

Mr. Robert Starkenburg
Prince Manufacturing, Inc.
205 Green Drive
Avilla, Indiana 46710

Re: 113-15398
Notice-only change to
MSOP 113-15060-00032

Dear Mr. Starkenburg:

Prince Manufacturing, Inc. was issued a Minor State Operating Permit (MSOP) on February 4, 2002 for a military vehicle components manufacturing source. A letter notifying the Office of Air Quality of a modification to the source to construct the following emission units was received on March 18, 2002.

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.9 with a heat input capacity of 3.96 million British thermal units (mmBtu/hr);
- (b) One (1) new Paint Primer Booth, identified as PB-5 to be located at the existing Overhead Line 1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour) of parts, equipped with High Volume Low Pressure (HVLP) spray system. The PM overspray will be controlled by dry filters;
- (c) One (1) New Flat Line Conveyor Process Line:
 - (1) One (1) Primer Booth, identified as PB-6, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system;
 - (2) One (1) Topcoat Booth, identified as PB-7, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system;

The PM overspray from the two (2) Flat Line Conveyor Process Line paint booths will be controlled by dry filters; and

- (d) Three (3) electric Curing Ovens, identified as FO- 1, FO- 2 and FO- 3

Although the new emission units will have a total uncontrolled PTE of greater than 25 tons of VOC per year, these new emission units will qualify for a Notice-Only Change which states that "a modification that adds an emission unit or units of the same type that are already permitted and that will comply with the same applicable requirements and permit terms and conditions as the existing emission unit or units, except if the modification would result in a potential to emit greater than the thresholds in 326 IAC 2-2 or 2-3.

Pursuant to the provisions of 326 IAC 2-6.1-6 the permit is hereby revised as follows (changes are **bolded** and deletions are ~~struck through~~ for emphasis) :

Section A.2 will be revised to include the new emission units as follows

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr).
- (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr.
- (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr.
- (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr.
- (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr.
- (f) One (1) Overhead Process Line consisting of:
 - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system.
 - (2) One (1) new Paint Primer Booth, identified as PB-5, capable of painting a maximum of 417 square feet per hour (sq. ft./hour) of parts, equipped with High Volume Low Pressure (HVLP) spray system.**
 - ~~(2)~~ **(3) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour of primer coated parts and 818 sq. ft. per hour of primerless parts, equipped with High Volume Low Pressure spray system.**
- (g) One (1) Flat Line Booth, identified as PB-4:
 - (1) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.
- (h) One (1) New Flat Line Conveyor Process Line:**
 - (1) One (1) Primer Booth, identified as PB-6, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.**
 - (2) One (1) Topcoat Booth, identified as PB-7, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure**

(HVLV) spray system.

The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.

- ~~(h)~~ **(i)** One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts. ~~and~~
- ~~(i)~~ **(j)** One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.
- (k)** **Three (3) electric Curing Ovens, identified as FO- 1, FO- 2 and FO- 3.**
- (l)** **One (1) natural gas-fired air make-up unit, identified as C.U.9 with a heat input capacity of 3.96 million British thermal units (mmBtu/hr).**

Section D.1 will also be revised to reflect the changes in Section A.2 as follows:

SECTION D.2

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr).
- (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr.
- (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr.
- (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr.
- (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr.
- (f) One (1) Overhead Process Line consisting of:
 - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system.
 - (2) One (1) new Paint Primer Booth, identified as PB-5, capable of painting a maximum of 417 square feet per hour (sq. ft./hour) of parts, equipped with High Volume Low Pressure (HVLP) spray system.**
 - ~~(2)~~ **(3) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour of primer coated parts and 818 sq. ft. per hour of primerless parts, equipped with High Volume Low Pressure spray system.**
- (g) One (1) Flat Line Booth, identified as PB-4:
 - (1) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.
- (h) One (1) New Flat Line Conveyor Process Line:**
 - (1) One (1) Primer Booth, identified as PB-6, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.**
 - (2) One (1) Topcoat Booth, identified as PB-7, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.**

The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.
- ~~(h)~~ **(i) One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts. and**
- ~~(h)~~ **(j) One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.**
- (k) Three (3) electric Curing Ovens, identified as FO- 1, FO- 2 and FO- 3.**
- (l) One (1) natural gas-fired air make-up unit, identified as C.U.9 with a heat input capacity of 3.96 million British thermal units (mmBtu/hr).**

Conditions in the MSOP will be revised to include the new paint booths as follows:

Emission Limitations and Standards

D.1.1 Volatile Organic Compound (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 coating delivered to the applicators at paint booths Overhead Process Line: Primer Booth, identified as PB-1; **new Primer Booth, identified as PB-5**; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; **new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7** when coating military vehicle metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.
- (b) Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

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

The PM overspray emissions from the Overhead Process Line: Primer Booth, identified as PB-1; **new Primer Booth, identified as PB-5**; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; **new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7** shall not exceed the pound per hour emission rate established as E in the following formula:

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

$$E = 4.10 P^{0.67}$$

where: E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

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

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Overhead Process Line: Primer Booth, identified as PB-1; **new Primer Booth, identified as PB-5**; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; **new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7** and each control device.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the VOC limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.5 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions 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. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.6 Particulate Matter (PM)

The dry filters shall be in place at all times the Overhead Process Line: Primer Booth, identified

as PB-1; **new Primer Booth, identified as PB-5**; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; **new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7**, are in operation.

D.1.7 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the Overhead Process Line: Primer Booth, identified as PB-1; **new Primer Booth, identified as PB-5**; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; **new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7**. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E8, E9, E10, ~~and~~ E11, **E24, and E25**) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

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

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Aida De Guzman, at (800) 451-6027, press 0 and ask for Aida De Guzman or extension (3-4972), or dial (317) 233-4972.

Sincerely,

Original signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

Attachments

APD

cc: File - Noble County
U.S. EPA, Region V
Noble County Health Department
Northern Regional
Air Compliance Section Inspector - Doyle Houser
Compliance Data Section - Karen Nowak
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michele Boner

**NEW SOURCE REVIEW
and MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR QUALITY**

**Prince Manufacturing, Inc.
205 Green Drive
Avilla, Indiana 46710**

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

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

Operation Permit No.: MSOP 113-15060-00032	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: February 4, 2002
Notice-Only Change No.: 113-15398	Pages Affected: 3, 4, 14, 15, 16
Issued by: Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: March 26, 2002

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 through A.3 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 source for the manufacture of military vehicle components.

Authorized Individual: Robert Starkenburg
Source Address: 205 Green Drive, Avilla, Indiana 46710
Mailing Address: P.O. Box 696, Avilla, Indiana 46710
Phone Number: (219) 837-8341
SIC Code: 3479
County Location: Noble
County Status: Attainment for all criteria pollutants
Source Status: Minor Source Operating Permit
Major or Minor Source, under PSD or Emission Offset Rules;
Major Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to operate the following emissions units and pollution control devices:

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr).
- (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr.
- (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr.
- (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr.
- (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr.
- (f) One (1) Overhead Process Line consisting of:
 - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system.
 - (2) One (1) new Paint Primer Booth, identified as PB-5, capable of painting a maximum of 417 square feet per hour (sq. ft./hour) of parts, equipped with High Volume Low Pressure (HVLP) spray system.

- (3) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour of primer coated parts and 818 sq. ft. per hour of primerless parts, equipped with High Volume Low Pressure spray system.
- (g) One (1) Flat Line Booth, identified as PB-4:
 - (1) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.
- (h) One (1) New Flat Line Conveyor Process Line:
 - (1) One (1) Primer Booth, identified as PB-6, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.
 - (2) One (1) Topcoat Booth, identified as PB-7, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.

The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.

- (i) One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts.
- (j) One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.
- (k) Three (3) electric Curing Ovens, identified as FO- 1, FO- 2 and FO- 3.
- (l) One (1) natural gas-fired air make-up unit, identified as C.U.9 with a heat input capacity of 3.96 million British thermal units (mmBtu/hr).

A.3 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is not required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is not a major source, as defined in 326 IAC 2-7-1(22);

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.1 with a heat input capacity of 6.5 million British thermal units (mmBtu/hr).
- (b) One (1) natural gas-fired Phosphate Line Cleaner Tank Heater, identified as C.U.2 with a heat input capacity of 2.5 mmBtu/hr.
- (c) One (1) natural gas-fired Phosphate Line Phosphate Tank Heater, identified as C.U.3 with a heat input capacity of 2.5 mmBtu/hr.
- (d) One (1) natural gas-fired Phosphate Line Dry/Bake Oven, identified as C.U.4 with a heat input capacity of 3.8 mmBtu/hr.
- (e) One (1) natural gas-fired Heat Furnace, identified as C.U.5 with a heat input capacity of 0.08 mmBtu/hr.
- (f) One (1) Overhead Process Line consisting of:
 - (1) One (1) Primer Booth, identified as PB-1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour), equipped with High Volume Low Pressure (HVLP) spray system.
 - (2) One (1) new Paint Primer Booth, identified as PB-5, capable of painting a maximum of 417 square feet per hour (sq. ft./hour) of parts, equipped with High Volume Low Pressure (HVLP) spray system.
 - (3) Two (2) Top Coat Booths 1 and 2, identified as PB-2 and PB-3, capable of painting a total maximum of 1760 sq. ft. per hour of primer coated parts and 818 sq. ft. per hour of primerless parts, equipped with High Volume Low Pressure spray system.
- (g) One (1) Flat Line Booth, identified as PB-4:
 - (1) One (1) Primerless Top Coat Booth, capable of painting a maximum of 205 sq. ft./hour, equipped with High Volume Low Pressure (HVLP) spray system.
- (h) One (1) New Flat Line Conveyor Process Line:
 - (1) One (1) Primer Booth, identified as PB-6, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.
 - (2) One (1) Topcoat Booth, identified as PB-7, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system.

The particulate matter (PM) overspray emission from all the spray booths is controlled by dry filters.
- (i) One (1) Chromate Line, identified as CL-1, rated at a maximum of 87 sq.ft./hour of aluminum parts.
- (j) One (1) Zinc Phosphate Line, identified as ZP-1, capable of cleaning a maximum of 2,783 sq. ft./hour.
- (k) Three (3) electric Curing Ovens, identified as FO- 1, FO- 2 and FO- 3.
- (l) One (1) natural gas-fired air make-up unit, identified as C.U.9 with a heat input capacity of 3.96 million British thermal units (mmBtu/hr).

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

Emission Limitations and Standards

D.1.1 Volatile Organic Compound (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 coating delivered to the applicators at paint booths Overhead Process Line: Primer Booth, identified as PB-1; new Primer Booth, identified as PB-5; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7 when coating military vehicle metal parts shall be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.
- (b) Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

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

The PM overspray emissions from the Overhead Process Line: Primer Booth, identified as PB-1; new Primer Booth, identified as PB-5; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7 shall not exceed the pound per hour emission rate established as E in the following formula:

Interpolation and extrapolation 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.1.3. Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Overhead Process Line: Primer Booth, identified as PB-1; new Primer Booth, identified as PB-5; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7 and each control device.

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test these emissions units by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions units are in compliance. If testing is required by IDEM, compliance with the VOC limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

D.1.5 Volatile Organic Compounds (VOC)

Compliance with the VOC content and usage limitations contained in Conditions 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. IDEM, OAQ, reserves the authority to determine compliance using Method 24 in conjunction with the analytical procedures specified in 326 IAC 8-1-4.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.6 Particulate Matter (PM)

The dry filters shall be in place at all times the Overhead Process Line: Primer Booth, identified as PB-1; new Primer Booth, identified as PB-5; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; new Flat Line Conveyor Process Line: Primer Booth,

identified as PB-6 and Topcoat Booth, identified as PB-7, are in operation.

D.1.7 Monitoring

- (a) Daily inspections shall be performed to verify the placement, integrity and particle loading of the filters for the Overhead Process Line: Primer Booth, identified as PB-1; new Primer Booth, identified as PB-5; Top Coat Booths, identified PB-2 and PB-3; and Flat Line Booth identified as PB-4; new Flat Line Conveyor Process Line: Primer Booth, identified as PB-6 and Topcoat Booth, identified as PB-7. To monitor the performance of the dry filters, weekly observations shall be made of the overspray from the surface coating booth stacks (E8, E9, E10, E11, E24, and E25) while one or more of the booths are in operation. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (b) Monthly inspections shall be performed of the coating emissions from the stack and the presence of overspray on the rooftops and the nearby ground. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when a noticeable change in overspray emission, or evidence of overspray emission is observed. The Compliance Response Plan shall be followed whenever a condition exists which should result in a response step. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.
- (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

Record Keeping and Reporting Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

- (a) To document compliance with Conditions D.1.1, the Permittee shall maintain records in accordance with (1) through (5) below. Records maintained for (1) through (5) shall be taken monthly and shall be complete and sufficient to establish compliance with the VOC usage limits and/or the VOC emission limits established in Condition D.1.1.
 - (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;
 - (2) A log of the dates of use;
 - (3) The cleanup solvent usage for each month;
 - (4) The total VOC usage for each month; and
 - (5) The weight of VOCs emitted for each compliance period.
- (b) To document compliance with Condition D.1.7, the Permittee shall maintain a log of weekly overspray observations, daily and monthly inspections, and those additional inspections prescribed by the Preventive Maintenance Plan.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

Indiana Department of Environmental Management Office of Air Quality

Technical Support Document (TSD) for a Notice-Only Change

Source Background and Description

Source Name: Prince Manufacturing, Inc.
Source Location: 205 Green Drive, Avilla, Indiana 46710
County: Noble
SIC Code: 3479
Operation Permit No.: 113-15060-00032 Issuance Date: February 4, 2002
Notice-Only Change: 113-15398
Permit Reviewer: Aida De Guzman

The Office of Air Quality (OAQ) has reviewed a Notice-Only Change application from Prince Manufacturing, Inc. relating to the operation of the following new equipment to be used in the manufacture of military vehicle components:

- (a) One (1) natural gas-fired air make-up unit, identified as C.U.9 with a heat input capacity of 3.96 million British thermal units (mmBtu/hr);
- (b) One (1) new Paint Primer Booth, identified as PB-5 to be located at the existing Overhead Line 1, capable of painting a maximum of 417 square feet per hour (sq. ft./hour) of parts, equipped with High Volume Low Pressure (HVLP) spray system. The PM overspray will be controlled by dry filters;
- (c) One (1) New Flat Line Conveyor Process Line:
 - (1) One (1) Primer Booth, identified as PB-6, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system;
 - (2) One (1) Topcoat Booth, identified as PB-7, capable of painting a maximum of 410 sq. ft./hour of parts, equipped with High Volume Low Pressure (HVLP) spray system;

The PM overspray from the two (2) Flat Line Conveyor Process Line will be controlled by dry filters; and

- (d) Three (3) electric Curing Ovens, identified as FO- 1, FO- 2 and FO- 3.

History

On March 18, 2002, Prince Manufacturing, Inc., submitted an application to the OAQ requesting to add new paint booths and new process line to their existing plant. Prince Manufacturing, Inc. was issued a Minor Source Operating Permit (MSOP) on February 4, 2002.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
E-29	Air make-up unit	20	1	2,200	80
E-23	Primer Booth	28	2.83	14,900	ambient
E-24	Flat Line Booth 1	28	1.83	8,000	ambient
E-25	Flat Line Booth 2	28	1.83	8,000	ambient
E-26	Flat Line Single Electric Oven	28	0.83	-	300
E-27	Flat Line Double Electric Oven	28	0.83	-	300
E-28	Flat Line Single Electric Oven	28	0.83	-	300

Recommendation

The staff recommends to the Commissioner that the Notice-Only Change be approved. This recommendation is based on the following facts and conditions:

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

An application for the purposes of this review was received on March 18, 2002.

Emission Calculations

- (a) Air Make-Up Natural Gas Combustion Emissions: See Page 1 of 3 TSD Appendix A for detailed emission calculations.
- (b) Surface Coating Emissions:
 - (1) VOC and PM Emissions, See Page 2 of 3 TSD Appendix A for detailed calculations.
 - (2) HAP Emissions: See Page 3 of 3 TSD Appendix A for detailed calculations. The main HAPs emissions (chromium compound and cobalt) come from the New Flat Line Conveyor Process Line Topcoat Booth which are non-volatile and emitted in the form of PM overspray, and are calculated as follows: PM overspray is controlled by dry filters.

<u>Top Coat</u>		
Weight % Chromium Cmp	=	17%
Weight % Cobalt	=	7%
As Applied Wt. % VOC	=	29.14%
As Applied Weight % Solids	=	70.9%
PM Emissions from the TopCoat	=	9.17 tons/yr

Uncontrolled Chromium Emissions	=	$\frac{17\%}{70.9\%} * 9.17 \text{ tons PM/yr}$
	=	2.2 tons/year
Controlled Chromium Emissions	=	$2.2 \text{ tons/yr} * (1-.90)$
	=	0.22 tons/yr
Uncontrolled Cobalt Emissions	=	$\frac{7\%}{70.9\%} * 9.17 \text{ tons PM/yr}$
	=	0.90 tons/year
Controlled Cobalt Emissions	=	$0.90 \text{ tons/yr} * (1-.90)$
	=	0.09 ton/yr

Potential To Emit

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

Pollutant	Potential To Emit (tons/year)
PM	23.9
PM-10	24.0
SO ₂	0.0
VOC	28.3
CO	1.5
NO _x	1.7

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Ethylbenzene	0.10
Hexamethylene-1,6-diisocyanate	0.49
Methyl ethyl ketone (2-Butanone)	1.46
Methyl isobutyl ketone	0.12
Toluene	2.55
Xylenes	3.01
Chromium Compounds	2.2
Cobalt Compounds	0.90
TOTAL	10.83

Justification for Approval Level

Although the new emission units will have a total uncontrolled PTE of greater than 25 tons of VOC per year, these new emission units will qualify for a Notice-Only Change which states that “a modification that adds an emission unit or units of the same type that are already permitted and that will comply with the same applicable requirements and permit terms and conditions as the existing emission unit or units, except if the modification would result in a potential to emit greater than the thresholds in 326 IAC 2-2 or 2-3.

County Attainment Status

The source is located in Noble County.

Pollutant	Status
PM-10	attainment
SO ₂	attainment
NO ₂	attainment
Ozone	attainment
CO	attainment
Lead	not determined

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Noble County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Noble County has been classified as attainment or unclassifiable for all the other pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Limited Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

Process/facility	Limited Potential to Emit (tons/year)							
	PM	PM-10	SO ₂	VOC	CO	NO _x	Single HAP	Combined HAPs
Surface Coating	2.4	2.4	0.0	28.2	0.0	0.0	3.01	10.83
Natural Gas Combustion	0.0	0.1	0.0	0.1	1.5	1.7	0.0	0.0
Total Emissions	2.4	2.4	0.0	28.3	1.5	1.7	3.01	10.83

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source which includes the proposed emission units is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

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

Federal Rule Applicability

- (a) New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60):
 There are no NSPS applicable to this source modification.
- (b) National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63).
 There are no NESHAPs applicable to this source modification .

State Rule Applicability - Entire Source

- (a) 326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting), because the existing source including the proposed emission units do not have a VOC potential to emit of one hundred (100) tons per year.
- (b) 326 IAC 5-1 (Visible Emissions Limitations)
Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:
 - (1) Opacity shall not exceed an average of forty percent (40%) 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.

State Rule Applicability - Individual Facilities

- (a) 326 IAC 8-2-9 (Miscellaneous Metal Coating)
This rule applies to facilities of which construction commences after July 1, 1990, of the types described in section 9 of this rule located in any county and have an actual emissions of greater than 15 pounds per day before add-on control.
 - (1) The new Primer Booth, PB-5, and the new Flat Line Conveyor Line Primer Booth, PB-6 and Topcoat Booth, PB-7 which paint chromated aluminum military vehicular components are subject to 326 IAC 8-2-9, because each has the potential to have actual emissions greater than 15 pounds per day.

Pursuant to 326 IAC 8-2-9 (Miscellaneous Metal Coating Operations), the volatile organic compound (VOC) content of coating delivered to the new Primer Booth No. 2, and the new Flat Line Conveyor Line Primer Booth and Topcoat Booth shall each be limited to 3.5 pounds of VOCs per gallon of coating less water, for forced warm air dried coatings.

Solvent sprayed from application equipment during cleanup or color changes shall be directed into containers. Such containers shall be closed as soon as such solvent spraying is complete, and the waste solvent shall be disposed of in such a manner that evaporation is minimized.

All the proposed paint booths, Primer Booth, PB-5, and the new Flat Line Conveyor Line Primer Booth, PB-6 and Topcoat Booth, PB-7 are in compliance with this rule, because each booth doesn't emit greater than 3.5 pounds of VOCs per gallon of coating less water (see Page 2 of 3 TSD Appendix A for emission calculation).
- (b) 326 IAC 6-3-2 (Process Operations)
The PM overspray emissions from paint booths Primer Booth, PB-5, and the new Flat Line Conveyor Line Primer Booth, PB-6 and Topcoat Booth, PB-7, shall be limited using the following equation:

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

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

P = process weight rate in tons per hour

- (c) 326 IAC 2-4.1-1 (New Source Toxics Control)
This rule is not applicable to the new paint booths; Primer Booth, PB-5, and the new Flat Line Conveyor Line Primer Booth, PB-6 and Topcoat Booth, PB-7, because they are not major for HAPs emissions and they are a modification to the source.
- (d) 326 IAC 6-2-4 (PM Emission Limit for Sources of Indirect Heating)
The natural gas-fired air make-up unit, identified as CU-9 is not subject to 326 IAC 6-2-4, because it is not a source of indirect heating.

Conclusion

The operation of these new paint booths to be used for military vehicular component production shall be subject to the conditions of the attached **Notice-Only Change 113-15398-00032**.

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

1 air make-up, CU-9 @ 3.96 mmBtu/hr

Company Name: Prince Manufacturing , Inc.
Address City IN Zip: 205 Green Dr., Avilla, IN 46710
NOC No.: 113-15398
Pit. ID No.: 113-00032
Reviewer: Aida De Guzman
Date Application Received: March 18, 2002

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

3.96

0.0

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.0	0.1	0.0	1.7	0.1	1.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

**Appendix A: Emissions Calculations
VOC and Particulate
From Surface Coating Operations**

Company Name: Prince Manufacturing, Inc.
Address City IN Zip: 205 Green Dr., Avilla, Indiana 46710
NOC No.: 113-15398-00032
Reviewer: Aida De Guzman
Date Application Received: March 18, 2002

Material	Density (Lb/Gal)	Weight % Volatile (H2O & Organics)	Weight % Water	Weight % Organics	Volume % Water	Volume % Non-Volatiles (solids)	Gal of Mat. (gal/sq ft)	Maximum (sq ft/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
OVERHEAD LINE 1																
Primer Paint (New Primer Booth, PB-5)	13.2	21.83%	0.0%	21.8%	0.0%	58.00%	0.00090	417.000	2.87	2.87	1.08	25.86	4.72	16.90	4.95	
	7.5	76.96%	0.0%	77.0%	0.0%	20.00%	0.00090	417.000	5.78	5.78	2.17	52.06	9.50	2.84	28.90	
Primer Paint as Applied (4:1) (New Primer Booth, PB-5)	12.0	27.78%	0.0%	27.8%	0.0%	52.00%	0.00090	417.000	3.34	3.34	1.25	30.08	5.49	4.28	6.42	70%
New FLATLINE CONVEYOR LINE																
Primer Paint (Booth, PB-6)	13.6	22.00%	0.0%	22.0%	0.0%	56.00%	0.00200	410.000	3.00	3.00	2.46	59.06	10.78	38.21	5.36	
	7.9	25.00%	0.0%	25.0%	0.0%	75.00%	0.00200	410.000	1.98	1.98	1.62	38.87	7.09	21.28	2.63	
Primer Paint as Applied (4:1) (Booth, PB-6)	12.5	22.60%	0.0%	22.6%	0.0%	59.80%	0.00200	410.000	2.82	2.82	2.31	55.55	10.14	10.42	4.72	70%
Topcoat Paint (Booth, PB-7)	12.8	29.06%	0.0%	29.1%	0.0%	47.00%	0.00200	410.000	3.72	3.72	3.05	73.20	13.36	9.78	7.91	
	8.8	25.00%	0.0%	25.0%	0.0%	70.00%	0.00200	410.000	2.21	2.21	1.81	43.49	7.94	23.81	3.16	
Topcoat Paint As Applied (4:1) (Booth PB-7)	12.0	29.14%	0.0%	29.1%	0.0%	50.20%	0.00200	410.000	3.50	3.50	2.87	68.87	12.57	9.17	6.97	70%

State Potential Emissions

Add worst case coating to all solvents

154.50

28.20

23.87

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: Prince Manufacturing, Inc.
Address City IN Zip: 205 Green Dr., Avilla, IN 46710
NOC No.: 113-15398
Pit ID: 113-00032
Permit Reviewer: Aida De Guzman
Date Application Received: March 18, 2002

Material	Density (Lb/Gal)	Gallons of Material (gal/hour)	Weight % Hexamethylene Diisocyanate	Weight % Xylene	Weight % Toluene	Weight % MEK	Weight % MIBK	Weight % Ethylbenzene	Hexanemethylene Diisocyanate Emissions (ton/yr)	Xylene Emissions (ton/yr)	Toluene Emissions (ton/yr)	MEK Emissions (ton/yr)	MIBK Emissions (ton/yr)	Ethylbenzene Emissions (ton/yr)
OVERHEAD LINE 1														
Primer (E90H226) New Booth, PB-5	13.2	0.370000	0.00%	4.00%	4.00%	0.00%	0.00%	0.00%	0.00	0.86	0.86	0.00	0.00	0.00
Primer (V93V227)	7.5	0.370000	0.00%	21.00%	21.00%	12.00%	1.00%	0.00%	0.00	2.55	2.55	1.46	0.12	0.01
New FLATLINE CONVEYOR LINE														
Primer (N3580A) New Booth, PB-6	13.6	0.820000	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.49	0.00	0.00	0.00	0.00	0.00
Primer (N3580B) New Booth, PB-6	7.9	0.820000	1.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28	0.00	0.00	0.00	0.00	0.00
Topcoat (F93G27) New Booth, PB-7	12.8	0.820000	0.00%	1.00%	0.00%	0.00%	0.00%	0.20%	0.00	0.46	0.00	0.00	0.00	0.09
Topcoat (F93V20) New Booth, PB-7	8.8	0.820000	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00	0.00	0.00	0.00	0.00	0.00

Total State Potential Emissions

0.49	3.01	2.55	1.46	0.12	0.10
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Sub-Total	Worst Single HAP	3.01
	HAPs Combined Emissions	7.73

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