

Statement of Basis Knud Nielsen Company, Inc. (Production of
Decorative Flowers & Plants Processes)

Major Source of Hazardous Air Pollutant Emissions

Introduction

On July 10, 2019, Knud Nielsen Company, Inc., (KN), submitted a Title V major source renewal permit application for the Production of Decorative Flowers & Plants (SIC # 3999). KN is located in Evergreen, Alabama. KN has several facilities in and around Evergreen. They have facilities located at Wild Avenue, Saffire Road, Dr. MLK Drive, Park Street, and Industrial Park Road. KN wishes to permit all these locations as one facility to aid in the recordkeeping for usage of VOC containing materials and other pollutants of concern.

Before receiving their Title V Permit, only the Wild Avenue site was permitted. This facility has a synthetic minor permit for PSD purposes to limit its potential below 250 tons per year for VOC emissions. The locations listed above are non-contiguous and are considered different facilities for PSD applicability. Each of these other locations do not presently have the potential to emit more than 250 tons per year of any criteria pollutant.

Plants and flowers from around the world are treated with methyl bromide to kill any insects upon arriving at KN. The plants are then dried/preserved and painted.

The regulated criteria air contaminants emitted into the atmosphere by the surface coating of the plants are volatile organic compounds (VOC), which come from the organic solvents in the paint, paint thinners, and cleanup solvents. The operations are also a source of hazardous air pollutants (HAPs) as listed in Appendix G of the ADEM Air Regulations.

Wild Avenue Facility

The manufacturing operation at this location includes several diverse operations. The Metallic Dip Operation (0001) consists of a conveyor line on which plants are placed after being dipped in a dip tank filled with metallic paint. The plants then go to gas fired dryer No. 3. Toluene is added to the metallic paint as needed. The Stain Concentrate Operation (0002) consists of a conveyor line on which

plants are placed after being dipped in a dip tank filled with stain paint along with several solvents. The plants then go to gas fired dryer No. 4. Toluene is added to the stain paint as needed. The Pine Cone Tipping Operation (0003) consists of pine cones being dipped in a dip tank and then run through a tipping machine that paints the tips a different color. The pine cones are then placed in dryer No. 2. This operation usually runs from November to January. The Scented Pine Cone operation was done previously at the Down Town Complex, but is now being done at this location. This operation does not currently use scents with VOCs; however, KN may change this in the future. To leave this possibility open, this previously permitted operation will be included in this permit at the Wild Avenue location. There are two Methyl Bromide Fumigation Chambers (0005) located at Wild Avenue (as well as one at Cary Street). Certain domestic and imported flowers are placed in these chambers. They are fumigated with fifteen pounds of methyl bromide until saturated and then exposed for a period of time. The chamber is then exhausted to the atmosphere and then the flowers are removed to be further processed. Wild Avenue also has a 3,500 Gallon Toluene Storage Tank (0006) used to supply the above mentioned processes. It is not used currently.

Dr. MLK Drive Facility (Down Town Complex)

The manufacturing operation at this location includes several diverse operations. There is a desiccant area with two dehydrators that dry flowers. The Paint Line No. 1 (0101) consists of a conveyor line on which plants are placed after being dipped in a dip tank filled with water reducible paint and a centrifuge. After going through a glitter booth, the plants then go to a gas fired dryer No. 5. The Dyeing and Preservation of Plant Production (0102) consists of plants being soaked in vats of triethylene glycol and glycerin. Fugitive emissions occur from these vats. The plants then go to a gas fired dryer. There is a Methyl Bromide Fumigation Chamber (0103) located at this location as well. Certain domestic and imported flowers are placed in these chambers. They are fumigated with methyl bromide until saturated and then exposed for a period of time. The chamber is then exhausted to the atmosphere, and then the flowers are removed to be further processed. This chamber is not currently in use, but KN will retain it in the permit for possible future use. The Sealing Sliced Fruit Operation (0104) is no longer being conducted here and will be removed from the permit. The Scented Pine Cone Operation (0105) is no longer being conducted here, but is conducted at Wild Avenue. There is a 4.184 MMBTU/HR Cleaver Brooks (100 hp) natural gas

boiler here that heats process water. There are a total of 7 natural gas fired dryers here that heat to 175 °F and 2 air dryers.

Across the street at the Oak Plant, there are several operations. The Oak Plant Spray Painting (0151) consists of the oak leaves going through a 5% caustic solution to remove the chlorophyll and then they are rinsed and dried. They are then bleached in a hypochlorite solution and dyed in a magnesium chloride solution and redried. They are then spray painted with alcohol and dye and then redried. A very small boiler supplies heat for the process dip tanks.

Saffire Road Facility

The Bleach Plant Operation consists of flowers being bleached in a sodium chlorite solution and then treated with a solution of hydrogen peroxide and diethylene glycol. There are two plants here and each consists of 12 open top tanks in each line. This process emits chlorine and a minor amount of VOCs.

Regulation Summary

Potential emissions of VOCs exceed the threshold of 100 tons per year. Therefore, KN is considered a major source for Title V. The HAP emissions from the coating operation are also emitted in such quantities as to exceed the Title III and Title V major source thresholds. The HAP emission thresholds for a major source are 10 tons for a single HAP and 25 tons for a combination of any HAPs.

No other criteria pollutants are emitted in sufficient quantities, actually or potentially, to exceed the major source threshold of 100 tons per year.

No sources are currently subject to any NESHAP, NSPS, or CTG regulations. KN currently has a synthetic minor PSD permit that limits their potential emission of VOCs from their Wild Avenue facility.

The 3,500 gallon toluene tank is not subject to the Organic Liquid Distribution MACT because of the low throughput of chemical through the storage tank at this facility.

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
0001	METALLIC DIP OPERATION
0002	STAIN CONCENTRATE OPERATION
0003	PINE CONE TIPPING OPERATION
0004	SCENTED PINE CONE OPERATION
0005	METHYL BROMIDE FUMIGATION
0006	3,500 GALLON TOLUENE TANK
0007	MISCELLANEOUS OPERATIONS

Monitoring of Emissions

KN will maintain records of monthly coating usage and coating analysis to show compliance with their Synthetic Minor PSD limit. These will be submitted quarterly.

The monitoring in the existing Title V Permit. This monitoring has been shown to be sufficient in the past and; therefore, no change to the monitoring is needed. CAM is not applicable because potential uncontrolled emissions of criteria pollutants do not exceed 100 tons per year on any one unit with control device(s).

Permitting Fees

Title V major sources are subject to operating permit fees which charge the facility a yearly amount based on the actual emission rate of pollutants for the previous year.

Affected States Notification

Standard practice is to notify of the issuance of this major source operating permit to all states bordering Alabama. Also, the Poarch Band of Creek Indians near Atmore, in Escambia County is within the 50 mile radius and will need to be notified.

Recommendations

I recommend that the attached permit be issued to KN, pending the public notice requirements.

Kevin Fulmer
Chemical Branch

August, 2019