



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
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: June 11, 2013

RE: Crown Equipment Corporation / 133-32705-00031

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

Notice of Decision: Approval - Effective Immediately

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 13-15-5-3, this permit 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.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require 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
FNPER.dot12/03/07



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Mr. Jim Ward
Crown Equipment Corporation
P. O. Box 840
Greencastle, IN 46135

June 11, 2013

Re: 133-32705-00031
First Significant Revision to
M133-23724-00031

Dear Mr. Jim Ward:

Crown Equipment Corporation was issued a Minor Source Operating Permit (MSOP) Renewal No. M133-23724-00031 on February 2, 2007 for a stationary truck parts manufacturing plant located at 2600 East State Road 240, Greencastle. On December 31, 2012, the Office of Air Quality (OAQ) received an application from the source for constructing two powder coating paint systems and an abrasive blaster.

The attached Technical Support Document (TSD) provides additional explanation of the changes to the source/permit. Pursuant to the provisions of 326 IAC 2-6.1-6, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-6.1-6(i), because it is modification with a potential to emit greater than or equal to twenty-five (25) tons per year of PM10. Pursuant to the provisions of 326 IAC 2-6.1-6, a significant permit revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-6.1-6, this permit shall be revised by incorporating the significant permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Attached please find the entire revised 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 Bruce Farrar, of my staff, at 317-234-5401 or 1-800-451-6027, and ask for extension 4-5401.

Sincerely,

Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

Attachments: Technical Support Document and revised permit

TSD/bf

cc: File - Putnam County
Putnam County Health Department
U.S. EPA, Region V
Compliance and Enforcement Branch
Billing, Licensing and Training Section



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Minor Source Operating Permit Renewal OFFICE OF AIR QUALITY

**Crown Equipment Corporation
2600 East State Road 240
Greencastle, Indiana 46135**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source 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 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a MSOP under 326 IAC 2-6.1.

Operation Permit No.: M133-23724-00031	
Original signed by: Nisha Sizemore, Chief Permits Branch Office of Air Quality	Issuance Date: February 2, 2007 Expiration Date: February 2, 2017

First Notice-Only Change No.: 133-25005-00031, issued on September 25, 2007

Second Notice-Only Change No.: 133-26458-00031, issued on June 25, 2008

Third Notice-Only Change No.: 133-29960-00031, issued on March 18, 2011

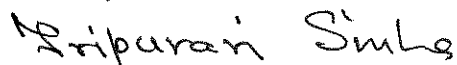
First Significant Permit Revision No.: 133-32705-00031	
Issued by:  Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Issuance Date: June 11, 2013 Expiration Date: February 2, 2017

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SECTION A

SOURCE SUMMARY

This permit 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 Permittee 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 Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary truck parts manufacturing plant.

Source Address:	2600 East State Road 240, Greencastle, Indiana 46135
General Source Phone Number:	(765) 653-4240
SIC Code:	3537
County Location:	Putnam
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Program
	Minor Source, under PSD
	Minor Source, Section 112 of the Clean Air Act
	Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

- (a) One (1) air atomizing paint spray booth, identified as SPPL, with a maximum capacity of spraying twenty-eight (28) small parts per hour, installed October in 1996, approved for modification in 2011, using filter and/or waterwash for particulate matter overspray control, and exhausting to stack S4;
- (b) One (1) air atomizing paint spray booth, identified as LPPL, with a maximum capacity of spraying three (3) large parts per hour, installed in October 1996, approved for modification in 2011, using filter and/or waterwash for particulate matter overspray control, and exhausting to stacks S2 and S3;
- (c) One (1) powder coat booth, identified as PCPB, with a maximum capacity of twenty-two (22) pounds of powder per hour, approved for construction in 2007, with particulate matter controlled by a dust collector with HEPA filters and exhausting to the indoors;
- (d) One (1) Wheelabrator shot blast machine with a blast rate of 600 pounds steel shot per hour, constructed in 2003, equipped with a baghouse for particulate matter control, and exhausting to stack S9;
- (e) One (1) natural gas fired cure oven, installed in July 2007, rated at 1.0 MMBtu/hr and exhausting to stack PCPBO;
- (f) One (1) natural gas fired phosphate washer rated at 1.5 million British thermal units per hour (MMBtu/hr) and exhausting to stacks S5 and S6;
- (g) One (1) natural gas fired dry off oven rated at 0.8 MMBtu/hr and exhausting to stack S7;
- (h) One (1) natural gas fired cure oven rated at 2.5 MMBtu/hr and exhausting to stack S8;
- (i) One (1) natural gas fired air make-up unit rated at 3.89 MMBtu/hr and exhausting to stack S10.

- (j) Four (4) propane fired lift truck assembly cells, identified as cells 1 through 4, with a maximum capacity of 0.345 MMBtu/hr, each, and exhausting to one (1) vehicle exhaust system.
- (k) One (1) air atomizing paint spray booth, identify as touch-up booth, constructed in 1996 and approved for modification in 2011, with a maximum capacity of coating two (2) steel electric lift trucks per hour, using dry filters as control, and exhausting to stack S1.
- (l) One (1) shot blaster, identified as LSFTSB, approved for construction in 2013, with a maximum capacity of 204 tons of steel shot per hour and 19.5 tons of steel parts per hour, using a voluntary baghouse as control, and exhausting to stack LSFTSBBH.

Large Part Paint System

- (m) One (1) five-stage parts washer, identified as 5SWS 1 thru 5, approved for construction in 2013, with a maximum capacity of 19.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:
 - (1) Stage 1 with a 1,235 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (2) Stage 2 with a 1,035 gallon tank, using water at ambient temperature.
 - (3) Stage 3 with a 1,235 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (4) Stage 4 with a 1,035 gallon tank, using water at ambient temperature.
 - (5) Stage 5 with a 1,235 gallon tank, using water at ambient temperature.
- (n) One (1) Dry-off oven, identified as LSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (o) Two (2) powder coating booths, identified as large booth 1 and large booth 2, approved for construction in 2013, consisting of:
 - (1) Large Booth 1 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (2) Large Booth 2 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
- (p) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

Small Part Paint System

- (q) One (1) seven-stage parts washer, identified as 7SWS 1 thru 7, approved for construction in 2013, with a maximum capacity of 1.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:

- (1) Stage 1 with a 1,500 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (2) Stage 2 with a 750 gallon tank, using water at ambient temperature.
- (3) Stage 3 with a 900 gallon tank, using a corrosion resistance compound treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (4) Stage 4 with a 750 gallon tank, using water at ambient temperature.
- (5) Stage 5 with a 900 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (6) Stage 6 with a 750 gallon tank, using water at ambient temperature.
- (7) Stage 7 with a 750 gallon tank, using a corrosion inhibitor compound treated water at ambient temperature.
- (r) One (1) Dry-off oven, identified as SSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (s) Three (3) powder coating booths, identified as large booth 3, small booth 1 and small booth 3, approved for construction in 2013, consisting of :
 - (1) Large Booth 3 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (2) Small Booth 1 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5 tons (400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (3) Small Booth 3 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5(400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
- (t) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (u) One (1) Burn-off Oven, identified as BOO, approved for construction in 2013, with a natural gas-fired heater rated at 2 .0 MMBtu/hr, with a single chamber with afterburner.

SECTION B

GENERAL CONDITIONS

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

Terms in this permit 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 Permit Term [326 IAC 2-6.1-7(a)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

- (a) This permit, M133-23724-00031, is issued for a fixed term of ten (10) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification

- (a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an "authorized individual" of truth, accuracy, and completeness. This certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Notification [326 IAC 2-6.1-5(a)(5)]

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

Compliance and Enforcement Branch, Office of Air Quality
Indiana Department of Environmental Management
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.10 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs) 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.
- (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 Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions or potential to emit. The PMPs do not require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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

B.11 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to M133-23724-00031 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 permit.

B.12 Termination of Right to Operate [326 IAC 2-6.1-7(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least ninety (90) days prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-6.1-7.

B.13 Deviations from Permit Requirements and Conditions

- (a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provisions), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

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

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

B.14 Permit Renewal [326 IAC 2-6.1-7]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-6.1-7. Such information shall be included in the application for each emission unit at this source. The renewal application does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
- (1) Submitted at least ninety (90) days prior to the date of the expiration of this permit; and
 - (2) 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.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-6.1 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.15 Permit Amendment or Revision [326 IAC 2-5.1-3(e)(3)][326 IAC 2-6.1-6]

- (a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:
- Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
- Any such application shall be certified by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

B.16 Source Modification Requirement

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.17 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)][326 IAC 2-6.1-5(a)(4)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.18 Transfer of Ownership or Operational Control [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

The application which shall be submitted by the Permittee does require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (c) The Permittee may implement notice-only changes addressed in the request for a notice-only change immediately upon submittal of the request. [326 IAC 2-6.1-6(d)(3)]

B.19 Annual Fee Payment [326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing.
- (b) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

B.20 Credible Evidence [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

C.1 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 Permit Revocation [326 IAC 2-1.1-9]

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

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (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 permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.3 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 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.

C.4 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.5 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and 326 IAC 9-1-2.

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

The Permittee 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).

C.7 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;
 - (B) Removal or demolition contractor; or
 - (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

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 notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

- (f) Demolition and Renovation
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos.

Testing Requirements [326 IAC 2-6.1-5(a)(2)]

C.8 Performance Testing [326 IAC 3-6]

- (a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

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

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Permittee submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.9 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

C.10 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.11 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60, Appendix B, 40 CFR 63, or other approved methods as specified in this permit.

C.12 Instrument Specifications [326 IAC 2-1.1-11]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps

C.13 Response to Excursions or Exceedances

- (a) Upon detecting an excursion or exceedance, the Permittee shall restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Corrective actions may include, but are not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned to normal without operator action (such as through response by a computerized distribution control system); or
 - (3) any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;
 - (2) review of operation and maintenance procedures and records; and/or
 - (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall maintain the following records:
 - (1) monitoring data;

- (2) monitor performance data, if applicable; and
- (3) corrective actions taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.
- (b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one hundred twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The response action documents submitted pursuant to this condition do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

C.15 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.16 General Record Keeping Requirements [326 IAC 2-6.1-5]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are

available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.17 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) Reports required by conditions in Section D of this permit shall be submitted to:

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

- (b) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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.
- (c) Unless otherwise specified in this permit, all reports required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. All reports do require the certification by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.
- (e) The Permittee shall make the information required to be documented and maintained in accordance with (c) in Section C- General Record Keeping Requirements available for review upon a request for inspection by IDEM, OAQ. The general public may request this information from the IDEM, OAQ under 326 IAC 17.1.

SECTION D.1

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) air atomizing paint spray booth, identified as SPPL, with a maximum capacity of spraying twenty-eight (28) small parts per hour, installed October in 1996, approved for modification in 2011, using filter and/or waterwash for particulate matter overspray control, and exhausting to stack S4;
- (b) One (1) air atomizing paint spray booth, identified as LPPL, with a maximum capacity of spraying three (3) large parts per hour, installed October in 1996, approved for modification in 2011, using and/or waterwash for particulate matter overspray control, and exhausting to stacks S2 and S3;
- (c) One (1) powder coat booth, identified as PCPB, with a maximum capacity of twenty-two (22) pounds of powder per hour, approved for construction in 2007, with particulate matter controlled by a dust collector with HEPA filters and exhausting to the indoors;
- (k) One (1) air atomizing paint spray booth, identify as touch-up booth, constructed in 1996 and approved for modification in 2011, with a maximum capacity of coating two (2) steel electric lift trucks per hour, using dry filters as control, and exhausting to stack S1.

(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(a)(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal parts or products in the air atomizing spray booths (SPPL and LPPL) shall be limited to 3.5 pounds of VOC per gallon of coating less water delivered to the applicator, forced warm air dried coatings.
- (b) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not limited to, the following:
 - (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.
 - (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.
 - (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.
 - (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.
 - (5) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without

atomizing the cleaning solvent and all spent solvent is captured in closed containers.

D.1.2 Particulate Matter (PM) [326 IAC 6-3-2(d)]

- (a) In order to demonstrate compliance with 326 IAC 6-3-2(d), the water-wash for PM control shall be in operation at all times when the two (2) paint booths (SPPL and LPPL) are in operation; and/or
- (b) In order to demonstrate compliance with 326 IAC 6-3-2(d), the filter for PM control shall be in operation at all times when the two (2) paint booths (SPPL and LPPL) and the touch up booth are in operation,

If overspray is visibly detected at the exhaust or accumulates on the ground, the Permittee shall inspect the control device and do either of the following no later than four (4) hours after such observation:

- (1) Repair control device so that no overspray is visibly detectable at the exhaust or accumulates on the ground.
- (2) Operate equipment so that no overspray is visibly detectable at the exhaust or accumulates on the ground.

If overspray is visibly detected, the Permittee shall maintain a record of the action taken as a result of the inspection, any repairs of the control device, or change in operations, so that overspray is not visibly detected at the exhaust or accumulates on the ground. These records must be maintained for five (5) years.

D.1.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements

D.1.4 Particulate Control

Particulate from the powder coat booth (PCPB) shall be controlled by the dust collector at all times that the powder coat booth is in operation.

D.1.5 Volatile Organic Compounds (VOC)

Compliance with the VOC limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = [\sum (C_i \times U_i) / \sum U_i]$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied;

C_i is the VOC content of the i th coating in pounds VOC per gallon less water as applied;
and

U_i is the usage rate of the i th coating in gallons per day.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

D.1.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.1 the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in condition D.1.1.
 - (1) The VOC content of each coating material and solvent used;
 - (2) The amount of coating material and solvent less water used on daily basis;
 - (A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used; and
 - (B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvent.
 - (3) The volume weighted average VOC content of the coatings used for each day. If for a given day, all coating materials used in a metal surface coating operation are in compliance with the VOC content limits contained in Condition D.1.1, then the Permittee shall not be required to maintain records of the volume weighted average VOC content of the coatings used in that operation on that day;
 - (4) The cleanup solvent usage for each day; and
 - (5) The total VOC usage for each day.
- (b) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (d) One (1) Wheelabrator shot blast machine with a blast rate of 600 pounds steel shot per hour, constructed 2003, equipped with a baghouse for particulate matter control, and exhausting to stack S9;

(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(a)(1)]

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

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitation), the allowable PM emission rate from the Wheelabrator shot blast machine shall not exceed 1.83 pounds per hour when operating at a process weight rate of 0.3 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 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 2-6.1-5(a)(2)]

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2(d)]

In order to comply with Condition D.2.1, the baghouse for PM control shall be in operation and control emission from the shot blaster at all times when the shot blaster is in operation.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (l) One (1) shot blaster, identified as LSFTSB, approved for construction in 2013, with a maximum capacity of 108 pounds of steel shot per hour and 19.5 tons of steel parts per hour, using a voluntary baghouse as control, and exhausting to stack LSFTSBBH.

Large Part Paint System

- (m) One (1) five-stage parts washer, identified as 5SWS 1 thru 5, approved for construction in 2013, with a maximum capacity of 19.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:
 - (1) Stage 1 with a 1,235 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (2) Stage 2 with a 1,035 gallon tank, using water at ambient temperature.
 - (3) Stage 3 with a 1,235 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (4) Stage 4 with a 1,035 gallon tank, using water at ambient temperature.
 - (5) Stage 5 with a 1,235 gallon tank, using water at ambient temperature.
- (n) One (1) Dry-off oven, identified as LSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (o) Two (2) powder coating booths, identified as large booth 1 and large booth 2, approved for construction in 2013, consisting of:
 - (1) Large Booth 1 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (2) Large Booth 2 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
- (p) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

Small Part Paint System

- (q) One (1) seven-stage parts washer, identified as 7SWS 1 thru 7, approved for construction in 2013, with a maximum capacity of 1.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:
 - (1) Stage 1 with a 1,500 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (2) Stage 2 with a 750 gallon tank, using water at ambient temperature.

- (3) Stage 3 with a 900 gallon tank, using a corrosion resistance compound treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (4) Stage 4 with a 750 gallon tank, using water at ambient temperature.
- (5) Stage 5 with a 900 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (6) Stage 6 with a 750 gallon tank, using water at ambient temperature.
- (7) Stage 7 with a 750 gallon tank, using a corrosion inhibitor compound treated water at ambient temperature.
- (r) One (1) Dry-off oven, identified as SSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (s) Three (3) powder coating booths, identified as large booth 3, small booth 1 and small booth 3, approved for construction in 2013, consisting of :
 - (1) Large Booth 3 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (2) Small Booth 1 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5 tons (400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (3) Small Booth 3 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5(400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
- (t) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

(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(a)(1)]

D.3.1 PSD Minor Limit [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits:

Facility Description	Limited PM Emission Rate (lbs/hr)	Limited PM10 Emission Rate (lbs/hr)	Limited PM2.5 Emission Rate (lbs/hr)
Powder Coating Large Booth 1	3.00	3.00	3.00
Powder Coating Large Booth 2	3.00	3.00	3.00
Powder Coating Large Booth 3	3.00	3.00	3.00
Powder Coating Small Booth 1	0.938	0.938	0.938
Powder Coating Small Booth 2	0.938	0.938	0.938

Compliance with this Condition and in combination with PM, PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM10 and PM2.5 to less than 250 tons per 12 consecutive month period, and shall render 326 IAC 2-2, Prevention of Significant Deterioration not applicable to the 2013 modification.

D.3.2 Particulate Matter (PM) [326 IAC 6-3-2(e)]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes) the particulate from the processes listed in the table below shall be limited by the following:

Emission Unit	Process Weight Rate (ton/hr)	Allowable PM Limit (lbs/hr)
Large Shot Blaster (LSFTSB)	19.55	30.05
Powder Coating Large Booth 1	19.5	30.0
Powder Coating Large Booth 2	19.5	30.0
Powder Coating Large Booth 3	19.5	30.0
Powder Coating Small Booth 1	7.5	15.81
Powder Coating Small Booth 2	7.5	15.81

The pound per hour limitation was calculated with 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:

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

D.3.3 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for the five (5) powder coating booths, and control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.4 Particulate Control

In order to comply with Conditions D.3.1 and D.3.2, the dry particulate filters for particulate control shall be in operation and control emissions from the five (5) powder coating spray booths at all times the powder coating spray booths are in operation.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.5 Filter Inspections

The Permittee shall perform an inspection of the fabric filters of the powder coating booths on a semi-annual basis. All defective filters shall be replaced.

Record Keeping and Reporting Requirement [326 IAC 2-6.1-5(a)(2)]

D.3.6 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.5, the Permittee shall maintain records of the results of the inspections required under Condition D.3.5.
- (b) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.4

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (u) One (1) Burn-off Oven, identified as BOO, approved for construction in 2013, with a natural gas-fired heater rated at 2.0 MMBtu/hr, with a single chamber with afterburner.

(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(a)(1)]

D.4.1 Incinerator [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2, the one (1) natural gas-fired incinerator, identified as BOO, shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning only wood products.
- (c) Comply with 326 IAC 5-1 and 326 IAC 2.
- (d) Be maintained, operated, and burn waste in accordance with:
 - (1) The manufacturer's specifications; or
 - (2) An operation and maintenance plan as specified in 326 IAC 4-2-2(c) as follows:
 - (A) The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in Condition D.4.1(e) and include the following:
 - (i) Procedures for receiving, handling, and charging waste.
 - (ii) Procedures for incinerator startup and shutdown.
 - (iii) Procedures for responding to a malfunction.
 - (iv) Procedures for maintaining proper combustion air supply levels.
 - (v) Procedures for operating the incinerator and associated air pollution control systems.
 - (vi) Procedures for handling ash.
 - (vii) A list of wastes that can be burned in the incinerator.
 - (B) Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.
 - (C) The operation and maintenance plan must be readily accessible to incinerator operators.

- (D) The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section; and
- (e) Not emit particulate matter (PM) emissions in excess of 0.3 pound per 1,000 pounds of dry exhaust gas under standard conditions corrected to 50% excess air.

If any of the requirements above are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY**

**MINOR SOURCE OPERATING PERMIT (MSOP)
CERTIFICATION**

Source Name: Crown Equipment Corporation
Source Address: 2600 East State Road 240, Greencastle, Indiana 46135
Mailing Address: 2600 East State Road 240, PO Box 840, Greencastle, Indiana 46135
MSOP No.: M133-23724-00031

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- ☐ Annual Compliance Notification
- ☐ Test Result (specify) _____
- ☐ Report (specify) _____
- ☐ Notification (specify) _____
- ☐ Affidavit (specify) _____
- ☐ Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

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

**MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	Crown Equipment Corporation
Address:	2600 East State Road 240
City:	Greencastle, Indiana 46135
Phone #:	(765) 653-4240
MSOP #:	133-23724-00031

I hereby certify that Crown Equipment Corporation is :

☐ still in operation.

☐ no longer in operation.

I hereby certify that Crown Equipment Corporation is :

☐ in compliance with the requirements of
M133-23724-00031.

☐ not in compliance with the requirements of
M133-23724-00031.

Authorized Individual (typed):
Title:
Signature:
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:

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF AIR QUALITY FAX NUMBER - 317 233-6865

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ? _____, 25 TONS/YEAR SULFUR DIOXIDE ? _____, 25 TONS/YEAR NITROGEN OXIDES? _____, 25 TONS/YEAR VOC ? _____, 25 TONS/YEAR HYDROGEN SULFIDE ? _____, 25 TONS/YEAR TOTAL REDUCED SULFUR ? _____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ? _____, 25 TONS/YEAR FLUORIDES ? _____, 100TONS/YEAR CARBON MONOXIDE ? _____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ? _____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ? _____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ? _____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ? _____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERM LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF "MALFUNCTION" AS LISTED ON REVERSE SIDE? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: _____ PHONE NO. () _____
LOCATION: (CITY AND COUNTY) _____
PERMIT NO. _____ AFS PLANT ID: _____ AFS POINT ID: _____ INSP: _____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____/____/20____ ____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____/____/20____ ____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____
INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____ TITLE: _____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

*SEE PAGE 2

**Please note - This form should only be used to report malfunctions
applicable to Rule 326 IAC 1-6 and to qualify for
the exemption under 326 IAC 1-6-4.**

326 IAC 1-6-1 Applicability of rule

Sec. 1. This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a Significant Permit Revision to a
Minor Source Operating Permit (MSOP)**

Source Description and Location
--

Source Name:	Crown Equipment Corporation
Source Location:	2600 East State Road 240, Greencastle, IN 46135
County:	Putnam
SIC Code:	3537
Operation Permit No.:	M133-23724-00031
Operation Permit Issuance Date:	February 7, 2007
Significant Permit Revision No.:	133-32705-00031
Permit Reviewer:	Bruce Farrar

On December 31, 2012, the Office of Air Quality (OAQ) received an application from Crown Equipment Corporation related to a modification to an existing stationary truck parts manufacturing plant.

Existing Approvals

The source was issued MSOP Renewal No. 133-23724-00031 on February 7, 2007. The source has since received the following approvals:

- (a) First Notice-Only Change No. 133-25005-00031, issued on September 7, 2007; and
- (b) Second Notice-Only Change No. 133-26458-00031, issued on June 25, 2008; and
- (a) Third Notice-Only Change No. 133-29960-00031, issued on March 18, 2011.

County Attainment Status

The source is located in Putnam County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O ₃	Unclassifiable or attainment effective June 15, 2004, 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	Not designated.

¹Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM_{2.5}.

- (a) **Ozone Standards**
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) 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 NO_x emissions are considered when evaluating the rule applicability relating to ozone. Putnam County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

- (b) **PM_{2.5}**
Putnam County has been classified as attainment for PM_{2.5}. On May 8, 2008 U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM_{2.5} emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct PM_{2.5} significant level at ten (10) tons per year. This rule became effective, June 28, 2011. Therefore, direct PM_{2.5} and SO₂ emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.
- (c) **Other Criteria Pollutants**
Putnam 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

- (a) The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-6.1 (Minor Source Operating Permits) applicability.
- (b) Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Status of the Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed revision, after consideration of all enforceable limits established in the effective permits:

This PTE table is from Appendix A of 133-29960-00031, issued on March 18, 2011.

Process/ Emission Unit	Potential To Emit of the Entire Source Prior to Revision (tons/year)									
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Natural Gas Combustion	0.07	0.29	0.29	0.02	3.73	0.21	3.13	4,505	0.07	0.07 (Hexane)
Surface Coating Booths	28.80	28.80	28.80	0.00	0.00	13.50	0.00	0.00	9.83	8.99 (Glycol Ethers)
Shot Blasting	10.50	9.03	9.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Touch-up Booth	1.23	1.23	1.23	0.00	0.00	0.94	0.00	0.00	0.64	0.52 (Xylene)
Total PTE of Entire Source	41.01	39.75	39.75	0.02	3.73	14.99	3.13	4,505	10.54	8.99 (Glycol Ethers)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
These emissions are based upon MSOP Renewal 133-29960-00031, issued on March 18, 2011. **The 100,000 CO ₂ e 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.										

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Crown Equipment Corporation on December 31, 2013, relating to construction of two powder coating paint systems.

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

- (a) One (1) shot blaster, identified as LSFTSB, approved for construction in 2013, with a maximum capacity of 204 tons of steel shot per hour and 19.5 tons of steel parts per hour, using a voluntary baghouse as control, and exhausting to stack LSFTSBBH.

Large Part Paint System

- (b) One (1) five-stage parts washer, identified as 5SWS 1 thru 5, approved for construction in 2013, with a maximum capacity of 19.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:
 - (1) Stage 1 with a 1,235 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (2) Stage 2 with a 1,035 gallon tank, using water at ambient temperature.

- (3) Stage 3 with a 1,235 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (4) Stage 4 with a 1,035 gallon tank, using water at ambient temperature.
- (5) Stage 5 with a 1,235 gallon tank, using water at ambient temperature.
- (c) One (1) Dry-off oven, identified as LSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (d) Two (2) powder coating booths, identified as large booth 1 and large booth 2, approved for construction in 2013, consisting of:
 - (1) Large Booth 1 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (2) Large Booth 2 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
- (e) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

Small Part Paint System

- (f) One (1) seven-stage parts washer, identified as 7SWS 1 thru 7, approved for construction in 2013, with a maximum capacity of 1.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:
 - (1) Stage 1 with a 1,500 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (2) Stage 2 with a 750 gallon tank, using water at ambient temperature.
 - (3) Stage 3 with a 900 gallon tank, using a corrosion resistance compound treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (4) Stage 4 with a 750 gallon tank, using water at ambient temperature.
 - (5) Stage 5 with a 900 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (6) Stage 6 with a 750 gallon tank, using water at ambient temperature.
 - (7) Stage 7 with a 750 gallon tank, using a corrosion inhibitor compound treated water at ambient temperature.
- (g) One (1) Dry-off oven, identified as SSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

- (h) Three (3) powder coating booths, identified as large booth 3, small booth 1 and small booth 3, approved for construction in 2013, consisting of :
- (1) Large Booth 3 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (2) Small Booth 1 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5 tons (400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
 - (3) Small Booth 3 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5(400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
- (i) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (j) One (1) Burn-off Oven, identified as BOO, approved for construction in 2013, with a natural gas-fired heater rated at 2 .0 MMBtu/hr, with a single chamber with afterburner.

"Integral Part of the Process" Determination

The Permittee has submitted the following information to justify why the filtration system should be considered an integral part of the powder coating booths:

- (a) The process cannot operate without the control equipment.
The filtration system is part of the paint booths physical and operational design; paint guns will not function if the filtration system is not active. The design utilizes direct wiring, not an interlock; employees cannot bypass the filtration system without completely rewiring the booth.
- (b) The control equipment serves a primary purpose other than pollution control.
The design is an engineering control to prevent atmospheric powder build-up, which could pose an explosion hazard. In addition, it can also be viewed as a tool to prevent color contamination. The powder coating booth would not be feasible to use without the filtration system because color changes would be impossible to conduct without color contamination and operators would not be able to see through the cloud of powder to effectively apply the powder coating. Finally the filtration system offers employees respiratory protection and minimizes employee exposure to overspray.
- (c) The filtration system has an overwhelming positive net economic effect.
The Permittee uses one color in the powder coating operation. The Permittee estimates:

Economic Benefit for Material Recovery in five (5) Powder Coating Booths

Powder Coating Cost and Use	
Cost of Powder Coating per pound	\$4.50
Pound per hour of paint per five booths	1,778.4
Cost of Powder Coating per hour	\$8,002.8
Savings from Recovered material	
Transfer Efficiency	50%
pounds of coating per hour reclaimed	889.2
Cost of Recovered Powder Coating per hour (\$4.50 x 889.2 =	\$4001.40

Cost of Recovered Powder Coating $\$4001.4 \times 40 \text{ hr/week} \times 52 \text{ weeks/per year} =$	\$8,322,912.00
Filter Cost	
Primary Filter Annual Cost (Small Booth 1, 15 @ \$178 per filter replaced once per year) $\$178 \times 15 = \$2,670$	\$2,670.00
Final Filter Annual Cost (Small Booth 1, 7 @ \$169 per filter replaced Bi-Yearly) $(\$169 \times 7) / 2 = \591.50	\$591.50
Primary Filter Flo-thru Annual Cost (Small Booth 2, 8 @ \$148 per filter replaced once per year) $(\$148 \times 8) = \$1,184$	\$1,184.00
Primary Filter Center Mount Annual Cost (Small Booth 2, 8 @ \$148 per filter replaced once per year)	\$1,184.00
Final Filter Annual Cost (Small Booth 2, 8 @ \$399 per filter replaced Bi-Yearly)	\$1,589.00
Primary Filter Flo-thru Annual Cost (Large Booths 1-3, 16 @ \$148 per filter replaced once per year) $\$148 \times 16 \times 3 = \$7,104$	\$7,104.00
Primary Filter Center Annual Cost (Large Booths 1-3, 16 @ \$148 per filter replaced once per year) $\$148 \times 16 \times 3 = \$7,104$	\$7,104.00
Final Filter Annual Cost (Large Booths 1-3, 8 @ \$399 per filter replaced Bi-Yearly) $(\$399 \times 8 \times 3) / 3 = \$4,788$	\$4,788.00
Total Annual Filter Cost:	\$26,214.00
Savings from Recovered Powder Coating	
Reclaim Efficiency	90%
Pounds of coating per hour reclaimed $(889.2 \times 90\%) = 800.28$	800.28
Savings per hour of reclaimed powder coating $(\$4.50 \times 800.28 = \$3,601.26)$	\$3,601.26
Annual Savings from Recovered Powder Coating $(\$3,601.26 \text{ cost coating/hr} \times 40 \text{ hrs/week} \times 52 \text{ weeks/year} = \$7,490,620.80)$	\$7,490,620.80
Percent Savings (annual savings from reclaimed powder coating \div annual cost of filters)	99.6%

The Permittee has net economic advantage of 99.6% for the annual filter replacement cost versus the savings from reuse of the reclaimed powder coating. The Permittee reclaims and reuses 90% of the powder coating captured by the filtration system for a total annual savings of \$7,490,620.80 versus a cost to operate the equipment of \$26,214.00, thus providing an overwhelming cost savings to the company.

IDEM, OAQ has evaluated the information submitted and agrees that the filtration system should be considered an integral part of the powder coating booths. This determination is based on the fact that the process cannot operate without the control equipment, control equipment serves a primary purpose other than pollution control and filtration system has an overwhelming positive net economic effect. Therefore, the permitting level will be determined using the potential to emit after the filtration system for the powder coating booths. Operating conditions in the proposed permit will specify that these filtration systems shall operate at all times when the powder coating booths are in operation. This is an initial determination made under this permit.

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – MSOP Revision

The following table is used to determine the appropriate permit level under 326 IAC 2-6.1-6. This table reflects the PTE before controls of the proposed revision. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Process/ Emission Unit	PTE of Proposed Revision (tons/year)									
	PM	PM10	PM2.5	SO ₂	NOx	VOC	CO	GHGs as CO ₂ e	Total HAPs	Worst Single HAP
Large Shot Blaster	1.89	1.63	1.63	-	-	-	-	-	-	-
Five Stage Parts Washer	0.01	0.06	0.06	0.00	0.77	0.04	0.65	933	0.01	0.01 (Hexane)
Large Part Dry-off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
LP Powder Coating Booth 1 ^α	13.14	13.14	13.14	-	-	-	-	-	-	-
LP Powder Coating Booth 2 ^α	13.14	13.14	13.14	-	-	-	-	-	-	-
Large Part Cure Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
Seven Stage Parts Washer	0.03	0.12	0.12	0.01	1.63	0.09	1.37	1,970	0.03	0.03 (Hexane)
Small Part Dry-Off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
SP Powder Coating Booth 1 ^α	13.14	13.14	13.14	-	-	-	-	-	-	-
SP Powder Coating Booth 2 ^α	4.11	4.11	4.11	-	-	-	-	-	-	-
SP Powder Coating Booth 3 ^α	4.11	4.11	4.11	-	-	-	-	-	-	-
Small Part Cure Oven	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,074	0.03	0.03 (Hexane)
Burn-off Oven	2.51	2.55	2.55	0.42	1.02	0.29	0.91	824	0.01	0.01 (Hexane)
MAU (Combustion)	0.12	0.48	0.48	0.04	6.27	0.34	5.27	7,569	0.12	0.11
Total PTE of Proposed Revision	52.31	52.89	52.89	0.51	15.27	1.07	12.88	18,036	0.28	0.27 (Hexane)
- = negligible α - The filtration system is considered integral to the process. Therefore, PTE after control is used for permit level determination.										

Pursuant to 326 IAC 2-6.1-6(i)(1)(E), this MSOP is revised through Significant Permit Revision because the proposed revision involves the construction of new emission units with a potential to emit greater than or equal to twenty-five (25) tons per year of PM, PM10, or direct PM2.5.

PTE of the Entire Source After Issuance of the MSOP Revision

The table below summarizes the potential to emit of the entire source, with updated emissions shown as **bold** values and previous emissions shown as ~~strikethrough~~ values.

Process/ Emission Unit	Potential To Emit of the Entire Source to accommodate the Proposed Revision (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NO _x	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Surface Coating Booths	28.80	28.80	28.80	-	-	13.50	-	-	9.83	8.99 (Glycol Ethers)
Touch-up Booth	1.63	1.63	1.63	-	-	1.28	-	-	0.64	0.52 (Xylene)
Shot Blasting	10.50	9.03	9.03	-	-	-	-	-	-	-
Air Make-up Units Combustion	0.07	0.28	0.28	0.02	3.73	0.21	3.13	4,505	0.07	0.07 (Hexane)
Large Shot Blaster	1.89	1.63	1.63	-	-	-	-	-	-	-
Five Stage Parts Washer	0.01	0.06	0.06	0.00	0.77	0.04	0.65	933	0.01	0.01 (Hexane)
Large Part Dry-off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
LP Powder Coating Booth 1 ^a	13.14	13.14	13.14	-	-	-	-	-	-	-
LP Powder Coating Booth 2 ^a	13.14	13.14	13.14	-	-	-	-	-	-	-
Large Part Cure Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
Seven Stage Parts Washer	0.03	0.12	0.12	0.01	1.63	0.09	1.37	1,970	0.03	0.03 (Hexane)
Small Part Dry-Off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
SP Powder Coating Booth 1 ^a	13.14	13.14	13.14	-	-	-	-	-	-	-
SP Powder Coating Booth 2 ^a	4.11	4.11	4.11	-	-	-	-	-	-	-
SP Powder Coating Booth 3 ^a	4.11	4.11	4.11	-	-	-	-	-	-	-
Small Part Cure Oven	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,074	0.03	0.03 (Hexane)
Burn-off Oven	2.51	2.55	2.55	0.42	1.02	0.29	0.91	824	0.01	0.01 (Hexane)
MAU (combustion)	0.12	0.48	0.48	0.04	6.27	0.34	5.27	7,569	0.12	0.11 (Hexane)
Total PTE of Entire Source	41.04 93.31	39.75 92.64	39.75 92.64	0.02 0.53	3.73 19.00	14.99 16.06	3.13 16.02	4,505 22,541	10.54 10.82	8.99 (Glycol Ethers)

Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
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 ₂ e 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. α - The filtration system is considered integral to the process. Therefore, PTE after control is used for permit level determination.										

The table below summarizes the potential to emit of the entire source after issuance of this revision, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this MSOP permit revision, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted)

Process/ Emission Unit	Potential To Emit of the Entire Source After Issuance of Revision (tons/year)									
	PM	PM10*	PM2.5	SO ₂	NOx	VOC	CO	GHGs as CO ₂ e**	Total HAPs	Worst Single HAP
Surface Coating Booths	28.80	28.80	28.80	-	-	13.50	-	-	9.83	8.99 (Glycol Ethers)
Touch-up Booth	1.63	1.63	1.63	-	-	1.28	-	-	0.64	0.52 (Xylene)
Shot Blasting	10.50	9.03	9.03	-	-	-	-	-	-	-
Air Make-up Units Combustion	0.07	0.28	0.28	0.02	3.73	0.21	3.13	4,505	0.07	0.07 (Hexane)
Large Shot Blaster	1.89	1.63	1.63	-	-	-	-	-	-	-
Five Stage Parts Washer	0.01	0.06	0.06	0.00	0.77	0.04	0.65	933	0.01	0.01 (Hexane)
Large Part Dry-off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
LP Powder Coating Booth 1 ^a	13.14	13.14	13.14	-	-	-	-	-	-	-
LP Powder Coating Booth 2 ^a	13.14	13.14	13.14	-	-	-	-	-	-	-
Large Part Cure Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
Seven Stage Parts Washer	0.03	0.12	0.12	0.01	1.63	0.09	1.37	1,970	0.03	0.03 (Hexane)
Small Part Dry-Off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02 (Hexane)
SP Powder Coating Booth 1 ^a	13.14	13.14	13.14	-	-	-	-	-	-	-

SP Powder Coating Booth 2 ^a	4.11	4.11	4.11	-	-	-	-	-	-	-
SP Powder Coating Booth 3 ^a	4.11	4.11	4.11	-	-	-	-	-	-	-
Small Part Cure Oven	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,074	0.03	0.03 (Hexane)
Burn-off Oven	2.51	2.55	2.55	0.42	1.02	0.29	0.91	824	0.01	0.01 (Hexane)
MAU (combustion)	0.12	0.48	0.48	0.04	6.27	0.34	5.27	7,569	0.12	0.11 (Hexane)
Total PTE of Entire Source	93.31	92.64	92.64	0.53	19.00	16.06	16.02	22,541	10.82	8.99 (Glycol Ethers)
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	250	250	250	250	250	250	250	100,000	NA	NA
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 ₂ e 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. α - The filtration system is considered integral to the process. Therefore, PTE after control is used for permit level determination.										

MSOP Status

- (a) This revision to an existing Minor Source Operating Permit will not change the minor status, because the uncontrolled/unlimited potential to emit criteria pollutants from the entire source will still be limited to less than the Title V major source threshold levels. Therefore, the source will still be subject to the provisions of 326 IAC 2-6.1 (MSOP).
- (b) This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all regulated pollutants from the entire source will continue to be less than the PSD major source threshold level. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply to the revision.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the source shall comply with the following:

Facility Description	Limited PM Emission Rate (lbs/hr)	Limited PM10 Emission Rate (lbs/hr)	Limited PM2.5 Emission Rate (lbs/hr)
Powder Coating Large Booth 1	3.00	3.00	3.00
Powder Coating Large Booth 2	3.00	3.00	3.00
Powder Coating Large Booth 3	3.00	3.00	3.00
Powder Coating Small Booth 1	0.938	0.938	0.938
Powder Coating Small Booth 2	0.938	0.938	0.938

Pursuant to 326 IAC 2-2, the filtration system shall be in operation at all times that the powder coating booths are in operation and shall operate within manufacturer's specifications.

Compliance with these limits, combined with the potential to emit PM, PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM10 and PM2.5 to less than 250 tons per 12 consecutive month period and shall render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

- (c) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit of any single HAP will still be less than ten (10) tons per year and the PTE of a combination of HAPs will still be 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.
- (d) This revision will not change the minor status of the source, because the uncontrolled/unlimited potential to emit greenhouse gases (GHGs) will still be less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO₂ equivalent emissions (CO₂e) 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) (40 CFR 60 and 326 IAC 12)

- (a) The requirements of the New Source Performance Standard for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced After June 20, 1996, 40 CFR 60, Subpart Ec (326 IAC 12), are not included for this proposed revision, since this source is not hospital/medical/infectious waste incinerator.
- (b) The requirements of the New Source Performance Standard for Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001, 40 CFR 60, Subpart CCCC (326 IAC 12), are not included for this proposed revision, since this source is exempt because the incinerator is used for rack, part, and drum reclamation units (40 CFR 60.2020(k)).
- (c) The requirements of the New Source Performance Standard for Other Solid Waste Incineration Units for Which Construction is Commenced After December 9, 2004, or for Which Modification or Reconstruction is Commenced on or After June 16, 2006, 40 CFR 60, Subpart EEEE (326 IAC 12), are not included for this proposed revision, since this source has a burn off oven that is classified as a commercial and industrial solid waste incineration units (40 CFR 60.2887(d)).
- (d) The requirements of the New Source Performance Standard for Other Solid Waste Incineration Units That Commenced Construction On or Before December 9, 2004, 40 CFR 60.2980, Subpart FFFF, do not apply to the one (1) natural gas-fired, burn off oven, identified as BOO. The unit is exempt from subpart FFFF because the facility does not meet the definition of other solid waste incineration (OSWI) under 40 CFR 60.3078. This facility does not accept waste materials for incineration other than those generated on site.
- (e) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60/Part 63) included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP) (40 CFR 63 and 326 IAC 20)

- (f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Halogenated Solvent Cleaning, 40 CFR 63.460, Subpart T (326 IAC 20-6), are not included for

- this proposed revision, since the parts washers do not use a halogenated solvent.
- (g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Surface Coating of Automobiles and Light-Duty Trucks, 40 CFR 63.3080, Subpart IIII (326 IAC 20-85) are not included for this proposed revision, since this source does not coat automobiles, light trucks or other motor vehicles and is not a major source for HAPs.
 - (h) 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 for this proposed revision, since this source does not use a coating that contain hazardous air pollutants (HAP) and is not a major source of HAPs.
 - (i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Surface Coating of Large Appliances 40 CFR 63.4080, Subpart NNNN (326 IAC 20-63) are not included for this proposed revision, since this source does not coat large appliances and is not a major source of HAPs.
 - (j) 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 for this proposed revision, since this source does not coat plastic parts and is not a major source of HAPs.
 - (k) National Emission Standards for Hazardous Air Pollutants (NESHAPs): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHHH (326 IAC 20
 - (1) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHHH (326 IAC 20) are not included for this proposed revision, since this source uses a powder coating when surface coating.
 - (2) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHHH (326 IAC 20) are not included for this proposed revision, although the source does not coat metal substrates where the coatings contain compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).
 - (l) The requirements of the National Emission Standards for Hazardous Air Pollutants for Area Source Standards for Nine Metal Fabrication and Finishing Source Categories (40 CFR 63, Subpart XXXXXX (6X)), are not included for this proposed revision, because the facility is not one of the nine source categories listed in 40 CFR 63.11514(a).
 - (m) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included for this proposed revision.

Compliance Assurance Monitoring (CAM)

- (n) 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 proposed revision:

- (a) 326 IAC 2-6.1 (Minor Source Operating Permits (MSOP))
MSOP applicability is discussed under the Permit Level Determination – MSOP section above.
- (b) 326 IAC 2-2 (Prevention of Significant Deterioration(PSD))
This modification to an existing PSD minor stationary source will not change the PSD minor status, because the potential to emit of all attainment regulated pollutants from the entire source will continue to be less than the PSD major source threshold levels. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply to this modification. See PTE of the Entire Source After Issuance of the MSOP Revision Section above.
- (c) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, since the unlimited potential to emit of HAPs from each new unit is less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs.
- (d) 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.
- (e) 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 (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
 - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings 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.
- (f) 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.
- (g) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the potential fugitive particulate emissions are less than 25 tons per year.

Large Shot Blaster

- (h) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the Large Shot Blaster shall not exceed 30.05 pounds per hour when operating at a process weight rate of 19.55 tons per hour. The pound per hour limitation was calculated with 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:

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

Based on calculations, the baghouse is not needed to comply with this limit.

Five and Seven Stage Parts Washer

- (i) 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating)
The natural gas-fired five and seven stage parts washers are not subject to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating), because, pursuant to 326 IAC 1-2-19, these emission units do not meet the definition of indirect heating unit.
- (j) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The natural gas-fired five and seven stage parts washers are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.
- (k) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the natural gas-fired emission units at this source are not subject to the requirements of 326 IAC 7-1.1, since each has unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.
- (l) 326 IAC 8-1 (Volatile Organic Compound Rules)
The Five and Seven Stage Parts washers are exempt from the requirements of 326 8-1 because they do not use a VOC or HAP containing compound.
- (m) There are no other 326 IAC 8 Rules that are applicable to the unit.

Large and Small Parts Dry-Off Ovens

- (n) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the natural gas-fired emission units at this source are not subject to the requirements of 326 IAC 7-1.1, since each has unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

Powder Coating Large Booths 1 thru 3 and Small Booths 1 and 2

- (o) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) the particulate from the processes listed in the table below shall be limited by the following:

Emission Unit	Process Weight Rate (tons/hr)	Allowable PM Limit (lbs/hr)
Powder Coating Large Booth 1	19.5	30.0
Powder Coating Large Booth 2	19.5	30.0
Powder Coating Large Booth 3	19.5	30.0
Powder Coating Small Booth 1	7.5	15.81
Powder Coating Small Booth 2	7.5	15.81

The pound per hour limitation was calculated with 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:

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

- (p) The filters shall be in operation at all times the powder coating booths are in operation, because the filters are integral to the process.
- (q) 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations)
The source is not subject to the requirements of 326 IAC 8-2-9, because the source does not have any VOC emissions from its powder coating booths operation.
- (r) There are no other 326 IAC 8 Rules that are applicable to the powder coating booths.

Small Part Cure Oven

- (s) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The natural gas-fired five and seven stage parts washers are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.
- (t) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the natural gas-fired emission units at this source are not subject to the requirements of 326 IAC 7-1.1, since each has unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour respectively.

Burn Off Oven

- (u) 326 IAC 4-2 (Incinerator Requirements)
The natural gas-fired burn off oven is considered an incinerator because it burns waste substances, with controls on combustion factors. Additionally, it is not in a residential unit of four (4) or fewer families, and is not subject to the Subparts listed in 326 IAC 4-2-1(b)(2); therefore it is subject to 326 IAC 4-2.
- (v) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The natural gas-fired burn off oven is exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight. In addition, pursuant to 326 IAC 6-3-1(b)(14), the these emission units are also exempt from the requirements of 326 IAC 6-3, because each has potential particulate emissions less than five hundred fifty one thousandths (0.551) pound per hour.
- (w) 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
Pursuant to 326 IAC 7-1.1-1, the natural gas-fired burn off oven is not subject to the requirements of 326 IAC 7-1.1, since natural gas-fired burn off oven has unlimited sulfur dioxide (SO₂) emissions less than twenty-five (25) tons per year and ten (10) pounds per hour, respectively.
- (x) There are no 326 IAC 8 Rules that are applicable to the unit.
- (y) 326 IAC 9-1-2 (Carbon monoxide Emission Limits)
Pursuant to 326 IAC 9-1-1, the natural gas-fired burn off oven is not subject to the requirements of 326 IAC 9-1-2(a)(3) because the burn off oven is not a refuse incineration or refuse burning equipment.

Compliance Determination, Monitoring and Testing Requirements
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- (a) The Compliance Inspection Requirements and Compliance Determination requirements applicable to this modification are as follows:
- (1) The integral fabric filters shall be in operation and control emissions from Powder Coating Large Booths 1 through 3 and Powder Coating Small Booths 1 and 2 at all times the powder coating booths are in operation.
 - (2) The Permittee shall perform an inspection of the fabric filters of the powder coating booths on a semi-annual basis. All defective filters shall be replaced.
 - (3) To document the compliance status with the filter inspections, the Permittee shall maintain records of the results of the semi-annual inspections.
- (b) There are no testing requirements included to this revision.

Proposed Changes

- (a) The following changes listed below are due to the proposed revision. Deleted language appears as ~~strike through~~ text and new language appears as **bold** text:

A.2 Emission Units and Pollution Control Equipment Summary

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

- (l) **One (1) shot blaster, identified as LSFTSB, approved for construction in 2013, with a maximum capacity of 204 tons of steel shot per hour and 19.5 tons of steel parts per hour, using a voluntary baghouse as control, and exhausting to stack LSFTSBBH.**

Large Part Paint System

- (m) **One (1) five-stage parts washer, identified as 5SWS 1 thru 5, approved for construction in 2013, with a maximum capacity of 19.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:**
- (1) **Stage 1 with a 1,235 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.**
 - (2) **Stage 2 with a 1,035 gallon tank, using water at ambient temperature.**
 - (3) **Stage 3 with a 1,235 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.**
 - (4) **Stage 4 with a 1,035 gallon tank, using water at ambient temperature.**
 - (5) **Stage 5 with a 1,235 gallon tank, using water at ambient temperature.**
- (n) **One (1) Dry-off oven, identified as LSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.**

- (o) **Two (2) powder coating booths, identified as large booth 1 and large booth 2, approved for construction in 2013, consisting of:**
 - (1) **Large Booth 1 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.**
 - (2) **Large Booth 2 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.**
- (p) **One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.**

Small Part Paint System

- (q) **One (1) seven-stage parts washer, identified as 7SWS 1 thru 7, approved for construction in 2013, with a maximum capacity of 1.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:**
 - (1) **Stage 1 with a 1,500 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.**
 - (2) **Stage 2 with a 750 gallon tank, using water at ambient temperature.**
 - (3) **Stage 3 with a 900 gallon tank, using a corrosion resistance compound treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.**
 - (4) **Stage 4 with a 750 gallon tank, using water at ambient temperature.**
 - (5) **Stage 5 with a 900 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.**
 - (6) **Stage 6 with a 750 gallon tank, using water at ambient temperature.**
 - (7) **Stage 7 with a 750 gallon tank, using a corrosion inhibitor compound treated water at ambient temperature.**
- (r) **One (1) Dry-off oven, identified as SSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.**
- (s) **Three (3) powder coating booths, identified as large booth 3, small booth 1 and small booth 3, approved for construction in 2013, consisting of :**
 - (1) **Large Booth 3 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.**
 - (2) **Small Booth 1 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5 tons (400 lbs each) of steel**

parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.

- (3) Small Booth 3 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5(400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
- (t) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (u) One (1) Burn-off Oven, identified as BOO, approved for construction in 2013, with a natural gas-fired heater rated at 2.0 MMBtu/hr, with a single chamber with afterburner.

Emission Limitations and Standards [326 IAC 2-6.1-5(a)(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

- (a) ***
- ~~(b) Solvent used during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent use is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.~~
- (b) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not limited to, the following:
 - (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.
 - (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.
 - (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.
 - (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.
 - (5) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (d) One (1) Wheelabrator shot blast machine with a blast rate of 600 pounds steel shot per hour, ~~to be installed~~ **constructed** in November 2003, equipped with a baghouse for particulate matter control, and exhausting to stack S9;

(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(a)(1)]

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

Compliance Determination Requirements [326 IAC 2-6.1-5(a)(2)]

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2(d)]

In order to comply with Condition D.2.1, the baghouse for PM control shall be in operation **and control emission from the shot blaster** at all times when the shot blaster is in operation.

SECTION D.3

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (l) One (1) shot blaster, identified as LSFTSB, approved for construction in 2013, with a maximum capacity of 108 pounds of steel shot per hour and 19.5 tons of steel parts per hour, using a voluntary baghouse as control, and exhausting to stack LSFTSBBH.

Large Part Paint System

- (m) One (1) five-stage parts washer, identified as 5SWS 1 thru 5, approved for construction in 2013, with a maximum capacity of 19.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:
- (1) Stage 1 with a 1,235 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (2) Stage 2 with a 1,035 gallon tank, using water at ambient temperature.
 - (3) Stage 3 with a 1,235 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
 - (4) Stage 4 with a 1,035 gallon tank, using water at ambient temperature.
 - (5) Stage 5 with a 1,235 gallon tank, using water at ambient temperature.
- (n) One (1) Dry-off oven, identified as LSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.
- (o) Two (2) powder coating booths, identified as large booth 1 and large booth 2, approved for construction in 2013, consisting of:
- (1) Large Booth 1 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part

per hour, using filters for control and exhausting indoors.

- (2) Large Booth 2 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.

- (p) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

Small Part Paint System

- (q) One (1) seven-stage parts washer, identified as 7SWS 1 thru 7, approved for construction in 2013, with a maximum capacity of 1.5 tons of steel per hour, using no controls, and exhausting indoors, consisting of:

- (1) Stage 1 with a 1,500 gallon tank, using alkaline treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (2) Stage 2 with a 750 gallon tank, using water at ambient temperature.
- (3) Stage 3 with a 900 gallon tank, using a corrosion resistance compound treated heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (4) Stage 4 with a 750 gallon tank, using water at ambient temperature.
- (5) Stage 5 with a 900 gallon tank, using a corrosion resistance compound heated water and a natural gas-fired heater rated at 0.90 MMBtu/hr.
- (6) Stage 6 with a 750 gallon tank, using water at ambient temperature.
- (7) Stage 7 with a 750 gallon tank, using a corrosion inhibitor compound treated water at ambient temperature.

- (r) One (1) Dry-off oven, identified as SSDOO, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

- (s) Three (3) powder coating booths, identified as large booth 3, small booth 1 and small booth 3, approved for construction in 2013, consisting of :

- (1) Large Booth 3 equipped with 12 automated electrostatic air atomized spray guns and two (2) manual electrostatic air atomized spray guns, with a total maximum capacity of 15 (1.3 tons each) of steel parts and eight pounds of coating per part per hour, using filters for control and exhausting indoors.
- (2) Small Booth 1 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5 tons (400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.
- (3) Small Booth 3 equipped with one (1) manual electrostatic air atomized spray gun, with a total maximum capacity of 7.5(400 lbs each) of steel parts and five (5) pounds of coating per part per hour, using filters for control and exhausting indoors.

- (t) One (1) Cure Oven, identified as LSCU, approved for construction in 2013, with a natural gas-fired heater rated at 3.0 MMBtu/hr.

(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(a)(1)]

D.3.1 PSD Minor Limit [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (PSD) not applicable, the Permittee shall comply with the following emission limits:

Facility Description	Limited PM Emission Rate (lbs/hr)	Limited PM10 Emission Rate (lbs/hr)	Limited PM2.5 Emission Rate (lbs/hr)
Powder Coating Large Booth 1	3.00	3.00	3.00
Powder Coating Large Booth 2	3.00	3.00	3.00
Powder Coating Large Booth 3	3.00	3.00	3.00
Powder Coating Small Booth 1	0.938	0.938	0.938
Powder Coating Small Booth 2	0.938	0.938	0.938

Compliance with this Condition and in combination with PM, PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM10 and PM2.5 to less than 250 tons per 12 consecutive month period, and shall render 326 IAC 2-2, Prevention of Significant Deterioration not applicable to the 2013 modification.

D.3.2 Particulate Matter (PM) [326 IAC 6-3-2(e)]

Pursuant to 326 IAC 6-3-2(e) (Particulate Emission Limitations for Manufacturing Processes) the particulate from the processes listed in the table below shall be limited by the following:

Emission Unit	Process Weight Rate (ton/hr)	Allowable PM Limit (lbs/hr)
Large Shot Blaster (LSFTSB)	19.55	30.05
Powder Coating Large Booth 1	19.5	30.0
Powder Coating Large Booth 2	19.5	30.0
Powder Coating Large Booth 3	19.5	30.05
Powder Coating Small Booth 1	7.5	15.81
Powder Coating Small Booth 2	7.5	15.81

The pound per hour limitation was calculated with 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:

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

D.3.3 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan is required for the five (5) powder coating booths, and control devices Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.4 Particulate Control

In order to comply with Conditions D.3.1 and D.3.2, the dry particulate filters for particulate control shall be in operation and control emissions from the five (5) powder coating spray booths at all times the powder coating spray booths are in operation.

Compliance Monitoring Requirements [326 IAC 2-6.1-5(a)(2)]

D.3.5 Filter Inspections

The Permittee shall perform an inspection of the fabric filters of the powder coating booths on a semi-annual basis. All defective filters shall be replaced.

Record Keeping and Reporting Requirement [326 IAC 2-6.1-5(a)(2)]

D.3.6 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.5, the Permittee shall maintain records of the results of the inspections required under Condition D.3.5.
- (b) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.4

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (u) One (1) Burn-off Oven, identified as BOO, approved for construction in 2013, with a natural gas-fired heater rated at 2.0 MMBtu/hr, with a single chamber with afterburner.

(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(a)(1)]

D.4.1 Incinerator [326 IAC 4-2-2]

Pursuant to 326 IAC 4-2-2, the one (1) natural gas-fired incinerator, identified as BOO, shall:

- (a) Consist of primary and secondary chambers or the equivalent.
- (b) Be equipped with a primary burner unless burning only wood products.
- (c) Comply with 326 IAC 5-1 and 326 IAC 2.

- (d) **Be maintained, operated, and burn waste in accordance with:**
 - (1) **The manufacturer's specifications; or**
 - (2) **An operation and maintenance plan as specified in 326 IAC 4-2-2(c) as follows:**
 - (A) **The operation and maintenance plan must be designed to meet the particulate matter emission limitation specified in Condition D.4.1(e) and include the following:**
 - (i) **Procedures for receiving, handling, and charging waste.**
 - (ii) **Procedures for incinerator startup and shutdown.**
 - (iii) **Procedures for responding to a malfunction.**
 - (iv) **Procedures for maintaining proper combustion air supply levels.**
 - (v) **Procedures for operating the incinerator and associated air pollution control systems.**
 - (vi) **Procedures for handling ash.**
 - (vii) **A list of wastes that can be burned in the incinerator.**
 - (B) **Each incinerator operator shall review the plan before initial implementation of the operation and maintenance plan and annually thereafter.**
 - (C) **The operation and maintenance plan must be readily accessible to incinerator operators.**
 - (D) **The owner or operator of the incinerator shall notify the department, in writing, thirty (30) days after the operation and maintenance plan is initially developed pursuant to this section; and**
- (e) **Not emit particulate matter (PM) emissions in excess of 0.3 pound per 1,000 pounds of dry exhaust gas under standard conditions corrected to 50% excess air.**

If any of the requirements above are not met, then the Permittee shall stop charging the incinerator until adjustments are made that address the underlying cause of the deviation.

- (b) Upon further review, IDEM, OAQ has decided to make the following changes to the permit. Deleted language appears as ~~strike through~~ text and new language appears as **bold** text:
 - (1) Section A.1 of the permit and the reporting forms have been revised to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address.
 - (2) Section A.2(d) and Section D.2 have been revised in the descriptive language for the Wheelabrator shot blaster.

- (3) Section D.1 has been revised to show how the Permittee will comply with the VOC limit for the air atomizing spray booths (SPPL and LPPL).
- (4) Condition D.1.1(b) has been revised to show current rule language.
- (5) Compliance determination requirements for the air atomizing spray booths (SPPL and LPPL) have been revised.

A.1 General Information [326 IAC 2-5.1-3(c)][326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary truck parts manufacturing plant.

Source Address: 2600 East State Road 240, Greencastle, Indiana 46135
~~Mailing Address: 2600 East State Road 240, PO Box 840, Greencastle, Indiana 46135~~
General Source Phone Number: (765) 653-4240
SIC Code: 3537
County Location: Putnam
Source Location Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit Program
Minor Source, under PSD
Minor Source, Section 112 of the Clean Air Act
Not 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary

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

- (d) One (1) Wheelabrator shot blast machine with a blast rate of 600 pounds steel shot per hour, ~~to be installed~~ **constructed** in November 2003, equipped with a baghouse for particulate matter control, and exhausting to stack S9;

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) One (1) air atomizing paint spray booth, identified as SPPL, with a maximum capacity of spraying twenty-eight (28) small parts per hour, installed October in 1996, approved for modification in 2011, using filter and/or waterwash for particulate matter overspray control, and exhausting to stack S4;
- (b) One (1) air atomizing paint spray booth, identified as LPPL, with a maximum capacity of spraying three (3) large parts per hour, installed October in 1996, approved for modification in 2011, using and/or waterwash for particulate matter overspray control, and exhausting to stacks S2 and S3;
- (c) One (1) powder coat booth, identified as PCPB, with a maximum capacity of twenty-two (22) pounds of powder per hour, approved for construction in 2007, with particulate matter controlled by a dust collector with HEPA filters and exhausting to the indoors;
- (k) One (1) air atomizing paint spray booth, identify as touch-up booth, constructed in 1996 and approved for modification in 2011, with a maximum capacity of coating two (2) steel electric lift trucks per hour, using dry filters as control, and exhausting to stack S1.

(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(a)(1)]

D.1.1 Volatile Organic Compounds (VOC) [326 IAC 8-2-9]

- (a) Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coatings applied to metal parts or products in the air atomizing spray booths (SPPL and LPPL) shall be limited to 3.5 pounds of VOC per gallon of coating less water delivered to the applicator, forced warm air dried coatings.
- ~~(b) Solvent used during clean up or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent use is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.~~
- (b) Pursuant to 326 IAC 8-2-9(f), work practices shall be used to minimize VOC emissions from mixing operations, storage tanks, and other containers, and handling operations for coatings, thinners, cleaning materials, and waste materials. Work practices shall include, but not limited to, the following:**
 - (1) Store all VOC containing coatings, thinners, coating related waste, and cleaning materials in closed containers.**
 - (2) Ensure that mixing and storage containers used for VOC containing coatings, thinners, coating related waste, and cleaning materials are kept closed at all times except when depositing or removing these materials.**
 - (3) Minimize spills of VOC containing coatings, thinners, coating related waste, and cleaning materials.**
 - (4) Convey VOC containing coatings, thinners, coating related waste, and cleaning materials from one (1) location to another in closed containers or pipes.**
 - (5) Minimize VOC emissions from the cleaning application, storage, mixing, and conveying equipment by ensuring that equipment cleaning is performed without atomizing the cleaning solvent and all spent solvent is captured in closed containers.**

Compliance Determination Requirements

D.1.4 Particulate Control

Particulate from the powder coat booth (PCPB) shall be controlled by the dust collector at all times that the powder coat booth is in operation.

D.1.5 Volatile Organic Compounds (VOC)

~~Compliance with the VOC content limitation contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) using formulation data supplied by the coating manufacturer.~~

Compliance with the VOC limitations contained in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-4(a)(3) and 326 IAC 8-1-2(a) by preparing or obtaining from the manufacturer the copies of the "as supplied" and "as applied" VOC data sheets. IDEM,

OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

D.1.6 Volatile Organic Compounds (VOC) [326 IAC 8-1-2]

Compliance with the VOC content limit in Condition D.1.1 shall be determined pursuant to 326 IAC 8-1-2(a)(7), using a volume weighted average of coatings on a daily basis. This volume weighted average shall be determined by the following equation:

$$A = [\sum (C_i \times U_i) / \sum U_i]$$

Where:

A is the volume weighted average in pounds VOC per gallon less water as applied;

C_i is the VOC content of the ith coating in pounds VOC per gallon less water as applied; and

U_i is the usage rate of the ith coating in gallons per day.

Record Keeping and Reporting Requirements [326 IAC 2-6.1-5(a)(2)]

~~D.1.6 Record Keeping Requirements~~

~~(a) To document compliance with Condition D.1.1, the Permittee shall maintain records in accordance with (1) through (2) below. Records maintained for (1) through (2) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC emission limit established in Condition D.1.1. Records necessary to demonstrate compliance shall be available within 30 days of the end of each compliance period.~~

~~(1) The amount and VOC content of each coating material and solvent used. Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used. Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvents; and~~

~~(2) The VOC content of the coatings used for each month.~~

D.1.7 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.1 the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken as stated below and shall be complete and sufficient to establish compliance with the VOC usage limit established in condition D.1.1.

(1) The VOC content of each coating material and solvent used;

(2) The amount of coating material and solvent less water used on daily basis;

(A) Records shall include purchase orders, invoices, and material safety data sheets (MSDS) necessary to verify the type and amount used; and

(B) Solvent usage records shall differentiate between those added to coatings and those used as cleanup solvent.

- (3) The volume weighted average VOC content of the coatings used for each day. If for a given day, all coating materials used in a metal surface coating operation are in compliance with the VOC content limits contained in Condition D.1.1, then the Permittee shall not be required to maintain records of the volume weighted average VOC content of the coatings used in that operation on that day;
 - (4) The cleanup solvent usage for each day; and
 - (5) The total VOC usage for each day.
- (b) Section C - General Record Keeping Requirements, contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (d) One (1) Wheelabrator shot blast machine with a blast rate of 600 pounds steel shot per hour, ~~to be installed~~ **constructed** in November 2003, equipped with a baghouse for particulate matter control, and exhausting to stack S9;

(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(a)(1)]

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

Compliance Determination Requirements [326 IAC 2-6.1-5(a)(2)]

D.2.2 Particulate Matter (PM) [326 IAC 6-3-2(d)]

In order to comply with Condition D.2.1, the baghouse for PM control shall be in operation **and control emission from the shot blaster** at all times when the shot blaster is in operation.

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 December 31, 2012.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed MSOP Significant Permit Revision No. 133-32705-00031. The staff recommends to the Commissioner that this MSOP Significant Permit Revision be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Bruce Farrar 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) 234-5401 or toll free at 1-800-451-6027 extension 4-5401.
- (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

Emission Summary

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Process/Emission Unit	Uncontrolled Potential Emissions (tons/yr) with Integral									
	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHG as CO2e	Total HAPs	Single HAP
Large Shot Blaster	1.89	1.63	1.63	-	-	-	-	-	0.03	0.03
Five Stage Parts Washer	0.01	0.06	0.06	0.00	0.77	0.04	0.65	933	0.01	0.01
Large Part Dry-off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
LP Powder Coating Booth 1*	13.14	13.14	13.14	-	-	-	-	-	-	-
LP Powder Coating Booth 2*	13.14	13.14	13.14	-	-	-	-	-	-	-
Large Part Cure Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
Seven Stage Parts Washer	0.03	0.12	0.12	0.01	1.63	0.09	1.37	1,970	0.03	0.03
Small Part Dry-Off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
SP Powder Coating Booth 1*	13.14	13.14	13.14	-	-	-	-	-	-	-
SP Powder Coating Booth 2*	4.11	4.11	4.11	-	-	-	-	-	-	-
SP Powder Coating Booth 3*	4.11	4.11	4.11	-	-	-	-	-	-	-
Small Part Cure Oven	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,074	0.03	0.03
Burn-off Oven	2.51	2.55	2.55	0.42	1.02	0.29	0.91	824	0.01	0.01
MAU (combustion)	0.12	0.48	0.48	0.04	6.27	0.34	5.27	7,569	0.12	0.11
Modification Total:	52.31	52.89	52.89	0.51	15.27	1.07	12.88	18,036	0.31	0.27
Existing Units:										
Surface Coating Booths	28.80	28.80	28.80	-	-	13.50	-	-	9.83	8.99
Touch-up Booth	1.63	1.63	1.63	-	-	1.28	-	-	0.64	0.52
Existing Blasting	10.51	9.04	9.04						0.16	0.16
Combustion	0.07	0.28	0.28	0.02	3.73	0.21	3.13	4,505	0.07	0.07
Existing Totals:	41.01	39.75	39.75	0.02	3.73	14.99	3.13	4,505	10.70	8.99
Total After Modification:	93.31	92.64	92.64	0.53	19.00	16.06	16.02	22,541	11.01	8.99

*The filtration system is considered integral to powder coating process, therefore uncontrolled PTE is equal to controlled PTE.

Appendix A: Emissions Calculations

PSD Emission Summary

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

	Uncontrolled Potential Emissions Before Integral (tons/yr)/PSD									
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHG as CO2e	Total HAPs	Single HAP
Large Shot Blaster	1.89	1.63	1.63	-	-	-	-	-	0.03	0.03
Five Stage Parts Washer	0.01	0.06	0.06	0.00	0.77	0.04	0.65	933	0.01	0.01
Large Part Dry-off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
LP Powder Coating Booth 1*	262.80	262.80	262.80	-	-	-	-	-	-	-
LP Powder Coating Booth 2*	262.80	262.80	262.80	-	-	-	-	-	-	-
Large Part Cure Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
Seven Stage Parts Washer	0.03	0.12	0.12	0.01	1.63	0.09	1.37	1,970	0.03	0.03
Small Part Dry-Off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
SP Powder Coating Booth 1*	262.80	262.80	262.80	-	-	-	-	-	-	-
SP Powder Coating Booth 2*	82.13	82.13	82.13	-	-	-	-	-	-	-
SP Powder Coating Booth 3*	82.13	82.13	82.13	-	-	-	-	-	-	-
Small Part Cure Oven	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,074	0.03	0.03
Burn-off Oven	2.51	2.55	2.55	0.42	1.02	0.29	0.91	824	0.01	0.01
MAU (combustion)	0.12	0.48	0.48	0.04	6.27	0.34	5.27	7,569	0.12	0.11
Modification Total:	957.32	957.91	957.91	0.51	15.27	1.07	12.88	18,036	0.31	0.27
Existing Units:										
Surface Coating Booths	28.80	28.80	28.80	-	-	13.50	-	-	9.83	8.99
Touch-up Booth	1.63	1.63	1.63	-	-	1.28	-	-	0.64	0.52
Existing Blasting	10.51	9.04	9.04						0.16	0.16
Combustion	0.07	0.28	0.28	0.02	3.73	0.21	3.13	4,505	0.07	0.07
Existing Totals:	41.01	39.75	39.75	0.02	3.73	14.99	3.13	4,505	10.70	8.99
Total After Modification:	998.33	997.66	997.66	0.53	19.00	16.06	16.02	22,541	11.01	8.99

* For Prevention of Significant Deterioration (PSD) purposes, integral to the process is not considered. Therefore for the purposes of PSD determination the emissions for the powder coating booths is the uncontrolled PTE.

Appendix A: Emissions Calculations

Limited PTE Summary

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

	Limited Potential Emissions (tons/yr) for PSD									
Process/Emission Unit	PM	PM10	PM2.5	SO2	NOx	VOC	CO	GHG as CO2e	Total HAPs	Single HAP
Large Shot Blaster	1.89	1.63	1.63	-	-	-	-	-	0.03	0.03
Five Stage Parts Washer	0.01	0.06	0.06	0.00	0.77	0.04	0.65	933	0.01	0.01
Large Part Dry-off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
LP Powder Coating Booth 1*	13.14	13.14	13.14	-	-	-	-	-	-	-
LP Powder Coating Booth 2*	13.14	13.14	13.14	-	-	-	-	-	-	-
Large Part Cure Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
Seven Stage Parts Washer	0.03	0.12	0.12	0.01	1.63	0.09	1.37	1,970	0.03	0.03
Small Part Dry-Off Oven	0.02	0.10	0.10	0.01	1.29	0.07	1.08	1,555	0.02	0.02
SP Powder Coating Booth 1*	13.14	13.14	13.14	-	-	-	-	-	-	-
SP Powder Coating Booth 2*	4.11	4.11	4.11	-	-	-	-	-	-	-
SP Powder Coating Booth 3*	4.11	4.11	4.11	-	-	-	-	-	-	-
Small Part Cure Oven	0.03	0.13	0.13	0.01	1.72	0.09	1.44	2,074	0.03	0.03
Burn-off Oven	2.51	2.55	2.55	0.42	1.02	0.29	0.91	824	0.01	0.01
MAU (combustion)	0.12	0.48	0.48	0.04	6.27	0.34	5.27	7,569	0.12	0.11
Modification Total:	52.31	52.89	52.89	0.51	15.27	1.07	12.88	18,036	0.31	0.27
Existing Units:										
Surface Coating Booths	28.80	28.80	28.80	-	-	13.50	-	-	9.83	8.99
Touch-up Booth	1.63	1.63	1.63	-	-	1.28	-	-	0.64	0.52
Existing Blasting	10.51	9.04	9.04						0.16	0.16
Combustion	0.07	0.28	0.28	0.02	3.73	0.21	3.13	4,505	0.07	0.07
Existing Totals:	41.01	39.75	39.75	0.02	3.73	14.99	3.13	4,505	10.70	8.99
Total After Modification:	93.31	92.64	92.64	0.53	19.00	16.06	16.02	22,541	11.01	8.99

Appendix A: Emission Calculations
Abrasive Blasting - Confined

Page 4 of 41 TSD App A

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor (EF)	
	lb PM / lb abrasive	lb PM10 and PM2.5 / 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) =	108.0	lb/hr (per nozzle)	
w = fraction of time of wet blasting =	0	%	
N = number of nozzles =	1		
EF = PM emission factor for actual abrasive from Table 1 =	0.004	lb PM/ lb abrasive	
PM10 emission factor ratio for actual abrasive from Table 1 =	0.86	lb PM10 / lb PM	
Potential to Emit (before control) =	PM	PM10/PM2.5	
	0.43	0.37	lb/hr
	10.37	8.92	lb/day
	1.89	1.63	ton/yr

Potential to Emit After Control			
Emission Control Device Efficiency =	PM	PM10/PM2.5	
	99.0%	99.0%	
	0.0043	0.0037	lb/hr
	0.10	0.09	lb/day
Potential to Emit (after control) =	0.02	0.02	ton/yr

HAP Emissions					
HAP Name	Weight of HAP (%)*	Uncontrolled HAP Emissions (lbs/hr)	Uncontrolled HAP Emissions (tons/year)	Controlled HAP Emissions (lbs/hr)	Controlled HAP Emissions (tons/year)
Manganese	1.50%	0.01	0.03	6.48E-05	2.84E-04

* Percent weight of HAP from MSDS

Methodology: Uncontrolled HAP emissions (lbs/hr) = PM emissions Uncontrolled (lbs/hr) * HAP %
Controlled HAP emissions (lbs/hr) = PM emissions Controlled (lbs/hr) * HAP %
Uncontrolled HAP emissions (ton/yr) = PM emissions Uncontrolled (ton/yr) * HAP %
Controlled HAP emissions (ton/yr) = PM emissions Controlled (ton/yr) * HAP %

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]

326 IAC 6-3-2 Limits	
Process Weight Rate (tons/hr)	PM Emission Rate(lbs/hr)
19.55	30.05

METHODOLOGY:

PM Emission rate (lbs/hr) = 4.10 * Process Weight (tons/hr) ^ 0.67

Appendix A: Emissions Calculations
Five Stage Parts Washer

Page 5 of 41 TSD App A

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Emission Unit	Chemical Used	Product Density [lb/gal]	VOC Content [lb/gal]	Max. Daily Chemical Usage (gal/day)	Max. Yearly Chemical Usage (gal/year)	Potential VOC Emissions (lb/day)	Potential VOC Emissions (tons/yr)
Five Stage Large Parts Washer							
5SWS-1	EnviroClean 2794	10.35	0.00	3.5	1277.50	0.00	0.00
5SWS-2	Water						
5SWS-3	EnviroKote 3380 NP	8.68	0.00	3	1095.00	0.00	0.00
5SWS-4	Water						
5SWS-5	EnviroSeal 3303	8.85	0.00	1.25	456.25	0.00	0.00
Total:							0.00

Note: Source uses non VOC and Non HAP chemicals.

Methodology

Max. Hourly Chemical Usage [gal/hr] = Max. Annual Solvent Usage [gal/yr] / 8,760 hr/yr

Potential VOC?HAP Emissions [lb/hr] = Max. Hourly Solvent Usage [gal/hr] x VOC/HAP Content [lb/gal]

Potential VOC?HAP Emissions [tpy] = Potential VOC?HAP Emissions [lb/hr] x 8,760 hr/yr / 2,000 lb/ton

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
Large System Dry-Off Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
1.8	1020	15.5

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.01	0.06	0.06	0.00	0.77	0.04	0.65

*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 5 for HAPs emissions calculations.

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

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.623E-05	9.275E-06	5.797E-04	1.391E-02	2.628E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.865E-06	8.502E-06	1.082E-05	2.937E-06	1.623E-05

Methodology is the same as page 4.

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 6 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Greenhouse Gas Emissions****Company Name: Crown Equipment Corporation****Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135****SPR Permit Number: 133-32705-00031****Plt ID: 133-00031****Reviewer: Bruce Farrar****Date: December 31, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	928	0.0	0.0
Summed Potential Emissions in tons/yr	928		
CO2e Total in tons/yr	933		

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: Emissions Calculations
Natural Gas Combustion Only
Large System Dry-Off Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
3.0	1020	25.8

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.02	0.10	0.10	0.01	1.29	0.07	1.08

*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 8 for HAPs emissions calculations.

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

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	2.705E-05	1.546E-05	9.662E-04	2.319E-02	4.380E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	6.441E-06	1.417E-05	1.804E-05	4.895E-06	2.705E-05

Methodology is the same as page 7.

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 9 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Greenhouse Gas Emissions****Company Name: Crown Equipment Corporation****Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135****SPR Permit Number: 133-32705-00031****Plt ID: 133-00031****Reviewer: Bruce Farrar****Date: December 31, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,546	0.0	0.0
Summed Potential Emissions in tons/yr	1,546		
CO2e Total in tons/yr	1,555		

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).

Particulate

Large Part Powder Coating

Company Name: Crown Equipment Corporation

Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135

SPR Permit Number: 133-32705-00031

Plt ID: 133-00031

Reviewer: Bruce Farrar

Date: December 31, 2012

Emission Unit		Pound coating per part	Parts per Hour	Pounds per hour	Uncontrolled PM/PM10/PM2.5 (lbs/hr)	Uncontrolled PM/PM10/PM2.5 (ton/yr)	Controlled PM/PM10/PM2.5 (lbs/hr)	Controlled PM/PM10/PM2.5 (ton/yr)	Transfer Efficiency
Booth 1	Powder	8	15	120.00	60.00	262.80	3.000	13.14	50%
Booth 2	Powder	8	15	120.00	60.00	262.80	3.000	13.14	50%
				Total:	120.00	525.60	6.000	26.28	

Cartridge Filters Control Efficiency: 95.00%

*The filtration system is considered integral to powder coating process, therefore uncontrolled PTE is equal to controlled PTE.

METHODOLOGY:

PM/PM10/PM2.5 Potential pounds per hour = (pounds per hour coating) * (1- transfer efficiency) * (1-control efficiency)

PM/PM10/PM2.5 Potential tons per year = (pounds per hour coating) * (1- transfer efficiency) * (1-control efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)

Total = Worst Coating + Sum of all solvents used

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Emission unit	Process Weight Rate (tons/hr)	PM Emission Rate(lbs/hr)
Booth 1	15.004	25.17
Booth 2	15.004	25.17

METHODOLOGY:

PM Emission rate (lbs/hr) = 4.10 * Process Weight (tons/hr) ^ 0.67

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
Large System Cure Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
3.0	1020	25.8

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.02	0.10	0.10	0.01	1.29	0.07	1.08

*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 12 for HAPs emissions calculations.

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

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	2.705E-05	1.546E-05	9.662E-04	2.319E-02	4.380E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	6.441E-06	1.417E-05	1.804E-05	4.895E-06	2.705E-05

Methodology is the same as page 11.

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 13 for Greenhouse Gas calculations.

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

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,546	0.0	0.0
Summed Potential Emissions in tons/yr	1,546		
CO2e Total in tons/yr	1,555		

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: Emissions Calculations

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Seven Stage Parts Washer

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Emission Unit	Chemical Used	Product Density [lb/gal]	VOC Content [lb/gal]	Max. Daily Chemical Usage (gal/day)	Max. Yearly Chemical Usage (gal/year)	Potential VOC Emissions [lb/hr]	Potential VOC Emissions [tpy]
Seven Stage Small Parts Washer							
7SWS-1	EnviroDeScale 2651	9.77	0.00	4	0.000	0.000	0.000
7SWS-2	water						
7SWS-3	EnviroClean 2794	10.35	0.00	2.5	912.50	0.000	0.000
7SWS-4	water						
7SWS-5	EnviroKote 3380 NP	8.68	0.00	2	730.00	0.000	0.000
7SWS-6	water						
7SWS-7	EnviroSeal 3303	8.85	0.00	0.75	273.75	0.000	0.000
Total:						0.000	

Note: Source uses non VOC and Non HAP chemicals.

Methodology

Max. Hourly Chemical Usage [gal/hr] = Max. Annual Solvent Usage [gal/yr] / 8,760 hr/yr

Potential VOC?HAP Emissions [lb/hr] = Max. Hourly Solvent Usage [gal/hr] x VOC/HAP Content [lb/gal]

Potential VOC?HAP Emissions [tpy] = Potential VOC?HAP Emissions [lb/hr] x 8,760 hr/yr / 2,000 lb/ton

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
Large System Dry-Off Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
3.8	1020	32.6

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.03	0.12	0.12	0.01	1.63	0.09	1.37

*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 page16 for HAPs emissions calculations.

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

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.427E-05	1.958E-05	1.224E-03	2.937E-02	5.548E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	8.159E-06	1.795E-05	2.284E-05	6.201E-06	3.427E-05

Methodology is the same as page 15.

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 17 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****MM BTU/HR <100****Greenhouse Gas Emissions****Company Name: Crown Equipment Corporation****Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135****SPR Permit Number: 133-32705-00031****Plt ID: 133-00031****Reviewer: Bruce Farrar****Date: December 31, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	1,958	0.0	0.0
Summed Potential Emissions in tons/yr	1,958		
CO2e Total in tons/yr	1,970		

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: Emissions Calculations
Natural Gas Combustion Only
Small Part Dry Off Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
3.0	1020	25.8

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.02	0.10	0.10	0.01	1.29	0.07	1.08

*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 19 for HAPs emissions calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Small Part Dry Off Oven****HAPs Emissions**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	2.705E-05	1.546E-05	9.662E-04	2.319E-02	4.380E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	6.441E-06	1.417E-05	1.804E-05	4.895E-06	2.705E-05

Methodology is the same as page 18.

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 20 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Small Part Dry Off Oven****Greenhouse Gas Emissions**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

	Greenhouse Gas		
Emission Factor in lb/MMcf	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	1,546	0.0	0.0
Summed Potential Emissions in tons/yr	1,546		
CO2e Total in tons/yr	1,555		

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).

Company Name: Crown Equipment Corporation

Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135

SPR Permit Number: 133-32705-00031

Plt ID: 133-00031

Reviewer: Bruce Farrar

Date: December 31, 2012

Emission Unit		Pound coating per part	Parts per Hour	Pounds per hour	Uncontrolled PM/PM10/PM2.5 (lbs/hr)	Uncontrolled PM/PM10/PM2.5 (ton/yr)	Controlled PM/PM10/PM2.5 (lbs/hr)	Controlled PM/PM10/PM2.5 (ton/yr)	Transfer Efficiency
Booth 1	Powder	8	15	120.00	60.00	262.80	3.000	13.14	50%
Booth 2	Powder	5	7.5	37.50	18.75	82.13	0.938	4.11	50%
Booth 3	Powder	5	7.5	37.50	18.75	82.13	0.938	4.11	50%
				Total:	97.50	427.05	4.875	21.35	

Cartridge Filters Control Efficiency: 95.00%

*The filtration system is considered integral to powder coating process, therefore uncontrolled PTE is equal to controlled PTE.

METHODOLOGY:
PM/PM10/PM2.5 Potential pounds per hour = (pounds per hour coating) * (1- transfer efficiency) * (1-control efficiency)
PM/PM10/PM2.5 Potential tons per year = (pounds per hour coating) * (1- transfer efficiency) * (1-control efficiency) *(8760 hrs/yr) *(1 ton/2000 lbs)
Total = Worst Coating + Sum of all solvents used

326 IAC 6-3-2 Limits		
Emission unit	Process Weight Rate (tons/hr)	PM Emission Rate(lbs/hr)
Booth 1	15.004	25.17
Booth 2	7.504	15.82
Booth 3	7.504	15.82

METHODOLOGY:
PM Emission rate (lbs/hr) = 4.10 * Process Weight (tons/hr) ^ 0.67

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
Small Part Cure Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
4.0	1020	34.4

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.03	0.13	0.13	0.01	1.72	0.09	1.44

*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 3for HAPs emissions calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Small Part Cure Oven****HAPs Emissions**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	3.607E-05	2.061E-05	1.288E-03	3.092E-02	5.840E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	8.588E-06	1.889E-05	2.405E-05	6.527E-06	3.607E-05

Methodology is the same as page 1.

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 24 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Small Part Cure Oven****Greenhouse Gas Emissions**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	2,061	0.0	0.0
Summed Potential Emissions in tons/yr	2,061		
CO2e Total in tons/yr	2,074		

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).

**Attachment A: Emission Calculations
Burn-off Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

THROUGHPUT lbs/hr
76

THROUGHPUT ton/yr
332.88

	POLLUTANT				
Emission Factor in lb/ton	PM/PM10/PM2.5 15.0	SO2 2.5	CO 2.0	VOC 1.5	NOX 2.0
Potential Emissions in ton/yr	2.50	0.42	0.33	0.25	0.33

Methodology

Note 1: The maximum throughput for each oven is 380 pounds per hour. The assumption is that 10% of the total throughput (380 lbs/hr) is equal to the amount of material burned off.
Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse combustors, sin
Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
Burn-off Oven**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
1.6	1020	13.7

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.01	0.05	0.05	0.00	0.68	0.04	0.57

*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 27 for HAPs emissions calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Burn-off Oven****HAPs Emissions**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.434E-05	8.193E-06	5.121E-04	1.229E-02	2.321E-05

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.414E-06	7.510E-06	9.559E-06	2.595E-06	1.434E-05

Methodology is the same as page 26.

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 28 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Burn-off Oven****Greenhouse Gas Emissions****Company Name: Crown Equipment Corporation****Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135****SPR Permit Number: 133-32705-00031****Plt ID: 133-00031****Reviewer: Bruce Farrar****Date: December 31, 2012**

	Greenhouse Gas		
Emission Factor in lb/MMcf	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	819	0.0	0.0
Summed Potential Emissions in tons/yr	819		
CO2e Total in tons/yr	824		

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: Emissions Calculations
Natural Gas Combustion Only
MAU**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
14.6	1020	125.4

	Pollutant						
Emission Factor in lb/MMCF	PM* 1.9	PM10* 7.6	direct PM2.5* 7.6	SO2 0.6	NOx 100 **see below	VOC 5.5	CO 84
Potential Emission in tons/yr	0.12	0.48	0.48	0.04	6.27	0.34	5.27

*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
MAU

HAPs Emissions

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

	HAPs - Organics				
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.317E-04	7.523E-05	4.702E-03	1.128E-01	2.132E-04

	HAPs - Metals				
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	3.135E-05	6.896E-05	8.777E-05	2.382E-05	1.317E-04

Methodology is the same as page 1.

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
MAU**

Greenhouse Gas Emissions

**Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012**

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	120,000	2.3	2.2
Potential Emission in tons/yr	7,523	0.1	0.1
Summed Potential Emissions in tons/yr	7,524		
CO2e Total in tons/yr	7,569		

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: Emissions Calculations
VOC and Particulate
From Surface Coating Operations

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Pit ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	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)	lb VOC/gal solids	Transfer Efficiency
Small Parts (SPPL)																
90 Yellow PW 8209 B	8.9	64.92%	52.9%	12.0%	56.6%	26.21%	0.05000	28.000	2.46	1.07	1.49	35.84	6.54	16.25	4.07	15%
88 Dark Grey PW 8116	9.3	59.40%	49.1%	10.3%	54.8%	32.27%	0.05000	28.000	2.12	0.96	1.34	32.25	5.89	19.68	2.97	15%
88 Med Grey PW 8325 A	9.5	57.63%	47.4%	10.2%	54.1%	32.82%	0.05000	28.000	2.11	0.97	1.36	32.62	5.95	20.98	2.96	15%
Red Primer PW 8384	9.6	56.01%	44.9%	11.2%	51.4%	34.21%	0.05000	28.000	2.19	1.07	1.49	35.81	6.54	21.90	3.12	15%
94 Beige PW 78331	9.5	59.02%	48.7%	10.4%	55.4%	31.30%	0.05000	28.000	2.21	0.98	1.38	33.03	6.03	20.27	3.14	15%
Orange PW 8326	9.3	63.98%	51.3%	12.7%	57.3%	26.47%	0.05000	28.000	2.76	1.18	1.65	39.63	7.23	17.42	4.46	15%
Lacquer Thinner	6.8	100.00%	0.0%	100.0%	0.0%	0.00%	0.40000	0.100	6.84	6.84	0.27	6.57	1.20	0.00		100%
Large Parts (LPPL)																
90 Yellow PW 8209 B	8.9	64.92%	52.9%	12.0%	56.6%	26.21%	0.25000	3.000	2.46	1.07	0.80	19.20	3.50	5.12	4.07	50%
88 Dark Grey PW 8116	9.3	59.40%	49.1%	10.3%	54.8%	32.27%	0.25000	3.000	2.12	0.96	0.72	17.28	3.15	6.20	2.97	50%
88 Med Grey PW 8325 A	9.5	57.63%	47.4%	10.2%	54.1%	32.82%	0.25000	3.000	2.11	0.97	0.73	17.48	3.19	6.61	2.96	50%
Red Primer PW 8384	9.6	56.01%	44.9%	11.2%	51.4%	34.21%	0.25000	3.000	2.19	1.07	0.80	19.18	3.50	6.90	3.12	50%
94 Beige PW 78331	9.5	59.02%	48.7%	10.4%	55.4%	31.30%	0.25000	3.000	2.21	0.98	0.74	17.70	3.23	6.39	3.14	50%
Orange PW 8326	9.3	63.98%	51.3%	12.7%	57.3%	26.47%	0.25000	3.000	2.76	1.18	0.88	21.23	3.87	5.49	4.46	50%
Lacquer Thinner	6.8	100.00%	0.0%	100.0%	0.0%	0.00%	0.40000	0.100	6.84	6.84	0.27	6.57	1.20	0.00		100%

Uncontrolled Potential Emissions

3.0873.9913.5028.80

Controlled Potential Emissions

Control Efficiency:		Controlled	Controlled	Controlled	Controlled
VOC	PM	VOC lbs/hr	VOC lbs/day	VOC tons/yr	PM tons/yr
0.00	98.1%	3.08	73.99	13.50	0.55

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)
The surface coating material usages for each booth are mutually exclusive.

Appendix A: Emission Calculations

HAP Emission Calculations

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Toluene	Weight % Glycol Ethers	Toluene Emissions (ton/yr)	Glycol Ethers Emissions (ton/yr)	All Toxics (ton/yr)
Small Parts (SPPL)								
90 Yellow PW 8209 B	8.89	0.050000	28.00	0.00%	9.00%	0.00	4.91	4.91
88 Dark Grey PW 8116	9.30	0.050000	28.00	0.00%	9.00%	0.00	5.13	5.13
88 Med Grey PW 8325 A	9.50	0.050000	28.00	0.00%	9.00%	0.00	5.24	5.24
Red Primer PW 8384	9.55	0.050000	28.00	0.00%	10.00%	0.00	5.86	5.86
94 Beige PW 78331	9.49	0.050000	28.00	0.00%	9.00%	0.00	5.24	5.24
Orange PW 8326	9.28	0.050000	28.00	0.00%	8.00%	0.00	4.55	4.55
Lacquer Thinner	6.84	0.400000	0.10	35.00%	0.00%	0.42	0.00	0.42
Large Parts (LPPL)								
90 Yellow PW 8209 B	8.89	0.250000	3.00	0.00%	9.00%	0.00	2.63	2.63
88 Dark Grey PW 8116	9.30	0.250000	3.00	0.00%	9.00%	0.00	2.75	2.75
88 Med Grey PW 8325 A	9.50	0.250000	3.00	0.00%	9.00%	0.00	2.81	2.81
Red Primer PW 8384	9.55	0.250000	3.00	0.00%	10.00%	0.00	3.14	3.14
94 Beige PW 78331	9.49	0.250000	3.00	0.00%	9.00%	0.00	2.81	2.81
Orange PW 8326	9.28	0.250000	3.00	0.00%	8.00%	0.00	2.44	2.44
Lacquer Thinner	6.84	0.400000	0.10	35.00%	0.00%	0.42	0.00	0.42
						0.84	8.99	9.83

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

The surface coating material usages for each booth are mutually exclusive.

Appendix A: Emissions Calculations
VOC and Particulate
From Touch-up Booth

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non- Volatiles (solids)	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)	lb VOC/gal solids	Transfer Efficiency
Touch-Up Booth																
Light Gray Anticorrosive Primer 59684-HS	10.6	43.85%	22.4%	21.5%	33.3%	34.59%	0.09375	1.000	3.42	2.28	0.21	5.13	0.94	1.23	6.59	50%
Bright Beige Topcoat WB 941082A	9.4	59.72%	42.7%	17.0%	48.3%	31.59%	0.14063	0.250	3.10	1.61	0.06	1.35	0.25	0.29	5.08	50%
88 Dark Gray Topcoat WB 941086	8.9	63.21%	47.3%	15.9%	50.3%	32.16%	0.06250	0.250	2.84	1.41	0.02	0.53	0.10	0.11	4.39	50%
88 Dark Gray Acrylic Enamel 591021-HS	7.9	71.07%	52.7%	18.4%	58.2%	22.27%	0.00023	0.250	3.47	1.45	0.00	0.00	0.00	0.00	6.51	50%
Bright Beige Acrylic 3.5 Enamel 591059-HS	9.0	60.96%	45.1%	15.8%	56.6%	23.99%	0.00008	0.250	3.27	1.42	0.00	0.00	0.00	0.00	5.92	50%
94 Medium Gray 3.5 Enamel 591056-HS	8.4	66.10%	48.3%	17.8%	56.7%	23.06%	0.00023	0.250	3.45	1.49	0.00	0.00	0.00	0.00	6.48	50%
											0.29	7.02	1.28	1.63		

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

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Material	Density (Lb/Gal)	Gallons of Material (gal/unit)	Maximum (unit/hour)	Weight % Xylene	Weight % Ethyl Benzene	Weight % Diethylene Glycol Monobutyl Ether	Weight % Ethylene Glycol Monobutyl Ether	Xylene Emissions (ton/yr)	Ethyl Benzene Emissions (ton/yr)	Diethylene Glycol Monobutyl Ether Emissions (ton/yr)	Ethylene Glycol Monobutyl Ether (ton/yr)	Total Emissions (ton/yr)
Touch-Up Booth												
Light Gray Anticorrosive Primer 59684-HS	10.60	0.09375	1.00	11.91%	2.82%	0.00%	0.00%	0.52	0.12	0.00	0.00	0.64
Bright Beige Topcoat WB 941082A	7.51	0.14063	0.25	0.00%	0.00%	1.29%	0.00%	0.00	0.00	0.01	0.00	
88 Dark Gray Topcoat WB 941086	9.18	0.06250	0.25	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	
88 Dark Gray Acrylic Enamel 591021-HS	10.04	0.00023	0.25	7.77%	1.86%	0.00%	3.50%	0.00	0.00	0.00	0.00	
Bright Beige Acrylic 3.5 Enamel 591059-HS	8.98	0.00008	0.25	7.95%	1.90%	0.00%	2.98%	0.00	0.00	0.00	0.00	
94 Medium Gray 3.5 Enamel 591056-HS	8.49	0.00023	0.25	7.75%	1.85%	0.00%	2.89%	0.00	0.00	0.00	0.00	
Worst Case HAPS Emissions												0.64

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

Appendix A: Emission Calculations
Existing Abrasive Blasting - Confined

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
SPR Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Table 1 - Emission Factors for Abrasives

Abrasive	Emission Factor (EF)	
	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) =	600.0	lb/hr (per nozzle)	
w = fraction of time of wet blasting =	0	%	
N = number of nozzles =	1		
EF = PM emission factor for actual abrasive from Table 1 =	0.004	lb PM/ lb abrasive	
PM10 emission factor ratio for actual abrasive from Table 1 =	0.86	lb PM10 / lb PM	
		PM	PM10/PM2.5
Potential to Emit (before control) =	2.40	2.06	lb/hr
=	57.60	49.54	lb/day
=	10.51	9.04	ton/yr

Potential to Emit After Control		PM	PM10/PM2.5
Emission Control Device Efficiency =	99.0%	99.0%	
Potential to Emit (after control) =	0.02	0.02	lb/hr
=	0.58	0.50	lb/day
=	0.11	0.09	ton/yr

HAP Emissions					
HAP Name	Weight of HAP (%)*	Uncontrolled HAP Emissions (lbs/hr)	Uncontrolled HAP Emissions (tons/year)	Controlled HAP Emissions (lbs/hr)	Controlled HAP Emissions (tons/year)
Manganese	1.50%	0.04	0.16	3.60E-04	1.58E-03

* Percent weight of HAP from MSDS
Methodology: Uncontrolled HAP emissions (lbs/hr) = PM emissions Uncontrolled (lbs/hr) * HAP %
Controlled HAP emissions (lbs/hr) = PM emissions Controlled (lbs/hr) * HAP %
Uncontrolled HAP emissions (ton/yr) = PM emissions Uncontrolled (ton/yr) * HAP %
Controlled HAP emissions (ton/yr) = PM emissions Controlled (ton/yr) * HAP %

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]

Appendix A: Emissions Calculations

Natural Gas Combustion Only

Existing Combustion Units

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
1.5	phosphate washer	12.9
0.8	dry off oven	6.9
2.5	cure oven	21.5
3.9	air make up unit	33.4
8.7	1020	74.6

	Pollutant						
Emission Factor in lb/MMCF	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100	5.5	84
					**see below		
Potential Emission in tons/yr	0.1	0.3	0.3	0.0	3.7	0.2	3.1

*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 38 for HAPs emissions calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Existing Combustion Units****HAPs Emissions**

Company Name: Crown Equipment Corporation
Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135
Permit Number: 133-32705-00031
Plt ID: 133-00031
Reviewer: Bruce Farrar
Date: December 31, 2012

HAPs - Organics					
Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	7.836E-05	4.478E-05	2.799E-03	6.717E-02	1.269E-04

HAPs - Metals					
Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	8.352E-06	1.837E-05	2.339E-05	6.348E-06	3.508E-05

Methodology is the same as page 37.

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 39 for Greenhouse Gas calculations.

Appendix A: Emissions Calculations**Natural Gas Combustion Only****Existing Combustion Units****Greenhouse Gas Emissions****Company Name: Crown Equipment Corporation****Address City IN Zip: 2600 East State Road 240, Greencastle, IN 46135****Permit Number: 133-32705-00031****Plt ID: 133-00031****Reviewer: Bruce Farrar****Date: December 31, 2012**

	Greenhouse Gas		
Emission Factor in lb/MMcf	CO2 120,000	CH4 2.3	N2O 2.2
Potential Emission in tons/yr	4,478	0.1	0.1
Summed Potential Emissions in tons/yr	4,478		
CO2e Total in tons/yr	4,505		

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).



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
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: Jim Ward
Crown Equipment Corporation
PO Box 840
Greencastle, IN 46135

DATE: June 11, 2013

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

SUBJECT: Final Decision
Minor Source Operating Permit (MSOP) Significant Permit Revision
133-32705-00031

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:
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.

Final Applicant Cover letter.dot 11/30/07



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

June 11, 2013

TO: Putnam County Public Library

From: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information for Display Regarding a Final Determination**


Applicant Name: Crown Equipment Corporation
Permit Number: 133-32705-00031

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library.dot 11/30/07

Mail Code 61-53

IDEM Staff	VHAUN 6/11/2013 Crown Equipment Corporation 133-32705-00031 FINAL			AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender		Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: CERTIFICATE OF MAILING ONLY	

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handling Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee	Remarks
1		Jim Ward Crown Equipment Corporation 2600 East SR 240, PO Box 840 Greencastle 46135 (Source CAATS) Confirmed Delivery										
2		Putnam County Commissioners One West Washington Street Greencastle IN 46135 (Local Official)										
3		Greencastle City Council and Mayors Office 1 N. Locust ST. Greencastle IN 46135 (Local Official)										
4		Putnam Co Public Library 103 E Poplar Street Greencastle IN 46135-0116 (Library)										
5		Putnam County Health Department P.O. Box 507 Greencastle IN 46135-0507 (Health Department)										
6		First Citizens Bank & Trust Co 1 N. Indiana St Greencastle IN 46135 (Affected Party)										
7		Mr. Delbert Brewer Big Walnut Sports Park 110 W. Walnut Greencastle IN 46135 (Affected Party)										
8		Marvin & Anita Peters 2818 E CR 240 Greencastle IN 46135 (Affected Party)										
9		Mr. Richard Monday 545 E. Margaret Dr. Terre Haute IN 47801 (Affected Party)										
10		J.P. Roehm PO Box 303 Clinton IN 47842 (Affected Party)										
11		Mr. Tim Thomas c/o Boilermakers Local 374 6333 Kennedy Ave. Hammond IN 46333 (Affected Party)										
12												
13												
14												
15												

Total number of pieces Listed by Sender 10	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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