
Sturm, Ruger & Company, Inc.
411 Sunapee Street
Newport, NH 03773

RACT ORDER
October 13, 2003, Amended
December 1, 2003, Amended
March 2, 2010, Amended March 21, 2012,
Amended February 2, 2017
ARD-03-001

A. Introduction

This RACT Order is issued by the New Hampshire Department of Environmental Services, Air Resources Division, to Sturm, Ruger & Company, Inc., pursuant to RSA 125-C.

B. Parties

1. The New Hampshire Department of Environmental Services, Air Resources Division (“DES”), is a duly constituted administrative agency of the State of New Hampshire having its principal offices at 29 Hazen Drive, Concord, NH 03302-0095, telephone number (603) 271-1370.
2. Sturm, Ruger & Company, Inc. (“Sturm, Ruger”) is a New Hampshire corporation, having a mailing address of 411 Sunapee Street, Newport, NH 03773, telephone number (603) 863-3300.

C. Statements of Fact and Law

1. Sturm, Ruger is involved in the production of a variety of steel investment castings and the manufacture of firearms. Sturm, Ruger owns and operates the following processes at its Facility located on 411 Sunapee Street in Newport, NH (“the Facility”):
 - a. Woodworking Spray Booths and Paint Mixing Room;
 - b. Solvent Metal Cleaning;
 - c. Powder Coating;
 - d. Rustproofing;
 - e. Flash Dewax;
 - f. Quality Assurance (Magnaflux);
 - g. Heat Treat Quench; and
 - h. Wax Pattern Cleaning.
2. Effective August 19, 1995, DES re-adopted NH Code of Administrative Rules Env-A 1204 *Stationary Sources of Volatile Organic Compounds (VOCs)*, with amendments.

3. Sturm, Ruger submitted a Reasonably Available Control Technology (RACT) compliance plan dated May 31, 1995 for the Facility, and subsequently submitted a request for an extension for the RACT analysis for the Epoxy Enamel Spray Booth and Drying Oven dated February 27, 1997.
4. Sturm, Ruger submitted a RACT compliance plan for the Epoxy Enamel Spray Booth and Drying Oven dated March 27, 1997 as an amendment to the May 31, 1995 submittal.
5. On March 22, 2001 Sturm, Ruger, informed DES that it had conducted a voluntary environmental audit of its air compliance program, pursuant to RSA 147-E, *The Environmental Audit Statute*. As a result of the audit, Sturm, Ruger identified two potential compliance issues:
 - a. The Flash Dewax process was not included in 1995 VOC RACT compliance plan since Sturm, Ruger, originally thought that process was exempt from VOC RACT pursuant to Env-A 1204.27(b)(4); and
 - b. Sturm, Ruger, was unable to completely convert the Epoxy Enamel Coating process to Powder Coating as originally anticipated in its 1995 VOC RACT compliance plan, due to quality control problems.
6. Sturm, Ruger, filed a revised VOC RACT compliance plan and permit application for the Epoxy Enamel Coating process, dated November 26, 2001, classifying it as a minor core activity in accordance with Env-A 1204.02(d).
7. Sturm, Ruger, submitted an amended VOC RACT compliance plan, dated February 11, 2002, for the Flash Dewax process.
8. On February 11, 2002 Sturm, Ruger submitted stack test results for Flash Dewax process demonstrating compliance with VOC RACT by meeting the presumptive norm of 81% control. The test was performed on November 20, 2001.
9. Sturm, Ruger submitted additional information for the Flash Dewax process which included capture efficiency determination, dated May 20, 2002.
10. In the letter dated July 12, 2002, Sturm, Ruger submitted Supplemental VOC Emission Data/VOC Emissions Survey Results for a Flash Dewax process which included supporting information for destruction efficiency determination. Based on the stack test, the emissions from the Flash Dewax were determined to be less than 2 tons per year.
11. On September 25, 2002 Sturm, Ruger submitted revised emission estimates for Wax Pattern Cleaner based on vaporization/mass transfer model found in *Estimating Releases and Waste Treatment Efficiencies for the Toxic Chemical Release and Inventory Form* (EPA 1987). The emissions were determined to be less than one ton per year.
12. Sturm, Ruger, in a letter dated November 5, 2002, informed DES that the Epoxy Enamel Coating process was completely replaced by a Powder Coating process. Sturm, Ruger also revised the emissions for the Heat Treat Quench and Solvent Metal Cleaning process. The

emission estimates from these processes were reduced due to low vapor pressure of quench oil and the deduction of emissions from waste from the Solvent Metal Cleaning process which is shipped off site for disposal.

13. Effective December 31, 2002, DES readopted Env-A 1204, with amendments.
14. On May 5, 2003 DES received comments from EPA on the draft VOC RACT Order. As a result of EPA's comments the following revisions were implemented:
 - a. Sturm, Ruger accepted a limit of 1.0 lb VOC per gallon of coating for the powder coating operation which is stricter than what is required by Env-A 1204.15, *Applicability Criteria and Compliance Standards for Coating of Miscellaneous Metal Parts and Products*;
 - b. Sturm, Ruger agreed to restrict the use of the rustproofing coating, ACA-RP-2, to the Building A Acid Cleaning Process only;
 - c. The minor core activity exemption was clarified in regards to quality assurance, heat treat quench and wax pattern cleaning; and
 - d. Sturm, Ruger agreed to record the oven temperature for each unit, once per shift, prior to the first load being fed into an oven for the flash dewax process.
15. Sturm, Ruger, in submittals dated May 31, 1995, through May 8, 2003, proposed the following measures as RACT:
 - a. Woodworking Spray Booths and Paint Mixing Room

Wood gunstock coating at the Facility involves the mixing and application of solvent-based stains, polyurethane topcoats, and thinners to wood substrates. Three paint spray booths are used to apply the coatings. The coatings are mixed and supplied from a centralized paint mixing room.

Wood Gunstock Coating operations at the Facility are limited to the levels listed in Table 1 below in accordance with Env-A 1204.27 *RACT Emission Rates for Gunstock Coating* and Env-A 1204.28(a)(3) *VOC Content Limits for Spray Booth Cleaning Operations in Wood Furniture, Wood Burial Casket Finishing Operations and Gunstock Coating Processes*:

| Table 1 | | |
|--------------------------|--|--|
| Type of Coating | Env-A 1204.27 & Env-A 1204.28(a)(3) Limits in lb VOC/lb solids, as applied, excluding water and exempt compounds (averaged over 24-hour period) | Sturm, Ruger's Emission Rates in lb VOC/lb solids |
| Topcoat | 2.0 | 1.1 Topcoat (30932) |
| Sealer | 2.3 | Facility does not use sealer |
| Strippable Booth Coating | 0.8 | 0.799 Aquavar (42541) |

Based on material safety data sheets ("MSDS") provided by Sturm, Ruger, the Facility is in compliance with the VOC RACT limits for polyurethane topcoat (30932) and Aquavar (42541) spray booth coatings.

b. Solvent Metal Cleaning

Degreasing operations at the Facility consist of a variety of different cold cleaning dip tanks located throughout the Facility. The degreasing medium used is Castrol Kleen 3400 Solvent, described on its MSDS as an aliphatic solvent naphtha (CAS #64742-88-7). The degreasing units are used to clean various metal castings during assembly or finishing.

The vapor pressure exerted by the Castrol Kleen 3400 Solvent at a temperature of 38° C has been calculated to be 5.0 mmHg. Based on this vapor pressure, the requirements of Env-A 1204.44(a) through (b)(1) and (2) *Compliance Standards for Cold Cleaning* are not applicable to these units. However, the labeling and operating requirements found in Env-A 1204.44(b)(3) and Env-A 1204.44(c) are applicable to the degreasing units because these requirements are not vapor pressure dependent.

Sturm, Ruger shall comply with the applicable labeling and operating requirements as stated above.

c. Powder Coating

The powder coating booths do not vent during application. Instead, the over-spray powder is collected and returned to the reservoir. The only VOC emissions from powder coating ("Tiger"-Drylac) occur in the drying oven. At that time, any residual VOC in the powder is released. Based on the powder coating's MSDS, the coating contains a maximum of 1% VOC by weight or 0.1 pounds of VOC per gallon of coating. The Facility is subject to Env-A 1204.15(c)(4), requiring a limit of 3.0 pounds of VOC per gallon of coating. Therefore, the "Tiger"-Drylac coating is VOC RACT compliant.

d. Rustproofing

The rust preventive process at the Facility involves dipping baskets of metal parts in an oily hydrocarbon mixture prior to the temporary storage of the parts before their integration into the production process. This process is subject to Env-A 1204.15(c)(2), which limits emissions to 3.5 pounds of VOC per gallon of coating, less water and exempt compounds. Some of the materials used in the rustproofing process meet the applicable VOC RACT requirements (ACA Protect BAC-2.0 lb VOC/gallon coating and Rust Veto 4242-3.36 lb VOC/gallon coating).

However, the rustproofing that takes place in the Building A, acid cleaning room, uses a non-compliant coating ACA-RP-2, CAS # 64742-48-9, (6.34 lb VOC/gallon coating). The rustproofing performed in this area is different from other rustproofing operations at the Facility, because the parts coated here are shipped for sale instead of being used in the Facility's production lines. The coatings used on these parts must endure much longer storage times and harsher environmental conditions prior to use of the parts. Therefore, the coatings used are low-emitting by design since a more volatile ingredient would not remain on the parts long enough to inhibit rust formation.

Sturm, Ruger believes that due to the low volatility of ACA-RP-2 (vapor pressure less than 10 mmHg) the majority of liquid losses leave the dip tanks as coating on cast parts rather than emissions to the atmosphere. The majority of liquid losses occur at Sturm, Ruger's customers where the rustproofing coating is removed by degreasing before it enters their production stream. Sturm, Ruger believes that, due to the low emissions based on low vapor pressure, add-on controls are economically infeasible. The Facility therefore claims that current operations are RACT.

DES has determined that, based on the low volatility of ACA-RP-2 and the feasibility study for implementing the available control technologies, submitted on June 1, 1995, the current operations are RACT.

e. Flash Dewax

The flash dewax process consists of rapidly heating the molds in an oven to melt the wax and drain it from the molds. Sturm, Ruger operates three flash dewax furnaces which melt the wax, causing it to drain from the mold. The Flash Dewax process is subject to Env-A 1204.48, *Applicability Criteria for Miscellaneous and Multicategory Stationary VOC Sources*. Sturm, Ruger chose to comply with VOC RACT by meeting the presumptive norm of 81% control.

Based on stack testing performed on November 20, 2001 and the VOC destruction rate of 98% achieved as a result of oven combustion, the flash dewax process exceeds the presumptive norm requirement. Therefore, the current process is RACT.

f. Minor Core Activities

Pursuant to Env-A 1204.02(d), minor core activities of VOCs at a stationary source, having total aggregate emissions of not more than 5 tons per year combined for all classifiable and unclassifiable processes or devices, are exempt from VOC RACT requirements established in Env-A 1204. The following core activities, Quality Assurance, Heat Treat Quench, and Wax Pattern Cleaning have been determined to meet the definition of minor core activity (see Env-A 1204.03(bi)) and, therefore, are exempt from the provisions of Env-A 1204.

16. On November 19, 2009, Sturm, Ruger submitted an application for a Temporary Permit for a proposed Camouflage Image Transfer and Coating Process Line and a new Stainless Steel Bluing Line.

17. On December 21, 2009, Sturm, Ruger submitted a VOC RACT plan for the proposed processes covered under the November 19, 2009 permit application. The submittal included the following proposed RACT limits:

a. Bluing Line – Rust Preventative

The rust preventive process at the Facility involves dipping baskets of metal parts in an oily hydrocarbon mixture prior to the temporary storage of the parts before their integration into the production process. This process is subject to Env-A 1204.15(c)(2), which limits emissions to 3.5 pounds of VOC per gallon of coating, less water and exempt compounds.

The new bluing line will require a rustproofing step similar to the existing operation conducted in Building A. The rustproofing coating that will be used (Pen Dip Super) is low-emitting by design since a more volatile ingredient would not remain on the parts long enough to inhibit rust formation.

Sturm, Ruger believes that, due to the low volatility of Pen Dip Super (vapor pressure less than 1 mmHg), the majority of liquid losses leave the dip tanks as coating on cast parts rather than emissions to the atmosphere. The majority of liquid losses occur at Sturm, Ruger's customers, where the rustproofing coating is removed by degreasing before it enters their production stream. Sturm, Ruger believes that, due to the low emissions based on low vapor pressure, add-on controls are economically infeasible. The Facility, therefore, claims that proposed operation is RACT.

DES has determined that, based on the low volatility of Pen Dip Super and the feasibility study for implementing the available control technologies, submitted by Sturm, Ruger on December 21, 2009, the proposed operation is RACT.

b. Camouflage Image Transfer and Coating Process

The proposed camouflage coating process will consist of a primer booth to apply an adhesion primer to a metal or plastic substrate, an image transfer process, known as water transfer printing, and a topcoat booth to apply a gloss-reducing clear topcoat to permanently seal and protect the camouflage image.

The coatings proposed for use in both the primer and topcoat booths meet the established VOC content limitations under Env-A 1204.15 and Env-A 1204.22, *General Compliance Standards for Plastic Parts Coating*.

The water transfer printing process is not a coating process, as it involves the transfer of a previously printed, discrete image onto the desired substrate. A solvent-based activator/release agent is used to prepare the image for transfer. No specific VOC limitation exists for this type of process and, therefore, it is classified as an unclassified, miscellaneous process under Env-A 1204.49, *Compliance Options for Miscellaneous and Multicategory Stationary VOC Sources*. The activator/release agent has a VOC content of 6.89 lb VOC/gal of solution. In its submittal dated December 21, 2009, Sturm, Ruger estimated that emissions from this process would be approximately 0.05 pound of VOC per gun produced. A paint-based camouflage coating process, using a coating with a VOC content of 3.5 lb VOC/gal coating, is estimated to produce VOC emissions of approximately 0.09 – 0.2 pounds of VOC per gun produced.

DES has determined, based on the feasibility study for implementing the available control technologies, submitted by Sturm, Ruger on December 21, 2009, and based on the fact that emissions from the process will be lower than a comparable coating process, that the proposed operation is RACT.

18. Effective June 1, 2011, DES readopted Env-A 1200 (formerly Env-A 1204), with amendments.
19. On January 9, 2012, Sturm, Ruger submitted a request to amend the RACT Order. Specifically, Sturm, Ruger requested that the limit contained in Section D.5.b be changed to 7.5 lb VOC/gallon of solution.
20. In 2011, Sturm, Ruger installed six additional dewax-preheat kilns associated with Supercell No. 1. The exhaust from the kilns is combined into one common stack equipped with a Pacific Kiln & Insulation Co. Inc. afterburner guaranteed to achieve 99% destruction efficiency for VOCs and particulate matter from the combustion of wax in the main combustion chamber of the furnaces.
21. In 2013, Sturm, Ruger installed seven additional dewax-preheat kilns associated with Supercell No. 2. The exhaust from the kilns is combined into one common stack equipped with a Pacific Kiln & Insulation Co. Inc. afterburner guaranteed to achieve 99% destruction efficiency for VOCs and particulate matter from the combustion of wax in the main combustion chamber of the furnaces.
22. Effective January 1, 2016, pursuant to Env-A 1212.04(a), the VOC emission limitation for rustproofing, a general, one-component (air dried) coating, was lowered from 3.5 lb VOC/gal to 2.8 lb VOC/gal.
22. On May 10, 2016, Sturm, Ruger submitted a request to amend the RACT Order. Specifically, Sturm, Ruger requested that its RACT Order be revised and amended to reflect the currently applicable requirements of Env-A 1200 and its case-specific VOC RACT limitations.

D. Order

Based on the above findings and determinations, DES hereby orders Sturm, Ruger to implement the following requirements as RACT:

1. ~~Emission Rates for Gunstock Coating~~

- a. ~~In accordance with the provisions of Env A 1213.03 and Env A 1213.04 emissions from Woodworking Spray Booths and Paint Mixing Room shall be limited, at all times, to rates specified in Table 2 below:~~

| Table 2 | |
|--------------------------------------|--|
| Type of Coating | lb VOC/lb solids, as applied, excluding water and exempt compounds (averaged over 24 hour period) |
| Topcoats | 2.0 |
| Sealers | 2.3 |
| Strippable Booth Coatings | 0.8 |

- b. ~~In accordance with the provisions of Env A 1213.04, the VOC emissions associated with material storage or solvent cleaning operations shall be controlled as follows;~~
- ~~i. All finishing and cleaning materials shall be stored in a normally closed container;~~
 - ~~ii. All organic solvents used for line cleaning shall be pumped or drained into a normally closed container;~~
 - ~~iii. All organic solvent used to clean spray guns shall be collected into a normally closed container; and~~
 - ~~iv. Emissions from washoff operations shall be controlled by:~~
 - ~~(1) Using normally closed tanks for washoff; and~~
 - ~~(2) Minimizing dripping by tilting or rotating the part to drain as much organic solvent as possible.~~
- c. ~~In accordance with Env A 1213.05 Control Techniques for Wood Furniture, Wood Burial Casket, and Gunstock Coating Facilities, for all gunstock coating operations at the facility, one or more of the following control techniques shall be used:~~
- ~~i. High volume low pressure (HVLP) spray;~~
 - ~~ii. Airless spray;~~
 - ~~iii. Air-assisted airless spray;~~
 - ~~iv. Flow coating techniques; or~~

- v. ~~Conventional air spray under any one or more of the following circumstances:~~
- ~~(1) The application of finishing materials having a VOC content not greater than 1.0 lb VOC/lb solids, as applied;~~
 - ~~(2) The spray is automated;~~
 - ~~(3) The emissions from the finishing application station are directed to add-on control equipment;~~
 - ~~(4) The conventional air spray gun is used to apply finishing materials and the cumulative total usage of that finishing material is less than 5% of the total gallons of finishing material used during the applicable semi-annual period;~~
 - ~~(5) The conventional air gun is used to apply stain on a part for which it is technically or economically infeasible to use any other spray application technology, as demonstrated in accordance with the provisions of Env-A 1213.05; or~~
 - ~~(6) Touch-up and repair activities in accordance with the provisions of Env-A 1213.06, *Compliance Standards for Touch-Up and Repair Activities at Wood Furniture, Wood Burial Casket, and Gunstock Coating Facilities.*~~
- d. ~~In accordance with Env-A 1213.06, touch-up and repair activities, excluding such activities that employ only compliant coating materials and one or more of the application techniques listed in Section D.1.c., above, shall conform to the following requirements:~~
- ~~i. Touch-up and repair activities using conventional air spray shall comply with one or more of the following requirements:~~
 - ~~(1) The touch-up and repair finishing materials shall be applied after the completion of the finishing operation; or~~
 - ~~(2) The touch-up and repair finishing materials shall be:~~
 - ~~(a) Applied after the application of the stain and prior to the application of any other types of finishing material; and~~
 - ~~(b) Applied from a container with a capacity of not more than 2 gallons; or~~
 - ~~(3) Total VOC consumption associated with touch-up and repair activities using conventional air spray shall not exceed 5 gallons per day at a stationary source; and~~
 - ~~ii. Consumption of touch-up and repair finishing materials shall not exceed 10 gallons per day where such activities employ:~~
 - ~~(1) The use of aerosol containers; or~~
 - ~~(2) One or more non-compliant coating materials in conjunction with any of the application techniques listed in Section D.1.e. above.~~

2. Compliance Standards for Cold Cleaning

~~In accordance with the provisions of Env-A 1221.02(a)(1)e and Env-A 1221.02(a)(2),~~ Sturm, Ruger shall comply with the labeling and operating requirements for cold cleaning processes, which require a permanent, legible, conspicuous label, affixed to each solvent container, summarizing the operating requirements as follows:

- a. Waste solvent shall be stored only in covered containers;
- b. The degreaser cover shall be closed whenever parts in the cleaner are not being handled manually;
- c. Cleaned parts shall be drained for at least 15 seconds or until dripping ceases, whichever is longer;
- d. Solvent leaks shall be repaired immediately or the degreaser shall be shut down;
- e. Drafts across the top of each cold cleaning unit shall be minimized;
- f. Where a solvent spray is used, such spraying shall be:
 - i. Operated at a pressure which does not exceed 10 pounds per square inch as measured at the pump outlet; and
 - ii. Performed only within the confines of the degreasing unit.

3. Applicability Criteria and Compliance Standards for Coating of Miscellaneous Metal and Plastic Parts and Products

- a. Sturm, Ruger agreed to limit the VOC emission rate from the powder coating operation, at all times, to 1.0 lbs of VOC per gallon of coating, as applied, excluding water and exempt compounds.
- b. ~~In accordance with the provisions of Env-A 1212.04(a),~~ the VOC emission rate from the Rustproofing operation shall be limited at all times to 2.8 lbs of VOC per gallon of coating, as applied, excluding water and exempt compounds for all coatings except for the following:
 - i. ACA-RP-2, or replacement, shall be limited to 6.34 lbVOC/gal coating; and
 - ii. Pen Dip Super, or replacement, shall be limited to 5.2 lb VOC/gal coating.
- c. Use of the ACA-RP-2 product shall be restricted to the Building A Acid Cleaning Process only. The product, ACA-RP-2, may be substituted with another product of equal or lesser VOC content.
- d. Coatings used in the Camouflage Coating Process shall be limited to the following:
 - i. For an air dried general, one-component coating applied to metal parts and products, 2.8 lb VOC/gal coating; and
 - ii. For a general, one-component coating applied to plastic parts and products, 2.3 lb

VOC/gal.¹

4. General Compliance Standards for Metal and Plastic Parts and Products Coating
- a. One of the following control techniques shall be used for the Camouflage Coating Process:
- i. High volume, low pressure (HVLV) spray;
 - ii. Electrostatic spray;
 - iii. Zinc-arc spray;
 - iv. Air-assisted airless spray;
 - v. Airless spray; or
 - vi. A flow coating technique.
5. Applicability Criteria for Miscellaneous and Multicategory Stationary VOC Sources
- a. For Flash Dewax process:
- i. ~~In accordance with the provisions of Env-A 1222.02(a)(1),~~ Sturm, Ruger shall comply with VOC RACT by meeting the presumptive norm of 81% control.
 - ii. Sturm, Ruger shall operate each flash dewax oven at a minimum temperature of 800° F when molds are in the oven.
 - iii. Each thermocouple and temperature controller shall be calibrated quarterly according to manufacturer's specifications in order to maintain a nominal furnace temperature of 1,000°F².
- b. For Supercell Dewax-Preheat Kiln process:
- i. ~~In accordance with the provisions of Env-A 1222.02(a)(1),~~ Sturm, Ruger shall comply with VOC RACT by meeting the presumptive norm of 81% control.
 - ii. Sturm, Ruger shall operate each supercell dewax-preheat kiln at a minimum temperature of 1,475° F when molds are in the kiln.
 - iii. Each thermocouple and temperature controller shall be calibrated quarterly according to manufacturer's specifications in order to maintain a nominal afterburner temperature of 1,500°F³.

¹ The VOC limit does not apply to clear or translucent coating of plastic parts and products pursuant to Env-A 1212.06(b)(3).

² DES understands that the flash dewax ovens operate with temperature set point that equals 1,000°F when parts are in the furnace. This results in oven temperatures that are typically near 1,000°F, however there are times during normal operation when the oven temperature goes below 1,000°F.

³ DES understands that the supercell dewax-preheat kiln afterburners operate with temperature set point that equals 1,600°F when parts are in the kiln. This results in afterburner temperatures that are typically near 1,600°F, however there are times during normal operation when the afterburner temperature goes below 1,600°F.

- c. For the Camouflage Image Transfer process the VOC content of the activator/release agent shall be limited to 7.5 lb VOC/gallon of solution.

6. Minor Core Activities

Pursuant to Env-A 1201.04(c), minor core activities are exempt from the VOC RACT requirements of Env-A 1200. VOC emissions from all minor core activities shall be limited to 5 tons combined in any consecutive 12-month period. Minor core activities currently include: Quality Assurance, Heat Treat Quench, Wax Pattern Cleaning, Ceramic Based Finishing and Wax Injection/Mold Release. If, at any time, the VOC emissions from above processes exceed 5-ton limit, the process(es) exceeding the limit become subject to the provisions of Env-A 1222.02 for unclassifiable processes.

7. Monitoring

- a. The owner or operator of a solvent metal cold cleaner shall use visual inspection for compliance with equipment specifications and operating procedures.
- b. For the Flash Dewax Oven the operator shall:
 - i. Maintain the ovens at a minimum temperature of 800° F while molds are in the ovens;
 - ii. Calibrate each thermocouple and temperature controller quarterly according to manufacturer's specifications in order to maintain nominal oven temperature of 1,000°F;
 - iii. Continuously monitor and record the temperature of the Flash Dewax ovens⁴;
 - iv. Readings before and after adjustment should be recorded; if no adjustments are necessary, that should also be recorded;
 - v. On all records, include identification of the instrument component calibrated, the date of calibration, and the initials of the person who performed the calibration.
- c. For the Supercell Dewax-Preheat Kilns the operator shall:
 - i. Maintain the afterburners at a minimum temperature of 1500° F while molds are in the kilns;
 - ii. Calibrate each thermocouple and temperature controller quarterly according to manufacturer's specifications in order to maintain nominal afterburner temperature of 1,500°F;
 - iii. Continuously monitor and record the temperature of the afterburners⁴;
 - iv. Readings before and after adjustment should be recorded; if no adjustments are necessary, that should also be recorded;
 - v. On all records, include identification of the instrument component calibrated, the

⁴ Continuous recording will mean that electronic temperature readings shall be taken at regular time intervals, not to exceed five minutes between readings.

date of calibration, and the initials of the person who performed the calibration.

8. Recordkeeping and Reporting

- a. For the processes listed in D.1. through D.4. the Facility shall:
- i. Record the monthly raw material usage from each operation;
 - ii. Record the monthly VOC emissions from each operation;
 - iii. Report the information recorded pursuant to i. and ii., above, to DES annually by April 15th for each preceding calendar year;
 - iv. Maintain records of the calibration and temperature readings for flash dewax ovens and supercell dewax-preheat kilns afterburners on site for inspection.
 - v. Maintain product formulations furnished by the material supplier documenting the lbs VOC/gallon of material, as applied, excluding water and exempt compounds; and
 - vi. Prior to the use of any new coatings, demonstrate compliance with processes listed in D.1. and D.3. as applicable, by one of the following options:

- (1) Prima facie evidence, which allows the use of chemical manufacturers' MSDS information (density and weight percent VOC content) along with the Facility coating formulation recipe information (gallons of each ingredient, i.e., resins, cure, diluent solvent, and exempt diluent solvent; density of each ingredient; and weight percent VOC content of each ingredient). The Facility shall calculate the pounds of VOC per gallon of coating minus water and exempt compounds for the coating as applied via use of the following formula:

$$\frac{P * X}{(1 - Y_w - Y_e)}$$

Where:

P=Density of the mixed coating as applied (pounds coating/gallon coating)

X= Weight fraction of VOC in the mixed coating

Y_w= Volume fraction of water in the mixed coating

Y_e= Volume fraction of exempt compounds in the mixed coating

When using prima facie evidence as obtained in the above fashion, the Facility shall maintain the calculation sheets and records for each coating formulation. All Method 24 analyses and prima facie evidence calculation sheets for new coatings shall be submitted in the annual VOC report; OR

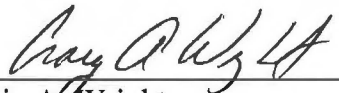
- (2) For sources subject to Env-A 1200, when formal compliance is demonstrated for the low VOC coatings, the referee liquid VOC test

method for ultimate determination of compliance with VOC RACT shall be the EPA reference methods specified as follows:

- (a) Method 24, 40 CFR Part 60, Appendix A for all coatings as applicable using the 60-minute bake time procedure; or
 - (b) Method 24A, 40 CFR Part 60, Appendix A as applicable.
- b. The owner or operator shall record the annual VOC emissions from the minor core activities.

Please address any correspondence and communication in reference to this Order to:

Operating Permits Program Manager
NHDES, Air Resources Division
29 Hazen Drive, P.O. Box 95
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(603) 271-6796



Craig A. Wright
Director
Air Resources Division

cc: Timothy Drew, NHDES, PIP Office
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