

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Application Review

Issue Date: **TBD**

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900077
Inspector's Name: Stanley Williams
Date of Last Inspection: 02/09/2017
Compliance Code: 3 / Compliance - inspection

Facility Data				Permit Applicability (this application only)			
Applicant (Facility's Name): Triangle Brick Company - Merry Oaks Facility Address: Triangle Brick Company - Merry Oaks 294 King Rd Moncure, NC 27559 SIC: 3251 / Brick And Structural Clay Tile NAICS: 327121 / Brick and Structural Clay Tile Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				SIP: 02D: .0515, .0516, .0521, .0524, .1100, .1806 02Q: .0317, .0711 NSPS: OOO, UUU NESHAP: n/a PSD: n/a PSD Avoidance: SO2 NC Toxics: 02D .1100, 02Q .0711 112(r): n/a Other: HAP-Major avoidance			
Contact Data				Application Data			
Facility Contact	Authorized Contact	Technical Contact		Application Number: 1900077.17B Date Received: 12/14/2017 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 06897/T11 Existing Permit Issue Date: 01/23/2018 Existing Permit Expiration Date: 07/31/2018			
Buck Reece Director of Manufacturing (919) 387-9258 294 King Road Moncure, NC 27559	Howard Brown, Jr. CEO (919) 544-1796 6523 NC Highway 55 Durham, NC 27713+9413	Howard Brown, Jr. CEO (919) 544-1796 6523 NC Highway 55 Durham, NC 27713+9413					
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2016	4.58	9.31	6.12	42.28	47.96	27.17	18.23 [Hydrogen fluoride (hydrofluori)]
2015	4.85	9.07	5.29	40.57	25.35	47.57	29.14 [Hydrogen fluoride (hydrofluori)]
2014	4.30	8.54	4.99	38.60	24.08	1.71	0.7554 [Hydrogen chloride (hydrochlori)]
2013	4.27	8.60	4.66	39.31	24.58	1.68	0.7493 [Hydrogen chloride (hydrochlori)]
2012	3.81	7.67	4.15	35.03	21.90	1.39	0.6677 [Hydrogen chloride (hydrochlori)]
Review Engineer: Russell Braswell Review Engineer's Signature: _____ Date: _____				Comments / Recommendations: Issue 06897/T12 Permit Issue Date: TBD Permit Expiration Date: TBD			

1. Purpose of Application:

Triangle Brick Company - Merry Oaks (TBC) currently operates a brick factory in Chatham County. The facility operates under Title V permit 06897T11. The existing permit is set to expire on July 31, 2018. TBC submitted this application in order to renew the existing Title V permit.

2. Facility Description:

According to Stanley William's most recent inspection report: "The Merry Oaks Plant operates three brick kilns (Kiln ID Nos. 1, 2, 3) and historically has manufactured approximately 4 million bricks per week. Kilns 1 and 2 were installed in 1991 and each has a capacity of 24 cars/day. Each brick car serving Kilns 1 and 2 can hold a maximum of 6,408 bricks. Using a conservative factor of 4.5 pounds/brick, the ton per hour process rate for Kilns 1 and 2 calculates to 13.8 tons /hour. The maximum permitted production rate for each kiln is 14.5 tons/hour. Kiln 3 began operation in 1999. According to staff, the kiln has a capacity for 25 cars /day. The brick cars serving Kiln 3 can hold 18,144 brick each. The ton per hour process rate for kiln 3 calculates to 27.2 tons per hour. The maximum permitted production rate for Kiln 3 is 29 tons/hour."

3. History/Background Since the Previous Permit Renewal:

- August 21, 2013 Permit T10 issued. This action renewed the Title V permit and added the Case-by-Case MACT for brick factories to the permit.
- January 23, 2018 Permit T11 issued. This was a TV-Significant application. This action added an avoidance condition for HAP-Major status, and thus allowed the facility to be exempt from both the Case-by-Case MACT and MACT Subpart JJJJ.

4. Application Chronology:

- December 18, 2017 Application received in Central Office.
- January 23, 2018 Permit T11 issued.
- January 31, 2018 An initial draft of the permit and technical review were sent to DAQ staff (Tom Anderson, Mark Cuilla, Samir Parekh, Stanley Williams, Charles McEachern), TBC staff (Howard Brown, Jr), and ERM NC staff (Michael Cantoni). See Attachment 2 for a summary of comments received.
- March 1, 2018 Email sent to Beth Barfield (consultant for ERM NC) regarding a new testing condition for Kilns 1 and 2. She responded by email on March 15, 2018.
- XXXXX Public / EPA notice
- XXXXX Permit issued.

5. Permit Modifications/Changes and TVEE Discussion:

The list of changes to the permit can be found in Attachment 1.

6. Regulatory Overview:

TBC is subject to the following State Implementation Plan (SIP) and Federal regulations, in addition to the requirements in the General Conditions:

- 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes"
- 15A NCAC 02D .0516 "Sulfur Dioxide from Combustion Sources"
- 15A NCAC 02D .0521 "Control of Visible Emissions"
- 15A NCAC 02D .0524 "New Source Performance Standards"
(40 CFR Part 60, Subparts OOO, UUU)
- 15A NCAC 02D .1100 "Control of Toxic Air Pollutants"
- 15A NCAC 02D .1806 "Control and Prohibition of Odorous Emissions"
- 15A NCAC 02Q .0317 "Avoidance Conditions"
(PSD Avoidance, MACT Avoidance)
- 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit"
- 40 CFR Part 63, Subpart CCCCCC

An extensive review for the following applicable regulations is not included in this document: 02D .0515, .0516, .0521. The facility's status with respect to these regulations has not changed. The permit will be updated to reflect the most current stipulations for all applicable regulations.

For a review of permit changes and an explanation of rules included in the permit, see Section 7, below.

7. Rules Review

a. New Source Performance Standards (NSPS)

1. Subpart OOO "Nonmetallic Mineral Processing Plants"

This rule applies to mineral processing facilities that were built or modified after 1983 and also crush mineral material on-site. All of the mineral-handling sources at this facility are subject to this rule.

The rule limits VE and PM emissions from all sources. The specific limit changes based on the type of process, if the process is located in an enclosed building, and/or if it was constructed after 2008. In order to demonstrate compliance with this rule, TBC must perform regular VE checks of the mineral processing sources. If VE greater than normal is observed, TBC must conduct a more stringent VE determination (e.g. a Method 9 or a Method 22 test, as applicable). TBC must also perform regular maintenance on all sources and keep records of all observations and maintenance. Records must be reported twice per year.

TBC appeared to be in compliance with this rule during the most recent inspection. Continued compliance will be determined during subsequent inspections.

The permit conditions for NSPS Subpart OOO have been updated for clarity, but the requirements are unchanged.

2. *Subpart UUU "Calciners and Dryers in Mineral Industries"*

This rule applies to calciners and dryers located at mineral processing plants and that were constructed after 1986. The rotary coatings dryer is subject to this rule.

The rule limits VE and PM emissions from all subject sources. In order to demonstrate compliance, TBC must perform regular VE checks of the mineral processing sources. If VE greater than normal is observed, TBC must conduct a more stringent VE determination (e.g. a Method 9 test). TBC must also perform regular maintenance on all sources and keep records of all observations and maintenance. Records must be reported twice per year.

It should be noted that this is not the monitoring plan described in the Rule, but DAQ has accepted this alternate monitoring plan in the past. Therefore, the permit requirements will not be changed.

TBC appeared to be in compliance with this rule during the most recent inspection. Continued compliance will be determined during subsequent inspections.

The permit conditions for NSPS Subpart UUU have been updated for clarity, but the requirements are unchanged.

b. Maximum/Generally Available Control Technology (MACT/GACT)

This facility is considered an Area Source for HAP emissions. Therefore, rules that apply specifically to HAP-Major Sources (e.g. MACT Subpart JJJJ) will not apply to this facility.

1. *02Q .0317 "Avoidance Conditions" (MACT Avoidance)*

This facility is considered an Area Source for hazardous air pollutant (HAP) emissions. This facility maintains this designation by complying with an enforceable facility-wide emission limit for HAPs. The limits are a) less than 10 tons of any individual HAP, and b) less than 25 tons of total HAP.

In order to demonstrate compliance with the avoidance limit, the facility must operate the dry lime adsorber (DLA) at all times (excluding periods of maintenance and malfunction). Records of DLA operation and maintenance must be kept and reported twice per year. TBC must also calculate the facility-wide HAP emissions on a monthly and rolling 12-month basis and report them twice per year.

At the recommendation of Regional Office, a condition has been added to the permit that requires testing of Kilns 1 and 2 when they eventually restart. These kilns have not operated in several years, so operating parameters for the kilns and associated DLA must be reestablished.

Compliance with this rule will be determined with subsequent inspections and reports.

2. *Subpart CCCCCC "Gasoline Dispensing Facilities"*

This rule applies to all sources that dispense gasoline and are located at HAP-Area Sources. The rule differentiates between sources based on their monthly dispensing rate. The gasoline tank IS-Tank6 is subject to this rule, and is subject to the sub-10,000 gallons per month category.

For sources of this category, the rule requires that the facility operate with good work practices, and not handle gasoline in a manner that would result in vapor releases to the atmosphere for extended periods of time. According to §63.11111(j), no other parts of this rule apply to IS-Tank6.

Compliance with this rule will be determine during subsequent inspections.

Note that because this rule only applies to a source on the Insignificant Activities list, the permit will not include a specific condition for this rule (or for 02D .1111). TBC will still have to comply with this rule.

3. *Subpart RRRRRR "Clay Ceramics Manufacturing Area Sources"*

This rule applies to all sources that meet the definition of "clay ceramics manufacturing facility" in §63.11444. Brick manufacturing is not included in this definition, so this rule does not apply to this facility.

c. Prevention of Significant Deterioration (PSD)

This facility has not undergone a PSD review, and the facility is considered Minor for PSD purposes. The facility is avoiding a future PSD review by limiting the amount of SO₂ emitted to less than 250 tons per year.

In order to comply with the PSD avoidance limit, the facility must keep records of fuel burned and bricks made in the kilns. Using this information, the facility calculates and reports the amount of SO₂ emitted. Additionally, the facility must limit the sulfur content of any fuel oil burned in the kilns.

Continued compliance with this condition will be determined with subsequent inspections and reports.

d. Section 112(r) of the Federal Clean Air Act

The facility does not appear to store any 112(r)-subject materials above their respective thresholds. Therefore, the facility does not have any increased requirements under Section 112(r) of the Clean Air Act.

e. Reasonably Available Control Technology (RACT)

The facility is not located in an area of ozone nonattainment, therefore RACT does not apply.

f. Compliance Assurance Monitoring (CAM)

CAM applies to a control device if the following criteria are met:

1. The unit being controlled is subject to a non-exempt emission standard (as defined by 02D .0614(b)(1)),
2. The control device is being used to comply with the emission standard, and
3. The unit being controlled has potential emissions of the pollutant subject to the emission standard of greater than major source thresholds.

The only control devices used at the facility are for hydrogen chloride and hydrogen fluoride, which are both HAPs and TAPs. The permit contains two emission limits for these pollutants: 02Q .0317 and 02D .1100. Emission limits under 02Q .0317 do not trigger CAM because they are exempt per 02D .0614(b)(1)(E). TAPs do not have a major source threshold.

Therefore, CAM does not apply to this facility.

8. Toxic Air Pollutants

The permit contains emission limits for TAPs under two conditions: 02D .1100 and 02Q .0711.

a. 02D .1100

This facility has previously submitted air dispersion modeling for several TAPs. The modeled emission rates are greater than the facility's potential emission rates, so no monitoring, recordkeeping, or reporting is required to demonstrate compliance with this condition.

b. 02Q .0711

This facility emits several TAPs at rates less than the limits in 02Q .0711(a). Because the emission rates are below these limits, no air dispersion modeling is required. This facility does not have the potential to emit more than the limits in the condition, so no monitoring, recordkeeping, or reporting is required to demonstrate compliance with this condition.

9. Facility Emissions Review

This permit renewal is not expected to change potential emissions from the facility.

For a historical review of actual emissions from the facility, see the summary table on the first page of this review.

10. Compliance Status

a. Notices of Violation/Recommendation for Enforcement since the previous renewal

May 12, 2017 NOV issued for a failed stack test. TBC performed emission testing to demonstrate compliance with the acid gas and PM emission limits included in the Case-by-Case MACT for Brick Manufacturers. The first test (September 2016) exceeded the emission limit, but subsequent testing (February 2017) complied with the limit. Note that the permit condition for the CBCM was removed with the T11 permit revision.

b. Inspection status

The facility was most recently inspected by Stanley Williams on February 9, 2017. At the time of that inspection, TBC had not yet performed a successful stack test for the CBCM. Therefore, the inspection report notes that TBC was not in compliance with all permit conditions at the time of that inspection.

11. Other Regulatory Concerns

A PE seal was not required for this permit renewal.

A zoning consistency form was not required for this permit renewal.

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

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA.

Also, pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice is provided to the public under 02Q .0521 above. Virginia is an affected state program and Forsyth County is an affected local program within 50 miles of the facility.

13. Recommendations

Issue permit 06897T12.

DRAFT

Change List

Insert change list from final permit

DRAFT

Comments Received on Initial Draft

- Mark Cuilla, by email on February 2, 2018

Mark pointed out several typos in the permit and review.

Response: I have fixed the indicated issues.

- Beth Barfield, by email on February 21, 2018

1. Beth pointed out several typos in the permit and review.

Response: I have fixed the indicated issues.

2. As the draft is written, it would require a testing protocol to be submitted before every routine opacity observation. This should not be required because these observations must be done contemporaneously.

Response: It was not my intention to require a protocol and notification for routine opacity observations. I suggested a fix to the draft language, and Beth agreed with the fix in an email on March 15, 2018.

3. The draft includes a limit for PC-6 as though it exhausts through building vents. There are no building vents (as defined by NSPS OOO) for PC-6.

Response: Fixed.

4. The emission summary table in the review differs from the emission inventory submissions for this facility.

Response: I spoke with Stanley Williams (who reviews the emission inventory submissions for this facility) regarding this issue. He stated that there are normally minor corrections to the submitted data, and he believes these corrections caused this difference. Therefore, no additional change to the draft review is required.

- Stanley Williams, by email on February 23, 2018

5. Stanley pointed out several typos in the permit and review.

Response: I have fixed the indicated issues.

6. Stanley mentioned that Kilns 1 and 2 and the associated control device CD-K1K2 have been inactive for several years. They should be required to re-test upon their first restart.

Response: I agree. I have added a testing condition to the permit.