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BUREAU OF AIR REGULATION

July 20, 2004

Mr. Jim Pennington
Florida Department of Environmental Protection
Division of Air Resource Management
111 South Magnolia Drive, Suite 4
Tallahassee, Florida 32301

Via FedEx
Airbill No. 7918 9164 1670

Re: **Tampa Electric Company**
Polk Power Station
Title V Air Operation Permit Renewal RAI Comments
Permit No. 1050233-014-AV

Dear Mr. Pennington:

Tampa Electric Company (TEC) has received your letter of incompleteness dated June 7, 2004 addressing the Title V Air Operation Permit Renewal application to allow for the continuing operation of Polk Power Station. This correspondence is intended to provide the responses to each question raised by the Department.

FDEP Question 1

Construction Permit Concurrent Processing. Is it your desire that the construction permit information that was attached as Attachment A-14 be co processed with the renewal request? In that case, please submit a revised "Purpose of Application" page with the boxes checked for concurrent processing.

TEC Response 1

The construction permit information attached as Attachment A-14 with the renewal application is being processed through a Title V Air Operation Permit Revision request submitted to the Florida Department of Environmental Protection (FDEP) on December 5, 2003. TEC is currently working with Edward Svec from FDEP on these revisions. TEC does not choose to co process the revision with the renewal request, therefore it is unnecessary to submit a revised "Purpose of Application" page to the agency.

FDEP Question 2

Emission Unit Information. It is indicated in the renewal application that Emission Unit (EU) #004 does not require a Continuous Assurance Monitoring (CAM) plan since it does not have the potential to emit more than 100 tons annually of sulfuric acid mist (SAM). However, the potential emission estimate of 93 tons per year of SAM is based on EPA 's AP-42 estimates for plants burning elemental sulfur. EPA's AP-42 goes on to say that plants burning hydrogen sulfide could expect higher quantities of SAM due to the formation of additional water vapor in the process. Please verify that EPA's AP-42 SAM emission factors are consistent with the measured emissions of your sulfuric acid plant.

TAMPA ELECTRIC COMPANY
P.O. BOX 111 TAMPA, FL 33601-0111 (813) 228-4111

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HILLSBOROUGH COUNTY (813) 223-0800
OUTSIDE HILLSBOROUGH COUNTY 1 (888) 223-0800

TEC Response 2

Table 8.10-2 of AP-42, Section 8.10 (Sulfuric Acid) provides estimates of uncontrolled SAM emissions from sulfuric acid plants based on the type of raw material (i.e., recovered sulfur, bright virgin sulfur, dark virgin sulfur, or spent acid) and percentage of oleum produced. Oleum is a solution of uncombined sulfur trioxide (SO_3) dissolved in sulfuric acid. As noted in Section 8.10.3.2, the quantity of SAM generated by a sulfuric acid plant depends on the type of sulfur feedstock used, the strength of acid produced, and the absorber conditions. In addition, sulfuric acid plants that produce oleum will generate greater quantities of SAM.

Potential pre-control emissions of SAM were estimated to be 93 tons per year based on an AP-42 uncontrolled sulfuric acid plant SAM emission factor of 2.4 lb of SAM per ton of acid product and the permitted Polk Power Station (PPS) sulfuric acid plant capacity limit of 77,640 tons per year of 100 percent acid.

This estimate is considered conservative (i.e., to over-estimate actual potential pre-control SAM emissions) for the following reasons:

- The raw material for the PPS sulfuric acid plant consists of the hydrogen sulfide (H_2S) containing gas stream from the solid fuel gasification acid gas removal unit. The most appropriate raw material category listed in AP-42, Section 8.10 for the PPS sulfuric acid plant is that of spent acid. In describing the sulfuric acid plant contact process, the AP-42 background document for Section 8.10 classifies spent sulfuric acid and hydrogen sulfide burning in the same raw material category. Table 8.10-2 list an emission factor range of 2.2 to 2.4 lb/ton for the spent acid category. The uncontrolled SAM emission estimate for the PPS sulfuric acid plant used the top of this emission factor range; i.e., 2.4 lb/ton;
- As noted in the FDEP RAI, use of H_2S as the sulfuric acid plant feedstock will tend to increase the formation of SAM compared to other raw materials (e.g., virgin sulfur) due to the water generated by the oxidation of H_2S. However, the PPS sulfuric acid plant process includes a drying tower that removes water from the gas stream. This drying tower follows the combustion chamber (i.e., after the H_2S is oxidized to SO_2 and H_2O) and precedes the catalytic reactors. Accordingly, the potential increase in uncontrolled SAM emissions due to oxidation of hydrogen containing raw materials is mitigated by the use of this drying tower;
- A sulfuric acid plant produces sulfuric acid by first oxidizing the sulfur containing feedstock to SO_2. The SO_2 is then reacted catalytically with oxygen to produce sulfur trioxide (SO_3). Finally, the SO_3 is absorbed in a strong (98%) sulfuric acid solution to produce additional acid. If oleum is produced, SO_3 from the catalytic converter is first fed to an oleum tower prior to the strong acid absorption tower. The PPS sulfuric acid plant utilizes a double contact process that includes two passes through the catalytic converter and two strong acid absorption towers. Use of the double contact process will reduce potential SAM emissions since a greater amount of SO_3 will be absorbed and removed from the exhaust gas stream compared to a single contact process; and
- The AP-42 background document for Section 8.10 includes all of the SAM stack test data used to develop the Section 8.10 SAM emission factors. As noted previously, sulfuric acid plants that produce oleum will generate greater quantities of SAM. The PPS sulfuric acid plant does not produce oleum. The AP-42 background document SAM test data for sulfuric acid plants using spent acid as a feedstock includes the following uncontrolled SAM emission rates:
    - Test 16: 2.40 lb/ton; 77 % oleum
    - Test 17: 2.25 lb/ton; 71.5 % oleum
    - Test 18: 2.22 lb/ton; 0 % oleum

The above data shows that uncontrolled SAM emissions will increase with increasing percentage of oleum production, although the difference appears minor for the zero percent case.

In summary, the potential SAM emission estimate of 93 tons per year for the PPS sulfuric acid plant is considered reasonable (and probably conservative) since the PPS sulfuric acid plant: (a) utilities the double contact process to minimize unabsorbed SO_3, and (b) includes a drying tower to remove moisture prior to the catalytic reactors. In addition, the top of the AP-42 emission factor range for the spent acid raw material category was used to estimate potential pre-control SAM emissions although this emission factor was based on a stack test for a plant that produces oleum. As mentioned previously, sulfuric acid plants that do not produce oleum, such as the PPS plant, will have lower pre-control SAM emission rates. Use of the lower AP-42 factor (i.e., 2.22 lb/ton) applicable to plants that do not produce oleum yields an annual pre-control SAM emission rate of 86.2 tons per year for the PPS sulfuric acid plant. TEC has enclosed as Attachment 1 the AP-42, Fifth Edition, Volume I Chapter 8.10: Sulfuric Acid section mentioned above.

The Professional Engineer and Responsible Official Certifications are included in Attachments 2 and 3, respectively, of this submittal. TEC appreciates the opportunity to provide the additional information contained in this correspondence. If you have any further questions or need additional clarification, please do not hesitate to call Raiza Calderon or me at (813) 228-4369.

Sincerely,

Laura R. Crouch
Manager - Air Programs
Environmental, Health and Safety

EA/bmr/RC189

c/enc: Mr. Jerry Kissel, FDEP SW District
Mr. Ed Svec, FDEP

Attachment 1

8.10 Sulfuric Acid

8.10.1 General[1-2]

Sulfuric acid (H_2SO_4) is a basic raw material used in a wide range of industrial processes and manufacturing operations. Almost 70 percent of sulfuric acid manufactured is used in the production of phosphate fertilizers. Other uses include copper leaching, inorganic pigment production, petroleum refining, paper production, and industrial organic chemical production.

Sulfuric acid may be manufactured commercially by either the lead chamber process or the contact process. Because of economics, all of the sulfuric acid produced in the U. S. is now produced by the contact process. U. S. facilities produce approximately 42 million megagrams (Mg) (46.2 million tons) of H_2SO_4 annually. Growth in demand was about 1 percent per year from 1981 to 1991 and is projected to continue to increase at about 0.5 percent per year.

8.10.2 Process Description[3-5]

Since the contact process is the only process currently used, it will be the only one discussed in this section. Contact plants are classified according to the raw materials charged to them: elemental sulfur burning, spent sulfuric acid and hydrogen sulfide burning, and metal sulfide ores and smelter gas burning. The contributions from these plants to the total acid production are 81, 8, and 11 percent, respectively.

The contact process incorporates 3 basic operations, each of which corresponds to a distinct chemical reaction. First, the sulfur in the feedstock is oxidized (burned) to sulfur dioxide (SO_2):

$$S + O_2 \rightarrow SO_2 \quad (1)$$

The resulting sulfur dioxide is fed to a process unit called a converter, where it is catalytically oxidized to sulfur trioxide (SO_3):

$$2SO_2 + O_2 \rightarrow 2SO_3 \quad (2)$$

Finally, the sulfur trioxide is absorbed in a strong 98 percent sulfuric acid solution:

$$SO_3 + H_2O \rightarrow H_2SO_4 \quad (3)$$

8.10.2.1 Elemental Sulfur Burning Plants -

Figure 8.10-1 is a schematic diagram of a dual absorption contact process sulfuric acid plant that burns elemental sulfur. In the Frasch process, elemental sulfur is melted, filtered to remove ash, and sprayed under pressure into a combustion chamber. The sulfur is burned in clean air that has been dried by scrubbing with 93 to 99 percent sulfuric acid. The gases from the combustion chamber cool by passing through a waste heat boiler and then enter the catalyst (vanadium pentoxide) converter. Usually, 95 to 98 percent of the sulfur dioxide from the combustion chamber is converted to sulfur trioxide, with an accompanying large evolution of heat. After being cooled, again by generating steam, the converter exit gas enters an absorption tower. The absorption tower is a packed column where acid is sprayed in the top and where the sulfur trioxide enters from the bottom. The

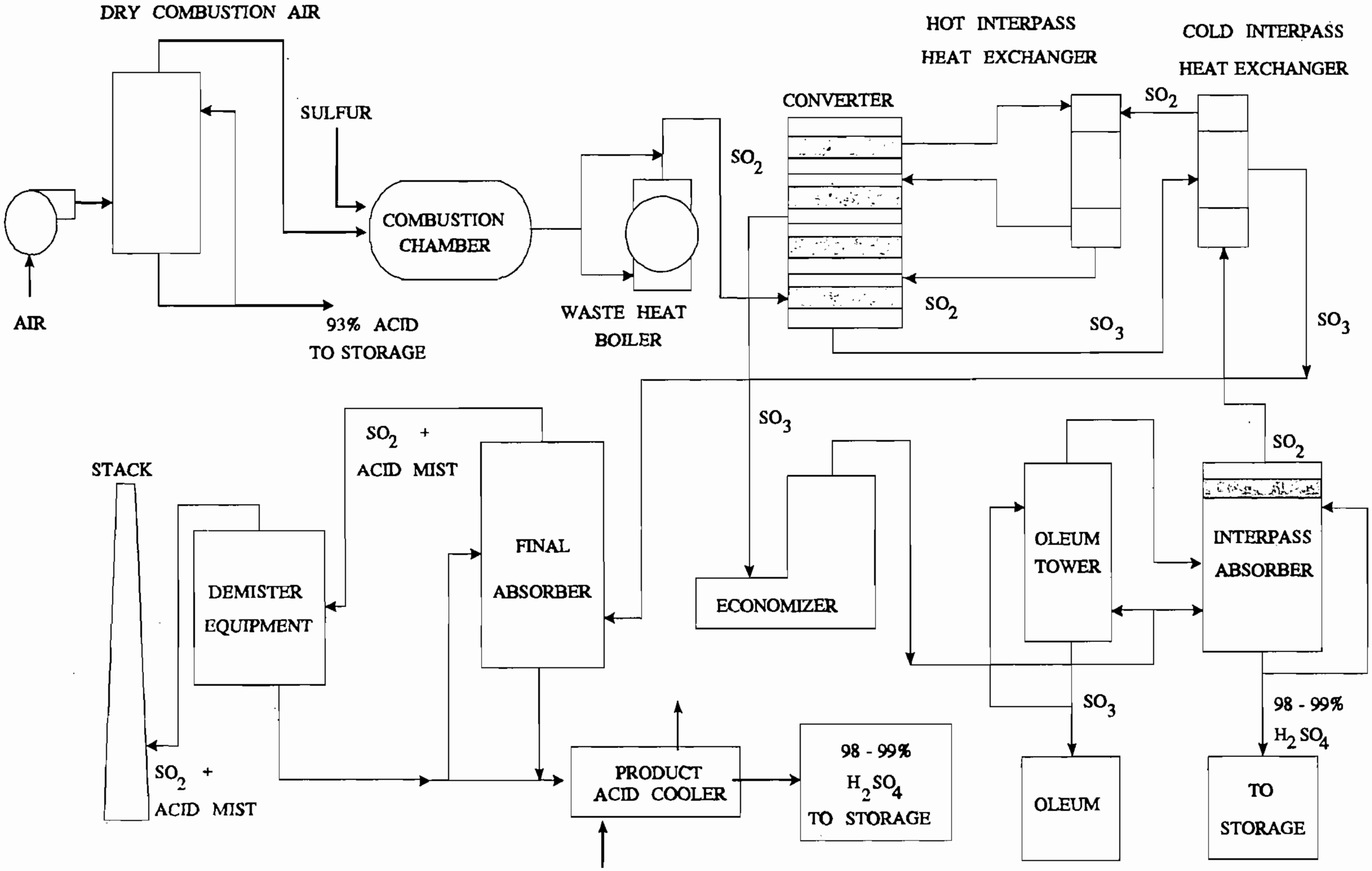

Figure 8.10-1. Typical contact process sulfuric acid plant burning elemental sulfur.

sulfur trioxide is absorbed in the 98 to 99 percent sulfuric acid. The sulfur trioxide combines with the water in the acid and forms more sulfuric acid.

If oleum (a solution of uncombined SO_3 dissolved in H_2SO_4) is produced, SO_3 from the converter is first passed to an oleum tower that is fed with 98 percent acid from the absorption system. The gases from the oleum tower are then pumped to the absorption column where the residual sulfur trioxide is removed.

In the dual absorption process shown in Figure 8.10-1, the SO_3 gas formed in the primary converter stages is sent to an interpass absorber where most of the SO_3 is removed to form H_2SO_4. The remaining unconverted sulfur dioxide is forwarded to the final stages in the converter to remove much of the remaining SO_2 by oxidation to SO_3, whence it is sent to the final absorber for removal of the remaining sulfur trioxide. The single absorption process uses only one absorber, as the name implies.

8.10.2.2 Spent Acid And Hydrogen Sulfide Burning Plants -

A schematic diagram of a contact process sulfuric acid plant that burns spent acid is shown in Figure 8.10-2. Two types of plants are used to process this type of sulfuric acid. In one, the sulfur dioxide and other products from the combustion of spent acid and/or hydrogen sulfide with undried atmospheric air are passed through gas cleaning and mist removal equipment. The gas stream next passes through a drying tower. A blower draws the gas from the drying tower and discharges the sulfur dioxide gas to the sulfur trioxide converter, then to the oleum tower and/or absorber.

In a "wet gas plant", the wet gases from the combustion chamber are charged directly to the converter, with no intermediate treatment. The gas from the converter flows to the absorber, through which 93 to 98 percent sulfuric acid is circulated.

8.10.2.3 Sulfide Ores And Smelter Gas Plants -

The configuration of this type of plant is essentially the same as that of a spent acid plant (Figure 8.10-2), with the primary exception that a roaster is used in place of the combustion furnace.

The feed used in these plants is smelter gas, available from such equipment as copper converters, reverberatory furnaces, roasters, and flash smelters. The sulfur dioxide in the gas is contaminated with dust, acid mist, and gaseous impurities. To remove the impurities, the gases must be cooled and passed through purification equipment consisting of cyclone dust collectors, electrostatic dust and mist precipitators, and scrubbing and gas cooling towers. After the gases are cleaned and the excess water vapor is removed, they are scrubbed with 98 percent acid in a drying tower. Beginning with the drying tower stage, these plants are nearly identical to the elemental sulfur plants shown in Figure 8.10-1.

8.10.3 Emissions[4,6-7]

8.10.3.1 Sulfur Dioxide -

Nearly all sulfur dioxide emissions from sulfuric acid plants are found in the exit stack gases. Extensive testing has shown that the mass of these SO_2 emissions is an inverse function of the sulfur conversion efficiency (SO_2 oxidized to SO_3). This conversion is always incomplete, and is affected by the number of stages in the catalytic converter, the amount of catalyst used, temperature and pressure, and the concentrations of the reactants (sulfur dioxide and oxygen). For example, if the inlet SO_2 concentration to the converter were 9 percent by volume (a representative value), and the conversion temperature was 430°C (806°F), the conversion efficiency would be 98 percent. At this conversion, Table 8.10-1 shows that the uncontrolled emission factor for SO_2 would be 13 kilograms

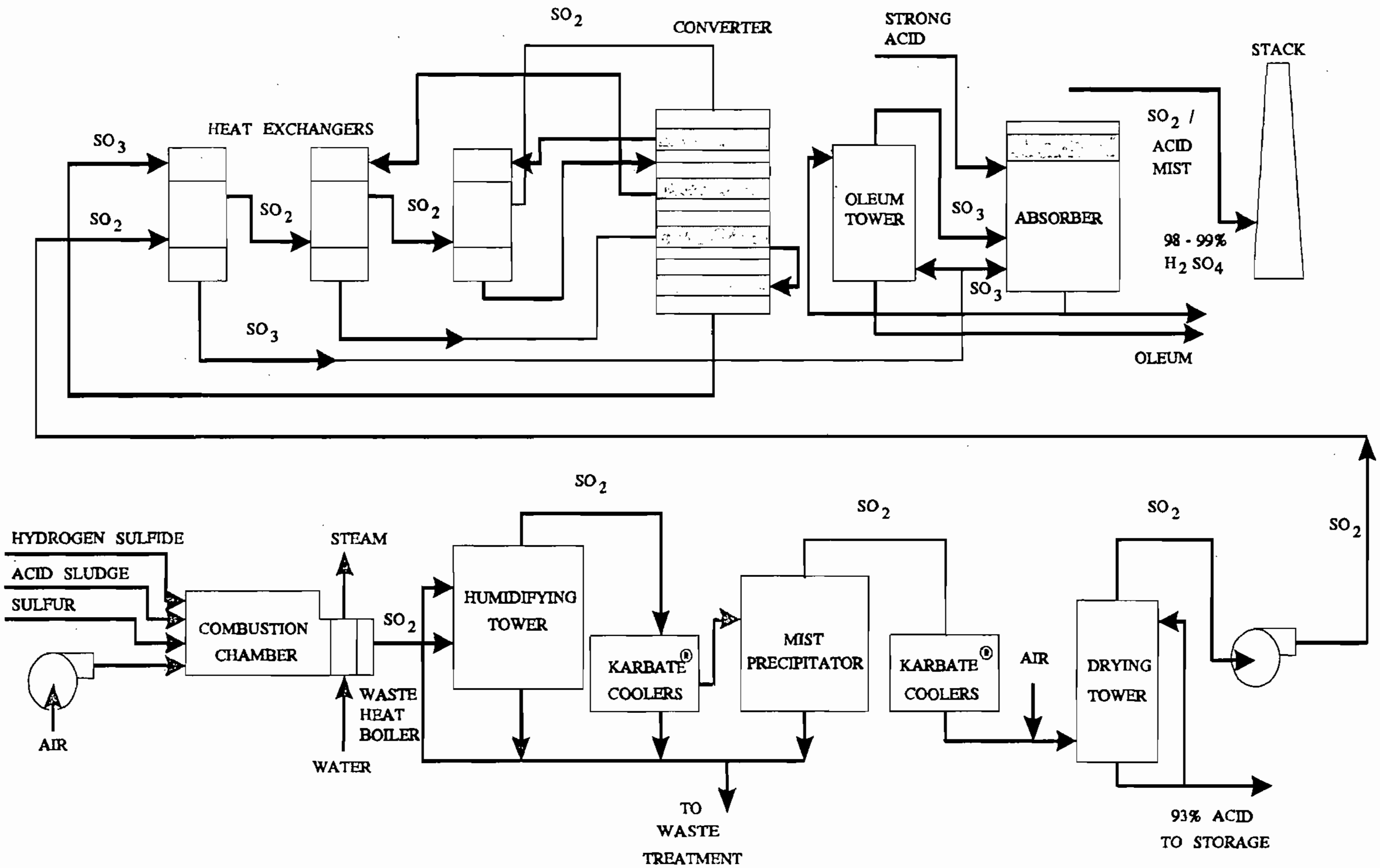

Figure 8.10-2. Basic flow diagram of contact process sulfuric acid plant burning spent acid.

per megagram (kg/Mg) (26 pounds per ton [lb/ton]) of 100 percent sulfuric acid produced. (For purposes of comparison, note that the Agency's new source performance standard [NSPS] for new and modified plants is 2 kg/Mg (4 lb/ton) of 100 percent acid produced, maximum 2 hour average.) As Table 8.10-1 and Figure 8.10-3 indicate, achieving this standard requires a conversion efficiency of 99.7 percent in an uncontrolled plant, or the equivalent SO_2 collection mechanism in a controlled facility.

Dual absorption, as discussed above, has generally been accepted as the best available control technology for meeting NSPS emission limits. There are no byproducts or waste scrubbing materials created, only additional sulfuric acid. Conversion efficiencies of 99.7 percent and higher are achievable, whereas most single absorption plants have SO_2 conversion efficiencies ranging only from 95 to 98 percent. Furthermore, dual absorption permits higher converter inlet sulfur dioxide concentrations than are used in single absorption plants, because the final conversion stages effectively remove any residual sulfur dioxide from the interpass absorber.

In addition to exit gases, small quantities of sulfur oxides are emitted from storage tank vents and tank car and tank truck vents during loading operations, from sulfuric acid concentrators, and through leaks in process equipment. Few data are available on the quantity of emissions from these sources.

Table 8.10-1 (Metric And English Units). SULFUR DIOXIDE EMISSION FACTORS FOR SULFURIC ACID PLANTS[a]

EMISSION FACTOR RATING: E

SO_2 To SO_3 Conversion Efficiency (%)	SO_2 Emissions[b]	
	kg/Mg Of Product	lb/ton Of Product
93 (SCC 3-01-023-18)	48.0	96
94 (SCC 3-01-023-16)	41.0	82
95 (SCC 3-01-023-14)	35.0	70
96 (SCC 3-01-023-12)	27.5	55
97 (SCC 3-01-023-10)	20.0	40
98 (SCC 3-01-023-08)	13.0	26
99 (SCC 3-01-023-06)	7.0	14
99.5 (SCC 3-01-023-04)	3.5	7
99.7 NA	2.0	4
100 (SCC 3-01-023-01)	0.0	0.0

[a] Reference 3. SCC = Source Classification Code. NA = not applicable.
[b] This linear interpolation formula can be used for calculating emission factors for conversion efficiencies between 93 and 100%: emission factor (kg/Mg of Product) = 682 - 6.82 (% conversion efficiency) (emission factor [lb/ton of Product] = 1365 - 13.65 [% conversion efficiency]).

8.10.3.2 Acid Mist -

Nearly all the acid mist emitted from sulfuric acid manufacturing can be traced to the absorber exit gases. Acid mist is created when sulfur trioxide combines with water vapor at a

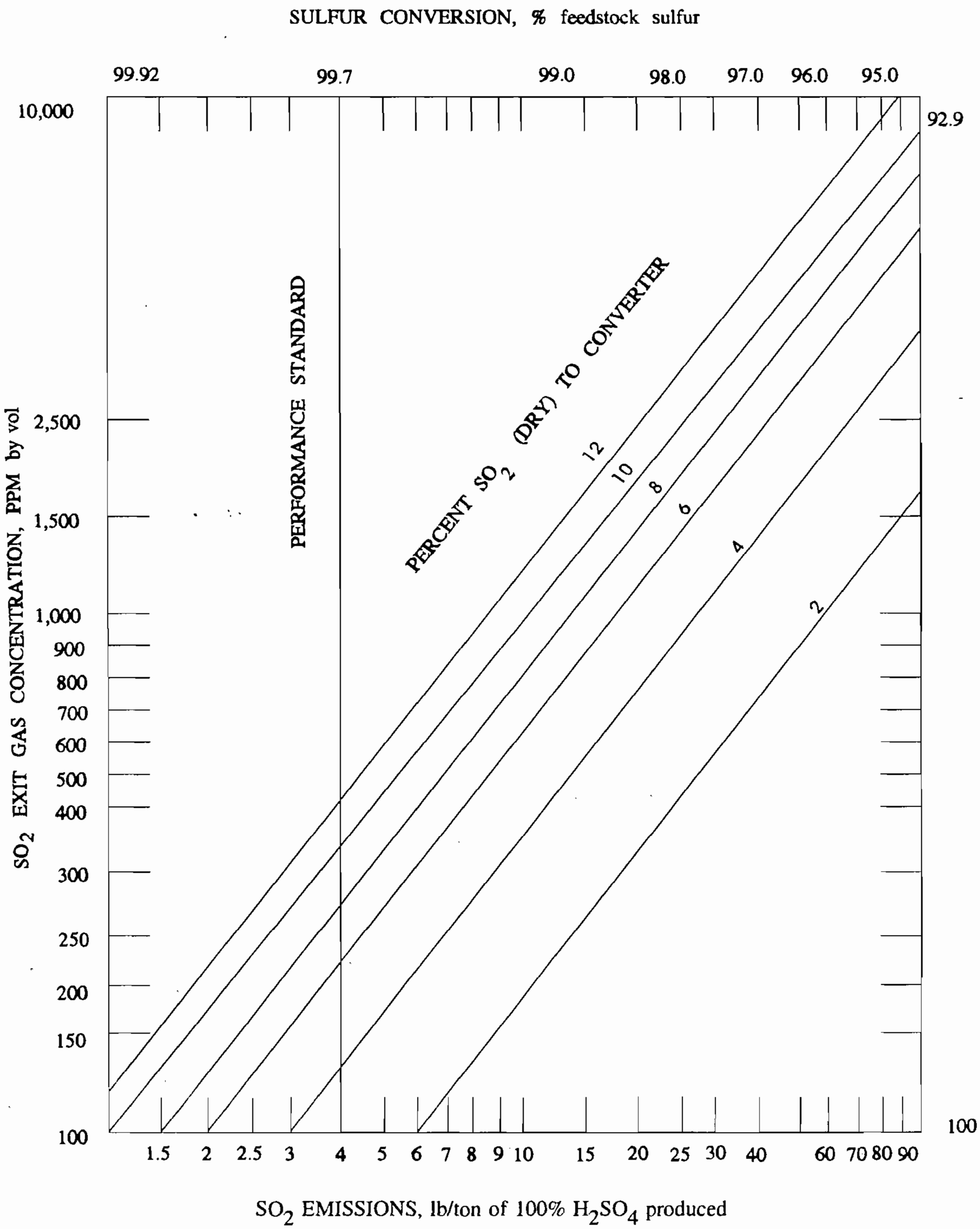

Figure 8.10-3. Sulfuric acid plant feedstock conversion versus volumetric and mass SO_2 emissions at various inlet SO_2 concentrations by volume.

temperature below the dew point of sulfur trioxide. Once formed within the process system, this mist is so stable that only a small quantity can be removed in the absorber.

In general, the quantity and particle size distribution of acid mist are dependent on the type of sulfur feedstock used, the strength of acid produced, and the conditions in the absorber. Because it contains virtually no water vapor, bright elemental sulfur produces little acid mist when burned. However, the hydrocarbon impurities in other feedstocks (i. e., dark sulfur, spent acid, and hydrogen sulfide) oxidize to water vapor during combustion. The water vapor, in turn, combines with sulfur trioxide as the gas cools in the system.

The strength of acid produced, whether oleum or 99 percent sulfuric acid, also affects mist emissions. Oleum plants produce greater quantities of finer, more stable mist. For example, an unpublished report found that uncontrolled mist emissions from oleum plants burning spent acid range from 0.5 to 5.0 kg/Mg (1.0 to 10.0 lb/ton), while those from 98 percent acid plants burning elemental sulfur range from 0.2 to 2.0 kg/Mg (0.4 to 4.0 lb/ton).[4] Furthermore, 85 to 95 weight percent of the mist particles from oleum plants are less than 2 micrometers (μm) in diameter, compared with only 30 weight percent that are less than 2 μm in diameter from 98 percent acid plants.

The operating temperature of the absorption column directly affects sulfur trioxide absorption and, accordingly, the quality of acid mist formed after exit gases leave the stack. The optimum absorber operating temperature depends on the strength of the acid produced, throughput rates, inlet sulfur trioxide concentrations, and other variables peculiar to each individual plant. Finally, it should be emphasized that the percentage conversion of sulfur trioxide has no direct effect on acid mist emissions.

Table 8.10-2 presents uncontrolled acid mist emission factors for various sulfuric acid plants. Table 8.10-3 shows emission factors for plants that use fiber mist eliminator control devices. The 3 most commonly used fiber mist eliminators are the vertical tube, vertical panel, and horizontal dual pad types. They differ from one another in the arrangement of the fiber elements, which are composed of either chemically resistant glass or fluorocarbon, and in the means employed to collect the trapped liquid. Data are available only with percent oleum ranges for 2 raw material categories.

8.10.3.3 Carbon Dioxide -

The 9 source tests mentioned above were also used to determine the amount of carbon dioxide (CO_2), a global warming gas, emitted by sulfuric acid production facilities. Based on the tests, a CO_2 emission factor of 4.05 kg emitted per Mg produced (8.10 lb/ton) was developed, with an emission factor rating of C.

Table 8.10-2 (Metric And English Units). UNCONTROLLED ACID MIST EMISSION FACTORS FOR SULFURIC ACID PLANTS[a]

EMISSION FACTOR RATING: E

Raw Material	Oleum Produced, % Total Output	Emissions[b]	
		kg/Mg Of Product	lb/ton Of Product
Recovered sulfur (SCC 3-01-023-22)	0 - 43	0.174 - 0.4	0.348 - 0.8
Bright virgin sulfur (SCC 3-01-023-22)	0	0.85	1.7
Dark virgin sulfur (SCC 3-01-023-22)	0 - 100	0.16 - 3.14	0.32 - 6.28
Spent acid (SCC 3-01-023-22)	0 - 77	1.1 - 1.2	2.2 - 2.4

[a] Reference 3. SCC = Source Classification Code.
[b] Emissions are proportional to the percentage of oleum in the total product. Use low end of ranges for low oleum percentage and high end of ranges for high oleum percentage.

Table 8.10-3 (Metric And English Units). CONTROLLED ACID MIST EMISSION FACTORS FOR SULFURIC ACID PLANTS

EMISSION FACTOR RATING: E (except as noted)

Raw Material	Oleum Produced, % Total Output	Emissions	
		kg/Mg Of Product	lb/ton Of Product
Elemental sulfur[a] (SCC 3-01-023-22)	—	0.064	0.128
Dark virgin sulfur[b] (SCC 3-01-023-22)	0 - 13	0.26 - 1.8	0.52 - 3.6
Spent acid (SCC 3-01-023-22)	0 - 56	0.014 - 0.20	0.28 - 0.40

[a] References 8-13,15-17. EMISSION FACTOR RATING: C. SCC = Source Classification Code.
[b] Reference 3.

References For Section 8.10

1. *Chemical Marketing Reporter*, *240*:8, Schnell Publishing Company, Inc., New York, September 16, 1991.

2. *Final Guideline Document: Control Of Sulfuric Acid Mist Emissions From Existing Sulfuric Acid Production Units*, EPA-450/2-77-019, U. S. Environmental Protection Agency, Research Triangle Park, NC, September 1977.

3. *Atmospheric Emissions From Sulfuric Acid Manufacturing Processes*, 999-AP-13, U. S. Department Of Health, Education And Welfare, Washington, DC, 1966.

4. Unpublished Report On Control Of Air Pollution From Sulfuric Acid Plants, U. S. Environmental Protection Agency, Research Triangle Park, NC, August 1971.

5. *Review Of New Source Performance Standards For Sulfuric Acid Plants*, EPA-450/3-85-012, U. S. Environmental Protection Agency, Research Triangle Park, NC, March 1985.

6. *Standards Of Performance For New Stationary Sources*, 36 FR 24875, December 23, 1971.

7. "Sulfuric Acid", *Air Pollution Engineering Manual*, Air And Water Management Association, 1992.

8. *Source Emissions Compliance Test Report, Sulfuric Acid Stack*, Roy F. Weston, Inc., West Chester, PA, October 1989.

9. *Source Emissions Compliance Test Report, Sulfuric Acid Stack*, Roy F. Weston, Inc., West Chester, PA, February 1988.

10. *Source Emissions Compliance Test Report, Sulfuric Acid Stack*, Roy F. Weston, Inc., West Chester, PA, December 1989.

11. *Source Emissions Compliance Test Report, Sulfuric Acid Stack*, Roy F. Weston, Inc., West Chester, PA, December 1991.

12. *Stationary Source Sampling Report, Sulfuric Acid Plant*, Entropy Environmentalists, Inc., Research Triangle Park, NC, January 1983.

13. *Source Emissions Test: Sulfuric Acid Plant*, Ramcon Environmental Corporation, Memphis, TN, October 1989.

14. *Mississippi Chemical Corporation, Air Pollution Emission Tests, Sulfuric Acid Stack*, Environmental Science and Engineering, Inc., Gainesville, FL, September 1973.

15. *Kennecott Copper Corporation, Air Pollution Emission Tests, Sulfuric Acid Stack—Plant 6*, Engineering Science, Inc., Washington, DC, August 1972.

16. *Kennecott Copper Corporation, Air Pollution Emission Tests, Sulfuric Acid Stack—Plant 7*, Engineering Science, Inc., Washington, DC, August 1972.

17. *American Smelting Corporation, Air Pollution Emission Tests, Sulfuric Acid Stack*, Engineering Science, Inc., Washington, DC, June 1972.

Attachment 2

TAMPA ELECTRIC COMPANY
POLK POWER STATION
TITLE V RENEWAL APPLICATION
REQUEST FOR ADDITIONAL INFORMATION

Professional Engineer Certification

Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, the information presented in the response by Tampa Electric Company (TEC) to the Department's June 79, 2004 request for additional information concerning the renewal of TEC's Polk Power Station Title V air operation permit is true, accurate, and complete based on my review of material provided by TEC engineering and environmental staff; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this submittal are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of air pollutants not regulated for an emissions unit, based solely upon the materials, information and calculations provided with this certification.

Signature ______________________ Date 7/19/04

(seal)

* Certification is applicable to the Tampa Electric Company (TEC) response to the Department's June 7, 2004 request for additional information regarding the renewal of the Polk Power Station Title V air operation permit.

Attachment 3

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial/revised/renewal Title V permit or concurrent processing of an air construction permit and a revised/renewal Title V permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name: Mark J. Hornick., General Manager

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):
   - [X] For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
   - [ ] For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
   - [ ] For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
   - [ ] The designated representative at an Acid Rain source.

3. Application Responsible Official Mailing Address...
   Organization/Firm: **Tampa Electric Company**
   Street Address: **P.O. Box 111**
   City: **Tampa** State: **Florida** Zip Code: **33601-0111**

4. Application Responsible Official Telephone Numbers...
   Telephone: **(813) 228 - 1111** ext. **39988** Fax: **(863) 428 - 5927**

5. Application Responsible Official Email Address: **mjhornick@tecoenergy.com**

6. Application Responsible Official Certification:

   I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

   Mark J Hornick ________ 7/16/04 ________
   Signature Date

Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Colleen M. Castille
Secretary

June 7, 2004

CERTIFIED MAIL- RETURN RECEIPT REQUESTED

Mr. Mark J. Hornick, General Manager
Tampa Electric Company
PO Box 111
Tampa, FL 33601-0111

Re: Title V Renewal Request for Additional Information
Reference Permit No. 1050233-016-AV
Polk Power Station

Dear Mr. Hornick:

On April 22, 2004, the Department received your Title V air permit application to renew your existing permit. Thank you for submitting it prior to the July 5, 2004 due date. In order to continue processing the application, the following additional information is needed:

1. Construction Permit Concurrent Processing Is it your desire that the construction permit information that was attached as Attachment A-14 be co processed with the renewal request? In that case, please submit a revised "Purpose of Application" page with the boxes checked for concurrent processing.
2. Emission Unit Information. It is indicated in the renewal application that Emission Unit (EU) #004 does not require a Continuous Assurance Monitoring (CAM) plan since it does not have the potential to emit more than 100 tons annually of sulfuric acid mist (SAM). However, the potential emission estimate of 93 tons per year of SAM is based on EPA's AP-42 estimates for plants burning elemental sulfur. EPA's AP-42 goes on to say that plants burning hydrogen sulfide could expect higher quantities of SAM due to the formation of additional water vapor in the process. Please verify that EPA's AP-42 SAM emission factors are consistent with the measured emissions of your sulfuric acid plant.

Responsible Official (R.O.) Certification Statement:
Rule 62-213.420, F.A.C. requires that a responsible official must certify all Title V permit applications. Due to the nature of the information requested above, the responsible official should certify the response. Please complete and submit a new R.O. certification statement page from the Application for Air Permit – Long Form, DEP Form No. 62-210.900(1), effective June 16, 2003.

Professional Engineer (P.E.) Certification Statement:
Rule 62-4.050(3), F.A.C. requires that a professional engineer registered in the State of Florida certify all applications for a Department permit. This requirement also applies to responses to Department requests for additional information of an engineering nature. As a result, a professional engineer registered in the State of Florida should certify your response. Please complete and submit a new P.E. certification statement page from the Application for Air Permit – Long Form, DEP Form No. 62-210.900(1), effective June 16, 2003.

The Department must receive a response from you within 90 (ninety) days of receipt of this letter, unless you (the applicant) request additional time under Rule 62-213.420(1)(b)6., F.A.C.

Please submit your response to the Department at the letterhead address. If you have any questions, please call me at (850) 921-9515 or email me at jim.pennington@dep.state.fl.us .

Sincerely,

James K. Pennington, P.E.
North Permitting Section Administrator
Bureau of Air Regulation

cc: Laura R. Crouch, TECO
Raisa Calderon, TECO
Tom Davis, P.E., Consultant, ECT
Ed Svec

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Mark J. Hornick, General Manager
Tampa Electric Company
P. O. Box 111
Tampa, Florida 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature X [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* J CCHAN[illegible]

C. Date of Delivery 6-10-04

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

DOWNTOWN STATION JUN 10 2004 TAMPA 33601

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? *(Extra Fee)* ☐ Yes

2. Article Number *(Transfer from service label)* 7001 1140 0002 1578 1444

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

OFFICIAL USE

Mr. Mark J. Hornick, General Manager

7001 1140 0002 1578 1444

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To Mr. Mark J. Hornick, General Manager

Street, Apt. No.; or PO Box No. P. O. Box 111

City, State, ZIP+ 4 Tampa, Florida 33601-0111

PS Form 3800, January 2001 See Reverse for Instructions

Department of
Environmental Protection

Jeb Bush
Governor

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

Certified Mail – Return Receipt Requested

February 10, 2004

Mr. Mark J. Hornick
General Manager
Tampa Electric Company
P. O. Box 111
Tampa, Florida 33601-0111

Re: Title V Air Operation Permit Revision Application
Polk Power Station
Facility ID: **1050233**

Dear Mr. Hornick:

Thank you for your submission of December 17, 2003, for a Title V Air Operation Permit Revision for the referenced facility. The Department has reviewed your request and has determined the application to be incomplete, for the following reason:

1. Several of the requested changes will require amendments to previously issued PSD or Air Construction permits. If you want us to amend these permits, we will need you to request either separate or simultaneous air construction permit processing with the Title V Revision.

When the Department has received all of the requested information, we will resume processing your application for permit revision. Until then, if you have any questions or require further assistance, please contact me at 850/921-8985.

Sincerely,

Edward J. Svec
Engineer IV

Cc: Mitchell Hait, P.E., Environmental Consulting & Technology
Gerald Kissel, P.E., DEP SW District
Raisa Calderon, Tampa Electric

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Mark J. Hornick
General Manager
Tampa Electric Company
P. O. Box 111
Tampa, FL 33601-0111

COMPLETE THIS SECTION ON DELIVERY

A. Signature X [signature] ☐ Agent ☐ Addressee

B. Received by (*Printed Name*) [handwritten]

C. Date of Delivery 2-17-04

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

FEB 17 2004

3. Service Type
   - ☒ Certified Mail
   - ☐ Express Mail
   - ☐ Registered
   - ☐ Return Receipt for Merchandise
   - ☐ Insured Mail
   - ☐ C.O.D.

4. Restricted Delivery? (*Extra Fee*) ☐ Yes

2. Article Number (*Transfer from service label*) 7001 1140 0002 1578 0492

PS Form 3811, August 2001 Domestic Return Receipt 102595-02-M-1540

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 1140 0002 1578 0492

OFFICIAL USE

Postage	$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	$

Postmark Here

Sent To Mr. Mark J. Hornick, Gen, Mgr.
Street, Apt. No.; or PO Box No. TECO, P.O. Box 111
City, State, ZIP+4 Tampa, FL 33601-0111

PS Form 3800, January 2001 See Reverse for Instructions

Y-22.1 6/97

TECO

TAMPA ELECTRIC

P.O. Box 111 Tampa, Florida 33601-0111

MS 5505

Mr. Ed Svec
FDEP
2600 Blair Stone Road
Tallahassee, FL 32399-2400