

ENGINEERING ANALYSIS
AFCO Architectural Products
PELL CITY, ALABAMA
Facility No. 410-0030

On March 30, 2018, the Department received applications from AFCO Architectural Products to change its Major Source Operating Permit to a Synthetic Minor Operating Permit. AFCO currently operates under a Title V Major Source Operating Permit for their fiberglass facility in Pell City, AL. AFCO manufactures columns using centrifugal casting.

OPERATION:

AFCO operates a maximum of 30 closed mold-spinning machines and two large diameter column molders for the casting of composite architectural columns. Raw materials such as calcium carbonate, polyester resin, ceramic zeospheres and catalyst are utilized in the process. The polyester resin is received via tanker truck and stored in two 6000 gallon above ground storage tanks. Other raw materials are received in bulk and are stored undercover in the warehouse. There are four mixer tanks used for the mixing of raw material prior to the catalyst (MEKP) being added for the pouring of the mix into closed molds for casting. The raw material mixtures are composed of calcium carbonate 63%, polyester resin 30%, ceramic zeospheres 5% and a catalyst 2%. The fiberglass column is cured while spinning at 250 rpm. Once spinning and curing are completed, the column is ready to be sanded and boxed for placement in the warehouse. Approximately 2,500,000 lb/yr of polyester resin is used annually for the production of fiberglass columns.

EMISSIONS:

Pollutants	Potential (tpy)	Actual (tpy)
Styrene	9.08	2.16
VOC	9.27	2.20
Combined HAPs	9.27	2.20
PM-10	7.96	1.89

Potential Emissions are based on operating 8760 hours a year.

Actual Emissions are based on operating 2080 hours a year.

Other emissions from this facility are negligible.

PSD:

The operations are not in one of the 28 categories listed in 335-3-14-.04(2)(a). Therefore, since the potential emissions of all regulated NSR pollutants from this operation would remain below the major source threshold of 250 tons per year, the operation is considered a minor source with respect to PSD and a PSD review would not be required.

NSPS/NESHAP:

There are no New Source Performance Standards (NSPS) applicable to this facility. AFCO is currently operating under the National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production as listed under 40 CFR 63, Subpart WWW (RPC MACT). However, the facility's combined potential emissions from centrifugal casting and open molding operations are less than 10 tons per year for all

individual HAPs and less than 25 tons per year for all HAPs combined; therefore, there are no National Emissions Standards for Hazardous Air Pollutants (NESHAP), as listed in 40 CFR Parts 61 and 63, that are applicable to the facility. AFCO would be required to continue operations under these limits.

Coastal Consistency/Class I:

AFCO is not located in Mobile or Baldwin County. Therefore this facility would not have to undergo a Coastal Consistency Review. The proposed operation is also located further than 100 km from the nearest Class I Area (Sipsey Wilderness Area). Since the emissions from this facility are below levels considered significant for PSD, there should not be any significant impact on any Class I area.

Air Toxics:

All emissions from the facility are fugitive therefore, an Air Toxics Review would not be required.

Title V:

The entire facility is currently operating under the Title V permitting program. However, because the facility's potential emissions are limited to less than 10 tons per year of a single HAP, less than 25 tons per year of all combined HAPs, and less than 100 tons per year of VOCs, AFCO should not be required to maintain a Title V permit.

Recommendations:

Based on the above information, I recommend that, pending the public comment period, AFCO Architectural Products be issued Synthetic Minor Operating Permits 410-0030-X001 and X002 for its fiberglass columns manufacturing.

John Robert Gill
Chemical Branch
Air Division

April 9, 2019
Date

JRG/jrg