on May 25, 2000; and

(b) MPR 031-12463-00007 issued on December 19, 2000;and

(c) NOC 031-15232-00007 issued on January 25, 2002;and

(d) NOC 031-16811-00007 issued on February 21, 2003;and

(e) MPR 031-17357-00007 issued on May 21, 2003;and

(f) NOC 031-18239-00007 issued on December 15, 2003;and

(g) MPR 031-18647-00007 issued on March 15, 2004;and

All conditions from previous approvals were incorporated into this Notice Only Change.

Justification for the Revision

The MSOP is being modified through a Notice Only Change. This revision is being performed pursuant to 326 IAC 2-6.1-6 (d)(13) because the powder spray booth, dry-off oven, and cure oven is of the same type of units that are already permitted and the new powder spray, dry-off oven, and cure oven will comply with the same applicable requirements and permit terms and conditions as the existing powder spray booth, dry-off oven, and cure oven, and the modification will not result in a potential to emit greater than the thresholds in 326 IAC 2-2 or 326 IAC 2-3.

Air Pollution Control Justification as an Integral Part of the Process

The company has submitted the following justification such that the baghouse be considered as an integral part of the the powder spray booth, 4160. The source concurrently submitted the same justification for the existing powder spray booths, 1421 and 1599.:

(a) The primary purpose of the baghouse is to adhere to Occupational Safety and Health standard 1910.107(i)(8).

(b) The primary purpose of the baghouse is to ensure high part quality by removing excess powder.

(c) The baghouse is interlocked to the powder spray booth.

(d) The product recovered is primarly recycled at an outside vendor. However, some is sent off-site for desposal. The Permittee experiences some cost savings from the recycling.

IDEM, OAQ has evaluated the justifications and determined that the baghouses will not be considered as an integral part of the the powder spray booths, 1421, 1599, and 4160.

(a) The Occupational Safety and Health standard 1910.107(i)(8) does not specifically require the use of the baghouse. What the standard requires is the booth to be ventilated. The ventilation of the booth is not dependent on the level of control or the operational soundness of the baghouse.

(b) IDEM recongizes that the excess powder needs to be removed to insure produce quality. This again requires the ventilation of the booth. The ventilation of the booth is not dependent on the level of control or the operational soundness of the baghouse.

(c) IDEM does not recognize interlocking a control device to an emission unit to be proof of the control device being integral.

(d) Since the Permittee does not recycle all of the powder, the Permittee can not demonstrate if and to what degree they experience and will continue to experience a positive economic benefit from operating the baghouse. Without such demonstrate IDEM can not determine the baghouse to be integral based on the cost savings.

Therefore, the permitting level will be determined using the potential to emit before the baghouses.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

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

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

An application for the purposes of this review was received on July 11, 2005, with additional information received on August 19, 2005, August 26, 2005, September 9, 2005, September 16, 2005, and January 11, 2006 .

Emission Calculations

See Appendix A of this document for detailed emission calculations pages 1 through 20.

During the review process the Permittee submitted corrected throughput rates for Powder Spray Booths 1421 and 1599 of 13.9 and 3.978 pounds of powder per hour, respectively. The attached emissions reflect this. The descriptions will be corrected in the renewal.

Potential to Emit of the Source Before Controls

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

Pollutant	Potential to Emit (tons/yr)
PM	93.2
PM-10	95.8
SO_2	58.4
VOC	2.1
CO	32.6
NO_x	43.9

HAPs	Potential to Emit (tons/yr)
Chormium	0.2
Copper	3.0
Nickel	3.1
Lead	>0.1
Arsenic	>0.1
Beryllium	>0.1
Cadmium	>0.1
Mercury	>0.1
Selenium	>0.1
Benzene	>0.1
Dichlorobenzene	>0.1
Formaldehyde	>0.1
Hexane	>0.1
Toluene	>0.1
Total	7.0

(a) The potential to emit of pollutants are less than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP Notice Only Change will be issued.

(b) The potential to emit of any single HAP is less than ten (10) tons per year and/or the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-6.1. An MSOP Notice Only Change will be issued.

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

County Attainment Status

The source is located in Decatur County.

Pollutant	Status
PM-10	Attainment
PM-2.5	Attainment
SO_2	Attainment
NO_2	Attainment
1 Hour Ozone	Attainment
8 Hour Ozone	Attainment
CO	Attainment
Lead	Attainment

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

(b) Decatur County has been classified as unclassifiable or attainment for PM2.5. U.S. EPA has not yet established the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 for PM 2.5 emissions. Therefore, until the U.S.EPA adopts specific provisions for PSD review for PM2.5 emissions, it has directed states to regulate PM10 emissions as surrogate for PM2.5 emissions. See the State Rule Applicability – Entire Source section.

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

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

Source Status

Existing Source PSD, Part 70, or FESOP Definition (emissions after controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	93.2
PM-10	95.8
SO_2	58.4
VOC	2.1
CO	32.6
NO_x	43.9

Pollutant	Emissions (tons/yr)
Single HAP(Nickel)	3.1
Combination HAPs	7.0

(a) This existing source is not a major stationary source because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or greater and it is not in one of the 28 listed source categories..

(b) These emissions were based on calculation attached to this permit.

Proposed Modification

PTE from the proposed modification (based on 8760 hours of operation per year at rated capacity including enforceable emission control and production limit where applicable):

Pollutant	PM (ton/yr)	PM-10 (ton/yr)	SO_2 (ton/yr)	VOC (ton/yr)	CO (ton/yr)	NO_x (ton/yr)
Proposed Modification	21.3	21.3	>0.1	>0.1	0.5	0.6
PSD or Offset Threshold Level	250	250	250	250	250	250

This modification to an existing minor stationary source is not major because the emission increase is less than the PSD major source levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in this Notice Only Change for this modification.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart DDDDD are not included in this Notice Only Change for this modification due to the source being an area source of HAPs.

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), Subpart MMMM are not included in this Notice Only Change for this modification due to the source being an area source of HAPs.

(d) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in this Notice Only Change for this modification.

State Rule Applicability – Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration)

The total source potential emissions of PM, PM-10, SO_2, VOC, NO_x, CO, and Lead are less than 250 tons per year. The source is not one of the 28 listed sources. There are no applicable New Source Performance Standards that were in effect on August 7, 1980. The source has not conducted any modifications to trigger PSD and is currently considered a minor PSD source. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) do not apply.

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

The potential to emit each individual hazardous air pollutant (HAP) is less than 10 tons per year and the potential to emit any combination of HAPs is less than 25 tons per year. Therefore, this source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments, and the requirements of 326 IAC 2-4.1-1, New Source Toxics Control, are not applicable.

326 IAC 2-6.1 (Minor Source Operating Permit Program)

This existing source after modification is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,

(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and

(c) any combination of HAPs is less than 25 tons per year.

The PTE of criteria pollunants are greater than registation levels. Therefore, pursuant to 326 IAC 2-5.1-3(a)(2)(A), the Permittee is subjecto to 326 IAC 2-6.1 (Minor Source Operating Permit Program).

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 the permit:

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

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

State Rule Applicability – Individual Facilities

326 IAC 4-2 (Incinerators)

The dry off oven is not subject to 326 IAC 4-2 because it does not burns waste substances.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

Pursuant to 326 IAC 6-3-1 (b)(14), the ovens are exempt from 326 IAC 6-3-2 because they have potential emission less than five hundred fifty-one (0.551) pound per hour.

Pursuant to 326 IAC 6-3-2, the particulate from the powder spray booth 4160 shall be limited 7.33 when operating at a process rate of 4760 pounds per hour, based on the following:

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

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

The baghouse shall be in operation at all times the powder spray booth 4160 is in operation, in order to comply with this limit.

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)
The ovens are not subject to 326 IAC 6-2-4 because they are not sources of indirect heating.

326 IAC 8-2-9 (Miscellaneous Metal Coating)
The powder coating booth 4160 is not subject to 326 IAC 8-2-9 since the powder coating booth 4160 has no potential to emit VOC.

Proposed Changes

The following changes will be made to the permit.

Change 1: The units shall be listed in condition A.2 Emission Units and Pollution Control Equipment Summary. The capacities of powder spray booths, 1421 and 1599, shall be corrected.

A.2 Emission Units and Pollution Control Equipment Summary
This stationary source is approved to construct and operate the following emission units and pollution control devices:

***

(n) One (1) powder spray booth, identified as 1421, equipped with a baghouse and exhausting to stack 1421, capacity: ~~16~~**13.9** pounds of powder per hour and 1,000 pounds per hour of raw materials.

***

(v) One (1) powder spray booth, identified as 1599, constructed in April 1991, equipped with a baghouse and exhausting through stack 1599, capacity: ~~0.16~~**3.978** pounds of powder per hour and 34 pounds of parts coated per hour.

***

(ee) One (1) powder spray booth, identified as 4160, equipped with a baghouse and exhausting to stack 4160, capacity: 13.9 pounds of powder per hour and 4760 pounds per hour of parts.

(ff) One (1) dry-off oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.5 million British thermal units per hour.

(gg) One (1) cure oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.8 million British thermal units per hour.

Change 2: The ovens shall be added to facility description in Seciton D.2.

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

***

(ff) One (1) dry-off oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.5 million British thermal units per hour.

(gg) One (1) cure oven, identified as 4160, fired by natural gas and exhausting at stack 4160, capacity: 0.8 million British thermal units per hour.

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

Change 3: The powder spray booth shall be add to the facility description in Section D.3. The capacities of powder spray booths, 1421 and 1599, shall be corrected.

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

(n) One (1) powder spray booth, identified as 1421, equipped with a baghouse and exhausting to stack 1421, capacity: ~~16~~**13.9** pounds of powder per hour and 1,000 pounds per hour of raw materials.

(v) One (1) powder spray booth, identified as 1599, constructed in April 1991, equipped with a baghouse and exhausting through stack 1599, capacity: ~~0.16~~**3.978** pounds of powder per hour and 34 pounds of parts coated per hour.

(ee) One (1) powder spray booth, identified as 4160, equipped with a baghouse and exhausting to stack 4160, capacity: 13.9 pounds of powder per hour and 4760 pounds per hour of parts.

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

Change 4: The PM emission limit for the powder spray booth, 4160, shall be add to the condition D.3.1.

D.3.1 Particulate Matter (PM) [326 IAC 6-3-2]

***

(c) The particulate matter (PM) from the powder spray booth, identified as 4160, shall be limited to 7.33 pounds per hour when operating at a process weight rate of 4760 pounds per hour.

Change 5: The PM compliance determination for the powder spray booth, 4160, shall be add to the condition D.3.3.

D.3.~~3~~**2** Particulate Matter (PM)

The baghouse**s** for PM control shall be in operation at all times when the**ir respective** powder spray booth**s,** identified as 1421 **and 4160**, is in operation.

Change 6: IDEM has removed conditions D.2.3 and D.3.2. Condition C.9 Performance Testing already states IDEM's ablity to require performance testing. The other conditions have been renumbered.

~~D.2.3 Testing Requirements [326 IAC 2-1.1-11]~~

~~The Permittee is not required to test these emissions units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance. If testing is required by IDEM, compliance with the PM limits specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.~~

~~D.3.2 Testing Requirements [326 IAC 2-1.1-11]~~

~~The Permittee is not required to test these emissions units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.3.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.~~

Conclusion

The construction and operation of this new powder coating booth, dry-off oven, and cure oven shall be subject to the conditions of the **Notice Only Change 031-21444-00007.**

Appendix A: Revised Emission Calculations
Process Operations

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Emission Unit	Stack	Maximum Powder Use (lbs/hr)	Conservative Transfer Efficiency (%)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Control Efficiency	Potential Emissions (lbs/hr)	Potential PM Emissions (tons/yr)
Powder Spray Booth	1421	13.923	65.0%	0.244	1.07	95.0%	4.87	21.3
Powder Spray Booth	1599	3.978	65.0%	0.070	0.30	95.0%	1.39	6.1
Powder Spray Booth	4160	13.923	65.0%	0.244	1.07	95.0%	4.87	21.3

Methodology

Uncontrolled Emissions (lbs/hr) = Powder usage rate * (1- transfer efficiency)
Controlled Emissions (lbs/hr) = Uncontrolled Emissions (lbs/hr) * (1 - Control Efficiency)
Emissions (tons/yr) = Emissions (lbs/hr) * 8760 hrs/yr / 2000 lbs/ton
PM10 emissions are assumed to equal PM.

Appendix A: Emission Calculations
Process Operations

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
MSOP: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Emission Unit	Stack	Flow Rate (acfm)	Outlet Grain Loading (gr/acfm)	Controlled Emission Rate (lbs/hr)	Controlled Emission Rate (tons/yr)	Control Efficiency	Potential Emissions (lbs/hr)	Potential Emissions (tons/yr)	Process Weight Rate (lbs/hr)	Allowable Emissions (lbs/hr)
Buffing Air Washer	2126	42961	9.40E-07	3.46E-04	1.52E-03	95.0%	6.92E-03	3.03E-02		
Buffing Air Washer	2491	27752	9.81E-07	2.33E-04	1.02E-03	95.0%	4.67E-03	2.04E-02		
Buffing Air Washer	3011	48000	1.01E-06	4.16E-04	1.82E-03	95.0%	8.31E-03	3.64E-02		
Buffing Air Washer	3915	60000	1.01E-06	5.19E-04	2.28E-03	95.0%	1.04E-02	4.55E-02		
									less than	
				1.51E-03	6.63E-03		3.03E-02	1.33E-01	100	0.551

Methodology
Buffing

Controlled Emissions (lbs/hr) = gr/acfm x acfm x 60 minutes/hr / 7000 gr/lb

Uncontrolled Emissions (lbs/hr) = Controlled Emissions (lbs/hr) / (1 - Control Efficiency)

Emissions (tons/yr) = Emissions (lbs/hr) * 8760 hrs/yr / 2000 lbs/ton

Allowable Emissions (lbs/hr) = 4.10 x (Process weight (lbs/hr) / 2000 lbs/ton)^0.67 [326 IAC 6-3-2]

Appendix A: Revised Emission Calculations
Process Operations

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Emission Unit	Flow Rate (acfm)	Inlet Grain Loading (gr/acfm)	Potential PM Emissions (lbs/hr)	Potential PM Emissions (tons/yr)
Buffing Station #1849	4800	0.01	0.41	1.80
Buffing Station #3979	2100	0.01	0.18	0.79
Buffing Station #3981	1200	0.01	0.10	0.45
Buffing Station #537	2100	0.01	0.18	0.79
Buffing Station #3759	1500	0.001	0.01	0.06
Buffing Station #3951	1500	0.001	0.01	0.06
Buffing Station #3954	1500	0.001	0.01	0.06
Buffing Station #3957	1500	0.001	0.01	0.06
Robot Buffing Station #3213	3300	0.01	0.28	1.24
Robot Buffing Station #3215	3300	0.01	0.28	1.24
Robot Buffing Station #3899	3300	0.01	0.28	1.24
Robot Buffing Station #3997	3300	0.01	0.28	1.24

Methodology

Potential Emissions (lbs/hr) = Flow Rate * Inlet Grain Loading * 60 min/hr / (7000 grains/lb)
Potential Emissions (tons/year) = Flow Rate * Inlet Grain Loading * 60 min/hr * 8760 hr/yr / (7000 grains/lb * 2000 lbs/ton)

PM10 emissions are assumed to equal PM.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler or Process heater

Company Name: **Delta Faucet Company**
Address City IN Zip: **1425 West Main Street, Greensburg, Indiana 47240**
Permit Number: **031-21444**
Plt ID: **031-00007**
Reviewer: **Jed D. Wolkins**
Date: **January 26, 2006**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
62.9	550.7

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.52	2.09	0.2	27.5	1.5	23.1

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

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See next page for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler or Process heater
HAPs Emissions

Company Name: **Delta Faucet Company**
Address City IN Zip: **1425 West Main Street, Greensburg, Indiana 47240**
Permit Number: **031-21444**
Plt ID: **031-00007**
Reviewer: **Jed D. Wolkins**
Date: **January 26, 2006**

	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	5.782E-04	3.304E-04	2.065E-02	4.956E-01	9.361E-04

	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	1.377E-04	3.029E-04	3.855E-04	1.046E-04	5.782E-04

Methodology is the same as pervious page.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler or Process heater
Total gas usage

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Unit Id	Heat Input Capacity MMBtu/hr
Boiler 1854	2.1
Boiler 1307	0.75
Boiler 1308	0.75
Boiler 1513	32.64
Boiler 2256	14.7
Cure oven 569	3.6
Brazing 10200	5.72
Drying Oven 3559	0.5
Curing Oven 3641	0.8
Drying Oven 4160	0.5
Curing Oven 4160	0.8
Sum	62.86

Appendix A: Emissions Calculations
Burn Off Oven

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

#4 Fuel Oil

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
0.99	61.95	0.5

	Pollutant				
	PM	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	0.062	2.20	0.619	0.011	0.155

Methodology
1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu
Emission Factors are from AP 42, Tables 1.3-2 and 1.3-4 (SCC 1-02-005-01/02/03)
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton

	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	4.0E-6	3.0E-6	3.0E-6	3.0E-6	9.0E-6
Potential Emission in tons/yr	1.73E-05	1.30E-05	1.30E-05	1.30E-05	3.90E-05

HAPs - Metals (continued)

	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/mmBtu	3.0E-6	6.0E-6	3.0E-6	15.0E-6
Potential Emission in tons/yr	1.30E-05	2.60E-05	1.30E-05	6.50E-05

Methodology
No data was available in AP-42 for organic HAPs.
Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

Process Emissions

Pollutant	Potential Emissions (lb/hr)	Potential Emissions (lbs/day)	Potential Emissions (tons/year)	Control Efficiency of Cyclone	Emissions after control (lb/hr)	Emissions after control (lbs/day)	Emissions after control (tons /year)
PM	1.95	46.8	8.54	96.08%	0.076	1.83	0.335
PM-10	1.95	46.8	8.54	96.08%	0.076	1.83	0.335

Methodology
Potential emissions (lb/hr) is submitted by the company, approved in MSOP 031-11706-0007.
Potential Emissions in lbs/day = emissions in lbs/hr * 24 hrs/day
Potential emissions (tons/yr) = emissions in lbs/hr * 8760 hrs/year* 1 ton/2000 lbs
Emissions after controls = Potential emissions * (1 - control efficiency)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Boiler 586

Company Name: **Delta Faucet Company**
Address City IN Zip: **1425 West Main Street, Greensburg, Indiana 47240**
Permit Number: **031-21444**
Plt ID: **031-00007**
Reviewer: **Jed D. Wolkins**
Date: **January 26, 2006**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
25.2	220.8

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.21	0.84	0.1	11.0	0.6	9.3

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

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See next page for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler or Process heater
HAPs Emissions

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

	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	2.318E-04	1.325E-04	8.278E-03	1.987E-01	3.753E-04

	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	5.519E-05	1.214E-04	1.545E-04	4.194E-05	2.318E-04

Methodology is the same as pervious page.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Boiler 586 (Backup Fuel)

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.5
25.20	1576.8	

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	71.0 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	1.58	56.0	15.8	0.268	3.94

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
See next page for HAPs emission calculations.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil
HAPs Emissions

Company Name: **Delta Faucet Company**
Address, City IN Zip: **1425 West Main Street, Greensburg, Indiana 47240**
MSOP: **031-21444**
Plt ID: **031-00007**
Reviewer: **Jed D. Wolkins**
Date: **January 26, 2006**

HAPs - Metals

	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/mmBtu	4.0E-6	3.0E-6	3.0E-6	3.0E-6	9.0E-6
Potential Emission in tons/yr	4.42E-04	3.31E-04	3.31E-04	3.31E-04	9.93E-04

HAPs - Metals (continued)

	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/mmBtu	3.0E-6	6.0E-6	3.0E-6	15.0E-6
Potential Emission in tons/yr	3.31E-04	6.62E-04	3.31E-04	1.66E-03

Methodology

No data was available in AP-42 for organic HAPs.
Potential Emissions (tons/year) = Throughput (mmBtu/hr)*Emission Factor (lb/mmBtu)*8,760 hrs/yr / 2,000 lb/ton

Appendix A: Emission Calculations
Rack Strip and Plater Line 1038 and Rack Strip Line 255

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

	Emission Factor Pounds per hour of Chromium	Emission Factor Pounds per hour of Nickel	Emission Factor Pounds per hour of PM	potential Chromium emissions (tons per year)	potential Ni emissions (tons per year)	potential Total PM emissions (tons per year)
Line 1038	0.072	0.82	2.912	0.315	3.592	12.755
Line 255	-	-	1	-	-	4.380

Methodology

Source submitted the emission factors based on scrubber loading.
Potential Emissions = Emission Factor * 8760 hours/year * 1 / 2000 lbs/tons
PM10 emissions are assumed to equal PM.

Appendix A: Emission Calculations
Process Operations

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Emission Unit	Potential PM Emissions (lbs/hr)	Potential PM Emissions (tons/yr)	Control Efficiency	Controlled PM Emissions (lbs/hr)	Controlled PM Emissions (tons/yr)
WWT Sludge Dryer	0.194	0.850	98.0%	0.004	0.017

Methodology

WWT Sludge Dryer
Emissions based on stack test data of a similar unit.

Appendix A: Welding and Thermal Cutting

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

PROCESS	Number of Stations	Max. electrode consumption per station		EMISSION FACTORS * (lb pollutant / lb electrode)				EMISSIONS (lb/hr)				TOTAL HAPS (lb/hr)
WELDING		(lbs/hr)		PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Submerged Arc	0	0		0.036				0.000	0	0.000	0	0.000
Metal Inert Gas (MIG)(ER5154)	0	0		0.0241	3E-05		1E-05	0.000	0	0.000	0	0.000
Stick (E7018 electrode)	0	0		0.0211				0.000	0	0.000	0	0.000
Tungsten Inert Gas (TIG)(carbon steel)	0	0		0.0055				0.000	0	0.000	0	0.000
Oxyacetylene(carbon steel)	2	0.2		0.0055				0.002	0	0.000	0	0.000

FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)				EMISSIONS (lbs/hr)				TOTAL HAPS (lb/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Oxyacetylene	0	0	0	0.1622	5E-04	1E-04	0.0003	0.000	0.000	0.000	0.000	0.000
Oxymethane	0	0	0	0.0815	2E-04		0.0002	0.000	0.000	0.000	0.000	0.000
Plasma	0	0	0					0.000	0.000	0.000	0.000	0.000

EMISSION TOTALS	PM = PM10	Mn	Ni	Cr	Total HAPs
Potential Emissions lbs/hr	0.002	0.00	0.00	0.00	0.00
Potential Emissions lbs/day	0.053	0.00	0.00	0.00	0.00
Potential Emissions tons/year	0.010	0.000	0.000	0.000	0.000

METHODOLOGY

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column. Consult AP-42 or other reference for different electrode types.

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/day x 1 ton/2,000 lbs.

Plasma cutting emission factors are from the American Welding Society study published in Sweden (March 1994).

Welding and other flame cutting emission factors are from an internal training session document.

See AP-42, Chapter 12.19 for additional emission factors for welding.

Appendix A: Emission Calculations
Electroplating Plater ID 3700

Company Name: **Delta Faucet Company**
Address City IN Zip: **1425 West Main Street, Greensburg, Indiana 47240**
Minor Permit Revision: **031-21444**
Plt ID: **031-00007**
Reviewer: **Jed D. Wolkins**
Date: **January 26, 2006**

	Emission Factor (gr/dscf)	Total Flow Rate (cfm)	PTE before Control (lbs/hr)	PTE before Control (tons/yr)	Control Efficiency	PTE after Control (lbs/hr)	PTE after Control (tons/yr)	Weight % Lead	PTE Lead before controls (tons/yr)	PTE Lead after controls (tons/yr)
Chromium Electroplating										
PM	0.00069	14000	0.08280	0.362664	99.98%	1.656E-05	7.253E-05	0.00005	1.813E-05	3.627E-09
Chromium	0.00033	14000	0.03960	0.173448	99.98%	7.92E-06	3.469E-05			
Nickel Electroplating										
PM	0.0000067	38690	0.0444382	0.1946394	95.00%	0.0022219	0.009732			
Nickel	0.0000067	38690	0.0444382	0.1946394	95.00%	0.0022219	0.009732			
Copper Sulfate Electroplating										
PM	0.000081	4420	0.0613749	0.2688219	95.00%	0.0030687	0.0134411			
Copper	0.000081	4420	0.0613749	0.2688219	95.00%	0.0030687	0.0134411			

Methodology

Chromium Electroplating

Emission factor for decorative chromium electroplating (SCC 3-09-1010-28) using a fume suppressant from AP-42, Table 12.20-1

After control is after the scrubber. The scrubber is not required for compliance.

PTE before Control (lbs/hr) = Emission factor (gr/dscf) x Total flow rate (cfm) x (60 min/hr / 7,000 gr/lb)

PTE Lead before Control (lbs/hr) = PTE PM before Control (lbs/hr) x Weight % Lead

PTE after Control (lbs/hr) = PTE before Control (lbs/hr) x (1-Control Efficiency)

PTE (tons/yr) = PTE (lbs/hr) x 8,760 hrs/yr / 2,000 lbs/ton

Nickel and Copper Sulfate Electroplating

Emission factors for Nickel electroplating (SCC 3-09-010-68) using a wet scrubber and Copper Sulfate Electroplating using a wet scrubber (SCC 3-09-010-45) from AP-42, Table 12.20-4

PTE after Control (lbs/hr) = Emission factor (gr/dscf) x Total flow rate (cfm) x (60 min/hr / 7,000 gr/lb)

PTE before Control (lbs/hr) = PTE after Control (lbs/hr) / (1-Control Efficiency)

PTE (tons/yr) = PTE (lbs/hr) x 8,760 hrs/yr / 2,000 lbs/ton

Material	Density (lbs/gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Percentage of Material (/shift)	Tank Capacity (gallons)	Number of Shifts per day	Potential VOC (tons/yr)
Fume Suppressant	8.76	12.00%	0.0%	12.0%	0.0%	0.05%	1603	3.00	0.461

A negligible amount of glycol ethers may be emitted from the UDYPREP 340 Acid Salt.

Methodology

PTE VOC (tons/yr) = Density (lbs/gal) x Weight % Organics x Percentage of Material (/shift) x Tank Capacity (gallons) x Number of Shifts per Day x 365 Days/yr / 2,000 lbs/ton

Totals	PTE before Control (lbs/hr)	PTE before Control (tons/yr)	PTE after Control (lbs/hr)	PTE after Control (tons/yr)
PM	0.189	0.826	0.005	0.023
Chromium	3.96E-02	1.7E-01	7.92E-06	3.47E-05
Nickel	0.044	0.195	0.002	0.010
Lead		1.8E-05		3.63E-09
Total HAPs		0.368		0.010
VOC		0.461		0.461

Appendix A: Emission Calculations
Electroplating Plater ID 253

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

	Emission Factor (grains per Amp hour) or (grains per scfm)	Maximum Amperage (Amp/sq ft)	Tank surface area (sq ft)	potential Ni emissions (tons per year)	airflow (scfm)	potential Chromium emissions (tons per year)	potential Total PM emissions (tons per year)
Nickel Tank	0.63	60	37.8	0.8940456			0.8940456
Chromium Tank	0.00033				805	0.00997326	
Chromium Tank	0.00069				805		0.02085318

Methodology

Emission Calculations are based on AP-42 - Page 12.20 (Supplement B 7/96)
PM10 emissions are assumed to equal PM.
PM emissions from the Nickel Tank are assumed to equal Ni.

Appendix A: Emission Calculations
Electroplating Plater ID 281

Company Name: **Delta Faucet Company**
Address City IN Zip: **1425 West Main Street, Greensburg, Indiana 47240**
Permit Number: **031-21444**
Plt ID: **031-00007**
Reviewer: **Jed D. Wolkins**
Date: **January 26, 2006**

	Emission Factor (grains per Amp hour) or (grains per scfm)	Maximum Amperage (Amp/sq ft)	Tank surface area (sq ft)	potential Ni emissions (tons per year)	airflow (scfm)	potential Chromium emissions (tons per year)	potential Total PM emissions (tons per year)
Nickel Tank	0.63	60	86	2.03			2.034
Chromium Tank	0.00033				500	0.006	
Chromium Tank	0.00069				500		0.013

Methodology

Emission Calculations are based on AP-42 - Page 12.20 (Supplement B 7/96)
PM10 emissions are assumed to equal PM.
PM emissions from the Nickel Tank are assumed to equal Ni.
Potential Ni emissions (tons/year) = emission factor * Maximum Amperage * Tank surface area * 8760 hrs/yr * 1 ton / 2000 lbs * 1 lb / 7000 grains.
Potential Chromium emissions (tons/year) = emission factor * airflow * 60 minutes/hr * 8760 hrs/yr * 1 ton / 2000 lbs * 1 lb / 7000 grains.
Potential Chromium PM emissions (tons/year) = emission factor * airflow * 60 minutes/hr * 8760 hrs/yr * 1 ton / 2000 lbs * 1 lb / 7000 grains.

Appendix A: Emission Calculations
Electroplating Plater ID 574

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

	Emission Factor (grains per scfm)	control efficiency	airflow (scfm)	potential Copper emissions (tons per year)	potential Total PM emissions (tons per year)
Copper Tank	0.000081	95	8898	0.541171275	
Copper Tank	0.000081	95	8898		0.541171275

Methodology

Emission Calculations are based on AP-42 - Page 12.20 (Supplement B 7/96)
PM10 emissions are assumed to equal PM.
Potential emissions (tons/year) = emission factor * airflow / (1- control efficiency) *60 minutes/hr * 8760 hrs/yr * 1 ton / 2000 lbs * 1 lb / 7000 grains.

Appendix A: Emission Calculations
Electroplating Plater ID 3466

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
Permit Number: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

	Emission Factor (grains per scfm)	control efficiency	airflow (scfm)	potential Copper emissions (tons per year)	potential Total PM emissions (tons per year)
Copper Tank #9	0.000081	95	18000	1.09	
Copper Tank #9	0.000081	95	18000		1.09
Copper Tank #18	0.000081	95	18000	1.09	
Copper Tank #18	0.000081	95	18000		1.09
Copper Tank #20	0.000081	95	4500	0.27	
Copper Tank #20	0.000081	95	4500		0.27

Methodology

Emission Calculations are based on AP-42 - Page 12.20 (Supplement B 7/96)
PM10 emissions are assumed to equal PM.
Potential emissions (tons/year) = emission factor * airflow / (1- control efficiency) *60 minutes/hr * 8760 hrs/yr * 1 ton / 2000 lbs * 1 lb / 7000 grains.

Appendix A: Emission Calculations
Formaldehyde electroless T7/T8

Company Name: Delta Faucet Company
Address City IN Zip: 1425 West Main Street, Greensburg, Indiana 47240
MSOP: 031-21444
Plt ID: 031-00007
Reviewer: Jed D. Wolkins
Date: January 26, 2006

Emission unit	σ (dynes/cm)	σ (lbf/ft)	R_b (in)	air flow rate (cfm)	a	Emission factor (grains/ft3) Cr	potential Chromium emissions (tons per year)
Formaldehyde electroless T7/T8	69.4	0.0047539	1	2	15.15	0.060	0.0045

Methodology

Emission factor (grains/ft3) = 1.9 * σ / Rb * [((1-2*a+9*a^2)^2+(a-1))/((1+3*a)-(1-2*a+9*a^2)^0.5)]^0.5
a = (0.072* Rb^2)/σ
σ (lbf/ft) = σ (dynes/cm) * 6.85 *10^-5
Uncontrolled Emissions (ton/year) = airflow rate * emission factor * 1 lb / 7000 grains * 60 minutes / hour * 8760 hrs/yr / 2000 lbs/ton
PM10 emissions are assumed to equal PM.
All PM emission are assumed to be chromium.