

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office

TO AQ Case File TVOP-65-00720

FROM Noor Nahar *NN*
Air Quality

THROUGH Barbara Hatch, P.E. *BHA*
Acting Program Manager
Air Quality

DATE April 3, 2015

RE Review of Title V Operating Permit Renewal Application
Kennametal Inc.
Irwin Facility
Hempfield Township
Westmoreland County

APS 715112 AUTH 826399 PF 262740

Background:

Kennametal Inc. (formerly owned and operated by Carbide Corporation) operates this facility in Irwin, PA Westmoreland County for the production of cemented tungsten carbide. The facility manufactures tungsten carbide products such as tools, dies, various parts and components. Raw tungsten carbide is mixed with nickel or cobalt binders in various ball mills or attritors to desired formulation. Heptane is added to make slurry. Slurry is blending in a ball mill; heptane is removed in dryer, with volatized heptane being recovered in a condenser. Finished powders are shaped and pressed to a final product. VOC emission is the result of heptane use.

As a result of the levels of VOCs emitted, Kennametal Inc. is a major stationary source as defined in Title I, Part D of the Clean Air Act Amendments. This facility's potential to emit exceeds 50 tons/year of VOC emissions. Heptane is not a HAP, so this facility is an area source for purposes of 40 CFR 63.

The initial Title V Operating Permit for this facility was issued on April 23, 1999 and it expired on April 23, 2004. The first Title V renewal was issued on August 31, 2005 with an expiration date of August 31, 2010. The TVOP was amended on July 31, 2008 to change the ownership from Carbide Corporation to Kennametal Inc. The Department received the second the renewal application on March 1, 2010.

The facility has been in violation twice since the issuance of the last Title V Operating Permit renewal for not submitting the Title V Compliance Certification on time. Subsequently, company paid penalties in August, 2006 & July, 2012.

On August 14, 2007 an exemption was granted from Plan Approval/Operating Permit requirements under Pa Code §127.14 (a)(8) for the installation of a new product line consisting of an electric sintering furnace equipped with vacuum pump and hydrogen purge, and additional grinding and pressing equipment.

On July 16, 2008 an exemption was granted from Plan Approval/Operating Permit requirements under Pa Code §127.14 (a)(8) for the installation of a sintering process.

On April 2, 2009 another exemption was granted from Plan Approval/Operating Permit requirements under Pa Code §127.14 (a)(8) for the installation of a new product line which includes three sintering furnaces, a graphite tray coating booth and a dry penetrant station resulting an emission increase of 0.1 ton/yr of VOCs .

There was no other change in the facility since the issuance of the last TVOP.

Regulatory Analysis:

Per Pa. Code Title 25 Section 127.402(a), a permit is required to operate a stationary air contamination source. The applicable emission limitations, monitoring, recordkeeping, reporting and work practice standard requirements of Pa. Code Title 25 Sections 123.1, 123.2, 123.13, 123.21, 123.31, 123.41, 123.42, 127.44, 135.5 and 129.14 have been included in this TVOP Renewal. There are no NSPS or NESHAP requirements for this type of operation.

All the applicable requirements from Title 25 of the PA Code as well as appropriate monitoring, recordkeeping and reporting requirements have been included in this TVOP renewal.

Emissions and Controls:

The facility is made up of eight attritors and four ballmills where heptane is added to make the carbide slurry. The heptane is used to prevent oxidation. The attritors have water cooling jackets on the lids. The ballmills are equipped with a cool water jacket which is supplied by municipal water. The drying room is equipped with 3 vacuum dryers; each utilizes a condenser which employs vacuum technology to collect and contain greater than 95% of the vapors of each batch. For the most part the drying cycle is considered to be a closed loop system. There are baghouses to control particulate emissions.

The pollutants of concern from this facility are VOC from heptane and small amount of particulate matters. The overall potential VOC emission limit for the facility is 152 tons per 12 consecutive month period. The reported emission inventory for the year 2013 was 9.92 tpy of VOCs.

Carbide powder is considered to be very expensive material. Company employs every effort to collect the dust generated from this facility through the dust collectors and reuse it. Therefore, particulate emissions from this facility are very minimal. In addition, work practice standards are employed as pollution control methodologies to ensure the efficient operation of the existing equipment at this facility. This includes such actions as keeping the lids closed on the ball mill mixers at all times, except when empty or during filling with heptane, and taking measures to seal around the mixer blade shaft.

CAM Applicability:

The Compliance Assurance Monitoring (CAM) requirements of 40 CFR 64 were promulgated on October 22, 1997 and apply to each pollutant-specific emissions unit located at a major source that is required to obtain a Title V operating permit if the unit satisfies the following criteria (per 40 CFR 64.2):

- (1) The unit is subject to an emission limitation or standard for the applicable regulated air pollutant (or a surrogate thereof);
- (2) The unit uses an add-on control device to achieve compliance with any such emission limitation or standard; and
- (3) The unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal to or greater than 100 percent of the amount, in tons per year, required for a source to be classified as a major source.

In accordance with 40 CFR 64.1, "*Control device* means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere." At this facility, condensers are in use to recover heptane from the dryers' exhaust. All heptane recovered is recycled back into the process for reuse. Therefore, the condensers are inherent process equipment, not control devices. CAM, therefore does not apply to this facility.

Conclusions and Recommendations:

I have completed my review of Kennametal's Irwin facility's TVOP renewal permit application in Hempfield Township, Westmoreland County. Kennametal has met all the regulatory requirements associated with the renewal application submittal. Most recent inspection indicates that facility is in compliance with all the regulatory requirements. The attached proposed permit reflects terms and conditions as described in this permit application. It is my recommendation to issue a proposed Title V Operating Permit renewal for this facility. Notice of intent to issue this TVOP will be published in Pa Bulletin and local newspaper. Company, inspector and EPA will be provided with this proposed TVOP.