



## **ON-SITE FULL COMPLIANCE EVALUATION**

**Kalwall Corporation  
Panel and Accessories Division  
1111 Candia Road  
Manchester, New Hampshire 03105  
Hillsborough County  
(603) 627-3861**

**AFS # 3301100076**

**Inspection Date: July 28, 2010  
Final Report: September 29, 2010**

**Inspected and Report Prepared by:**

**New Hampshire Department of Environmental Services  
Air Resources Division  
29 Hazen Dr., P.O. Box 95  
Concord, New Hampshire 03302-0095**

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Senior Compliance Assessment Engineer**

**I. Inspection**

On July 28, 2010, the New Hampshire Department of Environmental Services, Air Resources Division (“DES”) conducted an On-site Full Compliance Evaluation of Kalwall Corporation, the Panels and Accessories Division (“Kalwall”), located in Manchester, NH. Kalwall was targeted for inspection based on DES inspection criteria, which requires that a major source with a Title V Permit be inspected once every two years.

DES contacted Kalwall on July 27, 2010 to schedule a compliance inspection for July 28, 2010.

Date/Time of Inspection:	July 28, 2010, 8:40 AM – 11:51 AM
Type of Inspection:	On-site Full Compliance Evaluation
Inspected by:	Margaret Bastien, Compliance Assessment Section Supervisor Greg Helve, Senior Compliance Assessment Engineer
Weather:	70 deg. F, partially sunny
Source Contact(s):	Paul Wenger, Operations Manager, Kalwall Corp. Robert Salois, Safety Manager, Kalwall Corp. Gary York, EriMar System Integration Corp., consultant
Last compliance inspection conducted at facility:	April 14, 2008
Last Inspection Result:	Emission based fees for RTAPs, acetone and t-butyl acetate, are required to be paid for calendar year 2007 and forward.  DES requested Method 24 analyses or MSDS information and mix recipes on the coatings used by Kalwall to confirm compliance with applicable VOC RACT emission limits.  DES requested that Kalwall start reporting VOC RACT calculations on a solids basis used to determine the amount of DERs required annually.
Permit Number(s):	TV-OP-046 Issued: Feb. 28, 2003 Expired: Feb. 28, 2008 PF-T-0142 Issued: Sep. 15, 2006 Expired: Mar. 31, 2008 RACT Order Issued: Jun. 25, 1999 ARD-95-010

The purpose of the inspection was discussed as well as the rules pertaining to claims of confidentiality and facility safety concerns. Kalwall agreed to the inspection and authorized access to the facility. No material provided during the inspection was stated to be confidential.

No odors or visible emissions were observed outside the facility.

Details are discussed in later sections.

## **II. Facility Description**

Kalwall manufactures energy-conserving, light-transmitting building fenestration systems. The fenestration systems consist of translucent panels used as walls, roofs, and skylights for both residential and commercial buildings. Kalwall employs approximately 375 people at the Manchester facility and operations occur in an approximately 140,000 square foot building. The facility has been at this location since 1958. Kalwall operates two shifts per day, Monday through Friday, and a half day on Saturday.

Kalwall's manufacturing process consists of several work centers. Among these work centers are the I-Beam Sizers & Spreaders ("IBSS"), the Kalwall Weatherable Surface ("KWS") panel coating line, and the Kalwall Corrosion Resistant Finish ("KCRF") line. In the IBSS process, Kalwall's proprietary resin is applied to the top and bottom edges of aluminum extrusions and dried in an oven. Aluminum extrusions, manufactured on-site by cutting and welding purchased aluminum I-beam, are taken from the IBSS process for bonding to Fiberglass Reinforced Polyester ("FRP") face sheets to form the sandwich panel. The resin is softened by wiping down with a solvent applied to the top and bottom coated edges. A surface coating is applied to the panels in the KWS process and the panels go through an oven for curing of the coatings. The KCRF process (KCRF Spray Booths 1-3 and Oven) is used to apply a finish to the aluminum extrusions that form the system for supporting the Kalwall panels in a building. Coatings applied to the aluminum extrusions are typically used for weather resistance or corrosion resistance. Miscellaneous activities occurring during the manufacturing process comprise the ancillary components of the process, e.g., KCRF cleaning, layup, layup pickup, use of solvent based cleaners for cleaning panels, and activating the bonding resin for fabrication of the panels with a solvent.

A tour of Kalwall's processes was led by Mr. Wenger. There was a noticeable odor upon entry to the manufacturing area. Solvent odors were observed in the area where the panels undergo cleaning and where the solvent is applied to the resin prior to the FRP panel being placed on the aluminum structure. Also, there was an odor observed around the KWS Dryer Oven.

Aluminum cutting operations were observed. Dust from the cutting machines is captured and routed through a bag house. Emissions are then emitted back into the work area. The aluminum cutting area is located near insignificant device IA6 (See Appendix B for a list of insignificant devices). According to Mr. Wenger, emissions from the aluminum welding operation are captured, treated and then emitted back into the work area.

## **III. Emission Unit Identification and Operating Conditions**

Operating information and permit limits for the processes included in Title V Permit TV-OP-046 and Temporary Permit FP-T-0142 are listed in Table 1 below.

**Table 1 – Emission Unit Identification and Operating Restrictions**

<b>Emission Unit Number (EU#)</b>	<b>Description of Emission Unit</b>	<b>Exhaust Stack Identification</b>	<b>Emission Unit Maximum Allowable Permitted Capacity</b>
EU1	IBSS Process (Lines #1 and #2, Offline IBSS)	IBSS Line #1 Front Oven IBSS Line #1 Back Oven IBSS Line #2 Front Oven IBSS Line #2 Back Oven	<p>94.0 tons VOC emissions in any consecutive 12-month period on a facility wide basis.</p> <p>Includes emissions from the IBSS process, KWS process, KCRF process, and ancillary operations (KCRF cleaning, layup, layup pickup, use of solvent based cleaners for cleaning panels, and activating the bonding resin for fabrication of the panels)</p> <p>IBSS process shall be limited to less than or equal to 25.0 tons VOC emissions in any consecutive 12-month period, subject to the emissions adjustment allowed pursuant to Table 4, Item 6., in the Title V Operating Permit TV-OP-046.<sup>1</sup></p>
EU2	KWS Process	KWS Spray Booth KWS Flash Zone KWS Dryer Oven KWS Oven Hood	<p>94.0 tons VOC emissions in any consecutive 12-month period on a facility wide basis.</p> <p>Includes emissions from the IBSS process, KWS process, KCRF process, and ancillary operations.</p> <p>The KWS process shall be limited to less than or equal to 25.0 tons VOC emissions in any consecutive 12-month period, subject to the emissions adjustment allowed pursuant to Table 4, Item 6., in the Title V Operating Permit TV-OP-046.</p>

<sup>1</sup> The initial Title V Operating Permit, TV-OP-046, was issued on February 28, 2003.

<b>Table 1 – Emission Unit Identification and Operating Restrictions</b>			
<b>Emission Unit Number (EU#)</b>	<b>Description of Emission Unit</b>	<b>Exhaust Stack Identification</b>	<b>Emission Unit Maximum Allowable Permitted Capacity</b>
EU3	KCRF Process – Spray Booths #1, #2, #3, and drying oven	KCRF Spray Booth #1 KCRF Spray Booth #2 KCRF Spray Booth #3 KCRF Drying Oven	94.0 tons VOC emissions in any consecutive 12-month period on a facility wide basis.  Includes emissions from the IBSS process, KWS process, KCRF process, and ancillary operations.  The KCRF process shall be limited to less than or equal to 24.0 tons VOC emissions in any consecutive 12-month period, subject to the emissions adjustment allowed pursuant to Table 4, Item 6., in the Title V Operating Permit TV-OP-046.
EU4	Ancillary Operations (KCRF cleaning, layup, layup pickup, use of solvent based cleaners for cleaning panels, and activating the bonding resin for fabrication of the panels)	None	94.0 tons VOC emissions in any consecutive 12-month period on a facility wide basis.  This will include emissions from the IBSS process, KWS process, KCRF process, and ancillary operations.  The Ancillary operations shall be limited to less than or equal to 20.0 tons VOC emissions in any consecutive 12-month period, subject to the emissions adjustment allowed pursuant to Table 4, Item 6., in the Title V Operating Permit TV-OP-046.

Facility wide emissions for calendar years 2008-2009 are included in Table 2. Volatile organic compound (“VOC”) emissions are calculated using the facility’s coatings usage data and emissions from fuel burning devices are calculated using AP-42. The coating usage data and the facility emissions reported by Kalwall were confirmed during this inspection.

<b>Table 2: Facility-Wide Emissions</b>						
	<b>Nitrogen Oxides (tpy)</b>	<b>Sulfur Dioxide (tpy)</b>	<b>Carbon Monoxide (tpy)</b>	<b>Particulate Matter - PM<sub>10</sub> (tpy)</b>	<b>VOCs (tpy)</b>	<b>HAPs (tpy)</b>
<b>Permitted Emission Limits</b>					<b>94.0</b>	<b>10/25</b>
<b>2009</b>	0.88	0.51	0.19	0.08	53.34	5.67
<b>2008</b>	0.90	1.26	0.17	0.11	52.21	6.30

Facility-wide Hazardous Air Pollutants (“HAP”) emissions are limited to less than 10 tons per year of any individual HAP and less than 25 tons per year of all HAPs combined. Kalwall’s 2008 and 2009 HAPs emissions met this limitation.

From May through December 2009, Kalwall exceeded its VOC limit of 25 tons based on a 12-month rolling total from the KWS process. The monthly exceedance varied from 0.019 to 0.968 tons. However, Condition 6 in Table 4 of TV-OP-046 allows Kalwall “a 20 percent deviation upwards, provided that there is a corresponding offset in allowable VOC emissions from one or more of the processes...” The percent deviation is well below 20 percent allowable deviation and emissions from all other process and the facility total are well below their permitted limits. In 2008, VOC emissions based on a 12-month rolling total remained below permitted limits for all devices and the facility total.

**IV. Control Equipment**

<b>Table 3 Air Pollution Control Equipment</b>	
<b>Control Equipment</b>	<b>Devices Vented to Control Equipment</b>
Honeycomb Paper Filter Media	KCRF Spray Booths 1, 2, & 3
Particulate Filter Collector	KWS Spray Booth

As required by temporary permit FP-T-0142, at a minimum, the following maintenance and monitoring requirement shall be met.

<b>Table 4</b>		
<b>Air Pollution Control Equipment Maintenance and Monitoring Requirements</b>		
<b>Control Equipment</b>	<b>Maintenance Requirements</b>	<b>Monitoring Requirements</b>
Honeycomb Paper Filter Media	Change out Honeycomb paper filters in a manner consistent with manufacturer’s recommendations and/or standard operating procedures.	Conduct monthly inspections of the honeycomb paper filters. Replace the honeycomb paper filters consistent with manufacturer’s recommendations and/or standard operating procedures. Keep records of maintenance and corrective actions in a permanently bound notebook.
Particulate Filter Collector	Change out the particulate filter collector in a manner consistent with manufacturer’s recommendations and/or standard operating procedures.	Conduct monthly inspections of the particulate filter collector. Replace the particulate filter collector consistent with manufacturer’s recommendations and/or standard operating procedures.

The Honeycomb Paper Filter Media is used in KCRF Spray Booths 1, 2 & 3. Each KCRF Spray Booth is equipped with separate filters and separate manometers measuring pressure drop across the filter. According to Mr. Wenger, the manometers are checked daily during the 1<sup>st</sup> shift and the pressure drop is noted in the “KCRF Filter Inspection Log” book as required in FP-T-0142. Kalwall submits copies of the logbook in its Semi-Annual Permit Deviation and Monitoring Reports. See Appendix A for record of reports reviewed during this inspection.

According to Mr. Wenger, the filter media is changed when a manometer reads a pressure drop of 0.7 inches of water or greater. Filter media changes are recorded in the “KCRF Filter Change Log” as required in FP-T-0142. Kalwall submits copies of the logbook in its Semi-Annual Permit Deviation and Monitoring Reports. According to Mr. Wenger, each morning the filters in the Particulate Filter Collector, used in the KWS process, are changed.

A review of the logbooks during the inspection and the copies submitted to DES indicate that Kalwall is meeting the Monitoring and Testing Requirements for the KCRF Spray Booths 1, 2, & 3 as specified in TV-OP-046.

**V. Stack Criteria**

<b>Table 5 - Stack Criteria</b>			
<b>Stack #</b>	<b>Minimum Stack Height (Feet Above Ground Level)</b>	<b>Maximum Exit Stack Diameter (Feet)</b>	<b>Minimum Exhaust Flow (ACFM)</b>
IBSS Line #1 Front Oven	44.5 Vertical	2.0	4750
IBSS Line #1 Back Oven	44.5 Vertical	2.0	5570
IBSS Line #2 Front Oven	44.5 Vertical	2.0	1830
IBSS Line #2 Back Oven	44.5 Vertical	2.0	1960
KWS Spray Booth	43.3 Vertical	2.0	8650
KWS Flash Zone	24.0 Vertical & Capped	2.3 X 2.3 ft	1500
KWS Oven Hood	24.0 Vertical & Capped	1.3	866
KCRF Spray Booth #1	26.5 Vertical	3.5	23400
KCRF Spray Booth #2	26.25 Vertical	3.5	21930
KCRF Spray Booth #3	25.5 Vertical	2.0	8240
KCRF Oven	26.2 Vertical	1.3 X 1.3 ft	1290
Post Cure Oven	23.5 Vertical	0.5	276
KWS Dryer Oven	23.5 Vertical	2.6 X 2.6 ft	2010

The site tour included observing the stacks located on Kalwall’s roof. The stacks for the KCRF Spray Booths #1 & 2, KWS Spray Booth, KWS Flash Zone, KWS Dryer Oven and KCRF Oven

have been raised since TV-OP-046 was issued. Originally the stack for the KCRF Oven was 1.3 x 1.3 feet. The KCRF Oven stack extension was observed to be 1 foot in diameter. Kalwall is allowed to change stack parameters (stack height and exit diameter) if the facility follows the provisions in TV-OP-046 Section III. B. Kalwall met the provisions in TV-OP-046 Section III. B. as documented in correspondence from Kalwall dated April 21, 2004 and received by DES on April 22, 2004.

No visible emissions were seen emanating from the stacks. However, a slight solvent odor was evident around the IBSS #1 Front Oven and IBSS #2 Front Oven stacks.

## **VI. Compliance with Permitting Requirements**

### **CHAPTER Env-A 300 Ambient Air Quality Standards**

The facility's devices that emit criteria pollutants are all below permitting thresholds and are listed as insignificant devices in TV-OP-046. Therefore, DES assumes that the facility's emissions of criteria pollutants do not cause or contribute to any violation of the standards specified in Env-A 300. See Appendix B for a list of insignificant devices.

### **CHAPTER Env-A 500 - Standards Applicable to Certain New or Modified Facilities and Sources of Hazardous Air Pollutants**

None of Kalwall's devices are subject to any of the New Source Performance Standards ("NSPS") specified in 40 CFR 60, as incorporated by reference in Env-A 503.01. The devices are either below applicability thresholds or are not the subject of a NSPS.

Kalwall restricted its HAP emissions to less than 10 tpy (any single HAP) and 25 tpy (any combination of HAPs) in the temporary permit FP-T-0142. Subsequently, Kalwall is not a major source of HAPs and, therefore, not subject to Maximum Achievable Control Technology ("MACT") requirements specified in 40 CFR 63 Subpart M, Surface Coating of Miscellaneous Metal Parts and Products, and 40 CFR Subpart P, Surface Coating of Plastic Parts and Products, as incorporated by reference in Env-A 505.01.

Kalwall does not emit any of the HAPs regulated pursuant to the National Emission Standards for Hazardous Air Pollutants ("NESHAP") specified in 40 CFR 61, as incorporated by reference in Env-A 504.01.

### **CHAPTER Env-A 600 - Statewide Permit System**

#### **Title V Operating Permit TV-OP-046**

On February 28, 2003, DES issued Title V Operating Permit TV-OP-046 to Kalwall for operations at its Manchester facility. The TV-OP-046 permit, which expired on February 28, 2008, establishes Kalwall as a major source of VOCs.

### Temporary Permit FP-T-0142

On September 15, 2006, DES issued a Temporary Permit FP-T-0142 to Kalwall for its Panels and Accessories Production Plant in Manchester. The FP-T-0142 permit, which expired on March 31, 2008, establishes Kalwall as a synthetic minor source of HAPs.

### Part Env-A 606 Air Pollution Dispersion Modeling Impact Analysis Requirement

Dispersion modeling was conducted at this facility in October 2002 to assess worst-case emission scenarios and physical changes that occurred since the last modeling effort in 1999. Modeling results show that impacts associated with emissions and physical changes are below the Ambient Air Limits (“AALs”) for all the RTAPs evaluated.

### **Part Env-A 609 Title V Operating Permits**

#### Env-A 609.04 Insignificant Activities

Kalwall identified its insignificant activities in the permit renewal application submitted on August 23, 2007. A list of these activities can be found in Appendix B of this report. Six insignificant activities were changed and one insignificant device added since TV-OP-046 was issued. The Dravo/Hastings Furnace (IA6) was replaced with a Jackson Church Furnace (IA6) with a design capacity of 1.875 mmBtu. The emission rate for the temperature indicating liquid (IA21) increased from 50 pounds to 100 pounds. DES was notified by a letter dated January 24, 2005 from Kalwall of these changes. The design capacity for three of the process burners (IA10, IA11 & IA12) increased to 0.800 mmBtu. The design capacity for the fourth process burner (IA13) increased to 0.500 mmBtu. The design capacity for the Jackson Church Furnace (IA6) was verified during the inspection.

DES was notified by letter dated January 5, 2009 from Kalwall that insignificant activities IA23 and IA24, IBSS process burners, were to be replaced with units having increased maximum design capacity of 0.30 mmBtu/hr.

#### Env-A 609.08 Application Shield

TV permit TV-OP-046 expired on February 28, 2008 and temporary permit FP-T-0142 expired on March 31, 2008. On August 23, 2007, Kalwall submitted a renewal application, six months prior to the expiration of the Title V Permit, as required by Env-A 609.07. On October 17, 2007, DES determined that the renewal application was complete and Kalwall is covered under the provisions of Env-A 609.08.

### Part Env-A 618 & 619 – Non-attainment Areas New Source Review and Prevention of Significant Deterioration

Hillsborough County is classified as a non-attainment area for Ozone and is, therefore, a non-attainment area for Ozone precursors, namely, nitrogen oxides (“NO<sub>x</sub>”) and VOCs. In addition, the entire state is part of the Northeast Ozone Transport Region and is required to implement at a

minimum ozone nonattainment New Source Review (NSR) requirements equivalent to the moderate ozone nonattainment NSR requirements for all parts of the state. Kalwall is not a new major stationary source nor has it made any major modifications during the period since the last compliance inspection in 2008. Therefore, the source was not subject to these requirements during that period.

## **VI. Compliance with Permit Fee System**

### **CHAPTER Env-A 700 - Permit Fee System**

#### **Env-A 705.04 – Payment of Emission-Based Fee**

Emission-based fees are due by April 15 of the year following the emissions year.

Kalwall submitted timely payment of its emission-based fees for calendar years 2008 and 2009.

In the July 17, 2008 inspection report, DES brought to Kalwall's attention that the fees for acetone and t-butyl acetate emission were required to be paid from calendar year 2007 forward. DES and Kalwall are currently in discussion to address this requirement.

## **VII. Source Testing and Monitoring**

### **CHAPTER Env-A 800 - Testing and Monitoring Procedures**

Annually, Kalwall is required to inspect each stack, documenting any leaks, holes, rusting, and/or structural disrepair. Stack inspection records and subsequent maintenance performed as a result of the annual inspections shall be kept on file for review. Table 4 lists the monitoring and maintenance requirements for the honeycomb paper filter media and the particulate filter collector.

The Honeycomb Paper Filter Media is used in KCRF Spray Booths 1, 2 & 3. Each KCRF Spray Booth is equipped with separate filters and separate manometers measuring pressure drop across the filter. According to Mr. Wenger, the manometers are checked daily during the 1<sup>st</sup> shift and the pressure drop is noted in the "KCRF Filter Inspection Log" book as required in FP-T-0142. Kalwall submits copies of the logbook in its Semi-Annual Permit Deviation and Monitoring Reports.

Kalwall submits copies of pages from the "Stack Maintenance Log" where the annual inspection of its stacks is recorded in the Semi-Annual Permit Deviation and Monitoring Reports.

See Appendix A for record of reports reviewed during this inspection.

A review of the logbooks during the inspection and the copies submitted to DES indicate the Kalwall is meeting the Monitoring and Testing Requirements for KCRF Spray Booths 1, 2, & 3

and the stacks as specified in TV-OP-046.

DES has not required Kalwall to conduct any other testing or monitoring at this facility since the spray booths were tested in 2001.

## **VIII. Compliance with Recordkeeping and Reporting**

### **CHAPTER Env-A 900 - Owner or Operator Recordkeeping and Reporting Obligations**

#### **Part Env-A 902 Availability of Records**

Kalwall keeps records in both paper and electronic formats.

Kalwall demonstrated that it maintains records for a minimum of 5 years.

#### **Env-A 903.02 – General Recordkeeping Requirements for Process Operations**

(Eff. 4/23/99, Formerly Env-A 901.04, eff. 11/15/92)

Kalwall is required to maintain the following records on a monthly basis:

1. Total quantity, in gallons, of coatings and solvents used by process area; and
2. Hours of operation of each process.

According to Mr. Wenger, when coatings or solvents are removed from the storage room, the amount of solvent/coating and type of solvent/coating is logged into Kalwall's inventory management system. On a monthly basis, a report is prepared and given to Mr. Wenger totaling the quantity of coating and solvents used that month.

According to Mr. Wenger, production sheets are entered into Kalwall's MRP system. On a monthly basis, a reported is prepared and given to Mr. Wenger summarizing monthly production.

DES determined that Kalwall is meeting the requirements of this part.

#### **Env-A 903.03 – General Recordkeeping Requirements for Combustion Devices**

(Eff. 4/23/99, Amend. 10/21/03, Formerly Env-A 901.03, Eff. 11/15/92)

Kalwall is required to maintain the following monthly and annual records of fuel utilization:

1. For applicable liquid fuels,
  - a. Consumption
  - b. Fuel type; and
  - c. Sulfur content as percent sulfur by weight of fuel
2. For applicable gaseous fuels,
  - a. Consumption
  - b. Fuel type; and

- c. Sulfur content as percent sulfur by weight or fuel in grains per 100 cubic feet of fuel.

Kalwall uses natural gas, propane, No. 2 fuel oil and No. 4 fuel oil for its process devices and other fuel burning devices. The four ovens in the IBSS process use propane. The KWS Flash Zone and KWS Dryer Oven use either propane or natural gas. The KCRF Spray Booths use either propane or natural gas.

Kalwall receives propane from Eastern Propane Co and the propane is stored in a tank. Kalwall maintains the propane delivery slips to document propane usage. Ms. Bastien observed that a certificate of analysis dated from March 9, 2010 met the sulfur content of not to exceed 5 grains of sulfur per 100 cubic feet as specified in TV-OP-046.

Natural gas usage is metered by National Grid. Kalwall maintains copies of bills from National Grid to document natural gas usage. The sulfur content of pipeline natural gas has been previously established to meet the regulatory limits.

DES determined that Kalwall is meeting the requirements of this part

#### **Part Env-A 904 – VOC Emission Statements Recordkeeping Requirements**

Actual VOC emissions from Kalwall are greater than 10 tpy. (See Table 2) Therefore, the facility is required to maintain the following records:

1. Identification of each VOC-emitting process or device;
2. The operating schedule during the high ozone season (June 1 through August 31) for each VOC-emitting process or device, including:
  - a. Hours of operation per calendar month; and
  - b. Days of operation per calendar month;
3. The following VOC emission data from all VOC-emitting processes or devices, including:
  - a. Actual VOC emissions for:
    - i. The calendar year, in tons; and
    - ii. A typical high ozone season day during that calendar year, in pounds per day; and
  - b. The emission factors and the origin of the emission factors used to calculate the VOC emissions
4. Maintain records of Method 24 analysis or prima facie evidence for new coatings for purpose of demonstrating compliance with VOC RACT requirements.

According to Mr. Wenger, when coatings or solvents are removed from the storage room, the amount of solvent/coating and type of solvent/coating is logged into Kalwall's inventory management system. On a monthly basis, a report is prepared and given to Mr. Wenger totaling the quantity of coating and solvents used that month.

DES reviewed prima facie calculations for four coatings reported in the 2008 annual emission report and five coatings reported in the 2009 annual emission report. Based on a cursory review,

the calculations appeared to be correct.

DES determined that Kalwall is meeting the requirements of this part.

### **Part Env-A 904.03 – VOC Recordkeeping for Surface Coating and Printing Operations**

Kalwall is required to maintain the following records for each coating operation identified in TV-OP-046:

1. Coating formulation and analytical data, as follows:
  - a. Supplier;
  - b. Name and color;
  - c. Type;
  - d. Identification number;
  - e. Density described as lb/gal;
  - f. Total volatile content described as weight percent;
  - g. Water content described as weight percent;
  - h. Exempt solvent content described as weight percent;
  - i. VOC content described as volume percent;
  - j. Solids content described as volume percent;
  - k. Diluent name and identification number;
  - l. Diluent solvent density described in lb/gal;
  - m. Diluent VOC content described as weight percent;
  - n. Diluent exempt solvent content described as weight percent;
  - o. Volume of diluent VOC described as gal; and
  - p. Diluent/solvent ratio described as gal diluent solvent/gal coating.
2. The number of gallons of each coating, including solvents and diluents, utilized during a typical high ozone season day; and
3. Process information for a typical high ozone season day including:
  - a. Method of application;
  - b. Number of coats;
  - c. Drying method; and
  - d. Substrate type and form.

According to Mr. Wenger, when coatings or solvents are removed from the storage room, the amount of solvent/coating and type of solvent/coating is logged into Kalwall's inventory management system. On a monthly basis, a report is prepared and given to Mr. Wenger totaling the quantity of coating and solvents used that month.

According to Mr. Wenger, Kalwall has completed prima facie calculations for coatings used. Also, for coatings that Kalwall considers standard coatings, Method 24 analysis has been completed.

DES determined that Kalwall is meeting the requirements of this part.

### **Part Env-A 905 – NO<sub>x</sub> Emission Statements Recordkeeping Requirements** (Eff. 4/23/99, Formerly Env-A 901.08, Eff. 11/15/92)

Kalwall does not have the potential to emit more than 10 tons per year of NO<sub>x</sub>. Therefore, this part is not applicable.

#### **Part Env-A 906 – Additional Recordkeeping Requirements**

Kalwall is required to maintain a 12-month running total record of process and facility-wide emissions of VOC and HAPs, including emissions from non-permitted devices, to demonstrate that emissions of these pollutants are below the process-specific and facility-wide emission thresholds.

Kalwall uses monthly inventory and production reports to determine the amount of VOC emitted monthly. The monthly amount of VOC emitted is used to determine the 12-month running total of process and facility-wide emissions. This is reported in Kalwall's annual emission reports.

DES determined that Kalwall is meeting the requirements of this part.

#### **Part Env-A 907 – General Reporting Requirements**

Kalwall reports the information required as specified in Table 7, Item 2. of TV-OP-046 in its annual emission reports.

DES determined that Kalwall is meeting the requirements of this part.

#### **Part Env-A 908 – VOC Emission Statements Reporting Requirements**

Kalwall emits more than 10 tons per year of VOCs. Therefore, the facility is required to report annually all the information specified in Table 7, Item 1. of TV-OP-046.

Kalwall reports information as required by Table 7, Item 1. in its annual emission reports.

#### **Part Env-A 911 – Recordkeeping and Reporting Requirements for Permit Deviations**

Kalwall is aware of the recordkeeping and reporting requirements for Permit Deviations and reported three deviations for the 2008-2009 reporting period. The written reports have been submitted within the timeframe required in TV-OP-046 and FP-T-0142. However, DES has not consistently received the initial notification within 24 hours as required for permit deviations. Both permits require that Kalwall notify DES by telephone, fax, or email within 24 hours of discovery of the permit deviation. See Section XXVIII. of TV-OP-046 and Section IX. of FP-T-0142.

***As required, Kalwall has not consistently notified DES within 24 hours of discovery of a permit deviation.***

**IX. Compliance with Reasonably Available Control Technology (“RACT”)**

**CHAPTER Env-A 1200 – Prevention, Abatement, and Control of Stationary Source Air Pollution**

Part Env-A 1204 - Stationary Sources of VOCs

Kalwall has the potential to emit more than 50 tons of VOCs annually, and therefore, is subject to Env-A 1204 and were issued VOC RACT Order ARD-99-001 on June 25, 1999. This order, containing requirements from Env-A 1204, has been incorporated into Title V Permit TV-OP-046.

Based review of records submitted in 2008 and 2009 to DES and records provided to DES during the inspection, Kalwall meets the VOC RACT Order requirements for coatings used in the IBSS, KWS and KCRF process.

Kalwall has used a “wash primer” in its KCRF process. The “wash primer” is a non-compliant VOC coating. During 2008 and 2009, Kalwall did not use the “wash primer”. Therefore, it did not need to use DERs and file letters of intent.

Kalwall is required to use Best Work-practices Standards in the use of MEK (methyl ethyl ketone) for the wipe down of metal substrate and other ancillary operations. During the inspection, both bench cans for wipe down rags and closed containers for contaminated wipe down rags were observed in the clean up area.

Part Env-A 1211 - Nitrogen Oxides

Kalwall does not have the potential to emit NO<sub>x</sub> equaling or exceeding 50 tons during any consecutive 12-month period. Therefore, Env-A 1211 is not applicable to the facility.

**X. Compliance with Toxics Regulations**

**CHAPTER Env-A 1400 – Regulated Toxic Air Pollutants (“RTAPs”)**

Kalwall emits compounds on the list of RTAPs in Table 1450-1 of Env-A 1400. Dated July 2, 2010, GZA GeoEnvironmental completed a RTAP compliance demonstration for Kalwall.

During a review of MSDS, DES noticed that several of the coatings contain silica as quartz (CAS# 14808-60-7), an RTAP. Upon review of the 2010 RTAP compliance demonstration, it did not appear that silica was mentioned. In correspondence between Kalwall and DES dated November 19, 1999 and December 9, 1999, Kalwall acknowledged that the RTAPs aluminum dust, carbon black, ethanol, phosphoric acid, silica, titanium dioxide and dibutyltin dilaurate were in coatings used in the KWS and KCRF process at that time. These RTAPs were assumed not to be emitted since they are integral to the coatings and both processes have filters to control overspray; therefore, their emissions were not modeled. Kalwall must mention the fate of all

RTAPs present in the coatings used, even those RTAPs such as silica that are presumed not to be emitted, in the facility's RTAP compliance demonstration.

Emissions from the aluminum cutting and welding operations are treated and released to the interior work area. Therefore, they do not need to be accounted for in the RTAPs demonstration.

Ambient air dispersion modeling was conducted in June 2001 to determine the facility's compliance with Env-A 1400. The modeling demonstrated that the facility is in compliance with this part. The 2010 RTAP compliance demonstration showed compliance with the AALs through modeling for the compounds examined.

*Kalwall must revise the facility's RTAP compliance demonstration so that it indicates the fate of all RTAPs in its coatings.*

## **XI. Compliance with Process/Particulate/Opacity Regulations**

### **CHAPTER Env-A 1600 - Fuel Specifications**

#### **Env-A 1603.01 – Applicable Liquid Fuels**

Kalwall uses #2 or #4 fuel oil in its fuel burning devices.

#### **Env-A 1603.02 – Applicable Gaseous Fuels**

Kalwall uses natural gas or propane in its fuel burning devices.

#### **Env-A 1604.01 – Maximum Sulfur Content Allowable in Liquid Fuels**

Env-A 1604.01 limits the sulfur content of the #2 fuel oil used in the oil-fired boiler to 0.4% sulfur by weight (#2 fuel oil). Env-A 1604.01 limits the sulfur content of the #4 fuel oil used in the oil-fired boiler to 1.00% sulfur by weight (#4 fuel oil). Kalwall provided written verification of the sulfur content for both the #2 and #4 fuel oil being used.

#### **Env-A 1605.01 – Maximum Sulfur Content Allowable in Gaseous Fuels**

Kalwall receives propane deliveries from Eastern Propane Co. Kalwall acquired a copy of the test results for the sulfur content for the propane received which indicates that the propane contains sulfur at levels below the regulatory limits.

Kalwall receives natural gas deliveries from National Grid. The sulfur content of pipeline natural gas has been previously established to meet the regulatory limits.

## **CHAPTER Env-A 2000 - Fuel Burning Devices**

### **Part Env-A 2002.02 – Visible Emission Standard for Fuel Burning Devices Installed After May 13, 1970** (eff. 4/23/05; formerly Env-A 2003.02, eff. 5/1/97)

For this facility, Env-A 2002.02 limits the emissions from fuel burning devices to 20% opacity.

## **CHAPTER Env-A 2100 – Particulate Matter and Visible Emissions Standards** (eff. 11/24/04; formerly Process, Manufacturing, and Service-Based Industries, eff. 1/18/97)

### **Env-A 2103.02 – Visible Emission Standards** (eff. 11/12/04; formerly Env-A 2107.01, eff. 1/18/97)

Except for fuel burning devices, this facility is subject to Env-A 2103.02, which limits visible emissions to 20% opacity. During the inspection, opacity was determined to be less than 5 %.

## **XI. Compliance with other Miscellaneous Provisions**

### **CHAPTER Env-A 3100 –Discreet Emission Reduction (“DER”) Trading Program**

Kalwall participates in this program which relates to VOC emission trading through the use of DERs. For 2008 and 2009, no letters of intent were filed. Previously Kalwall has used a “wash primer” in its KCRF process. The “wash primer” did not meet the VOC RACT limits, so Kalwall would purchase DERs to offset the VOCs emitted. During 2008 and 2009, Kalwall did not use the “wash primer”. Therefore, it did not need to use DERs and file letters of intent.

## **XII. Compliance With Applicable Federal Rules**

### **40 CFR 70.6 (a)(3) Permit Content, Monitoring, Record Keeping, and Reporting Requirements**

The Full Compliance Evaluation Records Review is included in Appendix A to this report. The appendix lists all the reports that were received and reviewed in order to complete this compliance evaluation. The records review attachment includes a determination of each report’s timeliness with regard to the required submittal date, and if the report was acceptable in terms of its content.

As discussed in Part Env-911, Kalwall has not consistently notified DES within 24 hours of discovery of a permit deviation.

Otherwise, Kalwall is meeting the requirements of 40 CFR 70.6 (a)(3).

### **XIII. Enforcement History and Status**

For the inspection period of 2008 through 2009, there are no past or ongoing enforcement actions against Kalwall.

### **XIV. Conclusions & Recommendations**

The following deficiencies were identified during the inspection:

- As required, Kalwall has not consistently notified DES within 24 hours of discovery of a permit deviation.
- Kalwall must revise and submit a RTAP demonstration that indicates the fate of all the RTAPs in the facility's coatings.

The following is recommended to return the facility to compliance:

As required in Section XXVIII of TV-OP-046 and Section IX of FP-T-0142, Kalwall shall report to DES all instances of deviations from Permit requirements, by telephone (603-271-1370), fax (603-271-1381) or e-mail (pdeviations@des.nh.gov), within 24 hours of such deviation. Kalwall must implement this immediately to return to compliance.

As required in Section VIII Table 3.4 of TV-OP-046 and Section VII of FP-T-0142, Kalwall shall demonstrate compliance with **all** ambient air limits established in Env-A 1400. Kalwall shall revise the RTAP compliance demonstration dated July 2, 2010 to indicate the fate of all RTAPs (e.g., silica as quartz) used in its process, and submit the complete demonstration to DES by October 15, 2010.

Attachments: Appendix A - Full Compliance Evaluation Records Review  
Appendix B – Insignificant Activity Identification

## **Appendix A**

### **Full Compliance Evaluation Records Review**

**Facility:** Kalwall Corporation – Panel and Accessories Division  
**Date of FCE:** July 28, 2010  
**Reviewer:** Margaret Bastien

Annual Emission Reports (incl. NOx, VOC etc.):

Reporting Period	When Rec'd	Report OK	In Database
2009	04/09/2010	Yes	Yes
2008	04/14/2009	Yes	Yes

Annual Emissions-Based Fee Payments:

Reporting Period	When Rec'd	In Database
2009	04/09/2010	Yes, in DES Emission Section's Spreadsheet
2008	04/14/2009	Yes, in DES Emission Section's Spreadsheet

TV Annual Compliance Certifications:

Reporting Period	When Rec'd	Report OK	In Database
2009	04/09/2010	Yes	Yes
2008	04/14/2009	Yes	Yes

TV Semi-Annual Permit Deviation and Monitoring Reports:

Reporting Period	When Rec'd	Report OK	In Database
Jan. – June 2010	07/26/2010	Yes	Yes
July – Dec. 2009	01/22/2010	Yes	Yes
Jan. – June 2009	07/24/2009	Yes	Yes
July – Dec. 2008	01/29/2009	Yes	Yes
Jan. – June 2008	07/18/2009	Yes	Yes

Individual Permit Deviations Reports:

Reporting Period	When Rec'd	Report OK	In Database
2009	12/09/2009	Yes, <b>No 24-hr notice</b>	Yes
2008	07/11/2008	Yes	Yes
	05/06/2008	Yes, <b>No. 24-hr notice</b>	Yes

Quarterly Continuous Emission Monitoring Excess Emission Reports (CEM EERs):  
 Not applicable

CEM Audits (OPAs, CGAs, RAAs, RATAs): Not applicable

Stack Tests: Not applicable

Other reports: Not applicable

## Appendix B

Appendix B – Insignificant Activity Identification		
Insignificant Activity Number	Description of Insignificant and Minor-Core Related Activity	Emissions Unit Maximum Design Capacity or Emission Rate
IA1	Area Space Heater (LPG)	3.338 MMbtu
IA2	Area Space Heater (LPG)	3.333 MMbtu
IA3	Area Space Heater (LPG)	2.475 MMbtu
IA4	Area Space Heater (LPG)	0.500 MMbtu
IA5	Customer Sample Preparation	Accounted for in KWS, KCRF and IBSS processes
IA6	Jackson Church Furnace (#2 Fuel Oil)	<b>1.875 MMbtu</b>
IA7	HB Smith Boiler (#4 Fuel Oil)	3.9 MMbtu
IA8	Jackson Church Furnace (#2 Fuel Oil)	0.937 MMbtu
IA9	Jackson Church Furnace (Natural Gas)	0.625 MMbtu
IA10	Process Burner (LPG)	<b>0.800 MMbtu</b>
IA11	Process Burner (LPG)	<b>0.800 MMbtu</b>
IA12	Process Burner (LPG)	<b>0.800 MMbtu</b>
IA13	Process Burner (LPG)	<b>0.500 MMbtu</b>
IA14	Solvent Reclamation Devices	Accounted for in KWS, KCRF, Ancillary processes
IA15	Utica Process Boiler (LPG)	0.15 Btu
IA16	Weather-Sealant prepared and shipped off-site	*
IA17	Aluminum prep wash tank	250 lbs
IA18	Production welding	300 lbs
IA19	Ink for labeling aluminum extrusions	100 lbs
IA20	Laboratory exhaust hood and stacks	Accounted for in KWS, KCFR, IBAA Ancillary processes
IA21	Temperature Indicating Liquid	<b>100 lbs</b>
IA22	Transferring of coatings, etc. in chemical storage area	*
IA23	Process Burner	0.25 MMbtu
IA24	Process Burner	0.25 MMbtu
	Post Cure Oven	1.5 MMbtu

\* This is a transfer process and assumes negligible emissions during transfer.