

Georgia Department of Natural Resources

Environmental Protection Division • Air Protection Branch

4244 International Parkway • Suite 120 • Atlanta • Georgia 30354

404/363-7000 • Fax: 404/363-7100

Judson H. Turner, Director

NARRATIVE

TO: Hamid Yavari

FROM: Wei-Wei Qiu

DATE: May 31, 2016

Facility Name: **Vanguard National Trailer, Inc.**
AIRS No.: 083-00015
Location: Trenton, Georgia (Dade County)
Application #: 23752
Date of Application: March 23, 2016

Background Information

On March 28, 2016, Vanguard National Trailer, Inc. submitted Air Permit Application No. 23752 for the construction and operation of a new truck trailer manufacturing facility to be located at 8 Vanguard Drive, Trenton, Dade County, Georgia. On April 5, 2016, Application No. 23752 was accepted into EPD's Expedited Permitting Program. Dade County is an attainment area with all National Ambient Air Quality Standards (NAAQS).

The facility's operations will consist primarily of touch-up painting of pre-assembled trailer undersides, along with small amounts of miscellaneous painting and welding for maintenance and repair. The facility will have the potential to manufacture up to 19,909 trailers if in operation for 8,760 hours per year. However, anticipated production will be around 10,000 trailers per year.

Emissions Summary

Emissions of concern at this facility are VOC and particulate matters (PM) from a paint booth (Emission Unit ID. No. EU1) where VOC and solid-containing coatings will be spray applied on to undersides of trailers. The paint booth is equipped with fabric filters to reduce PM emissions from overspray by more than 99%. However, 100% of VOC contained in the coatings being applied are assumed to be released into the atmosphere. Other minor VOC emission sources include solvent cleaning, adhesives, sealers and other non-coating materials.

Facility-wide PM emissions (E_{PM}) were estimated based on those from the paint booth served by fabric filters, assuming an exhaust PM concentration of 0.04 grains per dry standard cubic foot of exhaust air, as specified by the *Procedure to Calculate a Facility's "Potential to Emit" and to Determine Its Classification* developed by the Division on August 26, 2008.

$$E_{PM} = [(0.04 \text{ gr./cf})/(7000 \text{ gr./lb})](28,784 \text{ cfm})(60 \text{ min/hr})(8760 \text{ hr/yr})/(2000 \text{ lb/ton})/\text{yr} = 43.22 \text{ tons per year}$$

This estimation is conservative because typical outlet PM concentrations of fabric filters range between 0.001 to 0.01 gr./dscf.¹

¹ U.S. EPA. Handbook: Control Technologies for Hazardous Air Pollutants. EPA/625/6-91/014. June 1991.

HAP emission data were provided by the application and proportional to the VOC emissions because almost all the VOC and HAP emissions were from the use of coatings.

Facility-Wide Emissions
(in tons per year/tpy)

Pollutant	Actual Emissions	Potential Emissions
PM/PM ₁₀ /PM _{2.5} ^[1]	19.74	43.22
NO _x	n/a	n/a
SO ₂	n/a	n/a
CO	n/a	n/a
VOC ^[2]	45.8	91.19
Max. Individual HAP ^[3]	0.10	0.21
Total HAP ^[4]	0.10	0.21
Total GHG (if applicable)	n/a	n/a

^[1] Assuming emissions of PM, PM₁₀ and PM_{2.5} were equal to each other. Actual PM emissions were based on 4000-hour annual operating time. The company estimated potential PM/PM₁₀/PM_{2.5} emissions at 1.22 tpy, based on 25% overspray, 99.5% of fiter control efficiency, and potential annul coating usage.

^[2] Potential VOC emissions were estimated based on 19,909 trailers per year; actual VOC emissions were estimated based on 10,000 trailers per year.

^[3,4] Methyl Methacrylate (CAS No. 80-62-6) is the only HAP with the maximum potential emissions of 0.21 tpy; Actual emissions were estimated based on 10,000 trailers per year.

Regulatory Applicability & Permit Conditions

Potential emissions of all regulated air pollutants from this facility were estimated below corresponding major source thresholds under pertinent state and federal rules/standards. Therefore, this facility is a minor emission source with regard to those rules/standards. As a minor source for VOC and HAP emissions and located outside the 12-county Atlanta ozone non-attainment area, this facility will not be subject to the follow rules/standards:

- Georgia Rule 391-3-1-.02(2)(ii), “*VOC Emissions from Surface Coating of Miscellaneous Metal Parts*”;
- 40 CFR Part 63, Subpart M, “*National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products*”;
- 40 CFR Part 70, i.e. Title V rules;
- 40 CFR Part 52.21, “*Prevention of Significant Deterioration of Air Quality*”.

In addition, this facility is not subject to Georgia Rule 391-3-1-.02(2)(t), “*VOC Emissions from Automobile and Light-Duty Truck Manufacturing*” because trailers do not meet the definition of either “automobiles” or “light-duty trucks” under Rule (t).

The record keeping and emission determination requirements in Conditions 7.3 and 7.4 allow the continuous monitoring and confirming of the facility’s minor source status. The Permittee shall use mass balance to calculate monthly total of the facility-wide VOC emissions, assuming that 100% of the VOC contained in coatings, adhesives, sealers, solvents and other chemicals consumed are emitted into the atmosphere, unless these materials are disposed as wastes in accordance with Condition 7.2. Since estimated potential HAP emissions were substantially below the

major source thresholds of 10/25 tons per year, no monthly HAP emission determination is necessary. The operating and inspection requirements in Condition 3.2 will minimize the VOC and/or HAP emissions from cleaning process if applicable, further ensuring the compliance with the facility-wide VOC and HAP emission limits.

The PM and visible emissions from the paint booth due to coating overspray will be subject respectively to the applicable PM and opacity limits under Georgia Rule 391-3-1-.02(2)(e), "*Particulate Emissions from Manufacturing Processes*" and Georgia Rule 391-3-1-.02(2)(b), "*Visible Emissions*". These limits are incorporated into Conditions 2.1 and 2.2. The facility is expected to comply with these limits, provided that the paint booth is served by functional fabric filters all time when it is in operation, as required by Condition 4.3. Condition 5.1 requires the Permittee to monitor the pressure drop of the paint booth fabric filter(s) daily, and to replace the filter(s) as required by Condition 4.3 when the pressure drop observed drifts outside the normal range due to either filter leakage or blockage (pressure drop too low or too high). Maintenance requirements in Conditions 4.1 and 4.2 further ensure the proper function of paint booth filters, and consequently the compliance with the applicable emission limits in Rules (b) and (e).

The facility is subject to Georgia Rule 391-3-1-.02(2)(n), "*Fugitive Dust*". Condition 3.1 requires the Permittee to take all reasonable precautions with any operation, process, handling, transportation, or storage facilities to prevent such emissions. Since the manufacturing process at this facility is essentially an indoor operation, the facility is expected to comply with Rule (n).

This facility will not use methylene chloride (MeCl) or any MeCl-containing solvents in paint stripping operations, or spray-apply coatings containing any target HAPs (chromium, cadmium, lead, manganese, and nickel) to miscellaneous metal parts using hand-held coating atomizing devices/applicators. Therefore, this facility is not subject to 40 CFR Part 63, Subpart HHHHHH, "*National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*". The facility has notified EPD via the permit application that it is not subject to Subpart HHHHHH. Conditions 2.3 and 2.4 serve as avoidance conditions for Subpart HHHHHH. The facility will continue to monitor all materials used at the facility as required by Conditions 7.5 and 7.6 to ensure compliance with the exemption criteria.

Condition 8.3 allows the establishment of the time frame required for monitoring, testing, maintenance, record keeping and/or compliance demonstration.

Toxic Impact Assessment

Toxic Impact Assessment (TIA) was conducted for the facility using SCREEN3 dispersion model and a list of toxic air pollutants emitted and their potential emission rates included with the application No. 23752. The TIA followed the "*Guideline for Ambient Impact Assessment of Toxic Air Pollutant Emissions*" developed by the Division. In the modeling, it was assumed that all the toxic air pollutants involved were emitted from the paint booth stack. As indicated in attached spreadsheet printouts showing results of the SCREEN3 modeling, the maximum ground level concentrations of all the toxic air pollutants involved were below corresponding acceptable levels.

Summary & Recommendations

Vanguard National Trailer, Inc. submitted Air Quality Permit Application No. 23752 proposing to construct and operate a truck trailer manufacturing facility at this site. On April 5, 2016, Application No. 23752 was accepted into EPD's Expedited Permitting Program. Air Quality Permit No. 3715-083-0015-B-01-0 was proposed to allow the construction and operation of the facility. The proposed permit contains conditions to ensure compliance with applicable emission limits and conditions meeting requirements for exempt from 40 CFR Part 63, Subpart HHHHHH. This facility is located within Mountain District – Cartersville Office for the purposes of compliance responsibility and the submittal of reports.

I recommend the issuance of the permit No. 3715-083-0015-B-01-0 to accommodate the construction and operation of this trailer manufacturing facility. Public Advisory for the application No. 23752 expires on May 13, 2016.