

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Region: Mooresville Regional Office
County: Catawba
NC Facility ID: 1800206
Inspector's Name: Joseph Foutz
Date of Last Inspection: 05/20/2009
Compliance Code: 3 / Compliance - inspection

Permit Issue Date:

Facility Data			Permit Applicability (this application only)
<p>Applicant (Facility's Name): Shurtape Technologies - Hickory/Highland Plt</p> <p>Facility Address: Shurtape Technologies - Hickory/Highland Plt 1620 Highland Avenue and 17th Street NE Hickory, NC 28603</p> <p>SIC: 2672 / Paper Coated And Laminated, Nec NAICS: 322222 / Coated and Laminated Paper Manufacturing</p> <p>Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V</p>			<p>SIP: N/A NSPS: N/A NESHAP: N/A PSD: N/A PSD Avoidance: N/A NC Toxics: N/A 112(r): N/A Other: 15A NCAC 2D .1109 <i>[112(j) – Part 2 MACT Hammer for Boilers & Process Heaters]</i></p>
Contact Data			Application Data
Facility Contact	Authorized Contact	Technical Contact	<p>Application Number: 1800206.09A Date Received: 09/08/2009 Application Type: 112(j) Part I Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 02218/T28 Existing Permit Issue Date: 10/20/2009 Existing Permit Expiration Date: 09/30/2014*</p>
Mark Hawes Director of Environment and Safety (828) 325-5428 P O Box 1530 Hickory, NC 28603+1530	Carl Tolbert Plant Manager (828) 322-2700 P. O. Box 1530 Hickory, NC 28603+1530	Mark Hawes Director of Environment and Safety (828) 325-5428 P O Box 1530 Hickory, NC 28603+1530	
<p>Review Engineer: Fern Paterson, P.E.</p> <p>Review Engineer's Signature: _____ Date: _____</p>			<p style="text-align: center;">Comments / Recommendations:</p> <p>Issue 02218/T29 Permit Issue Date: ENTER DATE Permit Expiration Date: 09/30/2014*</p> <p>** An application to renew the permit has been timely filed, so that an application shield pursuant to 15A NCAC 2Q .0512(b)(1) remains in effect. This permit shall not expire until the renewal permit has been issued or the request has been denied, and all terms and conditions of the existing permit shall remain in effect until the renewal permit has been issued or the request has been denied pursuant to 15A NCAC 2Q .0513(c).</p>

I. Purpose of Application

Shurtape Technologies' Hickory/Highland Plant is located in Hickory, Catawba County, North Carolina. Application No. 1800206.09A, received September 8, 2009, is a Part 2 MACT "Hammer" application for six boilers. The boilers are rated between 7 MMBtu/hr and 27 MMBtu/hr. Five boilers (**ID Nos. ES-33-BLR-B2, ES-33-BLR-B3, ES-33-BLR-B4, ES-33-BLR-B5, and ES-33-BLR-Temp**) are permitted to fire either natural gas or propane. The sixth boiler (**ID No. ES-36-BLR-B1**) is rated at 10.475 MMBtu/hr and is permitted to fire either natural gas or No. 2 fuel oil.

II. Permit Modifications/Changes

The following table describes the modifications to the current permit.

Page(s)	Section	Description of Change(s)
Insignificant Activity List	Attachment	Remove one affected boiler (ID No. I-33-BLR-B3) from the insignificant activity list, and move to Section 1 of the permit.
1	Permit Cover Page	Amend permit revision numbers and issuance/effective dates.
10	Section 1	Add Boiler No. 3 (ID No. ES-33-BLR-B3) to the list of permitted sources and add the 112(j) designation to all existing boilers.
25	Section 2.1.F., Table	- Add 2D .0503 limit for Boiler No. 3 to the table of applicable regulations. - Add 112(j) (2D .1109) to the list of applicable regulations
26-27	Section 2.1.F.2. & 3.	Add Boiler No. 3 (ID No. I-33-BLR-B3) to the list of affected sources for 2D .0516 and 2D .0521.
28	Section 2.1.F.5	Add Section to include 112(j) MACT Hammer requirements applicable to the affected boilers (ID Nos. ES-33-BLR-B2, ES-33-BLR-B3, ES-33-BLR-B4, ES-33-BLR-B5, ES-33-BLR-TEMP, and ES-BLR-B1).
60-68	Section 3	Update General Provisions with the most recent revision (v. 3.0)

III. Regulatory Review

1. **15A NCAC 2D .0503 – Particulates from Fuel Burning Indirect Heat Exchangers** – This regulation limits particulate matter (PM) emissions from the firing of fuel in indirect heat exchangers (in lb/mmBtu) based on the facility-wide heat input. The allowable PM emission rate is calculated using the following equation:

$$E = 1.090 * Q^{-0.2594}$$

Where:

E = Allowable emission limit for particulate matter in lbs/MMBtu; and,
Q = Maximum heat input in MMBtu/hr.

With the addition of the formerly insignificant Boiler No. 3 (**ID No. ES-22-BLS-B3**) to Section 1 of the permit, the facility heat input is 96.765 MMBtu/hr.

<u>Boiler ID No.</u>	<u>Rated Capacity</u>
ES-33-BLR-B2	26.41 MMBtu/hr
ES-33-BLR-B3	7.1 MMBtu/hr
ES-33-BLR-B4	8.37 MMBtu/hr
ES-33-BLR-B5	25.1 MMBtu/hr
ES-33-BLR-Temp	26.41 MMBtu/hr
<u>ES-36-BLR-B1</u>	<u>10.475 MMBtu/hr</u>
<i>Total</i>	<i>96.765 MMBtu/hr</i>

Based on this updated, facility-wide heat input capacity, the PM limit for Boiler No. 3 will be 0.33 lbs/MMBtu. Using AP-42 emission factors, PM emissions from natural gas are estimated to be less than 0.33 lb/MMBtu, as follows:

$$\left(\frac{7.6 \frac{lbPM_{total}}{mmscf}}{1,020 \frac{MMBtu}{mmscf}} \right) = 0.007 \frac{lbPM_{total}}{mmBtu}$$

Because worst-case PM emission rates are estimated to be less than the allowable PM emission rate, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.

2. **15A NCAC 2D .0516– Sulfur Dioxide Emissions From Combustion Sources** – This regulation limits sulfur dioxide (SO₂) emissions to no greater than 2.3 lb/mmBtu of heat input for combustion sources. The formerly insignificant Boiler No. 3 (**ID No. ES-22-BLS-B3**) will be affected by this standard. Using AP-42 emission factors, SO₂ emissions from natural gas are estimated to be less than 2.3 lb/MMBtu, as follows:

$$\frac{\left(0.6 \frac{\text{lbSO}_2}{\text{mmscf}}\right)}{1,020 \frac{\text{MMBtu}}{\text{mmscf}}} = 0.0006 \frac{\text{lbSO}_2}{\text{mmBtu}}$$

Because worst-case SO₂ emission rates are estimated to be less than the allowable SO₂ emission rate, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.

3. **15A NCAC 2D .0521 – Control of Visible Emissions** – Visible emission (VE) standards provided in this regulation are applicable to potential VE emissions from any stack, vent, or outlet. This regulation limits visible emissions to no more than 20 percent opacity when averaged over a 6-minute period, except that 6-minute periods averaging more than 87 percent opacity may occur not more than once in any hour not more than four times in any 24-hour period. The formerly insignificant Boiler No. 3 (**ID No. ES-22-BLS-B3**) will be affected by this standard. Because natural gas firing is associated with inherently low visible emissions, no monitoring, recordkeeping, or reporting shall be required to demonstrate compliance with this limitation.
4. **15A NCAC 2D .1109 – CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters** – On July 20, 2007, the D.C. Circuit Court vacated the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, which had been promulgated under 40 CFR 63, Subpart DDDDD. The North Carolina Attorney General’s office has determined that the NESHAP vacatur equates to the failure of the U.S. EPA to promulgate a standard as required under Section 112(d) of the Clean Air Act (CAA). As a result, the site-specific Maximum Achievable Control Technology (MACT) standards required under CAA §112(j), commonly referred to as the MACT “hammer” provisions, have been triggered. North Carolina regulations implementing the MACT hammer are found at 15A NCAC 2D .1109.

On August 21, 2009, the NC DAQ received a Part 2 MACT “Hammer” application from this facility asking that the NC DAQ establish 112(j) emissions limitations in accordance with NC DAQ’s recommendations.

No control technologies for the control of CO, metals, Hg, or HCl were identified for natural gas, propane, or No. 2 fuel oil fired boilers in the state of North Carolina, nor were any such technologies identified in a North Carolina query using U.S. EPA’s AirControlNet software (v4.1). The NC DAQ has determined that MACT is the use of best work practice standards for natural gas, propane, and No. 2 fuel oil-fired combustion sources of this size, consistent with the provisions in CAA § 112(d)(2)(D). Best work practice standards in this case shall include the annual inspection and maintenance of the boiler as follows:

To assure compliance, the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

- i. Inspect the burner, and clean or replace any components of the burner as necessary;*
- ii. Inspect the flame pattern and make any adjustments to the burner necessary to optimize the flame pattern; and,*
- iii. Inspect the system controlling the air-to-fuel ratio, and ensure that it is correctly calibrated and functioning properly.*

The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement. The Permittee shall be deemed in noncompliance with 15A NCAC 2D .1109 if the affected boilers are not inspected and maintained as required above.

In addition, the Permittee will be required to record the results of the annual inspection in a logbook (written or electronic format), which shall be retained on-site and made available to an authorized representative upon request.

IV. Draft Permit Review Summary

Joseph Foutz of the Mooresville Regional Office was provided a draft permit and draft permit review document on January 7, 2010.

Mark Hawes of Shurtape was provided a draft permit for review on January 7, 2010.

Ms. Katy Forney and Ms. Gracy DeNois (U.S. EPA, Region IV) were provided a draft permit for review on <DATE>. <SUMMARY OF COMMENTS>.

V. Recommendations

This permit modification application for the Shurtape Technologies' Hickory/Highland Plant located in Hickory, Catawba County, North Carolina has been reviewed by NC DAQ to determine compliance with all procedures and requirements. NC DAQ has determined that this facility appears to be complying with all applicable requirements.

Issue Permit No. 02218T29