

## Air Permit Review

Permit Issue Date: **date, 2011**

**Region:** Raleigh Regional Office  
**County:** Vance  
**NC Facility ID:** 9100082  
**Inspector's Name:** Brian Bland  
**Date of Last Inspection:** 06/08/2010  
**Compliance Code:** 3 / Compliance - inspection

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>
<p><b>Applicant (Facility's Name):</b> Kennametal Incorporated</p> <p><b>Facility Address:</b> Kennametal Incorporated 139 Warehouse Road Henderson, NC 27536</p> <p><b>SIC:</b> 3399 / Primary Metal Products, Nec <b>NAICS:</b> 331492 / Secondary Smelting, Refining, and Alloying of Nonferrous Metal (except Copper and Aluminum)</p> <p><b>Facility Classification: Before:</b> Title V    <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V    <b>After:</b> Title V</p>			<p><b>SIP:</b> <b>NSPS:</b> <b>NESHAP:</b> <b>PSD:</b> <b>PSD Avoidance:</b> <b>NC Toxics:</b> <b>112(r):</b> <b>Other:</b></p>
<b>Contact Data</b>			<b>Application Data</b>
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<p><b>Application Number:</b> 9100082.11A <b>Date Received:</b> 01/12/2011 <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal</p> <p style="text-align: center;"><b>Existing Permit Data</b></p> <p><b>Existing Permit Number:</b> 04328/T10 <b>Existing Permit Issue Date:</b> 11/07/2006 <b>Existing Permit Expiration Date:</b> 10/31/2011</p>
<p>Robert McGhee Analyst EHS ISCL (252) 430-3303 139 Warehouse Road Henderson, NC 27537</p>	<p>Joseph Penkunas Plant Manager (252) 430-3301 139 Warehouse Road Henderson, NC 27537</p>	<p>Robert McGhee Analyst EHS ISCL (252) 430-3303 139 Warehouse Road Henderson, NC 27537</p>	
<p><b>Review Engineer:</b> Mark Cuilla</p> <p><b>Review Engineer's Signature:</b> <b>Date:</b> <b>date, 2011</b></p>		<p style="text-align: center;"><b>Comments / Recommendations:</b></p> <p><b>Issue</b> 04328/T11 <b>Permit Issue Date:</b> <b>date, 2011</b> <b>Permit Expiration Date:</b> <b>date, 2016</b></p>	

### I. Purpose of Application

This permitting action is a renewal of an existing Title V permit pursuant to 2Q .0513. The existing Title V permit (**04328T10**) was issued on **November 7, 2006**, with an expiration date of **October 31, 2011**. The renewal application was received on **January 12, 2011**, or at least nine months prior to the expiration date. Therefore, the existing permit shall not expire until the renewal permit has been issued or denied. All terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or denied.

### II. Facility Description

The facility is a manufacturer of various blends of tungsten carbide powders. The facility is Title V due to potential emissions of volatile organic compounds exceeding major source thresholds.

### III. History/Background/Application Chronology

**November 7, 2006** – Permit 04328T10 issued as a Title V renewal.

**June 8, 2010** – Annual compliance inspection completed by Brian Bland of the RRO.

**January 12, 2011** – Permit application **9100082.11A** received as a Title V permit renewal application. The application was missing a signed copy of the A1 Form. Signed copy was received **February 4, 2011**. At that time the permit application was deemed complete for processing.

**March 8, 2011** – DRAFT permit sent to Permittee and RRO for comment prior to public notice and EPA review.

**March 28, 2011** – Received comments on draft permit and associated review from Robert McGhee of Kennametal. He requested the following corrections:

1. remove all references to vacuum dryer No. 6 (**ID No. VD-6**) as this source is no longer in operation at the facility;
2. remove the word “interim” from the plant manager’s title; and
3. correct the dryer condenser ID Nos. in Section 2.1 A from “VC” to “VCS.”

*Each of these requested modifications/corrections has been made as part of this permit renewal. The draft permit and associated review have been modified accordingly.*

**date, 2011** – DRAFT permit sent to 30-day public notice and 45-day EPA review.

### IV. Permit Modifications/Changes and ESM Discussion

The following table describes the modifications to the current permit as part of the renewal process.

Pages	Section	Description of Changes
Attachment	Insignificant activities	-added MACT (40 CFR 63, Subpart ZZZZ) designations -added shell asterisk language
Cover	-	-updated permit revision numbers and all dates
TOC	-	-removed references to Part II throughout the permit
All	Header	-amended permit revision number
3	Equipment table	-moved descriptions of “inherent” control equipment to description of source where applicable -removed reference to vacuum dryer No. 6 ( <b>ID No. VD-6</b> ) per Permittee request
4	2.1 A  2.1 B 2.1 B (table)	-grouped former Sections 2.1 A, C, D, and F under one Section -removed reference to vacuum dryer No. 6 ( <b>ID No. VD-6</b> ) per Permittee request -corrected condenser ID numbers from “VC” to “VCS” per Permittee request -amended equipment description to add control device -corrected cross reference
5	2.1 B.1.a 2.1 B.1.b 2.1 B.1.c 2.1 B.2.b 2.1 B.2.c	-added ID numbers -corrected testing rule cross reference -added ID numbers -corrected testing rule cross reference -added ID numbers and updated shell VE monitoring language

Pages	Section	Description of Changes
5-6	2.1 B.2.d	-updated shell language to add noncompliance statement
6	2.1 C (table) 2.1 C.1.a 2.1 C.1.b	-corrected cross reference -added ID numbers -corrected testing rule cross reference
7	2.1 C.1.c 2.1 C.1.d 2.1 C.2.b	-updated shell VE monitoring language -updated shell language to add noncompliance statement -corrected testing rule cross reference
7-8	2.1 C.2.c	-updated shell VE monitoring language and corrected cross reference
8	2.1 C.2.d 2.2 A 2.2 A.1 2.2 A.1.a 2.2 A.1.b	-updated shell language to add noncompliance statement -clarified equipment listing -added rule title -clarified equipment listing -corrected testing rule cross reference
9	2.2 A.1.d 2.2 A.1.e  2.2 A.1.f	-updated shell language -updated shell I&M language and added noncompliance statement -removed reference to vacuum dryer No. 6 ( <b>ID No. VD-6</b> ) per Permittee request -amended shell recordkeeping language and added noncompliance statement
10	2.2 A.2.c 2.2 A.2.e	-corrected rule citation -corrected rule citation and updated shell language
11	2.2 B 2.2 B (table)  2.2 B.2	-clarified applicable equipment -added ID numbers to table for clarification of applicable standards -added rule title
12	2.2 B.3 2.2 B.3.b	-added rule citation -updated shell quarterly reporting language
12-22	General Conditions	-updated shell conditions (v3.4)
23	List of Acronyms	-added acronyms for CAIR, NAA, and RACT per current shell

Other than the end-dating of vacuum dryer No. 6 (**ID No. VD-6**) per the Permittee's request, there were only minor, non-significant modifications to the equipment descriptions needed in TVEE (e.g., MACT designations for emergency generators).

## V. Regulatory Review

The facility is currently subject to the following regulations:

- 15A NCAC 2D .0515, Particulates from Miscellaneous Industrial Processes
- 15A NCAC 2D .0521, Control of Visible Emissions
- 15A NCAC 2D .0958, Work Practices for Sources of Volatile Organic Compounds
- 15A NCAC 2D .1100, Control of Air Toxics
- 15A NCAC 2D .1806, Control and Prohibition of Odorous Emissions
- 15A NCAC 2Q .0317, Avoidance Conditions (for 15A NCAC 2D .0530, Prevention of Significant Deterioration)
- 15A NCAC 2Q .0711, Emission Rates Requiring a Permit

A regulatory review for these current permit conditions will not be included in this document. However, as discussed below (See Section VI of this Document), the Permittee operates emergency RICE sources. As an area source of hazardous air pollutants, this facility is subject to the GACT component of the RICE MACT (40 CFR 63, Subpart ZZZZ) as part of 15A NCAC 2D .1111, Maximum Achievable Control Technology. The renewed permit includes this MACT designation as appropriate.

## VI. NSPS, NESHAPS/MACT, PSD, 112(r), CAM

**NSPS** – The Permittee is not currently subject to any New Source Performance Standards (NSPS). This permit renewal does not affect this status.

**NESHAPS/MACT/GACT** – The Permittee is not currently subject to any Maximum Achievable Control Technology Standards (MACTs). However, during the review of applicable requirements as part of this permit renewal, two natural gas-fired emergency generators were identified (**ID Nos. I-G1 and I-G2**). The facility is classified as a Title III minor facility; therefore, the GACT portion of 40 CFR 63, Subpart ZZZZ is applicable to these existing, emergency generators less than 500 Hp located at an area source of HAPs. As applicable units, these sources are subject to the following requirements:

Requirements	Existing Stationary Engines ≤500 Hp (Emergency Spark Ignition)
<b>Compliance Date</b>	<b>October 19, 2013</b>
<b>Emission Limitations</b>	63.6603 Table 2d
<b>Operating Limitations</b>	NA
<b>Fuel Requirements</b>	NA
<b>Performance Tests</b>	NA
<b>Monitoring, Installation, Collection, Operation and Maintenance Requirements</b>	63.6625(e), (f), (h), and (j)
<b>Initial Compliance</b>	NA
<b>Continuous Compliance</b>	63.6605 63.6640
<b>Notification Requirements</b>	NA
<b>Recordkeeping Requirements</b>	63.6655 (except (c))
<b>Reporting Requirements</b>	63.6650 (except (g))

To address the cases where current insignificant activities subject to a MACT or GACT now have to be acknowledged in the permit as being applicable to the respective subpart, DAQ has created a new web page titled “Regulatory Guide for Insignificant/Permit Exempt Activities.” The link to this site is as follows:

<http://daq.state.nc.us/permits/insig/>

Asterisked language, including this link, has been added to the insignificant activities table of the renewed permit. Once the Permittee accesses this link he will be able to get the regulatory guide for the subject MACT/GACT, NSPS, and/or NCAC affected sources (in this case, the emergency generators).

**PSD** – The Permittee is currently operating under a facility-wide emissions cap of 250 tons volatile organic compounds per year in order to avoid the applicability of 15A NCAC 2D .0530, Prevention of Significant Deterioration requirements. The current permit requires that the Permittee calculate monthly VOC emissions based on material usage and VOC content of the materials. In addition, inspection and maintenance activities are required for the sources controlled by condensers as VOC control. Semi-annual reporting of all monthly calculations and inspection and maintenance activities is also required. This permit renewal does not affect this status.

**112(r)** – The Permittee is not subject to Section 112(r) of the Clean Air Act requirements because it does not store one or more of the regulated substances in quantities above the thresholds in the Rule. This permit renewal does not affect this status.

**CAM** – 40 CFR 64 requires that a continuous compliance assurance monitoring plan be developed for all equipment located at a major facility, that have pre-controlled emissions above the major source threshold, and use a control device to meet an applicable standard. The following table indicates the current equipment/control device relationships:

<b>Emission Source ID No.</b>	<b>Emission Source Description</b>	<b>Control Device ID No.</b>	<b>Control Device Description</b>
BL-001	Ammonium paratungstate electric conversion furnace	BODC-001	Baffle chamber
VD-1 VD-5	Two vacuum dryers each equipped with an integral condenser (Nos. VC-1 and VC-5, respectively)	VCS-2	One condenser (48.6 square feet condenser surface area and 7,506 pounds per hour chilled water coolant flow rate)
VD-2 VD-3	Two vacuum dryers each equipped with an integral condenser (Nos. VC-2 and VC-3, respectively)	VCS-3	One condenser (48.6 square feet condenser surface area and 7,506 pounds per hour chilled water coolant flow rate)
VD-4	One vacuum dryer equipped with an integral condenser (No. VC-4)	VCS-4	One condenser (48.6 square feet condenser surface area and 7,506 pounds per hour chilled water coolant flow rate)
CV-1	Central vacuum system	CV-001A  CV-001B	One cyclone (24 inches in diameter)  One bagfilter (67 square feet of filter area)

The following table outlines the specific permit conditions for each source/control device arrangement and if the control device is installed to comply with that requirement:

<b>Emission Source ID No(s).</b>	<b>Control Device ID No(s).</b>	<b>Permit Condition(s)*</b>	<b>Control Equipment Installed to Meet Permit Limit?</b>
BL-001	BODC-001	15A NCAC 2D .0515	Particulate matter; Yes.
VD-1 VD-5	VCS-2	15A NCAC 2Q .0317	Volatile organic compound emissions; Yes.
VD-2 VD-3	VCS-3	15A NCAC 2Q .0317	Volatile organic compound emissions; Yes.
VD-4	VCS-4	15A NCAC 2Q .0317	Volatile organic compound emissions; Yes.
CV-1	CV-001A CV-001B	15A NCAC 2D .0515	Particulate matter; Yes.

\* *The following permit conditions, where applicable, are not included in the CAM analysis:*

1. *15A NCAC 2D .0521 – This regulation limits visible emissions to specific opacity levels based on equipment manufacture date. Visible emissions are not criteria pollutants subject to CAM analysis.*
2. *15A NCAC 2D .1100 and 15A NCAC 2Q .0711– These regulations define State-enforceable emission limits for toxic air pollutants. These emission limits are not criteria pollutants subject to CAM analysis.*
3. *15A NCAC 2D .1806 – This regulation limits odorous emissions. Odors are state-enforceable limits and are not criteria pollutants subject to CAM analysis.*
4. *15A NCAC 2D .0958 – This regulation defines work practices for sources of volatile organic compound emissions. Work practices are not emission limits subject to CAM analysis.*

**Vacuum dryers (ID Nos. VD-1 through VD-5)** – As indicated above, the control devices are installed for VOC control from their respective sources. These applicable sources are part of a facility-wide volatile organic compound emission limit of 250 tons per year. As such, these sources are exempt from CAM applicability for this regulation per 15A NCAC 2D .0614(b)(1)(E) which states “*the requirements of this rule shall not apply to any of the following emission limitations or standards....an emissions cap that is approved under the rules of this Subchapter and Subchapter 15A NCAC 2Q and incorporated in a permit issued under 15A NCAC 2Q .0500.*” The facility-wide emission limit constitutes an “emissions cap” as defined by this rule; therefore, CAM is not applicable to these control devices.

**Central Vacuum System (ID No. CD-1)** – This source was analyzed for CAM applicability as part of the Title V renewal process (See Kevin Godwin’s **November 7, 2006** permit review for **04328T10**). CAM was found not to be applicable to these sources because potential pre-controlled emissions of PM<sub>10</sub> were estimated at less than 100 tons per year. This permit renewal reconfirms this analysis and does not affect this status.

**Ammonium paratungstate electric conversion furnace (ID No. BL-001)** – This source is currently idled and has been for many years. A review of records for this source indicate an estimated 5,229 pounds of material enter the baffle chamber (based on 1997 material recovery numbers). This equates to approximately 2.6 tons per year pre-control. This is below the CAM applicability thresholds for PM<sub>10</sub>; therefore CAM is not applicable. This permit renewal does not affect this status.

## VII. Facility Wide Air Toxics

The facility is subject to both modeled emission rates (ammonia from BL-001) per 15A NCAC 2D .1100 and toxic pollutant emission rates (toluene, n-hexane, hexane isomers, benzene, nickel metal, and chromium facility wide excluding BL-001) per 15A NCAC 2Q .0711. This permit renewal does not affect this status.

## VIII. Facility Emissions Review

There is no change in emissions for this renewal.

The following table represents the latest years' emission inventories from the facility:

<b>Pollutant(s)</b>	<b>2009 Actual Emissions (tpy)</b>	<b>2010 Actual Emissions (tpy)</b>
CO	0.34	0.34
NO <sub>x</sub>	0.43	0.43
PM <sub>10</sub>	0.05	0.02
VOC	164.31	3.07
Total HAPs/TAPs	0.08	0.01

## IX. Stipulation Review

The facility was last inspected by Brian Bland of the RRO on **June 8, 2010**. Based on his observations the facility appeared to be in compliance with their Title V permit requirements.

## X. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 2Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 2Q .0521 above. The State of Virginia is an affected area within 50 miles of this facility.

## XI. Conclusions, Comments, and Recommendations

A professional engineer's seal was not required for this renewal.

A consistency determination was not required for this renewal.

RRO recommends issuance of the permit and was sent a DRAFT permit prior to issuance (See Section III of this document for a discussion).

RCO concurs with RRO's recommendation to issue the renewed air permit.