



The State of New Hampshire
Department of Environmental Services



Thomas S. Burack, Commissioner

June 1, 2016

Kimberly Weeks
Saint-Gobain Performance Plastics
701 Daniel Webster Highway
Merrimack, NH 03054-1137

RE: Revised On-Site Full Compliance Evaluation Report

Dear Ms. Weeks:

The New Hampshire Department of Environmental Services, Air Resources Division (NHDES) has completed a Full Compliance Evaluation of The Saint-Gobain Performance Plastics, Merrimack, NH facility (Saint-Gobain). The compliance evaluation included an on-site inspection completed April 1, 2016. This is a copy of the On-Site Full Compliance Evaluation Report for your review and records. This revised report is presented to correct the date of inspection from March 31, 2016 to April 1, 2016.

The NHDES found deficiencies during this compliance evaluation as detailed in this report.

If you have any questions, please do not hesitate to give me a call at (603) 271-1987 or by email at Edward.PedutoJr@des.nh.gov.

Sincerely,

Edward F. Peduto, Jr.
Senior Compliance Assessment Engineer
Air Resources Division

cc: Town Administrator, Town of Merrimack, 6 Baboosic Lake Road, Merrimack, NH 03054

Abbreviations and Acronyms

| | |
|------------------|---|
| AAL | Ambient Air Limit |
| acf | actual cubic foot |
| ags | above ground surface |
| ASTM | American Society of Testing and Materials |
| Btu | British thermal units |
| CAS | Chemical Abstracts Service |
| CI | Compression Ignition |
| cfm | cubic feet per minute |
| CFR | Code of Federal Regulations |
| CO | Carbon Monoxide |
| CPMS | Continuous Parameter Monitoring System |
| DER | Discrete Emission Reduction |
| NHDES | New Hampshire Department of Environmental Services |
| Env-A | New Hampshire Code of Administrative Rules – Air Resources Division |
| ERC | Emission Reduction Credit |
| ft | foot or feet |
| ft ³ | cubic feet |
| gal | gallon |
| HAP | Hazardous Air Pollutant |
| hp | horsepower |
| hr | hour |
| kW | kilowatt |
| lb | pound |
| LPG | Liquefied Petroleum Gas |
| MACT | Maximum Achievable Control Technology |
| MSDS | Material Safety Data Sheet |
| Mg | One metric ton or 2,205 lbs |
| MM | million |
| MW | megawatt |
| NAAQS | National Ambient Air Quality Standard |
| NG | Natural Gas |
| NM VOC | Non-methane Volatile Organic Compound |
| NO _x | Oxides of Nitrogen |
| NSCR | Non-Selective Catalytic Reduction |
| NSPS | New Source Performance Standard |
| PM ₁₀ | Particulate Matter < 10 microns |
| ppm | parts per million |
| psi | pounds per square inch |
| RACT | Reasonably Available Control Technology |
| RICE | Reciprocating Internal Combustion Engine |
| RSA | Revised Statutes Annotated |
| RTAP | Regulated Toxic Air Pollutant |
| scf | standard cubic foot |
| SDS | Safety Data Sheet |
| SO ₂ | Sulfur Dioxide |
| TSP | Total Suspended Particulate |
| tpy | tons per consecutive 12-month period |
| ULSD | Ultra Low Sulfur Diesel |
| USEPA | United States Environmental Protection Agency |
| VOC | Volatile Organic Compound |

I. Facility Description

The NHDES conducted an On Site Full Compliance Evaluation of Saint-Gobain Performance Plastics Corporation (Saint-Gobain) on April 1, 2016, at the Merrimack, NH facility. The purpose of the inspection was discussed as well as the rules pertaining to claims of confidentiality and facility safety concerns. Saint-Gobain agreed to the inspection and authorized access to the facility. No material provided during the inspection was stated to be confidential.

Saint-Gobain manufactures polytetrafluoroethylene (PTFE) coated fiberglass and PTFE films and uses a portion of the manufactured materials to fabricate products for end users. The fabrics are manufactured for a variety of chemical and weather resistant applications and the films for cooking surfaces and fabric laminating applications. Saint-Gobain requested limits on theoretical potential emissions of VOCs and HAPs, as defined in Section 112 of the 1990 Clean Air Act Amendments, to below the major source thresholds and therefore, requires a permit.

| | |
|--|---|
| Facility Name and Address | Saint-Gobain Performance Plastics 701 Daniel Webster Highway Merrimack, NH 03054-1137 |
| County | Hillsborough |
| Telephone | 603-420-1486 |
| AFS# | 3301100165 |
| Source Type | Synthetic Minor |
| Inspection Date / Time | April 1, 2016 |
| Inspection Type | On-Site Full Compliance Evaluation |
| Inspection Period | 2013 – April 1, 2016; |
| Weather | Cloudy, 65 degrees and light winds. |
| Inspected by | Edward Peduto, Senior Compliance Assessment Engineer |
| Source Contact(s) | Kimberly Weeks, EHS Engineer Robert Spielvogel, Consultant via Teleconference |
| Last Inspection | July 23, 2013 |
| <p>Results including deficiencies noted during the last inspection are as follows and are taken directly from the last inspection report. It should be noted that the permit conditions cited below are from permit SP-0072 which expired December 31, 2014, and may not be the same in the current permit.</p> <ol style="list-style-type: none"> 1. The Source shall provide Env-A 1400 Regulated Toxic Air Pollutants Compliance Demonstration as described in Table 2 Item 3 and 4, and Table 4, Items 2 and 4 of the permit. The source must demonstrate compliance by doing an accounting of all RTAP emissions at the facility and compare these usages with the corresponding 24 hour and Annual Ambient Air Limit. The Source may use any of the 3 methods outlined in the rule to show compliance which include <i>De Minimis</i>, in-stack concentration method, or air dispersion modeling. The Source must use the most recent edition of the table found in Env-A 1450 (issued June 1, 2012). (<i>The facility corrected this deficiency</i>) 2. The Source stated that it is using coating formulations that exceed the 2.9 lb/gal VOC | |

RACT standard in their permit. The Source may need to account for these excess emissions by either purchasing DERs (credits), if they used non-compliant coatings from 2008 to 2012. The Source may have the option to use a bubbling method of compliance determination for those years of operation. If it uses a bubble method and still does not meet the RACT requirements, it would need to purchase DERs. The Source acquires authority to purchase credits either from a RACT order or an enforcement action. For future emissions years, the Source may be able to bubble coating formulations as long as it shows compliance. If it bubbles and still does not comply, it would ultimately have to apply for a RACT Order. Alternatively, the Source could change formulations or install a control device in which case a RACT order would not be required. The Source must submit its RACT calculations for the VOC containing coatings as well as MSDS for all VOC containing materials. *(The facility responded to the deficiency and the NHDES was not fully satisfied with the response. The NHDES subsequently revised SP-0072 on April 20, 2015, and directed the facility to utilize the "Bubble" calculation method for demonstrating compliance. Saint-Gobain started using this methodology May 1, 2015).*

3. For future emissions years, the Source shall demonstrate compliance with 40CFR60 subpart VVV by projecting VOC usages and reporting to DES and USEPA when the amount exceeds 95 metric tons. Report submissions must be made on the first semiannual (on or before July 31 of the emissions year). *Failure to project VOC usages and report such projections to the NHDES and USEPA when said projections exceed 95 metric tons was identified as a deficiency during the February, 2008 inspection. (This deficiency was corrected going forward from the beginning of 2013).*
4. In future Annual Emission Reports during which greater than 10 tpy of VOCs is emitted, the Source must include records required by Env-A 904.03 *VOC Recordkeeping for Surface Coating and Printing Operations*, as specified in Table 4, Item 6 of the permit. *(This deficiency was corrected).*
5. Submit an amended VOC Emission Statement Report for calendar year 2012, including SIC and NAICS codes, as well as the information required by Table 5, Item 2 of the permit. *(This deficiency was never corrected).*
6. For the inspection period, the Source shall provide a 12 month running total of HAPs as required by Table 4, Item 3 of the permit. *(This deficiency was corrected).*
7. For future Annual Emission Statements, the Source shall quantify individual HAP emissions in order to show compliance with Env-A 604.02(a)(1); less than 10 tpy of any individual HAP and/or 25 tons of HAPs combined as required by Table 2, Item 2 of the permit. *Failure to identify individual HAP and RTAP emissions was identified as a deficiency during the February, 2008 inspection. (The facility corrected this deficiency).*

The table below lists the permitting timeline and the effective periods of each permit / application covering the evaluation period.

| Permitting / Application Timeline | | | |
|-----------------------------------|---------|--------------------|--------------------|
| Permit | SP-0072 | Issued | April 21, 2015 |
| | | Minor Amendment | October 16, 2015 |
| | | Expires | April 30, 2020 |
| Application | 14-0379 | Submitted (Timely) | September 11, 2014 |
| Permit | SP-0072 | Issued | December 17, 2009 |
| | | Expired | December 31, 2014 |

Saint-Gobain submitted Application 14-0379 for the renewal of their State Permit to Operate in a timely manner and therefore operated under the provisions of the permit shield until the new permit was issued April 21, 2015. The minor amendment issued October 16, 2015, allowed for the replacement of the two emergency fire pump engines with a backup generator and an emergency fire pump.

II. Emission Unit Identification

Table 1, below taken from State Permit to Operate, SP-0072 lists the permitted emission unit for the facility.

| Table 1 - Emission Unit Identification | | | | | |
|--|------------------------|-------------------|-------------------------------|-----------------|---------------------|
| Emission Unit ID | Process Identification | Installation Date | Maximum Design Capacity | | |
| | | | Curing zone burner (MMBtu/hr) | Operating speed | |
| | | | | (ft/min) | ft ² /hr |
| EU01 | Tower MA | 1994 | 3.8 | 18 | 5,400 |
| EU02 | Tower MB | 1998 | 8.0 | 5 | 4,300 |
| EU03 | Tower MC | 1998 | 4.5 | 15 | 6,000 |
| EU04 | Tower MR | 2002 | 4.5 | 15 | 6,000 |
| EU05 | Tower MD | 1999 | 9.0 | 15 | 6,000 |
| EU06 | Tower QX | 1989 | 7.5 | 22 | 6,600 |
| EU07 | 20" SBC | 1986 | NA | 4.5 | 450 |
| EU08 | 20" Coater | 1986 | NA | 4.5 | 450 |
| EU11 | Tower ME | 2002 | 8.0 | 5 | 4,000 |
| EU12 | Tower MG | 2002 | 6.0 | 5 | 4,200 |
| EU13 | Tower MP | 2002 | 9.0 | 5 | 4,000 |
| EU14 | Tower MI | 2003 | 3.0 | 15 | 3,000 |
| EU15 | Tower MQ | 2002 | 3.0 | 18 | 3,960 |
| EU16 | Tower MS | 2002 | 4.5 | 10 | 4,000 |
| EU17 | Antenna Coating | 1993 | NA | NA | NA |

| Table 1 (Cont.) - Emission Unit Identification | | | |
|--|---|-------------------|---|
| Emission Unit ID | Emission Unit Description | Installation Date | Maximum Design Capacity & Permitted Fuel Types |
| EU20 | Clarke fire pump model: JU4H-UF AD5G John Deere engine: Model: 4045 | 2015 | 1.20 MMBtu/hr (110 hp) No 2 fuel oil/diesel – equivalent to 8.7 gal/hr |
| EU21 | Kohler generator set model: 40REOZJC John Deere engine: Model: 024HF285B | 2015 | 0.47 MMBtu/hr (80 hp) No 2 fuel oil/diesel – equivalent to 3.4 gal/hr |

The NHDES observed the devices identified in Table 1 and Saint-Gobain reported that no changes were made nor has it added any devices requiring a permit or permit modification.

The table below lists the facility-wide reported emissions for the review period.

| Annual Facility Emissions | | | | | | |
|---------------------------|-----------------------|----------------------|-----------------------|--------------------------|--------------|-----------------------|
| Year | Nitrogen Oxides (tpy) | Sulfur Dioxide (tpy) | Carbon Monoxide (tpy) | Particulate Matter (tpy) | NMVOCs (tpy) | Total Emissions (tpy) |
| Limit | --- | --- | --- | --- | 50 | --- |
| 2015 | 3.25 | 0.25 | 2.67 | 0.07 | 21.74 | 27.98 |
| 2014 | 6.64 | 0.42 | 5.49 | 0.14 | 22.30 | 34.99 |
| 2013 | 6.95 | 0.14 | 5.82 | 0.14 | 21.33 | 34.37 |

Reported facility emissions for the fuel burning device were calculated using the recommended emissions factor from the the NHDES website. Emissions for VOCs and HAPs / RTAPs are based on factors which assume all of the component of interest from the SDS is emitted as an uncontrolled emission. The approach and factors used are consistent with those used in the application process and the permits issued.

III. Stack Criteria

Exhaust stacks that emit RTAPs and that use either the *de minimis* or adjusted in-stack concentration methods to show compliance, shall discharge vertically and without obstruction. Emissions from the fabric coating and film processes vent through vertical and unobstructed dilution stacks with an emission point 130 feet ags. Emissions from the application of adhesives in the fabrication area are released through horizontal wall vents. Therefore, only the use of the in-stack concentration or the modeling approach can be used for demonstrating compliance for the fabrication facility.

Finding: *The most recent RTAP evaluation submitted as part of application number 14-0379 states that the fabrication facility chemical usage met the requirements of Env-A 1400 using the de minimis method. The use of this method is not valid unless the RTAP is emitted through a*

vertical and unobstructed stack. Based on observations made during the site inspection, it appears that RTAP emissions from the fabrication facility exhaust through four horizontal wall mounted fans. See Table 2, Item 2 for more details.

IV. Compliance with Operating and Emission Limits

Table 2, below taken from the permit lists the Operating and Emission Limitations for the facility and any deficiencies noted during the evaluation.

| Table 2 - Operating and Emission Limitations | | | | |
|--|--|---------------------------------|---|------------------|
| Item # | Requirement | Applicable Emission Unit | Regulatory Basis | Compliant |
| 1. | <u>Facility-wide Emission Limitations</u> a) Facility-wide emissions of VOCs shall be limited to less than 50 tpy; and b) Facility-wide emissions of HAPs shall be limited to less than 10 tpy for any individual HAP and 25 tpy for all HAPs combined. | Facility wide | Env-A 604.02(a)(1) | Yes |
| 2. | <u>24-hour and Annual Ambient Air Limit</u> The emissions of any Regulated Toxic Air Pollutant (RTAP) shall not cause an exceedance of its associated 24-hour or annual Ambient Air Limit (AAL) as set forth in Env-A 1450.01, <i>Table Containing the List Naming All Regulated Toxic Air Pollutants.</i> | Facility wide | Env-A 1400 State only emission limitation | No |
| Findings: Saint-Gobain used a combination of the de minimis and the adjusted in-stack concentration method to demonstrate compliance with this permit condition. Based on information contained in the most recent permit application, it appears that the de minimis method was incorrectly used for RTAPs from the fabrication facility which does not have vertical and unobstructed emission points. Therefore, Saint-Gobain does not currently have a valid Env-A 1400 compliance demonstration in place for the fabrication facility. Saint-Gobain is in compliance with Env-A 1400 for all other parts of the facility which exhaust through vertical and unobstructed stacks. | | | | |
| 3. | <u>Revisions of the List of RTAPs</u> In accordance with RSA 125-I:5 IV, if the department revises the list of RTAPs or their respective AALs or classifications under RSA 125-I:4, II and III, and as a result of such revision the owner or operator is required to obtain or modify the permit under the provisions of RSA 125-I or RSA 125-C, the owner or operator shall have 90 days following publication of notice of such final revision in the New Hampshire Rulemaking Register to file a complete application for such permit or permit modification. | Facility wide | RSA 125-I:5 IV State only emission limitation | Yes |
| 4. | <u>Visible Emission Standards</u> The average opacity shall not exceed 20 percent for any continuous 6-minute period. | EU01 – EU08 & EU11 – EU17 | Env-A 2103.02 | Yes |

Table 2 - Operating and Emission Limitations

| Item # | Requirement | Applicable Emission Unit | Regulatory Basis | Compliant | | | | | | | | | | | | |
|--|---|--|--|-------------------------------|----|-------------------------|------|---------------------------|--------|--------------------------|------|----------------------------|--------|--|-----------------------------|-------------------|
| <p><i>Findings: Opacity levels for all emission points were less than 20% at the time of the inspection and were close to zero for all points with the exception of EU06. The opacity for EU06 was estimated to be 15% and is the stack associated with the film manufacturing line.</i></p> | | | | | | | | | | | | | | | | |
| | <p><u>Emission Rate Limits for Coating of Paper, Fabric, Film and Foil Substrates</u></p> <p>a) A paper, fabric, film, or foil coating operation that has TPE of VOCs equal to or greater than 25 tons per consecutive 12-month period, as applied, shall be limited at all times before January 1, 2016, to an emission rate of 0.35 kg VOC/l, equivalent to 2.9 lb VOC/gallon, of coating as applied, excluding water and exempt compounds; and</p> | <p>EU01 – EU08 & EU11 – EU17</p> | <p>Env-A 1207.03(b)</p> | <p>No</p> | | | | | | | | | | | | |
| <p>5.</p> | <p>b) A paper, fabric, film, or foil coating operation that has TPE of VOCs equal to or greater than 25 tons per consecutive 12-month period, as applied, shall be limited at all times on and after January 1, 2016, to either the emission rates or control efficiency, as applied as follows:</p> <table border="1" data-bbox="269 1020 824 1560"> <thead> <tr> <th data-bbox="269 1020 548 1230"></th> <th data-bbox="548 1020 824 1230"> Paper, Film and Foil Surface Coating (not including pressure sensitive tape and label coating) </th> </tr> </thead> <tbody> <tr> <td data-bbox="269 1230 548 1297">Control Efficiency [%]</td> <td data-bbox="548 1230 824 1297">90</td> </tr> <tr> <td data-bbox="269 1297 548 1360">kg VOC/kg solids</td> <td data-bbox="548 1297 824 1360">0.40</td> </tr> <tr> <td data-bbox="269 1360 548 1430">(lb VOC/lb solids)</td> <td data-bbox="548 1360 824 1430">(0.40)</td> </tr> <tr> <td data-bbox="269 1430 548 1499">kg VOC/kg coating</td> <td data-bbox="548 1430 824 1499">0.08</td> </tr> <tr> <td data-bbox="269 1499 548 1560">(lb VOC/lb coating)</td> <td data-bbox="548 1499 824 1560">(0.08)</td> </tr> </tbody> </table> | | Paper, Film and Foil Surface Coating (not including pressure sensitive tape and label coating) | Control Efficiency [%] | 90 | kg VOC/kg solids | 0.40 | (lb VOC/lb solids) | (0.40) | kg VOC/kg coating | 0.08 | (lb VOC/lb coating) | (0.08) | | <p>Env-A 1207.03(c)</p> | <p>Yes</p> |
| | Paper, Film and Foil Surface Coating (not including pressure sensitive tape and label coating) | | | | | | | | | | | | | | | |
| Control Efficiency [%] | 90 | | | | | | | | | | | | | | | |
| kg VOC/kg solids | 0.40 | | | | | | | | | | | | | | | |
| (lb VOC/lb solids) | (0.40) | | | | | | | | | | | | | | | |
| kg VOC/kg coating | 0.08 | | | | | | | | | | | | | | | |
| (lb VOC/lb coating) | (0.08) | | | | | | | | | | | | | | | |

Findings: Saint-Gobain uses coatings that exceed the 2.9 lb VOC/gallon limit and is currently using “Bubbling” calculations to demonstrate compliance. However, the “Bubbling” method approach was not initiated until May 1, 2015. The facility has conducted daily calculations, as required, since this initiation date. Saint-Gobain does not have “Bubble” calculations prior to May 1, 2015 to demonstrate compliance with the RACT requirements in this condition. It should be noted that this same finding was presented in the last inspection report and does not appear to have been addressed for the time period 2008 through May 1, 2015.

Table 2 - Operating and Emission Limitations

| Item # | Requirement | Applicable Emission Unit | Regulatory Basis | Compliant |
|--------|--|---------------------------|------------------|----------------|
| 6. | <p><u>Determination of Emissions</u> For a coating source that uses add-on control equipment or a bubble to achieve compliance, the emission rate limit shall be determined on a solids basis using the following equation:</p> $S = \frac{E_c}{1 - \left(\frac{E_c}{d_A}\right)}$ <p>Where: <i>S</i> = the VOC emission rate limit in terms of kg/l [lb/gal] of coating solids; <i>d_A</i> = the actual mass density of VOC in the applied surface coating formulation in terms of kg/l [lb/gal], but in the case where multiple coatings are used, <i>d_A</i> means the weighted average actual mass density of VOC in the applied surface coatings in terms of kg/l [lb/gal]; and <i>E_c</i> = the emission rate limit prescribed for the applicable coating category, subcategory, or process as calculated on a coatings basis, in terms of kg VOC/l [lb VOC/gal] of coating, as applied to the substrate.</p> | EU01 – EU08 & EU11 – EU17 | Env-A 1205.01(d) | Yes |
| 7. | <p><u>Work Practice Standards for Cleaning Materials Used in Coating of Paper, Fabric, Film and Foil Substrates</u> A paper, fabric, film, or foil coating operation that uses VOC-containing cleaning material shall control VOC emissions from the cleaning materials using the following work practices:</p> <ol style="list-style-type: none"> Storing VOC-containing cleaning materials in closed containers; Keeping mixing and storage containers closed at all times except when depositing or removing VOC-containing materials; Minimizing spills of VOC-containing cleaning materials; Conveying VOC-containing cleaning materials from one location to another in closed containers or pipes; and Minimizing VOC emissions from the cleaning of storage, mixing, and conveying equipment. | EU01 – EU08 & EU11 – EU17 | Env-A 1207.02 | Yes |
| 8. | <p><u>Visible Emissions Standard for Fuel Burning Devices Installed After May 13, 1970</u> The average opacity from fuel burning devices installed after May 13, 1970 shall not exceed 20 percent for any continuous 6-minute period.</p> | EU20 & EU21 | Env-A 2002.02 | Unknown |

| Table 2 - Operating and Emission Limitations | | | | |
|--|--|---------------------------------|---|------------------|
| Item # | Requirement | Applicable Emission Unit | Regulatory Basis | Compliant |
| <p>Findings: Opacity could not be determined during the inspection since neither device was operational. However, at the time the permit was issued, DES had sufficient information to determine that these devices when operated under normal conditions comply with the requirements of this condition.</p> | | | | |
| 9. | <p><u>Activities Exempt from Visible Emission Standards</u> The average opacity shall be allowed to be in excess of those standards specified in Env-A 2002.02 for one period of 6 continuous minutes in any 60-minute period during startup, shutdown, and malfunction.</p> | EU20 & EU21 | Env-A 2002.04(c) State only emission limitation | Yes |
| 10. | <p><u>Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985</u> The maximum allowable particulate matter emissions from fuel burning devices installed on or after January 1, 1985 shall not exceed 0.30 lb/MMBtu.</p> | EU20 & EU21 | Env-A 2003.03 | Unknown |
| <p>Findings: Particulate emissions can only be determined through stack testing and testing for these devices has not been required to date. However, at the time the permit was issued, DES had sufficient information to determine that these devices when operated under normal conditions comply with the requirements of this condition.</p> | | | | |
| 11. | <p><u>Emergency Engines</u> Each emergency engine shall only operate : a) During an emergency; and/or b) During the normal maintenance and testing procedure as recommended by the manufacturer.</p> | EU20 & EU21 | Env-A 101.671 | Yes |
| 12. | <p><u>Emergency Engines Manufactured After July 1, 2006</u> a) The emergency engines shall be limited to 500 hours of operation during any consecutive 12-month period. b) The owner or operator of each emergency engine shall operate the engines for any combination of the purposes listed below for a maximum of 100 hours per calendar year: 1.) Emergency engines may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, or the insurance company associated with the engine; and 2.) The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and</p> | EU20 & EU21 | Env-A 606.02 (c)(1) & 40 CFR 60.4211(f) (Subpart III) | Yes |

| Table 2 - Operating and Emission Limitations | | | | |
|--|--|---------------------------------|---|------------------|
| Item # | Requirement | Applicable Emission Unit | Regulatory Basis | Compliant |
| | testing of the emergency engine beyond 100 hours per calendar year. | | | |
| Findings: The devices were installed in November 2015 and the hour meter readings are 4.0 and 23.6 for EU20 and EU21 respectively. Therefore, Saint-Gobain is in compliance with this permit condition. | | | | |
| 13. | <u>Emergency Engines</u> Each emergency engine shall be equipped with a non-resettable hour meter. | EU20 & EU21 | 40 CFR 60.4209 (Subpart III) | Yes |
| 14. | <u>Emergency Engine Operating Requirements</u> The owner or operator of a 40 CFR Part 60, Subpart III emergency engine shall: a) Purchase a certified emergency engine in accordance with the requirements listed in 40 CFR Part 60, Subpart III; b) Install, configure, operate and maintain the engine according to the manufacturer's emission-related written instructions or change only the emission-related settings in a way that is permitted by the manufacturer; and c) Operate and maintain the engine to meet the emission standards over the entire life of the engine. | EU20 & EU21 | 40 CFR 60.4206, 40 CFR 60.4211(a) & 40 CFR 60.4211(c) (Subpart III) | Yes |
| 15. | <u>Ultra Low Sulfur Diesel (ULSD) Fuel Requirement</u> The sulfur content of diesel fuel burned in the 40 CFR Part 60, Subpart III emergency engines shall not exceed 15 ppm (0.0015 percent sulfur by weight). | EU20 & EU21 | 40 CFR 60.4207 (Subpart III) | Yes |
| 16. | <u>NSPS General Provisions</u> At all times, including periods of startup and shutdown, and malfunction, the owner or operator shall, to the extent practicable, maintain and operate any affected facility, including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source. | EU01 – EU08 & EU11 – EU16 | 40 CFR 60.11(d) subpart A | Yes |

VI. Compliance with Monitoring and Testing Requirements

Table 3, below taken from the permit lists the Monitoring and Testing Requirements for the facility and any deficiencies noted during the evaluation.

| Table 3 - Monitoring and Testing Requirements | | | | | |
|--|--|---|---------------------------------|-----------------------------------|------------------|
| Item # | Method of Compliance | Frequency | Applicable Unit | Regulatory Basis | Compliant |
| 1. | <u>Stack Testing</u> When conditions warrant, the department may require the owner or operator to conduct stack testing in accordance with USEPA or other department approved methods. | Upon request by the department | Facility wide | RSA 125-C:6, XI | Yes |
| <i>Findings: DES did not request any stack testing during the evaluation period. Therefore, Saint-Gobain is in compliance with this condition.</i> | | | | | |
| 2. | <u>Sulfur Content of Liquid Fuels</u> Conduct testing in accordance with appropriate ASTM test methods or retain delivery tickets in accordance with Table 4, Item 4 in order to demonstrate compliance with the sulfur content limitation provisions specified in this permit for liquid fuels. | For each delivery of fuel oil to the facility | Facility wide | Env-A 806.02 & Env-A 806.05 | Yes |
| <i>Findings: Saint-Gobain retains fuel oil delivery slips and relies on the vendor certification to demonstrate compliance with the liquid fuel sulfur limits.</i> | | | | | |
| 3. | <u>Determination of Compliance for VOC Coatings</u> a) To determine the Facility's compliance with Env-A 1207.03, the owner or operator shall use Method 24 or 24A as described in 40 CFR 60, Appendix A, using the 60-minute bake time procedure for test ASTM D 2360-01; or b) VOC coating information based upon supplier or stationary source formulation data shall be prima facie evidence of the actual VOC content of the coating. | Maintain on a continuous basis | EU01 – EU08 & EU11 – EU17 | Env-A 804.03 & Env-A 804.04 | Yes |

Table 3 - Monitoring and Testing Requirements

| Item # | Method of Compliance | Frequency | Applicable Unit | Regulatory Basis | Compliant |
|--------|--|--------------------------|---------------------------------|------------------|-----------|
| 4. | <p><u>Calculation of VOC Content of a Coating Formulation</u> For a coating that contains more than one VOC component, calculate the VOC content of the coating using the following formula, provided no chemical reaction occurs during the formulation process:</p> $P = \frac{\sum_{i=1}^n (V_i \times C_i)}{V_t}$ <p>Where: P = Pounds per gallon of coating, means the VOC content of the coating formulation, as applied, used on a coating line or operation in units of lb VOC/gal coating, minus water and exempt VOC compounds; n = the number of different coatings or diluents, as applied, used in the coating formulation; i = the subscript denoting an individual coating or diluent; V_i = the volume of the coating or diluent, i, as applied, used in the coating formulation in gallons, minus water and exempt VOC compounds; C_i = the VOC content of the coating or diluent, i, as applied, used in the coating formulation in units of lb VOC/gal coating less water and exempt VOC compounds, as determined from the Method 24 or 24A analysis and the calculation procedures in Section 2.2 of EPA-304/1-86-016, <i>A Guideline for Surface Coating Calculations</i>, July, 1986; and V_t = the total volume of the coating formulation, as applied, in units of gallons minus water and exempt VOC compounds</p> | Maintain up-to-date data | EU01 – EU08 & EU11 – EU17 | Env-A 804.05 | Yes |
| 5. | <p><u>Calculation of Daily-weighted Average for a Coating Line Using Multiple Coatings</u> The owner or operator may choose to demonstrate compliance with the emission</p> | Maintain up-to-date | EU01 – EU08 & | Env-A 804.06 | Yes |

Table 3 - Monitoring and Testing Requirements

| Item # | Method of Compliance | Frequency | Applicable Unit | Regulatory Basis | Compliant |
|-------------|--|-----------|-----------------|------------------|-----------|
| 5. Cont. | limitations specified in Table 2, Item 5 by calculating the daily weighted average as follows: $P_w = \frac{\sum_{i=1}^n (V_i \times C_i)}{V_t}$ Where: P_w = the daily-weighted average VOC content of the coatings, as applied, used on a coating line or operation in units of lb VOC/gal coating, minus water and exempt VOC compounds; n = the number of different coatings or diluents, as applied, used each day on the coating line or operation; i = the subscript denoting an individual coating or diluent; V_i = the volume of the coating or diluent, i , as applied, used each day on a coating line or operation in gallons, minus water and exempt VOC compounds; C_i = the VOC content of the coating or diluent, i , as applied, used each day on a coating line or operation in units of lb VOC/gal coating less water and exempt VOC compounds, as determined from the Method 24 or 24A analysis and the calculation procedures in Section 2.2 of EPA-304/1-86-016, <i>A Guideline for Surface Coating Calculations</i> , July, 1986; and V_t = the total volume of all coatings, as applied, used each day on a coating line or operation in units of gal minus water and exempt VOC compounds | data | EU11 – EU17 | | Yes |

VII. Compliance with Recordkeeping Requirements

Table 4, below taken from the permit lists the required recordkeeping for the facility and any deficiencies noted during the evaluation.

| Table 4 - Recordkeeping Requirements | | | | | |
|---|---|---------------------------------|------------------------|--|------------------|
| Item # | Requirement | Duration/ Frequency | Applicable Unit | Regulatory Basis | Compliant |
| 1. | <u>Record Retention and Availability</u> Keep the required records on file. These records shall be available for review by the department upon request. | Retain for a minimum of 5 years | Facility wide | Env-A 902 | Yes |
| 2. | <u>Regulated Toxic Air Pollutants</u> Maintain records documenting compliance with Env-A 1400. Compliance was demonstrated at the time of permit issuance as described in the department's Application Review Summary for application #14-0379. The source must update the compliance demonstration using one of the methods provided in Env-A 1405 if: a) There is a revision to the list of RTAPs lowering the AAL or De minimis level for any RTAP emitted from the Facility; b) The amount of any RTAP emitted is greater than the amount that was evaluated in the Application Review Summary; c) An RTAP that was not evaluated in the Application Review Summary will be emitted; or d) Stack conditions (e.g. air flow rate) change. | Maintain up-to-date data | Facility wide | Env-A 902.01 State only requirement | Yes |
| 3. | <u>Additional Recordkeeping Requirements: Facility-wide Emission Limitations</u> Maintain a 12-month running total of Facility-wide emissions of VOCs and HAPs, which shall include emissions from non-permitted devices, for the purpose of demonstrating that the total emissions of these pollutants are below the major source thresholds for these pollutants. | Monthly | Facility wide | Env-A 906 & Env-A 604.02(a)(3) | Yes |

Table 4 - Recordkeeping Requirements

| Item # | Requirement | Duration/ Frequency | Applicable Unit | Regulatory Basis | Compliant |
|--------|--|--|--|-----------------------------------|-----------|
| 4. | <p><u>Liquid Fuel Oil Recordkeeping Requirements</u> In lieu of sulfur testing pursuant to Table 3, Item 2, the Owner or Operator may maintain a written statement from the fuel supplier that the sulfur content of the fuel as delivered does not exceed state or federal standards for that fuel.</p> | Whenever there is a change in fuel supplier, but at least annually | Facility wide | Env-A 806.05 & Env-A 903.03 | Yes |
| 5. | <p><u>General Recordkeeping Requirements for Process Operations</u> Maintain the following records for process operations: a) Total quantity of raw materials containing VOCs, HAPs or RTAPs; and b) Hours of operation of each process.</p> | Monthly | EU01 – EU08 & EU11 – EU17 | Env-A 903.02 | Yes |
| 6. | <p><u>VOC Emission Statements Recordkeeping Requirements</u> If the actual annual VOC emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then record the following information: a) Identification of each VOC-emitting process or device; b) The operating schedule during the high ozone season (June 1 through August 31) for each VOC-emitting process or device identified in a. above, including: 1.) Typical hours of operation per day; and 2.) Typical days of operation per calendar month. c) The following VOC emission data from all VOC-emitting processes or devices identified in Table 4, Item 6.a.) above, including: 1.) Actual VOC emissions for: 1. The calendar year, in tons; and 2. A typical high ozone season day during that calendar year, in pounds per day; and 2.) The emission factors and the origin of the emission factors used to calculate the VOC emissions.</p> | Maintain data for annual report | EU01 – EU08 & EU11 – EU17 EU20 & EU21 | Env-A 904 | Yes |

Table 4 - Recordkeeping Requirements

| Item # | Requirement | Duration/ Frequency | Applicable Unit | Regulatory Basis | Compliant |
|--------|--|---------------------------------|---------------------------|------------------|-----------|
| 7. | <p><u>VOC Recordkeeping for Surface Coating and Printing Operations</u> If the actual annual VOC emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then record the following information for each coating operation identified in Table 4, Item 6.a.), above:</p> <p>a) Records of coating formulation and analytical data shall be kept for all base coatings and all mixtures not specifically exempted in d below, as follows:</p> <ol style="list-style-type: none"> 1.) Supplier; 2.) Name and color; 3.) Type; 4.) Identification number; 5.) Density described as lb/gal; 6.) Total volatile content described as weight percent; 7.) Water content described as weight percent; 8.) Exempt solvent content described as weight percent; 9.) VOC content described as volume percent; 10.) Solids content described as volume percent; 11.) Diluent name and identification number; 12.) Diluent solvent density described in lb/gal; 13.) Diluent VOC content described as weight percent; 14.) Diluent exempt solvent content described as weight percent; 15.) Volume of diluent VOC described as gal; and 16.) Diluent/solvent ratio described as gal diluent solvent per gal coating. <p>b) The number of gallons of each coating, including solvents and diluents, utilized during a typical high ozone season day; and</p> <p>c) Process information for a typical high ozone season day, including:</p> <ol style="list-style-type: none"> 1.) Method of application; | Maintain data for annual report | EU01 – EU08 & EU11 – EU17 | Env-A 904.03 | Yes |

| Table 4 - Recordkeeping Requirements | | | | | |
|--------------------------------------|--|---------------------------------|---------------------------------------|------------------|----------------|
| Item # | Requirement | Duration/Frequency | Applicable Unit | Regulatory Basis | Compliant |
| 7. Cont. | <p>2.) Number of coats;</p> <p>3.) Drying method; and</p> <p>4.) Substrate type and form.</p> <p>d) The following mixtures shall be exempt from the recordkeeping in item a.) above, provided that the base coatings used in the mixtures comply with the VOC RACT requirement stated in Table 2, Item 5:</p> <p>1.) Coatings that use water as the only diluent in the mixture; and</p> <p>2.) Coatings that do not use solvent-based diluents.</p> | | | | Yes |
| 8. | <p><u>Format for Recording Information</u> The information recorded pursuant to Table 4, Item 7 shall be recorded on standard forms included in the <i>Recordkeeping Guidance Document for Surface Coating Operations and the Graphic Arts Industry</i>, USEPA, July 1988, or alternative forms that contain all the data recorded pursuant to Table 4, Item 7.</p> | Maintain data for annual report | EU01 – EU08 & EU11 – EU17 | Env-A 904.04 | Yes |
| 9. | <p><u>General Recordkeeping Requirements for Combustion Devices</u> Maintain records of the type (e.g. diesel fuel, natural gas) and amount of fuel burned in each device, or type and amount of fuel burned in multiple devices and hours of operation of each device to be used to apportion fuel use between the multiple devices.</p> | Monthly | EU01 – EU06, EU11 – EU16, EU20 & EU21 | Env-A 903.03 | Yes |
| 10. | <p><u>General NO_x Recordkeeping Requirements</u> If the actual annual NO_x emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then record the following information:</p> <p>a) Identification of each fuel burning device;</p> <p>b) Operating schedule during the high ozone season (June 1 through August 31) for each fuel burning device identified in Table 4, Item 10.a, above, including:</p> | Maintain data for annual report | EU01 – EU06, EU11 – EU16, EU20 & EU21 | Env-A 905.02 | Not Applicable |

Table 4 - Recordkeeping Requirements

| Item # | Requirement | Duration/Frequency | Applicable Unit | Regulatory Basis | Compliant |
|---|--|--------------------------|---------------------------|--|-----------------------|
| 10. Cont. | 1.) Typical hours of operation per day; 2.) Typical days of operation per calendar month; 3.) Number of weeks of operation; 4.) Type and amount of each fuel burned; 5.) Heat input rate in MMBtu/hr; 6.) Actual NOx emissions for the calendar year and a typical high ozone day during that calendar year; and 7.) Emission factors and the origin of the emission factors used to calculate the NOx emissions. | | | | Not Applicable |
| Findings: Saint-Gobain emits less than 10 tpy NOx and therefore is exempt from this condition. | | | | | |
| 11. | <u>NSPS Recordkeeping Requirements</u> Maintain records of estimates of the projected annual amount of VOC to be used for the manufacture of polymeric coated substrates over the year. | Semiannual | EU01 – EU08 & EU11 – EU16 | 40 CFR 60.744(b) subpart VVV | Yes |
| 12. | <u>NSPS Subpart IIII Recordkeeping Requirements</u> The owner or operator shall maintain the following records: a) Documentation from the CI engine manufacturer certifying that the engine complies with the applicable emission standards stated in 40 CFR Part 60, Subpart IIII; and b) A copy of the manufacturer's emission-related written instructions (O&M manual) for the engine and its associated control devices. | Maintain Up-to-date Data | EU20 & EU21 | 40 CFR 60.4211 (Subpart IIII) | Yes |
| 13. | <u>Additional Recordkeeping Requirements for Emergency Engines Subject to NSPS Regulations</u> The owner or operator shall maintain the following: a) The maintenance conducted on the engine in order to demonstrate that the device was operated and maintained according to the O&M manual; b) The operation of the engine in emergency (i.e. loss of power) and | Maintain up-to-date data | EU20 & EU21 | 40 CFR 60.4211 & 40 CFR 60.4214 (Subpart IIII) | No |

| Table 4 - Recordkeeping Requirements | | | | | |
|--|---|--------------------|-----------------|------------------|-----------|
| Item # | Requirement | Duration/Frequency | Applicable Unit | Regulatory Basis | Compliant |
| 13. Cont. | <p>non-emergency situations (i.e. maintenance & testing or for the operating scenarios described in Table 2, Item 12 that are recorded through the non-resettable hour meter. The owner or operator must record the time of operation of the engine and the reason the engine was in operation during that time; and</p> <p>c) Documentation of the federal, state or local standard(s) that require the owner or operator to conduct maintenance and testing for more than 100 hours per calendar year if the owner or operator is exercising the option listed in Table 2, Item 12.</p> | | | | No |
| <p>Findings: At the time of the inspection, Saint-Gobain had not kept operating records for the two emergency engines to demonstrate compliance with this condition. The emission units have only been operational since November 2015, and each device has less than 23 hours total as determined from the non-resettable hour-meter. Therefore, it has been indirectly determined that Saint-Gobain is in compliance with the operating hour limitation. The engines have not been in operation long enough to require any preventive maintenance that must be documented. No malfunctions have occurred since the installation of the engines.</p> | | | | | |

VIII. Compliance with Reporting Requirements

Table 5, below taken from the permit lists the recordkeeping requirements for the facility and any deficiencies noted during the evaluation.

| Table 5 - Reporting Requirements | | | | | |
|----------------------------------|--|---|---------------------------------------|------------------|-----------|
| Item # | Requirement | Frequency | Applicable Emission Unit | Regulatory Basis | Compliant |
| 1. | <p><u>Annual Emissions Report</u> Submit an annual emissions report which shall include the following information:</p> <p>a) For Combustion Devices – Actual calendar year emissions from each emission unit of NO_x, CO, SO₂, TSP, and VOCs;</p> <p>b) For Process Operations – Actual calendar year emissions from each emission unit of VOCs (speciated by individual VOC), HAPs (speciated by individual HAP), and RTAPs (speciated by individual RTAP);</p> <p>c) The methods used in calculating such</p> | Annually (received by DES no later than April 15th of the following year) | EU01 – EU08 & EU11 – EU17 EU20 & EU21 | Env-A 907.01 | Yes |

| Table 5 - Reporting Requirements | | | | | |
|--|--|---|--|-------------------------|------------------|
| Item # | Requirement | Frequency | Applicable Emission Unit | Regulatory Basis | Compliant |
| | emissions in accordance with Env-A 705.02, <i>Determination of Actual Emissions for Use in Calculating Emission-Based Fees</i> ; and d) All information recorded in accordance with Table 4, Items 5 and 9. | | | | |
| 2. | <u>VOC Emission Statements Reporting Requirements</u> If the actual annual VOC emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report: a) Facility information, including: 1.) Source name; 2.) Standard Industrial Classification (SIC) code; 3.) North American Industrial Classification System (NAICS) code; 4.) Physical and mailing addresses; and b) A breakdown of VOC emissions reported pursuant to Table 5, Item 1 by month; and c) All data recorded pursuant to Table 4, Items 7 and 8. | Annually (received by DES no later than April 15th of the following year) | EU01 – EU08 & EU11 – EU17 EU20 & EU21 | Env-A 908 | No |
| Findings: Saint-Gobain failed to include the SIC and NAICS as per Item a) of this condition. All other information required by this condition was provided. It should be noted that this deficiency was identified during the last inspection which covered the period of 2008 -2012. | | | | | |
| 3. | <u>NO_x Emission Statements Reporting Requirements</u> If the actual annual NO _x emissions from all permitted devices located at the Facility are greater than or equal to 10 tpy, then include the following information with the annual emission report: a) A breakdown of NO _x emissions reported pursuant to Table 5, Item 1 by month; and b) All data recorded in accordance with Table 4, Item 10. | Annually (received by DES no later than April 15th of the following year) | EU01 – EU06, EU11 – EU16, EU20 & EU21 | Env-A 909 | Yes |

| Table 5 - Reporting Requirements | | | | | |
|---|--|---|---------------------------------------|------------------------------|------------------|
| Item # | Requirement | Frequency | Applicable Emission Unit | Regulatory Basis | Compliant |
| 4. | <p><u>NSPS Reporting Requirements</u> Submit to the department and USEPA Region 1 a report on the first semiannual estimate in which projected annual VOC use exceeds 95 Mg. The address for USEPA Region 1 is: USEPA Region 1 Attn: Air Compliance Clerk 1 Congress Street Suite 1100 Mail Code SEA Boston, MA 02114-2023 The address for the department is: NH DES – Air Resources Division Attn: Compliance Measurement & Data Programs Manager PO Box 95 29 Hazen Drive Concord, NH 03301-0095</p> | As required | EU01 – EU08 & EU11 – EU16 | 40 CFR 60.747(c) subpart VVV | Yes |
| 5. | <p><u>Permit Deviation Reporting Requirements</u> Report permit deviations that cause excess emissions in accordance with Condition VIII.B.</p> | Within 24 hours of discovery of excess emission | EU01 – EU08 & EU11 – EU17 EU20 & EU21 | Env-A 911.04(a) | Yes |
| 6. | <p><u>Emission Based Fees</u> Pay emission-based fees in accordance with Condition XI.</p> | Annually (received by DES no later than April 15th of the following year) | EU01 – EU08 & EU11 – EU17 EU20 & EU21 | Env-A 700 | Yes |

IX. Permit Deviations

Saint-Gobain is aware of the permit deviation recordkeeping and reporting and did not report any permit deviations during the evaluation period.

X. Other Findings

Black Solid Material -- Emissions from the coating operations emit through 12 roof mounted dilution stacks where the emissions from each coating tower are diluted tenfold prior to emitting to the atmosphere. During the inspection of the roof area, it was noted that a black charred material is present on the undiluted stack pipe which precedes the dilution stack. The black coating builds up and is released in chunks from the rim of the stack. This material lands on the roof and can be washed from the roof by rain through the drain system. According to Saint-

Gobain, the material is a charred fatty acid that is generated in the second heat zone of the coating towers and is the material that is the root cause of odor complaints from abutters. Saint-Gobain stated that the material is removed from the roof and the stack rims monthly by an outside contractor and disposed of as non-hazardous waste.

Dilution Fan Failure – On April 1, 2016, Saint-Gobain reported that the stack dilution fan associated with tower MS (EU16) became inoperative March 24, 2016. The unit was removed on April 11, 2016, repaired and placed back in service on April 13, 2016.

The RTAP demonstration for the coating towers used the *de minimis* and adjusted in-stack concentration methods to demonstrate compliance with Env-A 1400 with all dilution fans in operation. For those RTAPs where the adjusted in-stack method was used to demonstrate compliance, the NHDES requests that Saint-Gobain conduct an RTAP evaluation for the period when the dilution fan was inoperative to demonstrate that the facility was in compliance during the fan outage.

XI. Enforcement History and Status

There have been no enforcement actions during the evaluation period.

XII. Compliance Assistance, Recommendations and Corrective Actions

The following is recommended to bring the facility into compliance:

1. Maintain operating logs for each emergency engine to demonstrate compliance with the maintenance and annual 100 hour operating limit for non-emergency use.
2. Submit VOC Emission Statement Reports including SIC and NAICS codes, as well as the information required by Table 5, Item 2 of the permit.
3. Saint-Gobain stated that it used coating formulations from time to time that exceeded the 2.9 lb/gal VOC RACT limit in their permit. The facility needs to account for excess emissions if they used non-compliant coatings from January 1, 2013, through May 1, 2015, when the “Bubbling” approach was initiated. It is suggested that Saint-Gobain use a bubbling method of compliance determination for those prior years of operation as is being used currently. If it uses a bubble method and still does not meet the RACT requirements, it would need to need to set up account for purchasing DERs. An affected facility acquires authority to purchase credits either from a RACT order or an enforcement action.

Saint-Gobain must submit its RACT calculations for the VOC containing coatings as well as SDS for all VOC containing materials for the period 2013 through May 1, 2015, within 30 days of the date of this report.

4. Conduct an RTAP evaluation for the fabrication facility using either the in-stack or the modeling approaches to demonstrate compliance. The *de minimis* that was used is not valid for horizontal emission points. The evaluation should be submitted within 30 days from the date of this letter.
5. Conduct an RTAP evaluation for the period when the dilution fan was not operating to demonstrate that the facility was in compliance. The evaluation should be submitted within 30 days of the date of this letter.

Report Prepared By:
Title:

Edward F. Peduto, Jr.
Senior Compliance Assessment Engineer

Signed:

