

Air Permit Review

Permit Issue Date: **October 29, 2010**

Region: Raleigh Regional Office
County: Chatham
NC Facility ID: 1900104
Inspector's Name: Steven Carr
Date of Last Inspection: 03/04/2010
Compliance Code: C/In Compliance With
Procedural Requirements

Facility Data			Permit Applicability		
Applicant: 3M Industrial Mineral Products 4191 Highway 87 South Moncure, NC 27559 SIC: 3295 / Minerals, Ground Or Treated NAICS: 327992 / Ground or Treated Mineral and Earth Mfg. Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V			SIP: 2D .0503, .0510, .0515, .0516, .0521, .0540, .0614, and .0958 NSPS: Subparts OOO and UUU NESHAP: Not applicable PSD: Not applicable PSD Avoid.: Not applicable NC Toxics: 2Q .0711 112(r): Not applicable Other: 2D .1806 and 2Q .0317 to avoid 2D .1111		
Contact Data			Application Data		
Facility Contact	Authorized Contact	Technical Contact	Application Number: 1900104.09A & .10B Date Received: 02/25/2009 Application Type: Renewal Application Schedule: TV-Renewal Existing Permit Data Existing Permit Number: 09006/T02 Existing Permit Issue Date: 03/29/2010 Existing Permit Expiration Date: Date renewal of Permit No. 09006T02 is issued or denied.		
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Review Engineer: David Putney Review Engineer's Signature: _____ Date: _____			Comments / Recommendations:		
			Issue 09006/T03 Permit Issue Date: October 29, 2010 Permit Expiration Date: September 31, 2015		

I Reason for Application:

Facility Description: 3M Industrial Mineral Products currently operates the 3M Roofing Granule Manufacturing Operations facility in Moncure, North Carolina under Permit No. 09006T02. This facility produces various types of stone granules for sale to the asphalt shingle industry. The raw material used at this facility is stone provided by the Luck Stone Corporation who operates a stone crushing operation on this same property. The source descriptions and regulatory reviews in this document borrow heavily from the review associated with Permit No. 09006T01.

Permit Modification: The Permittee submitted application 1900104.09A to renew (without any modification) current Permit No. 09006T02. The Permittee subsequently submitted application 1900104.10B as the second part of the significant permit modifications (i.e. addition of a second dust suppressant in the 3 coolers, ID Nos. ESCPC1, ESCPC2, and ESCPC3; and addition of a synthetic minor condition for HAP pursuant to 2Q .0317 to avoid 2D .1111) that were added to Permit No. 09006T02 via permit application 1900104.10A. Application 1900104.10B has been consolidated into application 1900104.09A.

II Regulatory review for rules that apply to emissions from individual source categories:

A. Crushing and Screening Operations, including:

- Dryer and G crusher conveyor No. 9 (G crusher to screens No. 2 and No. 3 feed bin) (ID No. ES16-A);
- L crusher product conveyor No. 17, two pickups, (M feed transfer bin and L crusher No. 1 to M screen feed bin) (ID No. ES32.1);

- Plant feed conveyor No. 1 (feed pile to surge bin) (ID No. ES123);
- Surge bin (ID No. ES412);
- Feed conveyor No. 2 (surge bin to C crusher) (ID No. ES607.1);
- C crusher (ID No. ES607.2);
- G crusher feed bin No. 1 (ID No. ES2327A);
- G crusher feed conveyor No. 8A (G crusher feed bin No. 1 to G crusher No. 1) (ID No. ES2426.1);
- G crusher No. 1 (ID No. ES2426.2);
- M feed transfer bin (ID No. ES3031);
- L crusher bin No. 1 (ID No. ES3941);
- L crusher feed conveyor No. 16A (L crusher feed bin to L crusher) (ID No. ES4347.1);
- L crusher (ID No. ES4347.2); and
- Conveyor No. 23A (baghouse hopper screw conveyor to dust conveyor No. 23B) (ID No. ESC23A.1)

With associated crusher baghouse No. 1 (6,500 square feet of filter area; ID No. CDB1)

- L crusher product conveyor No. 17 (L crushers to conveyor No. 18A) (ID No. ES32A);
- Conveyor No. 18A (L crusher product conveyor No. 17 to live M screens feed bin) (ID No. ES32B);
- Live M screens feed bin, two pickups (ID No. ES340-A);
- D screen bin No. 2 (ID No. ES1721A);
- D screen No. 2 feeder (ID No. ES1721B);
- D screen No. 2 (ID No. ES1721C);
- G crusher bin feed conveyor No. 5 (D screen No. 2 to G crusher bins) (ID No. ES1721D);
- L circuit new feed conveyor No. 13 (D screen No. 2 to M transfer bin) (ID No. ES1721E);
- M screen No. 1 (ID No. ES3537A);
- M screen No. 2 (ID No. ES3537B);
- M screen No. 3 (ID No. ES3537C);
- L feed bin conveyor No. 14, three pickups (M screens to L crusher bins) (ID No. ES3537D);
- Grade collecting conveyor No. 19, three pickups (M screens Nos. 1, 2, and 3 to M screens Nos. 4, 5, and 6) (ID No. ES3537E);
- Waste conveyor No. 21, three pickup points (M screens to waste bin) (ID No. ES3537F);
- D screen bin No. 1 (ID No. ES8913A);
- D screen No. 1 feeder (ID No. ES8913B);
- D screen No. 1 (ID No. ES8913C);
- Undersize conveyor No. 3 (D screen No. 1 to dryer feed conveyor No. 7) (ID No. ES8913D);
- C bin feed conveyor No. 4 (D screen No. 1 to C crusher bin) (ID No. ES8913E);
- Dryer feed conveyor No. 7 (undersize conveyor No. 3 to dryer) (ID No. ES8913F); and
- Product conveyor No. 3 (C crusher to D screen bin No. 1) (ID No. ESC3)

With associated screen baghouse No. 1 (11,750 square feet of filter area; ID No. CDB2)

- Conveyor No. 23A (dryer baghouse hopper screw conveyors to dust conveyor No. 23B) (ID No. ESC23A.2)

With associated dryer baghouse (12,300 square feet of filter area; ID No. CDB3)

- Dryer and G crusher product conveyor No. 9 (G crusher to screens No. 2 feed bin) (ID No. ES16-B);
- Conveyor No. 18A (conveyor No. 17 to conveyor No. 18B) (ID No. ES33A);
- Conveyor No. 18B (conveyor No. 18A to live M feed bin) (ID No. ES33B);
- Live M feed bin, two pickups (ID No. ES340-B);
- D screen bin No. 3 (ID No. ES1822A);
- D screen feeder No. 3 (ID No. ES1822B);
- D screen No. 3 (ID No. ES1822C);
- Feed conveyor No. 5, two pickups (D screens Nos. 2 and 3 to G crusher bin) (ID No. ES1822D);
- M screen No. 4 (ID No. ES3537G);
- M screen No. 5 (ID No. ES3537H);
- M screen No. 6 (ID No. ES3537I);

- L crusher feed bin conveyor No. 14, three pickups (M screens to L crusher) (ID No. ES3537J);
- Grade collecting conveyor No. 19, three pickup points (M screens to grade silos) (ID No. ES3537K);
- Waste conveyor No. 21, three pickups (M screen to waste bin) (ID No. ES3527L); and
- Dust conveyor No. 23C (baghouse hopper to dust elevator) (ID No. ESC23C)

With associated screen baghouse No. 2 (9,000 square feet of filter area; ID No. CDB4)

- Dryer and G crusher product conveyor No. 9 (G crusher to screens No. 2 feed bin) (ID No. ES16-C);
- L crusher product conveyor No. 17 (L crushers and M feed transfer bin to M screen feed bin) (ID No. ES32.2);
- Conveyor No. 14 (M screens to conveyor No. 14A) (ID No. ES38);
- Conveyor No. 14A (conveyor No. 14 to L crusher feed bins) (ID No. ES39);
- G crusher bin No. 2 (ID No. ES2327);
- Feed conveyor No. 6 (D screens to G crusher bins) (ID No. ES2327B);
- G crusher feed conveyor No. 88 (G crusher bin to G crusher) (ID No. ES2729.1);
- G crusher No. 2 (ID No. ES2729.2);
- Feed conveyor No. 14A to L crusher bin No. 2 (ID No. ES4042);
- L crusher bin No. 2 (ID No. ES4043);
- Feed conveyor 16B to L crusher No. 2 (ID No. ES4044)
- L crusher feed conveyor No. 16B (ID No. ES4448.1); and
- L crusher No. 2 (ID No. ES4448.2)

With associated crusher baghouse No. 2 (5,250 square feet of filter area; ID No. CDB5)

- Dust conveyor No. 23C (baghouse hopper loadout to dust elevator) (ID No. ES23C);
- Grade collection conveyor No. 19 (M screens to grade bucket elevator) (ID No. ES49A);
- Grade bucket elevator, two pickups (grade collecting conveyor 19 to grade transfer conveyor 20) (ID No. ES49B);
- Grade transfer conveyor No. 20, two pickups (grade bucket elevator to grade silos) (ID No. ES50);
- Grade silo conveyor No. 26, three pickups (grade silos to bin discharge bucket elevator) (ID No. ES57);
- Grade transfer conveyor No. 27 (bin discharge elevator to coloring plant) (ID No. ES58);
- Bin discharge bucket elevator No. 4, two pickups (ID No. ES59);
- Grade silo No. 1 (ID No. ES5155A);
- Grade silo No. 2 (ID No. ES5155B); and
- Grade silo No. 3 (ID No. ES5155C)

With associated grade silo baghouse (5,250 square feet of filter area; ID No. CDB6)

- Dust conveyor No. 23C (hoppers for screens, grade silo, and waste baghouses to dust elevator) (ID No. ES63A);
- Dust elevator, two pickups (ID No. ES63B);
- Waste conveyor No. 21 (ID No. ES68A);
- Waste elevator, two pickups (ID No. ES68B);
- Dust bin (ID No. ES6466);
- Waste bin (ID No. ES6970); and
- Dust bin screw conveyor (waste handling baghouse hopper to pugmill) (ID No. ES6466SC)

With associated waste handling baghouse (2,750 square feet of filter area; ID No. CDB7)

- D Screen No. 4 assembly (includes the vibrator) (ID No. ESA1);
- Load-in to conveyor No. 18C (ID No. ESA5);
- Line 3 live M feed bin (ID No. ESA6);
- Line 3 M screen assemblies (ID No. ESA7); and
- Screen baghouse No. 3 ash loadout (ID No. ESA11)

With associated screen baghouse No. 3 (9,000 square feet of filter area; ID No. CDB16)

- G bin feed conveyor No. 6 loadout to bin feed conveyor No. 6A (ID No. ESA2);
- G feed bin No. 3 (ID No. ESA3);

- G crusher No. 3 (ID No. ESA4);
- Feed bin No. 3 (ID No. ESA8);
- L crusher No. 3 (ID No. ESA9); and
- Crusher baghouse No. 3 ash loadout (ID No. ESA12)

With associated crusher baghouse No. 3 (6,500 square feet of filter area; ID No. CDB17)

Other Sources in crushing and screening plant

- Enclosed dust conveyor No. 23B (dust conveyor No. 23A to transfer conveyor No. 23C) (ID No. F61);
- Enclosed waste stacker conveyor No. 25 with wet suppression (pugmill to outside storage) (ID No. F72);
- Enclosed pugmill with wet suppression (dust and waste processing) (ID No. F6771); and
- Waste pile (ID No. FWP)

The Crushing and Screening Plant receives stone from the Luck Stone Quarry Operation, located on the premises. Processing consists of repeated steps of crushing and screening the rock until it is uniformly sized to Grade 11. Then, the crushed rock is fed by underground conveyor from the storage pile to the secondary crusher. The crushed material is next sent to screening equipment where the smaller material is sent to a dryer and the oversize rocks are returned to the crusher for further size reduction. After drying, the material is sent to another screening operation. Particles in the desired size range are conveyed to the storage bins, but the unacceptable oversized granules are sent to tertiary crushers for further size reduction. The final screening process takes place at screens fed by the storage bin. All of the properly sized material is conveyed from here to Raw Granule Storage. The oversized material is sent to the quaternary crusher for final size adjustment and, after crushing, is re-circulated through the screeners. This cycle continues until the material is small enough to be sent to Raw Granule Storage or is too small for use as roofing granule and is screened out for disposal. These grade 11 granules are the plant's final product. The granules are eventually sent from storage to the Coloring Plant as raw material for production of colored roofing granules.

i. 15A NCAC 2D .0510 “Particulates from Sand, Gravel, or Crushed Stone Operations”

This rule specifies that:

- (a) The owner or operator of a sand, gravel, or crushed stone operation shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter (both PM-10 and total suspended particulates);
- (b) Fugitive non-process dust emissions from sand, gravel, or crushed stone operations shall be controlled in accordance with 2D .0540 (see Section II A.iii, below); and
- (c) The owner or operator of any sand, gravel, or crushed stone operation shall control process-generated emissions as follows:

From crushers - with wet suppression; and

From conveyors, screens, and transfer points - such that the applicable opacity standards in 2D .0521 or 2D .0524 are not exceeded. The Permittee has indicated that all such sources at this facility are subject to 2D .0524 (see Section II A.ii, below). Therefore, in accordance with 2D .0521(b), the limits of 2D .0521 do not apply.

The processes at this facility that are located inside of the Crushing and Screening Buildings are dry operations, and do not employ wet suppression. These systems are enclosed and use baghouses to control emissions of particulate. Confidential process diagrams indicate that all conveyors are under negative pressure from one or more pick-ups which results in the collection of emissions at transfer points which have no pick-ups.

Compliance with this regulation is expected due to control via the associated baghouses, wet suppression, and enclosures. Further, this facility has a documented history of compliance with this regulation according to the inspection reports for this facility. Therefore, the conditions addressing 2D .0510 in Permit No. 09006T02 are maintained in Permit No. 09006T03 with some reformatting and rewording for clarity. The monitoring, recordkeeping, and reporting (MRR) requirements associated with this rule will remain a reference to the MRR requirement of 2D .0524 (i.e. NSPS Subpart OOO – see Section II A.ii, below).

ii. **15A NCAC 2D .0524 “New Source Performance Standards”
40 CFR Part 60, Subpart OOO “NSPS for Nonmetallic Mineral Processing Plants”**

Applicability: [40 CFR §60.670(a) and (e)]

The crushing and screening operations at this facility are a nonmetallic mineral processing plant constructed after 08/31/83. Therefore, any crushers, grinding mills, screening operations, bucket elevators, belt conveyors, bagging operations, storage bins, and/or enclosed truck or railcar loading stations located at this facility (other than those that qualify as wet material processing operations as defined in 40 CFR §60.671) are subject to the applicable requirements of 40 CFR Part 60, Subpart OOO. Note that this regulation was modified (see 74 FR 19309) such that new standards apply to sources constructed, modified or reconstructed after 04/22/08. However, the Permittee has indicated that the subject equipment has not been modified or reconstructed since that date.

Emission Limits: [40 CFR §60.672(a) and (e) and Tables 2 and 3 of Subpart OOO]

Subpart OOO requires that particulate emissions from affected sources located within a building (i.e. from a building vent) must not exceed 0.05 grams per dry standard cubic meter (0.022 grains per dry standard cubic foot) and visible emissions must not exceed 7 percent opacity. Fugitive emissions are limited to 10 percent opacity. The Permittee demonstrated compliance with these limits via initial testing conducted on 09/26/07 (for silo No. 3 – ID No. ES5155C) and 08/05/02 through 08/08/02 (for all other sources).

Current Permit No. 09006T02 prohibits the Permittee from emitting any fugitive visible emissions from any building enclosing an affected source. That is, any emissions from a building enclosing an affected source must be emitted through a vent. This requirement is maintained in Permit No. 09006T03.

Monitoring: [15A NCAC 2Q .0508(f)]

Subpart OOO does not include any monitoring requirements for the existing subject sources. However, current Permit No. 09006T02 requires the Permittee to conduct monthly visible emissions monitoring of each building enclosing affected sources. These requirements are maintained in Permit No. 09006T03.

Recordkeeping: [15A NCAC 2Q .0508(f)]

Subpart OOO does not include any recordkeeping requirements for the existing subject sources. However, current Permit No. 09006T02 also requires the Permittee to maintain records of the required monthly visible emissions monitoring. These requirements are maintained in Permit No. 09006T03.

Reporting: [15A NCAC 2Q .0508(f) and 40 CFR §60.676]

Paragraph §60.676(a) requires the Permittee to submit information concerning the rated capacity and/or size of existing equipment and the replacement equipment if the Permittee wishes to take advantage of the exemption found at §60.670(d)(1). Current Permit No. 09006T02 also requires the Permittee to submit semiannual summary reports and to submit reports of any non-compliant visible emissions observed within 5 business days of the associated observation. These requirements are maintained in Permit No. 09006T03.

iii. 15A NCAC 2D .0540 “Particulates from Fugitive Non-Process Dust Emission Sources”

This rule requires the Permittee to prevent fugitive dust emissions from the facility from causing or contributing to:

- (a) Substantive complaints [i.e. complaints that are verified with physical evidence]; or
- (b) Visible emissions (VE) in excess of those allowed pursuant to 2D .0540(e). That is, VE for which ambient air quality measurements or dispersion modeling show violation or a potential for violation of an ambient air quality standard for particulates in 2D .0400, or VE which DAQ personnel observe beyond the property boundary for six minutes in any one hour using Method 22 in Appendix A of 40 CFR Part 60.

Current Permit No. 09006T02 does not include any MRR requirements pursuant to 2D .0540 for the crushing and screening operations but does specify that the Permittee will be required to (1) submit a written description of actions that will be taken to reduce fugitive non-process dust emissions within 30 days of receipt of written notification of a second substantive complaint in a consecutive 12-month period, (2) submit a control plan within 90 days of receipt of written notification of a second substantive complaint in a consecutive 12-month period, (3) be in compliance with the control plan within 30 days after DAQ approves the control plan, and (4) submit a revised control plan within 90 days of receipt of written notification from DAQ of a deficiency in the control plan. These conditions are maintained in Permit No. 09006T03.

B. One natural gas-fired dryer (ID No. ES1415) with one associated simple cyclone (eight feet in diameter; ID No. CDC1) in series with one baghouse (12,300 square feet of filter area; ID No. CDB3)

This natural gas-fired unit is utilized to remove moisture from the crushed and screened granules of rock produced by the crushing and screening operations.

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

This rule applies to dryer ES1415 and limits the SO₂ emissions from this combustion device to 2.3 (lb/10⁶ Btu). Table 1.4-2 of Supplement D to the 5th edition of the AP-42 document predicts SO₂ emissions of 0.6 (lb SO₂/10⁶ ft³) from the combustion of natural gas. Assuming a heat value of 1,020 (Btu/ft³) for natural gas we can calculate:

$$SO_2 \text{ emissions} = \left[\frac{0.6 \text{ lbs } SO_2}{10^6 \text{ ft}^3} \right] \left[\frac{10^6 \text{ ft}^3}{1,020 \times 10^6 \text{ Btu}} \right] = 0.00059 \left(\frac{\text{lbs } SO_2}{10^6 \text{ Btu}} \right)$$

For this dryer, current Permit No. 09006T02 includes the standard language for the emission limits of 2D .0516 and the methods of testing for compliance (if/when required by DAQ) but does not require any additional testing or any MRR to demonstrate compliance with this rule. Permit No. 09006T03 will maintain these requirements since the permitted fuel is inherently compliant with this rule.

**ii. 15A NCAC 2D .0524 “New Source Performance Standards”
40 CFR Part 60, Subpart UUU “NSPS For Calciners and Dryers in Mineral Industries”**

Applicability: [40 CFR §60.730 and §60.731]

Dryer ES1415 meets the definition of a dryer provided in 40 CFR §60.731 and was constructed after 04/23/86 therefore, this source is subject to the requirements of 40 CFR Part 60, Subpart UUU. Note that this source is considered a dryer (as opposed to a calciner) for purposes of this regulation since this source removes uncombined water (as opposed to chemically bound water) from the rocks.

Emission Limits/Testing: [40 CFR §60.732]

Pursuant to 40 CFR §60.732, this dryer is subject to the following emission limits:

- (a) Particulate matter emissions shall not exceed 0.057 g/dscm; and
- (b) Visible emissions shall not exceed 10 percent opacity.

The Permittee most recently demonstrated compliance with these standards for dryer ES1415 on 08/06/02. The Permittee indicated that this source has not been modified since that testing was completed. Therefore, Permit No. 09006T03 will cite the applicable emission limits and include the standard shell testing language to address any future testing of this source but will not require additional testing at this time.

Monitoring/Recordkeeping/Reporting: [40 CFR §60.734 and §60.735]

Paragraph 40 CFR §60.734(a) requires the Permittee to install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from associated baghouse CDB3. Further, paragraphs 40 CFR §60.735(a) and §60.735(c)(1) require the Permittee to maintain records of the monitoring and to submit semiannual reports of any 6-minute periods during which the average opacity from baghouse CDB3 exceeds 10 percent. Current Permit No. 09006T02 also requires annual inspections/recordkeeping of ductwork, cyclone, and bagfilter for leaks and structural integrity. These requirements are maintained in Permit No. 09006T03.

C. Coloring Plant sources, including:

- Headlap bin (ID No. ESCP1012A);
- Transfer conveyor No. 27 (grade silos to headlap and raw granule bins, ID No. ESCP1012B);
- Raw granule bin No. 1 (ID No. ESCP1012C);
- Raw granule bin No. 2 (ID No. ESCP1012D);
- Line 1 dryer feed conveyor, two pickups (line 1 raw granule and rerun bins to dryer) (ID No. ESCPPFC1); and
- Line 2 dryer feed conveyor, two pickups (line 2 raw granule and rerun bins to dryer) (ID No. ESCPPFC2)

With associated raw granule baghouse (5,750 square feet of filter area; ID No. CDB8)

- Blend bin No. 1A (ID No. ESCPL1-280A);
- Product/blend bin No. 1B (ID No. ESCPL1-280B);
- Product bin No. 1C (ID No. ESCPL1-280C);
- Blend bin No. 2A (ID No. ESCPL2-280A);
- Product/blend bin No. 2B (ID No. ESCPL2-280B);
- Product bin No. 2C (ID No. ESCPL2-280C);
- R screen No. 1 (ID No. ESCPL1-600);
- R screen No. 2 (ID No. ESCPL2-600);
- R screen No. 3 (ID No. ESCPL3-600);
- Waste bin (ID No. ESCP900);
- Line 3 product elevator No. 9, product and blend bins (ID No. ESCPA9);
- R screen for line 3 (ROT4) (ID No. ESCPA10); and
- Line 1 rerun conveyor (consolidation conveyor to rerun elevator No. 1) (ID No. ESCPCC)

With associated finished granule baghouse (6,111 square feet of filter area; ID No. CDB15)

- Kiln feed elevator No. 3 (KFE3) (ID No. ESCPA6)

With associated line 3 kiln baghouse (11,111 square feet of filter area; ID No. CDB20)

Other sources in the Coloring Plant

- Truck loading with dust suppression (ID No. FCP44A);
- Truck loading with dust suppression (ID No. FCP44B);
- Finished product storage bins (ID No. FCP363940); and
- Product conveyor No. 1 and No. 2 loadouts to railcars (ID No. FCPA11)

The Coloring Plant receives the raw granules sent from storage, and processes them into roofing granules. The raw granules are fed into a mixer where all of the coloring and other key additives are added and mixed together. This mixture is conveyed directly to process equipment where the ingredients are dried and heated to several hundreds of degrees Fahrenheit (° F). As they are heated, all of the water is boiled off and the other constituents react on the granule surfaces, fusing to form a glassified siliceous surface that seals and protects the roofing granule from effects of weather.

i. 15A NCAC 2D .0510 “Particulates from Sand, Gravel, or Crushed Stone Operations”

This rule specifies that:

- (a) The owner or operator of a sand, gravel, or crushed stone operation shall not cause, allow, or permit any material to be produced, handled, transported or stockpiled without taking measures to reduce to a minimum any particulate matter from becoming airborne to prevent exceeding the ambient air quality standards beyond the property line for particulate matter (both PM10 and total suspended particulates),
- (b) Fugitive non-process dust emissions from sand, gravel, or crushed stone operations shall be controlled in accordance with 2D .0540 (see Section II A.iv, below); and
- (c) The owner or operator of any sand, gravel, or crushed stone operation shall control process-generated emissions as follows:

From crushers - with wet suppression; and

From conveyors, screens, and transfer points - such that the applicable opacity standards in 2D .0521 or 2D .0524 are not exceeded. The Permittee has indicated that all such sources at this facility are subject to 2D .0521 since the standards of 2D .0524 (i.e. NSPS Subpart OOO) do not apply (see Section II A.iii, below).

The processes at this facility that are located inside of the Coloring Building are dry operations, and do not employ wet suppression. These systems are enclosed and use baghouses to control emissions of particulate. Confidential process diagrams indicate that all conveyors are under negative pressure from one or more pick-ups which results in the collection of emissions at transfer points which have no pick-ups.

Compliance with this regulation is expected due to control via the associated baghouses and enclosures. Further, this facility has a documented history of compliance with this regulation according to the inspection reports for this facility. Therefore, the conditions addressing rule 2D .0510 in Permit No. 09006T02 are maintained in Permit No. 09006T03 with some reformatting and rewording for clarity. The MRR requirements associated with this rule will remain a reference to the MRR requirement of 2D .0521 (since NSPS Subpart OOO does not apply – see Section II C.iii, below).

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

The Coloring Plant sources were manufactured after 07/01/71. Therefore, except for those visible emissions (VEs) occurring during startup, shutdown, and malfunctions that are regulated under 2D .0535, paragraph 2D .0521(d) requires that the 6-minute average VEs from these sources be less than or equal to 20% opacity with the following exceptions:

- One six-minute average VE per hour may exceed 20% opacity as long as that VE does not also exceed 87% opacity; and
- Up to four six-minute average VEs per 24-hour period may exceed 20% opacity as long as those VEs do not also exceed 87% opacity.

Current Permit No. 09006T02 requires the Permittee to make monthly observations of the visible emissions from Coloring Plant sources, take corrective actions as necessary, and maintain records. Also, the Permittee is required to submit semiannual summary reports. These MRR requirements are maintained in Permit No. 09006T03.

**iii. 15A NCAC 2D .0524 “New Source Performance Standards”
40 CFR Part 60, Subpart OOO “NSPS for Nonmetallic Mineral Processing Plants”**

The coloring operations at this facility **do not qualify** as a nonmetallic mineral processing plant as defined at 40 CFR §60.671 and are therefore **not subject to NSPS Subpart OOO**.

iv. 15A NCAC 2D .0540 “Particulates from Fugitive Non-Process Dust Emission Sources”

This rule requires the Permittee to prevent fugitive dust emissions from the facility from causing or contributing to:

- (a) Substantive complaints [i.e. complaints that are verified with physical evidence]; or
- (b) Visible emissions (VE) in excess of those allowed pursuant to 2D .0540(e). That is, VE for which ambient air quality measurements or dispersion modeling show violation or a potential for violation of an ambient air quality standard for particulates in 2D .0400, or VE which DAQ personnel observe beyond the property boundary for six minutes in any one hour using Method 22 in Appendix A of 40 CFR Part 60.

Current Permit No. 09006T02 does not include any MRR requirements pursuant to 2D .0540 for the crushing and screening operations but does specify that the Permittee will be required to (1) submit a written description of actions that will be taken to reduce fugitive non-process dust emissions within 30 days of receipt of written notification of a second substantive complaint in a consecutive 12-month period, (2) submit a control plan within 90 days of receipt of written notification of a second substantive complaint in a consecutive 12-month period, (3) be in compliance with the control plan within 30 days after DAQ approves the control plan, and (4) submit a revised control plan within 90 days of receipt of written notification from DAQ of a deficiency in the control plan. These conditions are maintained in Permit No. 09006T03.

D. Three natural gas-fired dryers (ID Nos. ESCPPH1, ESCPPH2, and ESCPPH3) with three associated baghouses (7,111 square feet of filter area, each; ID Nos. CDB9, CDB10, and CDB18, respectively)

These natural gas-fired units are dryers by definition as listed in 40 CFR Part 60, Subpart UUU, because they are used to remove moisture from the crushed and screened granules of rock. They are not calciners as defined in that rule. Also, since the exhaust gases from the dryers have a separated emission stack from the calciners that follow after the mixing units, these dryers are by definition not “in series” in accordance with 40 CFR Part 60, Subpart UUU, §60.731.

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

This rule applies to the natural gas-fired dryers (ID Nos. ESCPPH1, ESCPPH2, and ESCPPH3) and limits the SO₂ emissions from these combustion devices to 2.3 (lb/10⁶ Btu).

Table 1.4-2 of Supplement D to the 5th edition of the AP-42 document predicts SO₂ emissions of 0.6 (lb SO₂/10⁶ ft³) from the combustion of natural gas. Assuming a heat value of 1,020 (Btu/ft³) for natural gas we can calculate:

$$SO_2 \text{ emissions} = \left[\frac{0.6 \text{ (lb SO}_2\text{)}}{10^6 \text{ ft}^3} \right] \left[\frac{10^6 \text{ ft}^3}{1,020 \times 10^6 \text{ Btu}} \right] = 0.00059 \left(\frac{\text{lb SO}_2}{10^6 \text{ Btu}} \right)$$

For these dryers, current Permit No. 09006T02 includes the standard language for the emission limits of 2D .0516 and the methods of testing for compliance (if/when required by DAQ) but does not require any additional testing or any MRR to demonstrate compliance with this rule. Permit No. 09006T03 will maintain these requirements since the permitted fuel is inherently compliant with this rule.

ii. 15A NCAC 2D .0524 “New Source Performance Standards”

40 CFR Part 60, Subpart UUU “NSPS for Calciners and Dryers in Mineral Industries”

Applicability: [40 CFR §60.730 and §60.731]

Dryers ESCPPH1, ESCPPH2, and ESCPPH3 meet the definition of a dryer provided in 40 CFR §60.731 and were constructed after 04/23/86 therefore, these sources are subject to the requirements of 40 CFR Part 60, Subpart UUU. Note that these sources are considered dryers (as opposed to calciners) for purposes of this regulation since these sources remove uncombined water (as opposed to chemically bound water) from the rocks.

Emission Limits/Testing: [40 CFR §60.732]

Pursuant to 40 CFR §60.732, these dryers are subject to the following emission limits:

(a) Particulate matter emissions shall not exceed 0.057 g/dscm; and

(b) Visible emissions shall not exceed 10 percent opacity.

The Permittee most recently demonstrated compliance with these standards for dryers ESCPPH1 and ESCPPH2 on 08/08/02 and 08/07/02, respectively. The Permittee has indicated that these sources have not been modified since that testing was completed (see additional information letter dated 08/13/10). Therefore, Permit No. 09006T03 will cite the applicable emission limits and include the standard shell testing language to address any future testing of these sources but will not require additional testing at this time. The Permittee has not yet constructed or tested dryer ESCPPH3. Therefore, the testing requirements in current Permit No. 09006T02 associated with dryer ESCPPH3 are maintained in Permit No. 09006T03.

Monitoring/Recordkeeping/Reporting: [40 CFR §60.734 and §60.735]

Paragraph 40 CFR §60.734(a) requires the Permittee to install, calibrate, maintain, and operate a continuous monitoring system to measure and record the opacity of emissions discharged into the atmosphere from associated baghouses CDB9, CDB10, and CDB18. Further, paragraphs 40 CFR §60.735(a) and §60.735(c)(1) require the Permittee to maintain records of the monitoring and to submit semiannual reports of any 6-minute periods during which the average opacity from baghouses CDB9, CDB10, and CDB18 exceeds 10 percent. Current Permit No. 09006T02 also requires annual inspections/recordkeeping of ductwork, cyclone, and bagfilter for leaks and structural integrity. These requirements are maintained in Permit No. 09006T03.

E. Three natural gas-fired kilns (ID Nos. ESCPK1, ESCPK2, and ESCPK3) with three associated baghouses (11,111 square feet of filter area, each; ID Nos. CDB13, CDB14, and CDB20, respectively)

These natural gas-fired units are kilns used to boil the water off of the granules and to fuse the surface of the granules to form a glassified siliceous surface that seals and protects the roofing granule from the effects of weather.

i. 15A NCAC 2D .0515 “Particulates from Miscellaneous Industrial Processes”

Current Permit No. 09006T02 does not apply this rule to kilns ESCPK1, ESCPK2, and ESCPK3. However, this rule is applied to kilns ESCPK1, ESCPK2, and ESCPK3 in Permit

No. 09006T03 since these sources are direct-fired, do emit PM, and are not subject to another PM emission standard. This rule limits the allowable PM emissions (E) from these sources to those described in the following two equations:

$$E \leq 4.10(P)^{0.67} \quad \text{If } P \leq 30 \text{ (ton/hr), or}$$

$$E \leq 55.0(P)^{0.11} - 40 \quad \text{If } P > 30 \text{ (ton/hr)}$$

Where: P = the process weight rate (ton/hr), and
E = allowable emissions (lb PM/hr)

The Permittee has requested confidential treatment for the process weight rates of these mixing units pursuant to 2Q .0107 and provided information to DAQ to verify that these sources comply with the emission limits of 2D .0515 (see letter dated 04/13/01 from the Permittee). The Permittee has indicated that these sources have not been modified since that determination. The permit writer has reviewed that information and confirmed that the information indicated that these sources comply with 2D .0515.

Permit No. 09006T03 requires annual inspections/recordkeeping of the associated ductwork and bagfilters (i.e. CDB13, CDB14, and CDB20) for leaks and structural integrity. Further, the Permittee is required to submit semiannual summary reports and to submit the results of bagfilter maintenance to DAQ within 30 days of a written request.

ii. 15A NCAC 2D .0516 “Sulfur Dioxide Emissions from Combustion Sources”

This rule applies to the natural gas-fired kilns (ID Nos. ESCPK1, ESCPK2, and ESCPK3) and limits the SO₂ emissions from these combustion devices to 2.3 (lb/10⁶ Btu).

Table 1.4-2 of Supplement D to the 5th edition of the AP-42 document predicts SO₂ emissions of 0.6 (lb SO₂/10⁶ ft³) from the combustion of natural gas. Assuming a heat value of 1,020 (Btu/ft³) for natural gas we can calculate:

$$SO_2 \text{ emissions} = \left[\frac{0.6 \text{ (} \cancel{\text{lb}} \text{ SO}_2 \text{)}}{10^6 \text{ ft}^3} \right] \left[\frac{10^6 \text{ ft}^3}{1,020 \times 10^6 \text{ Btu}} \right] = 0.00059 \left(\frac{\text{lbs SO}_2}{10^6 \text{ Btu}} \right)$$

For these kilns, current Permit No. 09006T02 includes the standard language for the emission limits of 2D .0516 and the methods of testing for compliance (if/when required by DAQ) but does not require any additional testing or any MRR to demonstrate compliance with this rule. Permit No. 09006T03 will maintain these requirements since the permitted fuel is inherently compliant with this rule.

iii. 15A NCAC 2D .0521 “Control of Visible Emissions”

Kilns ESCPK1, ESCPK2, and ESCPK3 were manufactured after 07/01/71. Therefore, except for those visible emissions (VEs) occurring during startup, shutdown, and malfunctions that are regulated under 2D .0535, paragraph 2D .0521(d) requires that the 6-minute average VEs from these sources be less than or equal to 20% opacity with the following exceptions:

- One six-minute average VE per hour may exceed 20% opacity as long as that VE does not also exceed 87% opacity; and
- Up to four six-minute average VEs per 24-hour period may exceed 20% opacity as long as those VEs do not also exceed 87% opacity.

Current Permit No. 09006T02 requires the Permittee to make monthly observations of the visible emissions from these kilns, take corrective actions as necessary, and maintain records. The Permittee is also required to submit semiannual summary reports. These MRR requirements are maintained in Permit No. 09006T03.

iv. 15A NCAC 2D .0524 “New Source Performance Standards”

40 CFR Part 60, Subpart UUU “NSPS for Calciners and Dryers in Mineral Industries”

Kilns ESCPK1, ESCPK2, and ESCPK3 **are not subject** to 40 CFR Part 60, Subpart UUU, because coating kilns used in the roofing granules industry are specifically exempted in the Subpart from these requirements [see 40 CFR §60.730(b)].

F. Three roof granule mixing units (ID Nos. ESCPM1, ESCPM2, and ESCPM3) with three associated baghouses (2,889 square feet of filter area, each; ID Nos. CDB11, CDB12, and CDB19, respectively)

These units mix aggregate raw stone, coloring slurry, and water.

i. 15A NCAC 2D .0515 “Particulates from Miscellaneous Industrial Processes”

This rule applies to mixing units ESCPM1, ESCPM2, and ESCPM3 and limits the allowable PM emissions (E) from these sources to those described in the following two equations:

$$\begin{array}{ll} E \leq 4.10(P)^{0.67} & \text{If } P \leq 30 \text{ (ton/hr), or} \\ E \leq 55.0(P)^{0.11} - 40 & \text{If } P > 30 \text{ (ton/hr)} \end{array}$$

Where: P = the process weight rate (ton/hr), and
E = allowable emissions (lb PM/hr)

The Permittee has requested confidential treatment for the process weight rates of these mixing units pursuant to 2Q .0107 and provided “follow-up” information to DAQ to verify that these sources comply with the emission limits of 2D .0515 (see 04/13/01 letter from the Permittee). DAQ staff reviewed the submitted information at that time and confirmed that the information indicated that these sources would comply with 2D .0515. The Permittee has indicated that these sources have not been modified since that determination and that the information submitted in April of 2001 still accurately represents the process weight rates of, and particulate emissions from, these sources.

Current Permit No. 09006T02 requires annual inspections/recordkeeping of the associated ductwork and bagfilters (i.e. CDB11, CDB12, and CDB19) for leaks and structural integrity. Further, the Permittee is required to submit semiannual summary reports and to submit the results of bagfilter maintenance to DAQ within 30 days of a written request. These requirements are maintained in Permit No. 09006T03.

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

Mixing units ESCPM1, ESCPM2, and ESCPM3 were manufactured after 07/01/71. Therefore, except for those visible emissions (VEs) occurring during startup, shutdown, and malfunctions that are regulated under rule 2D .0535, paragraph 2D .0521(d) requires that the 6-minute average VEs from these sources be less than or equal to 20% opacity with the following exceptions:

- One six-minute average VE per hour may exceed 20% opacity as long as that VE does not also exceed 87% opacity; and
- Up to four six-minute average VEs per 24-hour period may exceed 20% opacity as long as those VEs do not also exceed 87% opacity.

Current Permit No. 09006T02 requires the Permittee to make monthly observations of the visible emissions from these mixing units, take corrective actions as necessary, and maintain records. Also, the Permittee is required to submit semiannual summary reports. These MRR requirements are maintained in Permit No. 09006T03.

G. Three coolers (ID Nos. ESCPC1, ESCPC2, and ESCPC3)

Hot roofing granules are expelled from the kilns at this facility and sent into these coolers. Once in the coolers the fired granules are agitated with an acid/water solution and dust suppressant mixture. Air is forced through the granules, promoting convective heat transfer from granule to air. The heated air is vented to atmosphere via the cooler stacks. The cooled granules are next transported to finished granule storage and eventually to truck loaders for off-site shipment.

Application 1900104.10B involves, in part, allowing the Permittee to use a second dust suppressant in coolers ESCPC1, ESCPC2, and ESCPC3 (see Section I, above).

i. 15A NCAC 2D .0515 “Particulates from Miscellaneous Industrial Processes”

This rule applies to coolers ESCPC1, ESCPC2, and ESCPC3 and limits the allowable PM emissions (E) from these sources to those described in the following two equations:

$$\begin{array}{ll} E \leq 4.10(P)^{0.67} & \text{If } P \leq 30 \text{ (ton/hr), or} \\ E \leq 55.0(P)^{0.11} - 40 & \text{If } P > 30 \text{ (ton/hr)} \end{array}$$

Where: P = the process weight rate (ton/hr), and
E = allowable emissions (lb PM/hr)

The Permittee has requested confidential treatment for the process weight rates of these coolers pursuant to 2Q .0107. The permit writer confirmed that the confidential information submitted with permit application 1900104.10B does indicate that coolers ESCPC1, ESCPC2, and ESCPC3 comply with 2D .0515.

Application 1900104.10B indicates that the associated modifications (i.e. the new dust suppressant) do not affect particulate emissions and, therefore, the 2D .0515 condition of Permit No. 09006T02 is maintained in Permit No. 09006T03.

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

Coolers ESCPC1, ESCPC2, and ESCPC3 were manufactured after 07/01/71. Therefore, except for those visible emissions (VEs) occurring during startup, shutdown, and malfunctions that are regulated under rule 2D .0535, paragraph 2D .0521(d) requires that the 6-minute average VEs from these sources be less than or equal to 20% opacity with the following exceptions:

- One six-minute average VE per hour may exceed 20% opacity as long as that VE does not also exceed 87% opacity; and
- Up to four six-minute average VEs per 24-hour period may exceed 20% opacity as long as those VEs do not also exceed 87% opacity.

Current Permit No. 09006T02 requires the Permittee to make monthly observations of the visible emissions from these mixing units, take corrective actions as necessary, and maintain records. Also, the Permittee is required to submit semiannual summary reports. Application 1900104.10B indicates that the associated modifications (i.e. the new dust suppressant) do not affect particulate (and therefore, visible) emissions. Therefore, the associated MRR requirements are maintained in Permit No. 09006T03.

III Regulatory review for rules that apply to aggregate emissions from multiple sources:

A. Facility-wide sources of volatile organic compounds (VOC), toxic air pollutants (TAP), odorous emissions, and/or hazardous air pollutants (HAP), including:

Four natural gas-fired dryers (ID Nos. ES1415, ESCPPH1, ESCPPH2, and ESCPPH3), as described in Sections II B and II D, above;

Coloring Plant, as described in Section II C, above;

Three natural gas-fired kilns (ID Nos. ESCPK1, ESCPK2, and ESCPK3), as described in Section II E, above;

Three roof granule mixing units (ID Nos. ESCPM1, ESCPM2, and ESCPM3), as described in Section II F, above; and

Three coolers (ID Nos. ESCPC1, ESCPC2 and ESCPC3), as described in Section II G, above

The affected facility-wide sources of VOC, odorous emissions, TAP, and HAP are described in Sections II B through II G of this document, above.

i. 2D .0958 “Work Practices for Sources of Volatile Organic Compounds”

This rule applies to the operations in this facility that use VOCs as solvents, carriers, material processing media, etc. and requires the Permittee to follow certain procedures when using or storing the VOC-containing materials or cleaning or draining the equipment used to apply these materials. Rule 2D .0958 is included in current Permit No. 09006T02 with the standard language for the work practice standards and the monitoring recordkeeping, and reporting (MRR) requirements associated with this rule for the facility-wide affected sources. The associated conditions are maintained in Permit No. 09006T03.

ii. 2D .1806 “Control and Prohibition of Odorous Emissions”

This rule requires the Permittee to prevent odorous emissions from the facility from causing or contributing to objectionable odors [as defined at 2D .1801(9)] beyond the facility’s boundary. Rule 2D .1806 is included in current Permit No. 09006T02 with the standard shell language for this rule for the facility-wide affected sources. The associated condition is maintained in Permit No. 09006T03.

**iii. 2Q .0317 “Avoidance Conditions” to avoid
2D .1111 “Maximum Achievable Control Technology”**

Permit application 1900104.10B includes a request for the addition of a synthetic minor limit for facility-wide HAP emissions from this facility pursuant to 2Q .0317. The new dust suppressant contains one HAP (i.e. toluene) and the associated adhesion promoter contains one HAP (i.e. methanol). According to application 1900104.10B, this facility will have the uncontrolled potential to emit 37.11 tons of methanol per consecutive 12-month period and 46.34 tons of all HAP combined per consecutive 12-month period. Current Permit No. 09006T02 includes a permit condition that requires the Permittee to calculate the facility-wide emissions of each HAP, and all HAP combined, on a monthly basis. Further, the Permittee must maintain monthly records of this monitoring and submit semiannual summary reports of this monitoring and recordkeeping. The associated conditions are maintained in Permit No. 09006T03 except that the avoided rule is changed from 2D .1109 to 2D .1111 (see email from Permittee dated 09/13/10).

iv. 2Q .0711 “Emission Rates Requiring a Permit”

According to application 1900104.10B, the new dust suppressant contains a small amount of toluene and potential emissions of toluene will increase, but remain below the associated TAP permitting emission rate (TPER). Current Permit No. 09006T02 includes the current shell version permit condition listing those TAPs that are emitted from the facility at rates below their associated TPER (including toluene) and requiring the Permittee to either (1) maintain records sufficient to demonstrate that facility-wide emissions of those TAPs are below the associated TPER, or (2) obtain a permit to emit a TAP before exceeding the TPER associated with that TAP. This permit condition is maintained in Permit No. 09006T03.

B. Three natural gas-fired kilns (ID Nos. ESCPK1, ESCPK2, and ESCPK3), as described in Section II E, above; and

Three roof granule mixing units (ID Nos. ESCPM1, ESCPM2, and ESCPM3), as described in Section II F, above

The CAM-affected sources are described in Sections II E and II F of this document, above.

**i. 15A NCAC 2D .0614 “Compliance Assurance Monitoring”
40 CFR Part 64 “Compliance Assurance Monitoring”**

The requirements of 2D .0614 (pursuant to 40 CFR Part 64) apply to three kilns (ID Nos. ESCPK1, ESCPK2, and ESCPK3), three roof granule mixing units (ID Nos. ESCPM1, ESCPM2, and ESCPM3), and the associated control devices (i.e. six baghouses; ID Nos. CDB11 through CDB14, CDB19, and CDB20). Current Permit No. 09006T02 includes specific, detailed language for the MRR requirements of 2D .0614. These conditions are maintained in Permit No. 02218T03 except that:

- (a) They are “converted” to text format (as opposed to a table) and the text associated with justification of operational parameters and ranges is removed;
- (b) A threshold (i.e. operation of a subject source in a state of excursion, as defined in Section 2.2 B.1, for at least 5% of operational time) for requiring the development of a Quality Improvement Plan (QIP) pursuant to 40 CFR §64.8 is added;
- (c) The excursion language is modified to specify that low baghouse pressure drops that occur within 120 operational hours of a bag changeout (to allow for dust cake buildup) are not considered excursions; and
- (d) The monitoring and recordkeeping requirements associated with 2D .0515 for the bagfilters in Sections 2.1 E and F are added via reference.

IV NSPS/NESHAP/PSD/Toxics/112(r)/CAM/RACT Applicability:

NSPS: Current Permit No. 09006T02 lists many of the crushing and screening operations at this facility as subject to 40 CFR Part 60, Subpart OOO [i.e. the new source performance standard (NSPS) for nonmetallic mineral processing plants] and the four dryers at this facility (ID Nos. ES1415, ESCPPH1, ESCPPH2, and ESCPPH3) as subject to 40 CFR Part 60, Subpart UUU (i.e. the NSPS for calciners and dryers in mineral industries). See the discussions in Sections II A.ii, B.ii, and D.ii, above, for more information.

The modifications associated with permit applications 1900104.09A and .10B do not trigger any new NSPS requirements for this facility.

NESHAP: Current Permit No. 09006T02 does not list any sources at this facility as subject to 40 CFR Part 63 [i.e. national emission standards for hazardous air pollutants (NESHAP)].

The modifications associated with permit applications 1900104.09A and .10B do not trigger any new NESHAP requirements for this facility. Note that the Permittee has avoided the applicability of maximum achievable control technology to the sources at this facility via the avoidance condition taken pursuant to 2Q .0317 (see the discussion in Section III A.iii, above).

PSD: Chatham County is currently in attainment with all NAAQS. This facility does not fall into one of the categories listed at 40 CFR §51.166(b)(1)(i)(a) with a 100 tons per year threshold and does not qualify as a major stationary source for PSD purposes under 40 CFR §51.166(b)(1)(i)(b) since it does not have the potential to emit any regulated pollutant at rates in excess of 250 tons per consecutive 12-month period.

Application 1900104.09A is a renewal without modification and will not affect potential emissions of any regulated pollutant from this facility. The modifications associated with 1900104.10B will reportedly reduce potential VOC emissions from 160.09 tons per consecutive 12-month period to 86.49 tons per consecutive 12-month period and, therefore, do not trigger a PSD review. Note that, although Chatham County has triggered the minor source baseline for PM₁₀, SO₂, and NO_x, increment tracking is not triggered via the modifications associated with application 1900104.10B since emissions of PM₁₀, SO₂, and NO_x are not affected.

Toxics: Application 1900104.09A is a renewal without modification and will not affect TAP emissions from this facility. The potential emissions of toluene will increase due to the modifications associated with application 1900104.10B. The toxics evaluation submitted with that application indicates that the facility-wide potential emissions of toluene will remain below the associated TPER (see the discussion in Section III A.iv, above).

112(r): According to Section A3 of Application No. 1900104.10B, this facility does not use, handle, or store any regulated materials onsite in quantities in excess of the associated thresholds and is therefore not subject to the requirements of this regulation.

RACT: This facility is not located in one of the areas listed in 2D .0902(e) or 2D .1402(d) and is therefore not subject to the existing source RACT requirements, other than 2D .0958.

CAM: Three kilns (ID Nos. ESCPK1, ESCPK2, and ESCPK3) and three roofing granule mixing units (ID Nos. ESCPM1, ESCPM2, and ESCPM3) are subject to CAM requirements (for PM₁₀).

V Permit Modifications/Changes:

The following table summarizes the substantive changes in Permit No. 09006T03 resulting from Permit Application Nos. 1900104.09A and .10B:

Old Page(s)	New Page(s)	Condition/Item	Description of Change(s)
Global	Global	N/A	<ul style="list-style-type: none"> • Change the issuance/effective dates of the permit; • Change the application number and complete date; • Change permit revision number to T03; and • Change avoided rule from 2D .1109 to 2D .1111
3 - 8	3 - 8	Equipment List	Remove the note at the end of the equipment list regarding 2Q .0501(c)(2) for the three coolers
11	11	2.1 A	Minor rewording of regulated pollutants listed in the limits/standards table for clarity
12	12	2.1 A.1	Modifications of 2D .0510 condition including: <ul style="list-style-type: none"> • Reformatting for clarity; • Minor rewording for correctness (e.g. emissions must be controlled <i>in accordance with</i> rule 2D .0540 as opposed to <i>by</i> rule 2D .0540); and • Add references to pertinent permit sections if/when rules 2D .0524 and 2D .0540 are referenced
12	12	2.1 A.2.b	Correct the dates of testing of grade silo No. 3
13 - 14	13 - 14	2.1 A.3	Minor reformatting of subsection for clarity
15	15	2.1 B.2.c	Modify language to specify that the 10 percent opacity limit for dryer ES1415 is a 6-minute average
15	15	2.1 B.2.d	Correct the date of testing of dryer ES1415

Old Page(s)	New Page(s)	Condition/Item	Description of Change(s)
18	18	2.1 C.1	Modifications of 2D .0510 condition including: <ul style="list-style-type: none"> • Reformatting for clarity; • Minor rewording for correctness (e.g. emissions must be controlled <i>in accordance with</i> rule 2D .0540 as opposed to <i>by</i> rule 2D .0540); • Add references to pertinent permit sections if/when rules 2D .0521 and 2D .0540 are referenced; and • Removal of reference to 2D .0524 since 40 CFR Part 60, Subpart OOO does not apply
19	19	2.1 C.3	Minor reformatting of the 2D .0540 condition
20	20	2.1 D.2.c	Modify language to specify that the 10 percent opacity limit for dryers ESCPPH1, ESCPPH2, and ESCPPH3 is a 6-minute average
20	20	2.1 D.2.d.i	Correct the dates of the initial testing of dryers ESCPPH1 and ESCPPH2
N/A	22 - 23	2.1 E.1	Modify limits/standards table to include 2D .0515 and section to add new MRR requirements for the kilns
22 - 23	23	2.1 E.2 & 3	Modify sections to contain existing MRR requirements for the kilns pursuant to 2D .0516 and 2D .0521
29	29	2.2 A.3	Modify section such that the avoidance condition refers to 2D .1111 as opposed to 2D .1109
31 - 32	31	2.2 B.1.a - d	Modify the 2D .0614 conditions such that they: <ul style="list-style-type: none"> • Are in text format (as opposed to a table) and do not include the justification discussion; • Specify that low baghouse pressure drops that occur within 120 operational hours of a bag changeout are not considered excursions (to allow for dust cake buildup); • Include a threshold (i.e. operation of a subject source in state of excursion, as defined in Section 2.2 B.1, for at least 5% of operational time) for requiring the development of a Quality Improvement Plan; and • Include the monitoring and recordkeeping requirements of 2D .0515 for the bagfilters in 2.1 E & F by reference
32	N/A	2.2 B.1.f (09006T02)	Remove text addressing the justifications associated with the operational parameters and parameter ranges chosen as indicators of proper control device operation
33 - 41	32 - 40	Section 3	Update General Conditions to version 3.2

Note: Condition/Item are as they appear on Permit No. 09006T03, unless otherwise noted.

VI Application Fee/Zoning Consistency:

Neither an application fee nor a zoning consistency determination is required for a permit renewal without modification, such as that represented by application 1900104.09A. The Permittee submitted a fee of \$867 with permit application 1900104.10B. This is the appropriate fee pursuant to 2Q .0203. A zoning consistency determination is not required for the permit modifications associated with permit application 1900104.10B because these modifications do not involve new equipment or an expansion of the facility.

VII Title V Permit History:

The following table provides a very brief summary of Title V permit revisions for this facility:

Permit No.	Issuance	Description of Revision
09006T01	12/01/04	Issuance of initial Title V permit and addition of Coloring Line #3 (effective 01/15/05).
09006T02	03/29/10	Significant modification under 2Q .0501(c)(2) to add a synthetic minor limit for HAP pursuant to 2Q .0317 and allow the use of a second dust suppressant in the three coolers.
09006T03	10/29/10	Part 2 of the 2Q .0501(c)(2) significant modification permitted via 09006T02 and renewal of permit.

VIII Compliance Status:

The facility was most recently inspected on 03/04/10 by Stephen Carr of RRO and appeared to be operating in violation of DAQ requirements during that inspection. Specifically, the Permittee was deemed in violation of General Condition I.A “Reporting Requirements for Excess Emissions and Permit Deviations.”

IX Certification by Responsible Official: In accordance with 2Q .0520, Anthony Aulisa (i.e. the responsible official for the 3M Roofing Granule Manufacturing Operations facility) provided the certifications on Form AA of application 1900104.09A and Form E5 of application 1900104.10B.

X Permit Review:

Draft Permit: A draft version of Permit No. 09006T03 and the associated technical review were sent to the Permittee and the RRO for a review and comment period on 08/19/10.

Public Participation: In accordance with 2Q .0521, NC DAQ must provide the opportunity for public participation prior to the renewal of a Title V permit (such as that represented by application 1800206.08A) and prior to the second part of a 2Q .0501(c)(2) significant Title V permit modification (such as that represented by application 1900104.10B). NC DAQ met this obligation with the public notice posted on the DAQ website and “mailed to persons who are on the Division’s mailing list for air quality permit notices” on 09/14/10.

EPA & Affected States Review: In accordance with 2Q .0522, NC DAQ must provide EPA and any Affected States [as defined at 2Q .0503(1)] the opportunity to review the second part of a significant modification processed under 2Q .0501(c)(2) and/or a renewal of a Title V permit. NC DAQ met this obligation by sending those agencies a copy of Proposed Permit No. 09006T03 and the associated review on 09/14/10.

XI Recommendation:

This application for the renewal and significant modification [via procedures of 2Q .0501(c)(2)] of the Title V permit issued to the 3M Roofing Granule Manufacturing Operations facility in Moncure, Chatham County, North Carolina has been reviewed by NC DAQ personnel to determine compliance with all applicable procedures and requirements. NC DAQ personnel have determined that this facility is complying with or will achieve compliance with all applicable requirements as specified in Permit No. 09006T03.

Issuance of Permit No. 09006T03 is recommended.