

Part 70 Operating Permit Amendment

Permit Amendment No.: 2819-245-0008-V-03-2 Effective Date: May 15, 2007

Facility Name: General Chemical LLC – Augusta Plant

Facility Address: 1580 Columbia Nitrogen Road
Augusta, Georgia 30901 (Richmond County)

Mailing Address: P.O. Box 970
Augusta, Georgia 30903

Parent/Holding Company: General Chemical LLC

Facility AIRS Number: 04-13-245-00008

In accordance with the provisions of the Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq and the Georgia Rules for Air Quality Control, Chapter 391-3-1, adopted pursuant to and in effect under the Act, the Permittee described above is issued a construction permit and an amendment to the Part 70 Operating Permit for:

Modification to the manufacturing process to increase 100% sulfuric acid production capacity from 850 to 1,200 tons per day, and installation of a soda ash scrubber to manufacture sodium bisulfite from the SO₂ gas in the acid plant that will reduce SO₂ emissions.

This Permit Amendment is conditioned upon compliance with all provisions of The Georgia Air Quality Act, O.C.G.A. Section 12-9-1, et seq, the Rules, Chapter 391-3-1, adopted and in effect under that Act, or any other condition of this Permit Amendment and Permit No. 2819-245-0008-V-03-0. Unless modified or revoked, this Permit Amendment expires simultaneously with Part 70 Permit No. 2819-245-0008-V-03-0.

This Permit Amendment may be subject to revocation, suspension, modification or amendment by the Director for cause including evidence of noncompliance with any of the above; or for any misrepresentation made in Application No. 17034 dated November 1, 2006; any other applications upon which this Permit Amendment or Permit No. 2819-245-0008-V-03-0 are based; supporting data entered therein or attached thereto; or any subsequent submittal or supporting data; or for any alterations affecting the emissions from this source.

This Permit Amendment is further subject to and conditioned upon the terms, conditions, limitations, standards, or schedules contained in or specified on the attached 6 pages.

Director
Environmental Protection Division

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PART 1.0 FACILITY DESCRIPTION**1.3 Process Description of Modification**

The facility proposes to modify the sulfuric acid manufacturing process at this plant and requests to increase the sulfuric acid production capacity from 850 to 1,200 tons per day. The facility plans to change the existing 3rd and 4th acid converter stages from series to parallel and any associated processing equipment. This facility will also install a new tail gas scrubber to reduce overall SO₂ emissions from this plant and to produce 23,850 tons per year of sodium bisulfite solution for sales.

The tail gas from the final tower, where the SO₃ reacts with water to form H₂SO₄, will now be scrubbed first with soda ash in a SO₂ Scrubber (Source Code: SC-2) to produce a concentrated sodium bisulfite solution. The discharge gas then exhausts via Stack S01 before being vented to the atmosphere. The facility is planning to modify this existing stack (Stack S01). The facility will also install a pad-type entrainment separator (Source Code: ES1) on this stack that will reduce particulate matter and sulfuric acid mist emissions. This stack currently has a Continuous Emissions Monitor (CEMS) for SO₂ emissions, which will be reinstalled on this stack after this modification. The facility expects to start construction on this project in March 2007.

This application is being processed as a significant modification with construction because the proposed project constitutes a modification under provisions of New Source Performance Standards. This acid plant (Source Code: K01) is subject to the requirements of 40 CFR 60 Subpart H, "Standards of Performance for Sulfuric Acid Plants". The facility also has proposed a lower emissions limit for SO₂ emissions (2.6 pounds SO₂ emitted per ton acid produced) from this plant to avoid classification under PSD regulations. The current emissions limit is 4.0 pounds of SO₂ emitted per ton acid produced based on a maximum sulfuric acid production of 850 tons per day. This facility will also be required to take a lower limit of 0.07 pounds sulfuric acid mist emitted per ton acid produced in order to avoid a PSD review for sulfuric acid mist emissions. The current emissions limit is 0.08 pounds of sulfuric acid mist emitted per ton acid produced based on a maximum sulfuric acid production of 850 tons per day.

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PART 3.0 REQUIREMENTS FOR EMISSION UNITS

Note: Except where an applicable requirement specifically states otherwise, the averaging times of any of the Emissions Limitations or Standards included in this permit are tied to or based on the run time(s) specified for the applicable reference test method(s) or procedures required for demonstrating compliance.

3.1.1 Additional Emission Units

Emission Units		Specific Limitations/Requirements		Air Pollution Control Devices	
ID No.	Description	Applicable Requirements/Standards	Corresponding Permit Conditions	ID No.	Description
K01	Sulfuric Acid Plant – <u>1200 tons/day</u>	391-3-1-.02(2)(a)1 391-3-1-.02(2)(b) 391-3-1-.02(2)(j) 40 CFR 60 Subpart H 40 CFR 52.21 Avoidance	3.2.1, 3.3.1, 3.3.2, 4.2.1, <u>4.2.2</u> , 5.2.1, 5.2.2, <u>5.2.3</u> , 6.1.7, 6.2.1, 6.2.3, 6.2.4	<u>SC-1</u> V04 <u>SC-2</u> <u>ES1</u>	<u>Oleum Tank Scrubber</u> , Mist Eliminators, <u>Soda Ash SO₂ Scrubber</u> , <u>Entrainment Separator</u>

* Generally applicable requirements contained in this permit may also apply to emission units listed above.

3.2 Equipment Emission Caps and Operating Limits

3.2.1 The Permittee shall not produce more than 1,200 tons per day of 100% sulfuric acid, calculated as a daily average over a 365-day rolling basis.
[391-3-1-.02(2)(a)1]

3.3 Equipment Federal Rule Standards

- 3.3.2 From the Sulfuric Acid Plant (Source Code K01), the Permittee shall not discharge or cause the discharge into the atmosphere any gases which:
- a. Contain sulfur dioxide in excess of 2.6 pounds per ton of sulfuric acid produced (expressed as 100% H₂SO₄).
[Avoidance of 52.21, 40 CFR 60.82(a) and 391-3-1-.02(2)(j)1(ii) subsumed]
 - b. Contain sulfuric acid mist in excess of 0.07 lb per ton of sulfuric acid produced (expressed as 100% H₂SO₄)
[Avoidance of 52.21, 40 CFR 60.83(a)(1) and 391-3-1-.02(2)(j)1(ii) subsumed]
 - c. Exhibit 10% opacity or greater.
[40 CFR 60.83(a)(2) and 391-3-1-.02(2)(j)1(ii), 391-3-1-.02(2)(b) subsumed]

PART 4.0 REQUIREMENTS FOR TESTING

4.2 Specific Testing Requirements

NEW CONDITON

4.2.2 Within 60 days after achieving the maximum production rate at which the affected equipment will be operated, but no later than 180 days after initial startup of the Sulfuric Acid Plant following completion of the project, the Permittee shall conduct performance tests for sulfur dioxide and sulfuric acid mist emissions on the Sulfuric Acid Plant (Source Code: K01) to verify compliance with the applicable limits specified in Condition 3.3.2. During the performance test, the facility shall establish the minimum pressure drop for the entrainment separator that demonstrates compliance with the limit in Condition 3.3.2.b. The value shall be used in determining excursion under Condition 6.1.7.c.

PART 5.0 REQUIREMENTS FOR MONITORING (Related to Data Collection)

5.2 Specific Monitoring Requirements

NEW CONDITON

5.2.3 The Permittee shall install, calibrate, maintain, and operate a system to continuously monitor and record the indicated parameters on the following equipment. Where such performance specification(s) exist, each system shall meet the applicable performance specification(s) of the Division's monitoring requirements.

[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- a. Differential pressure in inches of water on the Entrainment Separator ES1

PART 6.0 OTHER RECORD KEEPING AND REPORTING REQUIREMENTS**6.1 General Record Keeping and Reporting Requirements**

6.1.7 For the purpose of reporting excess emissions, exceedances or excursions in the report required in Condition 6.1.4, the following excess emissions, exceedances, and excursions shall be reported:

[391-3-1-.02(6)(b)1 and 40 CFR 70.6(a)(3)(i)]

- a. Excess emissions: (means for the purpose of this Condition and Condition 6.1.4, any condition that is detected by monitoring or record keeping which is specifically defined, or stated to be, excess emissions by an applicable requirement)
 - i. All three-hour periods (or the arithmetic average of three consecutive one-hour periods) during which the integrated average sulfur dioxide emissions exceed 2.6 pounds per ton of 100% sulfuric acid produced in the Sulfuric Acid Plant (Source Code: K01).
[40 CFR 52.21 Avoidance, 40 CFR 60.84(e) subsumed]
- c. Excursions: (means for the purpose of this Condition and Condition 6.1.4, any departure from an indicator range or value established for monitoring consistent with any averaging period specified for averaging the results of the monitoring)
 - i. Any day that the 365-day rolling average production level is more than 1,200 tons of 100% sulfuric acid.
 - iv. Entrainment Separator (Source Code ES1) - Any 3-hour rolling average during which the pressure drop falls outside the following ranges during hours of process operation:
 - A. Pressure drop (inches of water): 0.5 to 2 inches of water, or range of values determined in accordance with Condition 4.2.2

PART 7.0 OTHER SPECIFIC REQUIREMENTS

7.12 Revocation of Existing Permits and Amendments

The following Air Quality Permits and Amendments are subsumed by this permit and are hereby revoked:

Air Quality Permit Number(s)	Dates of Original Permit Issuance or Amendment
2819-245-0008-V-03-1	March 7, 2007

Title V Permit Amendment

General Chemical LLC – Augusta Plant

Permit No.: 2819-245-0008-V-03-2
