

COMMONWEALTH OF PENNSYLVANIA
Department of Environmental Protection
Southwest Regional Office

TO AQ Case File TVOP-65-00860

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Mark A. Wayner 11/20/13
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DATE August 16, 2013

RE Review of Title V Operating Permit Renewal Application
Hydro Carbide Inc.
Unity Township, Westmoreland County

APS 648221 AUTH 728475 PF 272218

Background:

Hydro Carbide operates this facility in Latrobe, PA Westmoreland County for the production of cemented tungsten carbide. Normal operation involves various sources of air contaminants. As a result of the levels of VOC's emitted, Hydro Carbide 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. Typical processing includes mixing powder to desired formulation, combining with heptane to make a slurry, blending slurry in a ball mill, heptane removal in dryer, with volatilized heptane being recovered in a condenser. Finished powders are shaped and pressed to a final product.

The initial Title V permit for this facility was issued on July 17, 1998 and it expired on July 17, 2003. The first Title V renewal was issued on January 21, 2004. This is the second the renewal application received by the Department on April 30, 2008. The facility has been in compliance with the requirements of this permit. There has been no change in the facility since the issuance of the last Title V Operating Permit Renewal for this facility.

Regulatory Analysis:

Per Pa. Code Title 25 Section 127.402(a), a permit is required to operate a stationary air contamination source.

The usual requirements of Pa. Code Title 25 Sections 123.1, 123.2, 123.11, 123.13, 123.21, 123.31, 123.41 and 123.42 have been included in this SOOP.

All the applicable requirements from Title 25 of the PA Code as well as appropriate testing, monitoring, recordkeeping and reporting requirements have been included in this TVOP renewal. The facility also remains subject to the conditions in RACT Operating Permit 65-000-860. The facility is not subject to any NESHAP or NSPS requirements.

Emissions and Controls:

The facility is made up of five 100 SC attritors, five 30S attritors and 2 ballmills which are used along with heptane to mix the carbide slurry. The heptane is used to prevent oxidation. The ballmills are equipped with a cool water jacket which is supplied by municipal water. The drying room is equipped with 8 vacuum dryers; each utilizes a condenser which employs vacuum technology to collect and contain greater than 99% of the vapors of each batch. For the most part the drying cycle is considered to be a closed loop system.

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 131 tons per 12 consecutive month period. The reported emission inventory for the years 2011 and 2012 were respectively 9.12 tpy and 8.99 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 Hydro Carbide's Title V renewal permit application for this site in Westmoreland County. Hydro Carbide has met the regulatory requirements associated with this application submittal. The attached proposed permit reflects terms and conditions as described in Hydro Carbide's permit application. It is my recommendation to issue a Title V Operating Permit Renewal for this facility.