**TECHNICAL EVALUATION**
**&**
**PRELIMINARY DETERMINATION**

**APPLICANT**

AOC, LLC
4620 North Galloway Road
Lakeland, FL 33810

Lakeland Facility

Facility ID No. 1050099

**PROJECT**

Project No. 1050099-016-AC
Application for Minor Air Construction Permit
Project Name: Construction of Raw Material Storage Tanks

**COUNTY**

Polk County, Florida

**PERMITTING AUTHORITY**

Florida Department of Environmental Protection
Air Resource Management
Southwest District Office
Temple Terrace, Florida 33637-0926

January 15, 2014

Prepared by Danny Stubbs

## GENERAL PROJECT INFORMATION

### Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

### Glossary of Common Terms

Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of this permit.

I. Facility Description:

The facility produces styrene and non-styrene based polyester resins and vinyl ester resins.

II. Project Description:

A. Applicant:

Mr. Michael Diehl, Plant Manager
AOC, LLC
4620 North Galloway Road
Lakeland, FL 33810

B. Professional Engineer:

Mr. Barry D. Westmark, P.E.
Environmental Consulting & Technology, Inc.
1408 N. Westshore Blvd., Suite 115
Tampa, FL 33607

C. Project Location:

4620 North Galloway Road, Lakeland, Polk County

D. Project Summary:

This project is for the installation of a new raw material storage tank and for the replacement of three styrene raw material storage tanks in EU ID No. 001. The new raw material storage tank (Raw Material Storage Tank No. 16) will be used to store di-cyclohexanedimethanol and will have a storage capacity of 20,000 gallons. Three existing styrene raw material storage tanks (Raw Material

Storage Tank Nos. 10, 11, and 12) will be replaced with larger tanks resulting in an increase in styrene storage capacity from 64,000 to 83,475 gallons. The existing and new capacities of styrene raw material storage tanks are summarized in the table below.

| Raw Material Storage Tank No. | Existing Capacity | New Capacity |
|---|---|---|
| 10 | 24,000 | 27,825 |
| 11 | 24,000 | 27,825 |
| 12 | 16,000 | 27,825 |

The addition of the new di-cyclohexanedimethanol raw material storage tank in EU No. 001 will affect the fugitive VOC emissions sources in EU No. 008. The addition of the new tank will affect fugitive emissions generated from the raw material transfers into receiving tanks and from the facility piping system.

E. Application Information:

Application Received on: 12/19/2013
Application Complete on: 12/19/2013

III. Applicable State and Federal Regulations

This project is subject to the preconstruction review requirements of Chapter 403, Florida Statutes and Chapters 62-204 through 62-297, Florida Administrative Code (F.A.C.), as indicated below.

| Subject to: | Y/N | Comments |
|---|---|---|
| **Rule 62-210.300, F.A.C.** – Permits Required | Y | subject to general permitting requirements |
| **Rule 62-212.400, F.A.C.** - Prevention of Significant Deterioration | N | facility is not a PSD major source |
| **Rule 62-296.320(4), F.A.C.** - General Particulate Emission Limiting Standards | Y | some operations at the facility are a source of particulate matter emissions |
| **Rules 62-296.320(1) and (2), F.A.C.** - General Pollutant Emission Limiting Standards (VOCs and Odor) | Y | some operations at the facility are a source of VOC and odors |
| **Rule 62-296.401-418, F.A.C.** - Stationary Source Emission Standards | N | there is no applicable source category |
| **Rule 62-296.500, F.A.C.** - Reasonably Available Control Technology (VOC) | N | Polk County is not an air quality maintenance area for ozone |
| **Rule 62-296.700, F.A.C.** - Reasonably Available Control Technology (PM) | N | there is no applicable source category |
| **Rule 62-204.800, F.A.C.** - Standards of Performance for New Stationary Sources (NSPS) | N | there is no applicable source category |
| **Rule 62-204.800, F.A.C.** National Emission Standard for Hazardous Air Pollutants (NESHAPS – 40 CFR 61) | N | there is no applicable source category |

| Subject to: | Y/N | Comments |
|---|---|---|
| **Rule 62-204.800, F.A.C.** National Emission Standard for Hazardous Air Pollutants for Source Categories a.k.a. MACT (NESHAPS –40 CFR 63) | Y | Two exempt generator engines and two exempt fire pumps are subject to 40 CFR 63, Subpart ZZZZ, regarding "existing" engines |
| **Chapter 62-213, F.A.C.** - Operation Permits for Major Sources of Air Pollution | N | facility is a synthetic non-Title V source |
| **Rule 62-297.310, F.A.C.** - General Compliance Test Requirements, F.A.C. | N | Testing is not required for the affected emissions units (i.e., EU Nos. 001 & 008). Compliance is demonstrated via recordkeeping. |

IV. Summary of Emissions[1]

**EU No & Description:**
001 - 31 non-NSPS Storage Tanks
002 - 5 Reactors, 4 Thinning Tanks, 1 Mixing Tank, 2 non-NSPS Finish Product Tanks, Product Filter Processing Area, and Thermal Oxidizer
005 - 8 Mixing Tanks
006 - Phthalic Anhydride Storage Tank & Maleic Anhydride Storage Tank
008 - 6 Miscellaneous Fugitive VOC/HAP Sources
009 - 3 Miscellaneous Fugitive Particulate Matter Sources

| Pollutant | EU No. | Potential Emissions (tpy) | Allowable Emissions (tpy) |
|---|---|---|---|
| PM | 002 | 3.60 | |
| | 006 | 0.77 | |
| | 008 | 0.79 | |
| | 009 | 44.09 | |
| | **Total** | **49.25** | |
| PM10 | 002 | 3.60 | |
| | 006 | 0.77 | |
| | 008 | 0.79 | |
| | 009 | 42.07 | |
| | **Total** | **47.23** | |
| VOC | 001 | 8.65 *(1.13 tpy increase)* | |
| | 002 | 9.04 | |
| | 005 | 2.60 | |
| | 008 | 3.79 *(0.14 tpy increase)*[2] | |
| | **Total** | **24.08** | |
| NOx | 002 | 39.45 | |
| | **Total** | **39.45** | |
| SO2 | 002 | 0.16 | |
| | **Total** | **0.16** | |
| CO | 002 | 9.21 | |

| **Pollutant** | **EU No.** | **Potential Emissions** (tpy) | **Allowable Emissions** (tpy) |
|---|---|---|---|
| | **Total** | **9.21** | |
| Total HAP | 001 | 7.49 *(0.1 tpy increase)* | |
| | 002 | 8.30 | |
| | 005 | 2.60 | |
| | 006 | 0.77 | |
| | 008 | 3.73 | |
| | **Total** | **22.90** | |
| Individual HAP (Styrene) | 001 | 2.36 | |
| | 002 | 0.97 | |
| | 005 | 0.80 | |
| | 008 | 2.00 | |
| | **Total** | **6.13** | |
| Individual HAP (Glycol) | 001 | 0.91 | |
| | 008 | 0.21 | |
| | **Total** | **1.12** | |
| Individual HAP (Methyl Methacrylate, i.e.,MMA) | 001 | 4.22 | |
| | 002 | 1.96 | |
| | 005 | 1.80 | |
| | 008 | 1.03 | |
| | **Total** | **9.01** | |
| Individual HAP (Maleic Anhydride) | 006 | 0.09 | |
| | 008 | 0.08 | |
| | **Total** | **0.17** | |
| Individual HAP (Phthalic Anhydride) | 006 | 0.68 | |
| | 008 | 0.08 | |
| | **Total** | **0.76** | |
| Individual HAP (Methanol) | 008 | 0.27 | |
| | **Total** | **0.27** | |
| Individual HAP (Other) | 002 | 5.37 | |
| | 008 | 0.06 | |
| | **Total** | **5.43** | |
| **VE Limitation** | | | |
| VE | 002 | | 20% Opacity |

*Notes:*

*(1) This summary of emissions includes equipment and potential emissions associated with Construction Permit No. 1050099-014-AC.*

*(2) VOC emissions from the addition of the new di-CHDM tank increased VOC potential emissions by 0.14 tons; however, due to an administrative correction on page 36 of the permit application, the VOC potential listed in this technical evaluation (compared to technical evaluation for Construction permit No. 1050099-014-AC) decreased from 4.04 to 3.79 tpy.*

## V. Conclusions

The emission limits proposed by the applicant will meet all of the requirements of Chapters 62-204 through 297, F.A.C.

The General and Specific Conditions listed in the proposed permit (attached) will assure compliance with all the applicable requirements of Chapters 62-204 through 297, F.A.C.

## VI. Preliminary Determination

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection Air Resource Management, Southwest District 13051 North Telecom Parkway, Temple Terrace, Florida 33637-7600.

Pursuant to Section 403.087, Florida Statutes and Section 62-4.070, Florida Administrative Code, the Department hereby gives notice of its intent to issue a permit to construct the aforementioned air pollution source in accordance with the draft permit and its conditions as stipulated (see attached).