

**NORTH CAROLINA DIVISION OF  
AIR QUALITY**

**Air Permit Review**

**Region:** Wilmington Regional Office  
**County:** New Hanover  
**NC Facility ID:** 6500118  
**Inspector's Name:** Ashby Armistead  
**Date of Last Inspection:** 06/28/2011  
**Compliance Code:** 3 / Compliance - inspection

**Permit Issue Date:**

<b>Facility Data</b>			<b>Permit Applicability (this application only)</b>	
<b>Applicant (Facility's Name):</b> Southern States Chemical  <b>Facility Address:</b> Southern States Chemical 2600 Highway 421 North Wilmington, NC 28402  <b>SIC:</b> 2819 / Industrial Inorganic Chemicals <b>NAICS:</b> 325188 / All Other Basic Inorganic Chemical Manufacturing  <b>Facility Classification: Before:</b> Title V <b>After:</b> Title V <b>Fee Classification: Before:</b> Title V <b>After:</b> Title V			<b>SIP:</b> N/A <b>NSPS:</b> N/A <b>NESHAP:</b> N/A <b>PSD:</b> N/A <b>PSD Avoidance:</b> N/A <b>NC Toxics:</b> N/A <b>112(r):</b> N/A <b>Other:</b> 2D .0501(c) – 1-hr SO <sub>2</sub> NAAQS	
<b>Contact Data</b>			<b>Application Data</b>	
<b>Facility Contact</b>	<b>Authorized Contact</b>	<b>Technical Contact</b>	<b>Application Number:</b> 6500118.10A, 6500118.11A <b>Date Received:</b> 05/28/2010, Reopen for Cause (Notification – 4/20/2011) <b>Application Type:</b> Renewal <b>Application Schedule:</b> TV-Renewal <b>Existing Permit Data</b> <b>Existing Permit Number:</b> 01853/T15 <b>Existing Permit Issue Date:</b> 04/28/2006 <b>Existing Permit Expiration Date:</b> 03/31/2011	
Tommy Penny  (910) 762-5054 2600 Highway 421 North Wilmington, NC 28402	Reed Dulany III President (912) 944-3740 PO Box 546 Savannah, GA 31404	Bryan Beyer Environmental Manager (912) 944-3740 P O Box 546 Savannah, GA 31402		
<b>Review Engineer:</b> Fern Paterson, P.E.  <b>Review Engineer's Signature:</b> _____ <b>Date:</b> _____			<b>Comments / Recommendations:</b> Issue 01853/T16 <b>Permit Issue Date:</b> _____ <b>Permit Expiration Date:</b> _____	

**I. Purpose of Application**

- A. Application 6500118.10A – Title V Permit Renewal. On May 28, 2010, the North Carolina Division of Air Quality (NC DAQ) received an application for the renewal of the existing Title V air quality permit. No modifications to the permit were requested with the renewal application.
- B. Application 6500118.11A – Reopen for Cause. On April 20, 2011, NC DAQ sent a letter to Mr. Reed Dulany III, the President of Dulany Industries and responsible official for the Southern States facility, providing notice that the agency intended to reopen the Title V permit for cause. As provided in the letter, the existing SO<sub>2</sub> ambient monitor in New Hanover County indicates exceedances of the new, 1-hour National Ambient Air Quality Standard (NAAQS) for sulfur dioxide (SO<sub>2</sub>). The NCDAQ identified the Southern States facility to be one of the sources potentially causing an exceedance at the monitor location. The purpose of reopening the permit is to incorporate SO<sub>2</sub> emissions limitations to reduce modeled ambient impacts from the plant to below the 1-hour standard at the monitor.

## II. Permit Modifications/Changes

The following table describes the modifications to the current permit.

Page(s)	Section	Description of Change(s)
Cover Letter Attachment	Insignificant Activity List	Reformat insignificant activity list and add informational footnotes to be consistent with current NC DAQ protocol.
Page 1	Permit Cover Page	Amend permit revision numbers and issuance/effective dates.
Pages 3-4	Section 2.1.A.1	Add SO <sub>2</sub> emissions limitations pursuant to 15A NCAC 2D .0501(c), with associated monitoring, recordkeeping, and reporting requirements. Limits added pursuant to the Reopen for Cause notice sent on April 20, 2011.
Pages 4-5	Section 2.1.A.2	Combine SO <sub>2</sub> and H <sub>2</sub> SO <sub>4</sub> emissions limits pursuant to 15A NCAC 2D .0517 into a single permit section and reduce the mist eliminator inspection frequency from daily to monthly.
Pages 6-7	Section 2.1.B.1	Add SO <sub>2</sub> emissions limitations pursuant to 15A NCAC 2D .0501(c), with associated testing requirements. Limits added pursuant to the Reopen for Cause notice sent on April 20, 2011.
Pages 9-17	Section 3	Update the General Conditions to the most recent revision (v. 3.4).

## III. Statement of Compliance

On the latest inspection, conducted on June 28, 2011 by Mr. Ashby Armistead of the Wilmington Regional Office (WiRO), the facility appeared to be in compliance with all applicable requirements. The facility has not operated produced sulfuric acid or oleum at the facility since December 3, 2010. NC DAQ anticipates that the emission sources affected by this permit renewal and associated modifications will be in compliance with all applicable requirements, as detailed in the following regulatory review.

## IV. Facility Information.

Southern States manufactures sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) and oleum (super concentrated sulfuric acid) at two on-site plants. However, the facility has not operated the acid production plants since December 3, 2010.

## V. Regulatory Review

### 1. Sulfuric Acid Production Plants No. 1 (ID No. ES-1) and No. 2 (ID No. ES-2) with Mist Eliminator (ID No. ME-3)

#### 1. Applicable Regulatory Requirements:

- 15A NCAC 2D .0501(c)
- 15A NCAC 2D .0517
- 15A NCAC 2D .0519
- 15A NCAC 2D .0521

#### 2. Changes per the Title V Permit Renewal

- Added SO<sub>2</sub> emissions limits pursuant to 15A NCAC 2D .0501(c), and associated monitoring, recordkeeping, and reporting requirements. The NCDAQ AQAB re-ran an air dispersion model originally prepared and submitted by Southern States to determine the hourly emission rate that would ensure that resulting ambient concentrations from the plant do not result in exceedences of the one-hour SO<sub>2</sub> NAAQS at the monitor location. Those emission rates are:

Source	Emission Rate
Sulfuric Acid Production Plants Nos. 1 and 2 (ID Nos. ES-1 and ES-2) with Mist Eliminator (ID No. ME-3)	Combined 108 pounds per hour
Oleum Loading Operation (ID No. ES-5) and Oleum Storage Tank (ID No. ES-10) and Associated Mist Eliminator (ID No. ME-4)	Combined 0.49 pounds per hour

- Combined permit sections derived from 15A NCAC 2D .0517 (e.g., SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> (PM)) emissions limitations into a single permit section. Reduce mist eliminator inspection frequency from daily to weekly.

**2. Oleum Loading Operation (ID No. ES-5) and Oleum Storage Tank (ID No. ES-10) and Associated Mist Eliminator (ID No. ME-4)**

1. Applicable Regulatory Requirements:

- 15A NCAC 2D .0501(c)
- 15A NCAC 2D .0515
- 15A NCAC 2D .0521

2. Changes per the Title V Permit Renewal

- Added SO<sub>2</sub> emissions limits pursuant to 15A NCAC 2D .0501(c), and associated testing requirements.
- Added PM emissions limits pursuant to 15A NCAC 2D .0515, and associated inspection and maintenance requirements.

**VI. Compliance Assurance Monitoring**

Pursuant to 15A NCAC 2D .0614, the provisions of the Compliance Assurance Monitoring (CAM) rule are applicable to emission units that meet all of the following criteria:

- Criteria #1: The unit is subject to a non-exempt emission limitation or standard AND uses a control device to achieve compliance with the limit or standard;
- Criteria #2: The unit has pre-control potential emissions that are equal to or greater than 100% of the amount (in tpy) required for a source to be classified as a major source (i.e., 100 tpy of any criteria pollutant or 10 tpy of any HAP, North Carolina); and,
- Criteria #3: The unit does not have a continuous compliance determination method (CCDM), as defined in 40 CFR 64.1, specified in the permit.

Exempt emission limitations are provided 15A NCAC 2D .0614(b)(1), and include NSPS/MACT standards proposed after Nov. 15, 1990, stratospheric ozone protection and acid rain requirements, and trading program and emissions caps applicable under 15A NCAC 2Q.

As summarized in the following Table, the facility does not include any controlled emission sources with an uncontrolled PTE greater than Title V major source thresholds, and therefore is not subject to the CAM provisions in 15A NCAC 2D .0614.

**Table – CAM Applicability Summary**

<b>Emission Unit</b>	<b>Criteria #1: Control device reqd. to comply with a non-exempt limit?</b>	<b>Criteria #2: Pre-control PTE ≥100% of major source thresholds?</b>	<b>Criteria #3: CCDM as provided in 40 CFR 64.1?</b>	<b>CAM Source?</b>
ES-1 and ES-2	Yes <i>(Mist eliminator is used to comply with the particulate matter (PM) standard in 15A NCAC 2D .0517. Although the standard specifically limits H<sub>2</sub>SO<sub>4</sub> emissions, the standard is in place to protect the PM NAAQS, and not to limit H<sub>2</sub>SO<sub>4</sub> as a regulated hazardous air pollutant (HAP).)</i>	No <i>(Potential, pre-control PM emissions from ES-1 are approximately 15 tpy and potential, pre-control PM emissions from ES-2 are 10 tpy. The major source threshold for PM is 100 tpy.)</i>	-	No

<b>Emission Unit</b>	<b>Criteria #1: Control device reqd. to comply with a non-exempt limit?</b>	<b>Criteria #2: Pre-control PTE <math>\geq</math>100% of major source thresholds?</b>	<b>Criteria #3: CCDM as provided in 40 CFR 64.1?</b>	<b>CAM Source?</b>
ES-5 and ES-10	Yes <i>(Mist eliminator is used to comply with particulate matter standard in 15A NCAC 2D .0515.)</i>	No <i>(Potential, pre-control PM emissions from ES-5 and ES-10 combined are 6.5 tpy. The major source threshold for PM is 100 tpy.)</i>	-	No

### **VII. Draft Permit Review Summary**

Mr. Dean Carroll and Mr. Ashby Armistead (WiRO) were provided an electronic copy of the draft permit and draft permit review on August 8, 2011.

Mr. Bryan Beyer (Southern States Chemical) and Mr. Reed Dulany III (Dulany Industries) were provided an electronic copy of the draft permit on August 1, 2011.

A public notice and a copy of the draft permit and draft permit review were posted on NCDAQ's website on **ENTER DATE**.

Ms. Katy Forney and Ms. Gracy DeNois (U.S. EPA, Region IV) were provided an electronic copy of draft permit and draft permit review on **ENTER DATE**.

### **VIII. Recommendations**

This permit modification application for Southern States Chemical, located in Wilmington, New Hanover 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. 01853T16**