On November 16, 2009, the Department received a Title V Operating Permit (TV) renewal application for Ranbar Electrical Materials, Inc. (Ranbar) / Manor Plant for the paint and resin manufacturing plant located in Manor Borough, Westmoreland County. Ranbar has complied with the municipal notification requirements contained in 25 Pa. Code §127.413 and the application fee requirements contained in 25 Pa. Code §127.704(b)(3). The Department determined the application was administratively complete on December 8, 2009. The facility is operating under TV 65-00042 issued on May 17, 2005, and expired on May 17, 2010. Ranbar has continued to operate under the expired operating permit per 25 Pa Code Section 127.446(c): The terms and conditions of an expired permit are automatically continued pending the issuance of a new permit when the permittee has submitted a timely and complete application and paid the fees required by Subchapter I and the Department is unable, through no fault of the permittee, to issue or deny a new permit before the expiration of the previous permit.

On July 11, 2016, Ranbar submitted a revision to the Title V Operating Permit application with proposed emission limitations below major thresholds. On October 27, 2016, Ranbar resubmitted the request to reduce emission limitations through the appropriate State Only Operating Permit application. Ranbar also resubmitted the municipal notifications to the county and borough.

On September 15, 2016, the Department performed an Operating Permit Inspection. It was then that the Department determined that Ranbar was in violation of the current operating permit. On September 29, 2016, the Department met with Ranbar to discuss the situation and on October 11, 2016, in a follow up call, Ranbar agreed to install a new thermal oxidizer. On October 24, 2016, the Department issued a Notice of Violation (NOV) to Ranbar for the operation of air emission source without operating the RTO. On December 12, 2016, a Consent Order and Agreement (CO&A) was executed between the Department and Ranbar for the installation and operation of a replacement oxidizer. The violation is documented and will be resolved through the CO&A.
On November 12, 2016, the Notice of Intent to Issue was published in the PA Bulletin for a 30-day public comment period. The proposed Operating Permit was submitted to Ranbar for review as well as the Air Quality inspector and District Supervisor for this facility. No comments were received.

It is my recommendation that the State Only Operating Permit for Ranbar Electrical Materials, Inc. / Manor Plant, SOOP 65-00042, be issued.
TO
AQ Quality Permit File SOOP# 65-00042
Ranbar Electrical Materials, Inc. / Manor Plant

FROM
Sheila A. Shaffer
Air Quality Engineering Specialist
Air Quality Program

THROUGH
Thomas J. Joseph, P.E.  
Environmental Manager
Air Quality Program

Mark R. Gorog, P.E.  
Regional Program Manager
Air Quality Program

DATE
November 2, 2016

RE
Review of State Only Operating Permit Application
Manor Borough, Westmoreland County
APS # 926587 AUTH # 1157756 PF # 250601

Background

On November 16, 2009, the Department received a Title V Operating Permit (TV) renewal application for Ranbar Electrical Materials, Inc. (Ranbar) / Manor Plant for the paint and resin manufacturing plant located in Manor Borough, Westmoreland County. Ranbar has complied with the municipal notification requirements contained in 25 Pa. Code §127.413 and the application fee requirements contained in 25 Pa. Code §127.704(b)(3). The Department determined the application was administratively complete on December 8, 2009. The facility is operating under TV 65-00042 issued on May 17, 2005, and expired on May 17, 2010. Ranbar has continued to operate under the expired operating permit per 25 Pa Code Section 127.446(c): The terms and conditions of an expired permit are automatically continued pending the issuance of a new permit when the permittee has submitted a timely and complete application and paid the fees required by Subchapter I and the Department is unable, through no fault of the permittee, to issue or deny a new permit before the expiration of the previous permit.

Ranbar is a specialty resins and coatings company specializing in supplying custom and commodity resins to specifications more restrictive than industry standards. The facility was previously owned and operated by Westinghouse Electric Corporation since the 1940s. Prior to Ranbar purchasing the Manor Plant, August 1, 1995, Westinghouse mainly produced wire enamel and installation varnishes in the resin plant utilizing cresylic acid. On May 12, 1994, Westinghouse claimed the facility had the potential to emit more than 50 tons of VOC defining them as a major source of VOC. On July 15, 1994, in accordance with 25 PA Code §129.91(d), Westinghouse submitted a RACT plan proposal. A RACT Operating Permit, 65-000-042, was issued to Ranbar on February 22, 1999.

Westinghouse identified them as a major source of VOCs defined in Title I, Part D of the Clean Air Act Amendment; therefore, the facility was subject to the Title V permitting requirements of 25 PA Code, Chapter 127, Subchapter G. On November 22, 1995, in accordance with 25 PA Code §127.505(a), The Department received a Title V operating permit application for Ranbar. The Title V Operating Permit,
65-00042, was issued January 21, 2000 and expired January 21, 2005.

On August 21, 2001, EPA revised the Commonwealth of Pennsylvania's State Implementation Plan (SIP) in accordance with the Clean Air Act to include the conditions set forth in the RACT Operating Permit, 65-000-0042. Specifically, the following emission restrictions were included in the SIP:

"facility-wide VOC emissions shall not exceed 112.1 tons per year (tpy) combined total in any 12 month consecutive period; and VOC emissions for the individual sources shall not exceed the following: (1) resin manufacturing: 37.6 tpy; and (2) paint manufacturing: 72.4 tpy."

On July 19, 2004, the Department received a Title V Operating permit renewal application for Ranbar. It was determined administratively complete on September 9, 2004. On May 17, 2005, the Title V Operating Permit renewal was issued. The operating permit expired on May 17, 2010.

On February 13, 2008, the Department determined the replacement of the existing Hirt Thermal Oxidizer with the installation of a Kronus 2-bed Regenerative Thermal Oxidizer (RTO) was exempt as a published exemption from the Plan Approval requirements under Title 25 PA Code §127.14(a)(9) with the understanding that the Kronus unit was guaranteed to meet a minimum 95 percent destruction efficiency and that emissions would decrease as a result of the change. On October 14, 2008, Ranbar submitted a Minor Operating Permit Modification (MOPD) to incorporate the new RTO and operating permit conditions into the Title V Operating Permit. On December 10, 2008, the Department issued the Modification to the Title V Operating Permit with the expiration date continuing as May 17, 2010.

On June 17, 2009, the towns of Harrison City and Manor were hit with devastating rains. Ranbar, located in the Brush Creek flood plain between the two towns experienced severe flooding. The flood destroyed thousands of items within the facility including the RTO. Ranbar notified the Department to discuss options as to resuming production operations while the RTO was being repaired. Verbal authorization from the Department was granted to resume operations as needed to fill production orders with the submittal of weekly production reports and additional monitoring for odors and/or opacity. On June 29, 2009, Ranbar resumed operation in the resin plant as communicated with the Department.

On October 13, 2009, Ranbar submitted a Request for Determination to perform a pilot test of the APC Technologies Ultra high-efficiency Filter (UHF) to determine capabilities of removing both condensed and gaseous VOCs from the resin plant in place of the RTO. The Department determined the request to perform the test pilot was exempt from Plan Approval requirements under Title 25 PA Code §127.14(a)(9). The pilot test was conducted the week of November 9, 2009. All exhaust gases from the kettles and other vessels in the resin process building were routed into the UHF pilot test system during the test. Total hydrocarbon concentrations were measured continuously and simultaneously at the inlet and outlet sampling ports, using EPA Method 25A, to determine the removal efficiency by the filter media. The average removal efficiency of total hydrocarbons was 43.7 percent. The odor removal efficiency results were inconclusive. Consequently, the use of the UHF was abandoned.

On February 22, 2010, Ranbar met with the Department to discuss the potential emissions from the facility. The meeting was to discuss replacement options for the destroyed RTO and the concern that the facility should have never been classified as a major source for VOC.

On May 25, 2016, the Department received a letter from Ranbar in regards to the additional RACT requirements for major sources of NOx and VOCs (RACT II) in 25 PA Code §§129.96-129.100. RACT II became effective April 23, 2016 and applies to owners and operators of a major NOx and/or VOC emitting facilities that were in existence on or before July 20, 2012. As stated in the letter and in
the 2009 renewal application, Ranbar has requested to “downgrade” from a major to a minor source of VOC emissions. Ranbar has continuously demonstrated to the Department that the facility is no longer capable of emitting major thresholds for VOCs and has requested to take a more stringent emission limitation. Taking a limitation on emissions below major thresholds would allow Ranbar to comply with 25 PA Code §129.96(d), “This section and § § 129.97-129.100 do not apply to the owner and operator of a facility which is not a major NOx emitting facility or a major VOC emitting facility on or before January 1, 2017.”

On July 11, 2016, Ranbar submitted a revision to the Title V Operating Permit application with proposed emission limitations below major thresholds. On October 27, 2016, Ranbar resubmitted the request to reduce emission limitations through the appropriate State Only Operating Permit application. Ranbar also resubmitted the municipal notifications to the county and borough.

Sources, Control Devices and Emissions

At the Manor facility, paint is produced in batches ranging in size from five gallons to 800 gallons. Paint is produced in ball mills, continuous mills, high speed dispersion mills, roll mills, and other miscellaneous equipment. Mixing equipment employed in the paint plant is equipped with covers to minimize solvent loss thereby minimizing VOC emissions. With some tanks, flexible duct work is attached above the top of the tanks to exhaust VOCs that have been evaporated from handling and mixing materials. Other vessels have hard exhaust duct work permanently attached to the vessel. Also, when loading raw materials into the mills, elephant trunks are attached by the fill port to exhaust emissions generated during the loading process. A system of duct work and a series of eight fans are used to capture emissions generated in the painting manufacturing area and exhaust them into the ambient air. A Dustkop Model No. FT-40-D1 fabric filter dust collector, rated at 600 cfm, controls particulate matter emissions generated from handling the pigment.

The resin manufacturing plant consists of a loading hopper, weigh tanks, four chemical reactors (kettles), and four thinning tanks, used to manufacture resins, varnishes, and other industrial coatings. A Dustkop Model No. FT-24 dust collector, rated at 1,000 cfm, is used to control any particulate emissions from raw materials being loading into the hopper. Once the materials are cooked in one of the four kettles, the contents are filtered and pumped into tank wagons or storage tanks for future product packaging, or are directly drummed for shipment. Some of the products have solvents added or are further processed in thinning tanks prior to packaging. Emissions generated in the cooking processes from the reaction kettles and exhaust gases from the thinning tanks are required to be controlled by the RTO.

The facility also consists of various natural gas units. Ranbar utilizes two natural gas boilers, 5.3 and 4.2 MMBtu/hr, for building heat and heating storage tanks. Only one boiler is used at a time and typically only between the months of November through March. The kettles are heated and cooled by one of the three vaporizers rated between 3-5 MMBtu/hr. The vaporizers utilize a liquid transfer fluid called Dowtherm that provides steam or cooling to the kettles as needed through the cooking process.

Ranbar is taking facility-wide limitations of 30.0 tpy VOC, 9.9 tpy single HAP, and 24.9 tpy combined HAPs in a 12 month consecutive period. Ranbar is also taking a 15.0 tpy VOC limit for the paint plant. Potential emissions from each resin and paint plant are based on maximum throughput determined by the cook time for the resin plant, product formulation, and the number of ball mills and mill time for the paint plant.
Regulatory Analysis

Ranbar is subject to the applicable requirements of PA Code, Chapters 121 through 145 as incorporated into the proposed operating permit.

25 PA Code §§129.91-129.95-Stationary Sources of NOx and VOCs applies to major NOx and/or VOCs emitting facilities. Section 182 of the Federal Clean Air Act requires the Department of Environmental Protection to develop and implement a Reasonably Available Control Technology (RACT) program for major stationary sources of volatile organic compounds (VOCs) and oxides of nitrogen (NOx). The RACT regulation, effective upon publication in the Pennsylvania Bulletin (24 Pa. B. 467) on January 15, 1994, is codified at 25 Pa. Code Sections 129.91-129.95. As mentioned early in this memo, Ranbar was issued a RACT Operating Permit, 65-000-042, on February 22, 1999. The RACT Operating Permit was submitted to EPA as a revision to the State Implementation Plan (SIP) as required under 25 PA Code §129.91(h). The conditions of the RACT Operating Permit for Ranbar were incorporated into the Pennsylvania SIP and remain part of the SIP. Ranbar will demonstrate compliance conditions of the RACT Operating Permit by complying with the terms and conditions proposed in this operating permit.

25 PA Code §§129.96-129.100-Additional RACT Requirements for Major Sources of NOx and VOCs (“RACT II”) applies to major NOx and VOCs emitting facilities that were in existence on or before July 20, 2012. RACT II became effective on April 23, 2016. RACT II does not apply to the owner or operator of a facility which is not a major NOx and/or VOC emitting facility on or before January 1, 2017. Ranbar has elected to take limitations below major VOC thresholds that have been incorporated into this proposed operating permit eliminating Ranbar from RACT II.

40 CFR Part 63, Subpart FFFFF-National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing was promulgated on November 10, 2003 and amended on July 14, 2006. Per §63.2435, this subpart applies if you own or operate miscellaneous organic chemical manufacturing process units (MCPU) that are located at, or are part of, a major source of HAPs. Ranbar is not major for HAPs; therefore this subpart is not applicable.

40 CFR Part 63, Subpart HHHHHH-National Emission Standards for Hazardous Air Pollutants: Miscellaneous Coating Manufacturing was promulgated on December 11, 2003 and amended on October 4, 2006. Per §63.7985, this subpart applies if you own or operate miscellaneous coating manufacturing operations and are a major source of HAP emissions. Ranbar is not major for HAPs; therefore this subpart is not applicable.

Compliance

On July 6, 2015, an annual compliance monitoring inspection was performed by Mr. Gary Bronson, Air Quality Specialist. On September 15, 2016, the Department performed an Operating Permit Inspection. It was then that the Department determined that Ranbar was in violation of the current operating permit. On September 29, 2016, the Department met with Ranbar to discuss the situation and on October 11, 2016, in a follow up call, Ranbar agreed to install a new thermal oxidizer. On October 24, 2016, the Department issued a Notice of Violation (NOV) to Ranbar for the operation of air emission source without operating the RTO. The violation will be resolved through a Consent Order and Agreement that will be executed before the issuance of this proposed operating permit.
**Recommendation**

The Notice of Intent to Issue will be published in the PA Bulletin for a 30-day public comment period. The draft Operating Permit renewal will be submitted to Ranbar for review as well as the Air Quality inspector and District Supervisor for this facility.

It is my recommendation that the State Only Operating Permit for Ranbar Electrical Materials, Inc. / Manor Plant, SOOP 65-00042, be issued.