NORTH CAROLINA DIVISION OF AIR QUALITY

Air Permit Review

Permit Issue Date:

Region: Raleigh Regional Office
County: Granville
NC Facility ID: 3900040
Inspector's Name: Steven Carr
Date of Last Inspection: 05/13/2009
Compliance Code: 3 / Compliance - inspection

Facility Data

Applicant (Facility's Name): CertainTeed Corporation

Facility Address:
CertainTeed Corporation
200 CertainTeed Road
Oxford, NC 27565

SIC: 2952 / Asphalt Felts And Coatings
NAICS: 324122 / Asphalt Shingle and Coating Materials Manufacturing

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP:
NSPS:
NESHAP:
PSD:
PSD Avoidance:
NC Toxics:
112(r):
Other:

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Robert Yurek Environmental Coordinator (919) 693-1141 200 Certainteed Road Oxford, NC 27565	Mark Heilman Plant Manager (919) 693-1141 200 Certainteed Road Oxford, NC 27565	Neil Gresham Environmental Coordinator (919) 693-1141 200 Certainteed Road Oxford, NC 27565

Application Data

Application Number: 3900040.09B & 3900040.09C
Date Received: 10/21/2009
Application Type: 112(j) Part I
Application Schedule: TV-Significant

Existing Permit Data
Existing Permit Number: 03663/T27
Existing Permit Issue Date: 08/04/2009
Existing Permit Expiration Date: 05/31/2014

Review Engineer: Gautam Patnaik

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 03663/T28
Permit Issue Date:
Permit Expiration Date:

1. Facility Description.

CertainTeed Corporation at their Oxford, Granville County facility primarily manufactures asphalt roofing shingles from glassmat, asphalt, color granules, sand, limestone, and headlap granules, using various processes. These raw materials are combined to produce asphalt shingles, polypropylene shingles, and molding polypropylene to form a high-end, durable roofing shingle.

2. Purpose of Application

This application is for a 112(j) MACT Hammer, Part II, permit modification for various Natural gas, No. 2 and No. 6 fuel oil-fired sources as listed below:

Natural gas, No. 2 and No. 6 fuel oil-fired flux preheater No. 1 (ID No. ESPH1),
Natural gas, No. 2 and No. 6 fuel oil-fired flux preheater No. 2 (ID No. ESPH2),

Natural gas, No. 2 and No. 6 fuel oil-fired saturant heater No. 1 (ID No. ESSH1),
Natural gas, No. 2 and No. 6 fuel oil-fired boiler No. 1 (ID No. ESB1),
Natural gas, No. 2 and No. 6 fuel oil-fired boiler No. 2 (ID No. ESB2),
Natural gas, No. 2 fuel oil-fired shingle coating heater No. 1 (ID No. ESSCH1),
Natural gas, No. 2 fuel oil-fired shingle coating heater No. 2 (ID No. ESSCH2),
Natural gas/No. 2 and No. 6 fuel oil-fired shingle coating heater No. 3 (ID No. ESSCH2),
Natural gas, No. 2 fuel oil-fired hot oil heater No. 2 (ID No. ESHOH2),
Natural gas, No. 2 fuel oil-fired hot oil heater No. 4 (ID No. ESHOH4) [NSPS Dc], and
Natural gas, No. 2 fuel oil-fired hot oil heater No.1 (2.1 million Btu per hour heat input, ID No. ESHOH1) (currently listed as an insignificant source ID No. IHOH1 in the current permit)

3. Regulatory Review

All these sources currently listed in the permit under Section 2.1 F., are subject to the below mentioned regulations. Based on the latest inspection done on April 29, 2010, by Mr. Steve Carr he found the facility appeared to be in compliance with all requirements outlined in the air permit except 2D .0521 requirements of daily visible emissions monitoring during #6 fuel oil usage. No changes are made to the emissions limit, monitoring, record keeping, and reporting requirements for any of the above sources subject to these regulations. Note though the source (ID No. ESSCH2) was subject to the below mentioned regulations this source was not included in the list of sources listed in Section 2.1 F. This source is now included in the modified permit.

The natural gas, No. 2 fuel oil-fired hot oil heater No.1 (2.1 million Btu per hour heat input, ID No. ESHOH1) will also be subject to the following regulations.

i. 15A NCAC 2D .0516: Sulfur Dioxide Emissions from Combustion Sources

This source uses natural gas and No. 2 fuel as fuel. The emissions of sulfur dioxide by the combustion of these fuels at the source is expected to be very low and the source will always be in compliance with this regulation. There are no monitoring, record keeping, and reporting requirements for the combustion of these fuels at this source.

ii. 15A NCAC 2D .0521: Control of Visible Emissions

Visible emission limit which is dependent on the establishment date of the equipment subjects the source to a 20% opacity limit as outlined in the permit, since the source was manufactured after July 1, 1971. However there are no monitoring, record keeping, or reporting required for combustion of natural gas and No. 2 fuel oil at this source.

iii) 15A NCAC 2D .0503: "Particulates from Fuel Burning Indirect Heat Exchangers"

As per this regulation emissions of particulate matter from the combustion of a fuel that are discharged from any stack or chimney into the atmosphere shall not exceed an allowable emission rate as per this equation:

$E = 1.090\ Q^{(-0.2594)}$

where

E = allowable emission limit for particulate matter in lb/million Btu.
Q = maximum heat input in million Btu/hour. (based on fuel burned for the purpose of producing heat or power by indirect heat transfer)

Based on the above equation the emissions of particulate matter from the combustion of natural gas and No. 2 fuel oil, that are discharged from (ID No. ESHOH1) into the atmosphere shall not exceed 0.29 pounds per million Btu heat input. The particulate matter emissions from firing of natural gas and No. 2 fuel oil will always be lower than the allowable limit and the source will always be in compliance with this regulation. There are no monitoring, record keeping, and reporting requirements for the combustion of these fuels at this source.

iv) 15A NCAC 02D .0524: NSPS 40 CFR PART 60 SUBPART Dc

The Oil heater (ESHOH1) shall not be subject to this regulation because of its size (less than 10 million Btu per hour heat input).

v) 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.

NC DAQ has developed this guidance to provide standards and compliance procedures that it has determined meet the requirements of § 112(j) (http://daq.state.nc.us/permits/112j/).

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. The facility proposed to comply with the filterable particulate matter (PM), mercury (Hg), and carbon monoxide (CO) emission limitations that are consistent with the NC DAQ application guidance. NC DAQ has developed this guidance to provide standards and compliance procedures that it has determined the requirements of 112(j). Filterable PM emission limitations are a surrogate for non-mercury metal hazardous air pollutants (HAP).

To demonstrate compliance with the standards, the facility will be required to conduct an annual compliance test. In most cases, the compliance test will be a stack test. However, the Permittee may chose to conduct a fuel analysis to demonstrate compliance with the mercury limit. Also, if stack test results show that emissions from an affected source are less than 80%

of any applicable emission limitation, the frequency of testing for that pollutant shall be reduced from once per year to once every five years.

For the firing of natural gas and No. 2 fuel oil at these sources no control technologies for the control of CO, metals, Hg, or HCl were identified for natural gas and No. 2 fuel oil fired sources 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 and No.2 fuel-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 sources as follows:

To assure compliance, the applicant shall perform an annual 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 sources 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.

The permit does include some natural gas/No. 2 fuel oil direct fired heaters (ID Nos. ESCMH1, ESCMH2, ESCMH3, and ESLFH) and natural gas/No. 2 fuel oil-fired boiler (ESBLR1) that were not included under this regulation. The direct fired heaters (ID Nos. ESCMH1, ESCMH2, ESCMH3, and ESLFH) were not included since the NC DAQ's application guidance specifically excludes units whose exhaust gases come in direct contact with process materials. The natural gas/No. 2 fuel oil-fired boiler (ESBLR1) was permitted in 2008, but has not been constructed. Therefore, this unit is not included in the application.

vi) 15A NCAC 2D .1111: Maximum Achievable Control Technology (MACT)
40 CFR Part 63 Subpart LLLLL (Asphalt Processing and Asphalt Roofing Manufacturing)

The particulate matter emissions limit for this MACT is 0.08 pounds per ton **of asphalt shingle or mineral-surfaced roll roofing produced.** The applicant requested to add the wording "when summed for each existing asphalt roofing manufacturing line" for various sources subject to this MACT. The rationale they offered was that specific sections of the air permit call out the control devices and there are "multiple control devices on a line like line 1 has CDME and CDFTR2, where line 2 has CDESP and CDFTR on the line."

On review of the MACT language as written in the permit language "0.08 pounds per ton, lb/ton of asphalt shingle produced." Is generally correct and seems like a conservative way to measure the emissions. However, based on the concerns of the applicant that this limit is mentioned under several individual control devices, it was decided to put this limit **also,** under Section 2.2. i. 1. i., of the permit.

vii) 15A NCAC 2D .1111: Maximum Achievable Control Technology (MACT)
40 CFR Part 63 Subpart ZZZZ (Reciprocating Internal Combustion Engines)

The permit includes a diesel fuel-fired emergency generator (ID No. ESEDG, 2,500 kw) located at this facility. As per the current permit (Section 2.1 G. 3.) there is a place-holder permit language stating that this source shall comply with MACT Subpart ZZZZ. Since this MACT has kicked in since the last permit modification, this language has to be substituted with the final MACT regulations demonstrating compliance. While the facility is in the process of Indicating compliance, the place-holder permit language will stay when this application and draft permit are subject to EPA and Public review. The final language for this MACT has to be incorporated before the permit is issued.

4. Administrative Amendment

Application # 3900040.09C is for an administrative amendment for incorporation of the operating limits for CDFTR2 established during the performance test as stipulated in the current permit Section 2.2. i. 1. a. i. The testing has been done for this control device and operating limits established. The limits are as follows:

i. 3-hour average inlet gas temperature at or below 103.6 degrees Fahrenheit, and
ii. 3-hour average pressure drop across of the device at or below 10.4 inches of H2O.

This requirement is stipulated in Section 2.2. i. 1. n., of the modified permit.

5. Conclusions, Comments, and Recommendations

A professional engineer's seal and consistency determination was not required for this modification.

Regional Office and the applicant were provided a draft of this permit for their comments and their comments were taken into account.

Based on the latest inspection done on April 29, 2010, by Mr. Steve Carr the facility appeared to be in compliance with all requirements outlined in the air permit except 2D .0521 requirements of daily visible emissions monitoring during No.6 fuel oil usage.

6. Permit Modification/Changes

Summary of Changes Made to the Previous Permit (ID No. 03663T27)

Page	Section	Description of Change(s)

Page	Section	Description of Change(s)
8 and 9	Source table	Sources ID Nos. ESPH1, ESPH2, ESSH1, ESB1, ESB2, ESSCH1, ESSCH2, ESSCH2, ESHOH2, ESHOH4, and ESHOH1 subject to 112(j) Case-by-Case MACT
26	2.1 F. 1. a. ii.	2D .503 limit for ESHOH1
29 to 30	2.1 F. 5.	Source subject to Case-by-Case MACT
36	2.2 i. 1. a. i.	MACT LLLLL particulate matter standard
37	2.2 i. 1. a. n.	Temperature and pressure operating limits for Ceco filter (ID No. CDFTR2)
51 through 60	General Conditions	Updated