

Statement of Basis
TCI of Alabama, LLC
410-0015

Introduction

On February 9, 2015, TCI of Alabama, LLC (TCI), submitted a Title V major source permit renewal application for the decommissioning of electrical transformers (SIC # 5093). TCI is located in Pell City, Alabama. TCI Industries' current Title V permit expired on September 4, 2015.

TCI receives electrical components such as transformers, capacitors, ballast, etc. and manually sorts these components into three categories: materials containing greater than 500 ppm of Polychlorinated Biphenyls (PCBs), materials containing less than 500 ppm but greater than 50 ppm of PCBs, and materials that contain less than 50 ppm PCBs.

After being manually sorted the oil is drained from the equipment and added to one of 14 storage tanks depending upon concentration. If the oil contains less than 2 ppm of PCBs, it is conveyed to one of two indoor storage tanks or one of four outdoor storage tanks. Oil containing more than 2 ppm but less than 50 ppm of PCBs may be stored in one of three indoor storage tanks or one of four outdoor tanks, or conveyed to a dechlorination unit. Once the oil is dechlorinated, it is stored in either one of the two indoor tanks or one of four outdoor tanks. Oil containing greater than 50 ppm is stored in one of the remaining indoor storage tanks. All stored oil is eventually transported off-site.

Solid materials which contain less than 50 ppm PCBs are either granulated in one of three cable strippers, washed or degreased, or the material may be sold as is. Waste material such as paper, insulation, etc. may contain PCBs or asbestos and is managed as a PCB or PCB/Asbestos contaminated material. Emissions from the decoiling, shearing and stripping operations are conveyed to a drop out box where the larger material is received from the air stream. Emissions from the drop box are conveyed to one of three filter systems in parallel. Each of these consists of an aluminum pre-filter, bag filter, and HEPA filter.

For some of the materials found with PCB a concentration level greater than 50 ppm but less than 500 ppm of PCBs and those with a level greater 500 ppm PCBs, copper components are separated and granulated, then degreased. Aluminum, steel, and brass are then separated and degreased.

Once each of these metals has been degreased they are each shipped separately to a smelter. Carcasses are washed or, if the concentration of PCBs is greater than 500 ppm, degreased and then sheared. Any miscellaneous metal is washed and segregated by grade. All metals are then shipped to a smelter after being separated and cleaned. Trash and debris is transported off-site to an EPA approved landfill.

During the perchloroethylene vapor degreasing operation, metal components are placed in a large metal basket contained within the unit and lowered into the vapors rising from the boiling solvent. Emissions are captured and sent to the carbon bed adsorption unit, which of two carbon beds. After the beds undergo steam recovery, the perchloroethylene is separated from the condensed steam and oils in a solvent recovery distillation process and is then reused in the degreasing unit.

TCI has a boiler that supplies steam to the process to desorb the CBA and heat water for use in washing processes. This boiler fires natural gas.

TCI also has many storage tanks for storing oil. Since these tanks are 20,000-gallon or less in capacity and the material being stored is below 1.0 psi vapor pressure, they are not subject to NSPS regulations or to the state's chapter 6 regulations.

The regulated air contaminants emitted into the atmosphere by the cleaning of metals are volatile organic compounds (VOC), which come from the organic solvents in the degreasing operations, and hazardous air pollutants (HAPs), as listed in Appendix G of the ADEM Air Regulations. There are also emissions from the incinerator and boiler.

The potential HAP emissions from the degreasing operation are higher than the Title III and Title V major source thresholds. The HAP emission thresholds for a major source are 10 tons per year for a single HAP and 25 per year tons for a combination of any HAPs. TCI has potential emissions of 19.94 tons per year of the HAP perchloroethylene, based on 8760 hours of operation per year. Actual emissions have been calculated to be 7.28 tons per year based on 3200 hours of operation per year. In 2009, TCI emitted 5.61 tons of perchloroethylene.

The degreaser is subject to the NESHAP for Halogenated Solvent Cleaning, 40 CFR Part 63 Subpart (T). This regulation requires TCI to limit emissions of the HAP perchloroethylene from the Carbon Bed Adsorber and to implement certain work practices and controls. Currently TCI is subject to the standards listed in 40 CFR 63.464, Alternative Standards, for the degreaser. 63.464(a)(1) requires TCI to maintain a log of solvent additions and deletions and to meet the emissions limits listed in Table 5 of the subpart. TCI's 3-

month rolling average solvent emission limit is 30.67 pounds per square foot of carbon per month.

TCI received a construction permit in April 2008 for a cable stripping operation and received Authorization to Operate the cable stripper in October 2009. This operation's emissions are mainly particulate emissions.

The United W-3000 wire reclaiming incinerator has been removed and the dry-cleaning operation has been replaced by an industrial aqueous washing machine which has negligible emissions. A letter stating that no permit was required for this operation was issued on February 27, 2009

The following is a list of all of the facility's sources (individual emissions units) which will be part of the facility's Title V Major Source Operating Permit:

Permit Unit No.	Description of Unit
002	TRANSFORMER WINDING PROCESSOR
003	TRANSFORMER DEGREASER
004	15.6 MMBTU/HR USED OIL/MINERAL OIL/NO. 2 FUEL OIL/NATURAL GAS BACKUP FUELED BOILER
006	CABLE SHEARING OPERATION

Monitoring of Emissions

DEGREASER EMISSIONS

Record-keeping of VOC and perchloroethylene usage will be used to monitor VOC and HAP emissions. Monthly recordkeeping is required by the MACT for compliance purposes. TCI is presently demonstrating compliance with the MACT by use of 40 CFR 63.464 alternative standards and 40 CFR 63.471 facility wide standards. 40 CFR 63.471 establishes a facility wide 12 month rolling total emissions limit of 10,582.2 lbs of perchloroethylene.

BOILERS & MISCELLANEOUS OPACITY

The 15.6 MMBTU/HR boiler will only burn natural gas. Due to the burning of natural gas, CO, NO_x and SO₂ generation is expected to be minimal and there are no limits or monitoring regulations for CO, NO_x and SO₂ will be required.

The boiler will be subject to ADEM Rules 335-3-4-.03, 335-3-4-.01, 335-3-10-.02, and NSPS Subpart Dc, specifically fuel usage record-keeping requirements. Daily visible observations are performed on the boiler stack. TCI has previously been in compliance with all monitoring and record keeping

requirements concerning the boiler. The boiler is also subject to 40 CFR 63 Subpart DDDDD, Industrial, Commercial, and Institutional Boilers and Process Heaters, which requires TCI to meet the work practice standards in Table 3 as required in 40 CFR 63.7540(a). These include an annual tune-up and submitting an annual compliance report.

CAM will not be applicable to this unit as the potential uncontrolled emissions are less than 100 tons per year per unit.

Affected States Notification

Standard practice is to notify all states bordering Alabama of the issuance of this major source operating permit.

Recommendations

Based on the applications received, required State and Federal Regulations, and the above information, I recommend that pending a public comment period and EPA review, Major Source Operating Permit 410-0015 be issued to TCI of Alabama, LLC.

July 30, 2019
John Robert Gill
Chemical Branch