



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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COMMONWEALTH OF VIRGINIA Department of Environmental Quality Southwest Regional Office

SIGNIFICANT MODIFICATION STATEMENT OF LEGAL AND FACTUAL BASIS

Consolidated Glass & Mirror Corporation

Plant No. 1

305 Lineberry Road, Galax, Virginia

Permit No. SWRO11015

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Consolidated Glass & Mirror Corporation has applied for a significant modification to the Title V Operating Permit for its Plant No. 1 facility located at 305 Lineberry Road in Galax, Virginia. The Department has reviewed the application and has prepared a significant modification to the Title V Operating Permit.

Permit Contact: _____ Date: _____

Robert A. Lowe
(276) 676-4863

Air Permit Manager: _____ Date: _____

Rob Feagins

Regional Director: _____ Date: _____

Allen J. Newman, P.E.

FACILITY INFORMATION

Permittee

Consolidated Glass & Mirror Corporation
Plant No. 1
305 Lineberry Road
Galax, VA, 24333
NET Facility ID No. 51-640-00060

SOURCE DESCRIPTION

NAICS 327215 – Glass Product Manufacturing Made of Purchased Glass (SIC 3231)

Consolidated Glass & Mirror Corporation (CG&M) manufactures mirrors and laminated glass products at their Plant No. 1 facility located at 305 Lineberry Road, in Galax, Virginia. The facility has two mirror manufacturing lines – one that produces mirrors with multiple layers of protective coatings on the back, and a former single-coat production line that is now used for testing purposes.

In the mirror manufacturing process, large sheets of glass (typically 7.5' × 10') are loaded onto the silver line where they are transformed into mirrors on a continuous conveyor system. The glass sheets are first cleaned by automated rotating brushes and tap water. The surface of the glass is lightly etched with cerium oxide and rinsed with deionized water. The cerium oxide roughens the surface of the glass and improves chemical adhesion. A tin sensitizer solution is applied just prior to the silver solution to chemically bond the reflective silver to the glass. A copper solution is then applied to improve the adhesion of the mirror backing paint (applied in a later step) to the reflective coating surface. The mirrors are again rinsed with deionized water and then heated in an electric oven. The mirrors then pass through a continuously flowing curtain of paint at the curtain coater. This backing paint is applied over the reflective metals to protect them from environmental conditions (moisture). The viscosity of the backing paint is constantly monitored and additional solvent is added as needed. The mirror backing paint application process is responsible for the majority of the VOC emissions from the facility.

The multi-coat line consists of three sets of curtain coaters and drying ovens in series that can be used to apply three different coatings to the backs of the mirrors. After a coating is applied in the first curtain coater, a conveyor moves the mirrors through a set of ovens that dry the paint before the mirrors enter the next curtain coater. The VOC emissions from the multi-coat line are controlled by a single regenerative thermal oxidation (RTO) unit.

The Plant 1 facility is a Title V major source of allowable VOC emissions. This source is located in an attainment area for all criteria pollutants. The facility is permitted under a minor NSR (Article 6) permit dated May 2, 2014.

COMPLIANCE STATUS

The facility is inspected at least once every two years. The source was issued a Notice of Violation (NOV) on 8/13/14 for failure to update their Title V permit to include NSR permit changes in 2013. The Consent Order was signed by Consolidated Glass & Mirror (CG&M) on

11/24/14. The application to correct the violation was received on 12/16/14. The closure letter was sent to CG&M on 1/5/15 stating that all requirements of the enforcement action had been met.

EMISSION UNIT AND OPERATIONAL LIMITATION CHANGES

There are emission unit and operational limitation changes associated with this significant modification to the federal operating permit.

EMISSIONS INVENTORY

The 2013 annual emissions are summarized in the following table:

All Emission Units	2013 Criteria Pollutant Emissions (Tons/Year)				
	VOC	CO	SO ₂	PM ₁₀	NO _x
	1.96	0.05	0.02	0.03	0.18

EMISSION UNIT APPLICABLE REQUIREMENTS

The changes to the federal operating permit involve emission unit and operational limitations for the operating equipment as discussed below.

Changes to the Emission Unit and Operational Limitations

1. The following coatings were added to Condition VII.A.1 of the Title V permit for Emission Unit ID No. 4 (Curtain Coater Lines 2, 3, and 4), Condition 6 of NSR Permit dated May 2, 2014:
 - a. Fenzi Sandolux 1456 White 1
 - b. Fenzi Sandolux 1407 Classic
 - c. Fenzi One Coat LLE Blue GD (22434)
 - d. Valspar Mirror Base Coat Reddish Leadfree (GMB3-01080-01)
 - e. Valspar Mirror Base Coat Reddish Leaded (GMB3-01445-01)
 - f. Valspar Mirror Base Coat Reddish Leaded (GMB3-03275-01)
2. Increase the allowable hourly consumption limit on the multi-coat line (Emission Unit ID No. 4) from 360.3 lbs/hr to 409.8 lbs/hr, Condition VII.A.1 of the Title V permit (Condition 6 of NSR Permit dated May 2, 2014).
3. Increase the allowable VOC emissions from the multi-coat line (Emission Unit ID No. 4) from 23.05 lbs/hr and 60.76 tons/yr to 33.14 lbs/hr and 78.99 tons/yr, Condition VII.A.2 of the Title V permit (Condition 12 of NSR Permit dated May 2, 2014).
4. Include the VOC emissions limit for the n-propanol cleaning solvent use for Curtain Coater Line 1 (150 lbs/hr and 5.00 tons/yr) from Condition 13 of NSR Permit dated May 2, 2014 (Condition VII.A.8 of the Title V permit).

5. Remove the initial testing requirement for the RTO (Condition VII.D.1 of the current Title V permit.

Testing:

There are no new testing requirements.

State-Only Applicable Requirements:

There are no new state-only applicable requirements.

INAPPLICABLE REQUIREMENTS

No new inapplicable requirements have been identified since the previous federal operating permit was issued.

INSIGNIFICANT EMISSION UNITS

No new insignificant emissions units have been added to the facility since the previous federal operating permit was issued.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V significant modification application are available for public review.

PUBLIC PARTICIPATION

A public notice appeared in The Galax Gazette on April 22, 2015 announcing a 30-day public comment period for the significant modification to the Title V permit. Notice was also provided to North Carolina, Tennessee, and West Virginia as affected states. No comments or requests for a hearing were received.

The EPA concurrent review of the proposed permit began on April 22, 2015, and ended on May 22, 2015. EPA had no comments on the proposed permit document.