STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PROPOSED REVISION TO STATE IMPLEMENTATION PLAN

Pre-Hearing

SUBMITTAL NUMBER 2019-01

REDESIGNATION REQUEST AND MAINTENANCE PLAN FOR THE HILLSBOROUGH-POLK COUNTY SULFUR DIOXIDE (SO_2) NONATTAINMENT AREA AND REDESIGNATION REQUEST FOR THE MULBERRY, FL SO_2 UNCLASSIFIABLE AREA

February 15, 2019

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Table of Contents

Executive Summary

1. Introduction

The Department of Environmental Protection (Department) is proposing a revision to Florida's State Implementation Plan (SIP) under the federal Clean Air Act (CAA). This SIP revision consists of two redesignation requests. The first requests that the portions of Hillsborough and Polk counties that were designated as "nonattainment" (the Hillsborough-Polk County nonattainment area [NAA]) be redesignated to "attainment" with respect to the 2010 revised sulfur dioxide (SO_2) national ambient air quality standard (NAAQS). The second requests that the portions of Hillsborough and Polk counties that were designated as "unclassifiable" (the Mulberry, FL Unclassifiable Area) be redesignated to "attainment" with respect to the 2010 SO_2 NAAQS. This SIP submittal also includes the CAA section 175A Maintenance Plan for the Hillsborough-Polk County NAA, the CAA section 172(c)(3) emission inventory, and certification of the existing SIP-approved Nonattainment New Source Review (NNSR) permitting program. The Department is requesting that this proposed SIP revision be completed through parallel processing.

2. Background

On June 22, 2010 (effective August 23, 2010), the U.S. Environmental Protection Agency (EPA) promulgated a revised NAAQS for the air pollutant SO_2. 75 Fed. Reg. 35,520. The level of the revised standard is 75 parts per billion (ppb), based on a three-year average of the annual 99th percentile of one-hour daily maximum concentrations. The revised SO_2 standard is the first one-hour primary standard promulgated by EPA for this air pollutant.

On January 9, 2018 (effective April 9, 2018), EPA designated an area in Hillsborough County and Polk County, Florida (Hillsborough-Polk County NAA) "nonattainment" for SO_2 based on air quality modeling performed by the Department for the area as required by the Data Requirements Rule and submitted to EPA on January 13, 2017. 83 Fed. Reg. 1,098. The designated NAA is described as follows:

> *That portion of Hillsborough and Polk Counties encompassed by the polygon with the vertices using Universal Traverse Mercator (UTM) coordinates in UTM zone 17 with datum NAD83 as follows: 390,500 E, 3,073,500 N; 390,500 E, 3,083,500 N; 400,500 E, 3,083,500 N; 400,500 E, 3,073,500 N.*

83 Fed. Reg. 1,115. EPA also designated an area in Hillsborough County and Polk County, Florida (Mulberry, FL Unclassifiable Area) adjacent to the nonattainment area as "unclassifiable" for SO_2. 83 Fed. Reg. 1,098. The designated unclassifiable area is described as follows:

> *That portion of Hillsborough and Polk Counties encompassed by the polygon with the vertices using Universal Traverse Mercator (UTM) coordinates in UTM zone 17 with datum NAD83 starting with the Northwest Corner and proceeding to the Northeast as follows: 390,500 E, 3,083,500 N; 410,700 E, 3,091,600 N; 412,900 E, 3,089,800 N; 412,900 E, 3,084,600 N; 400,500 E, 3,073,500 N; 400,500 E, 3,083,500 N.*

83 Fed. Reg. 1,115. The Hillsborough-Polk County NAA contains within its boundaries one major point source for SO_2 emissions – Mosaic Fertilizer, LLC's (Mosaic) New Wales facility. The Mulberry, FL Unclassifiable Area contains within its boundaries one major point source for SO_2 emissions – the Mosaic Bartow facility. In addition, there are two other major SO_2 sources located within 10 km of the NAA and unclassifiable area – Mosaic South Pierce and Tampa Electric Company (TECO) Polk Power Station.

In 2017, Mosaic New Wales received two air construction permits[1] from the Department requiring the facility to upgrade the catalysts in sulfuric acid plants (SAPs) Nos. 1, 2, 3, 4, and 5 (**Appendix A**) and to comply with a 1,090 lb/hr SO_2 emissions cap for the five SAPs based on a 24-hour average as determined by continuous emission monitoring system (CEMS) data (**Appendix B**). Compliance with the emission limit is required on August 31, 2019.

From 2016 to 2018, Mosaic Bartow received a series of air construction permits[2] from the Department requiring the facility to upgrade the catalysts in SAP Nos. 4, 5, and 6 (**Appendix D**, **Appendix E**, and **Appendix F**) and to comply with an SO_2 emissions cap of 1,100 lb/hr for the three SAPs based on a 24-hour average as determined by CEMS data (**Appendix G**). Compliance with the emission limit is required on August 31, 2019.

These six permits formed the basis of the Department's response to EPA's intended designations of nonattainment and unclassifiable for the Hillsborough-Polk County NAA and Mulberry, FL Unclassifiable Area. The Department's response included a source-specific SIP revision and modeling demonstration submitted to EPA on December 1, 2017, Incorporation of SO_2 Emissions Limits for Two Facilities in Polk County (herein referred to as the December 1, 2017 SIP submittal). The submittal uses air quality modeling to demonstrate that as of August 31, 2019 (when the facilities are in compliance with the emission limits), the areas around Mosaic New Wales and Mosaic Bartow are attaining the NAAQS based on maximum allowable emissions.

The December 1, 2017 SIP submittal also requested to incorporate the two facilities' SO_2 emission limits into the SIP to make the limits permanent and federally-enforceable. The December 1, 2017 SIP submittal is currently being reviewed by EPA and will be fully implemented with the completion of all construction, installation of controls, and compliance with emission limits on August 31, 2019.

On January 11, 2019, the Department issued Administrative Permit Corrections for Permit Nos. 1050059-106-AC and 1050046-050-AC that are pending approval by EPA in the December 1, 2017 SIP submittal. These Administrative Permit Corrections, Permit Nos. 1050059-114-AC and 1050046-063-AC, are included in **Appendix C** and **Appendix H**, respectively. This SIP submittal proposes to incorporate the Administrative Permit Corrections, thus superseding the permits in the December 1, 2017 SIP submittal that have not been administratively corrected.

3. Attainment of the SO_2 NAAQS

Attainment of the SO_2 NAAQS occurs when the most recent three-year average of the annual 99th percentile of one-hour daily maximum concentrations at a monitor does not exceed the level of the NAAQS. However, the Hillsborough-Polk County NAA and Mulberry, FL Unclassifiable Area do not contain an SO_2 monitor; therefore, there is no monitoring data that is representative of the area immediately surrounding the facility. In lieu of an appropriate monitor, modeling may be used to demonstrate attainment with the 2010 SO_2 NAAQS.[3] The modeling demonstrations contained in the December 1, 2017 SIP submittal, **Appendix I** (Supplemental Air Quality Modeling Demonstration with Mulberry, FL Unclassifiable Area Receptors), and **Appendix J** (Supplemental Air Quality Modeling

[1] *See* Air Construction Permits 1050059-101-AC and 1050059-106-AC, issued by the Florida Department of Environmental Protection on January 4, 2017, and October 30, 2017, respectively.
[2] *See* Air Construction Permits 1050046-048-AC, 1050046-049-AC, 1050046-050-AC and 1050046-058-AC, issued by the Florida Department of Environmental Protection on September 30, 2016; July 14, 2017; July 3, 2017; and July 10, 2018, respectively.
[3] *See* Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip.

Demonstration with Mulberry, FL Unclassifiable Area Receptors and Updated Background Concentrations) demonstrate that the NAA and unclassifiable area are attaining the NAAQS based on maximum allowable emissions and emission limits which are effective as of August 31, 2019. Therefore, effective August 31, 2019, the Department will have demonstrated that the NAA and unclassifiable area are attaining the 2010 SO_2 NAAQS.

4. SIP Development Process

Section 403.061(35), Florida Statutes, authorizes the Department to "exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act." These duties and responsibilities include the development and periodic updating of Florida's SIP. Pursuant to this statutory authority, the Department has developed this proposed SIP revision.

Pursuant to state administrative procedures and 40 CFR 51.102, on February 15, 2019, the Department published a notice in the Florida Administrative Register (FAR) announcing the opportunity for the public to provide comments, request a public hearing, and participate in a public hearing to be held on March 20, 2019, if requested, regarding the proposed revision to Florida's SIP.

In accordance with the 30-day notice requirement of 40 CFR 51.102, this pre-hearing submittal regarding the proposed SIP revision was transmitted to EPA on February 15, 2019 and posted on the website for the Department's Division of Air Resource Management. At the same time, notice of the opportunity to submit comments, request a public hearing, and participate in the public hearing, if requested, was transmitted to the Department's District offices and Florida's local air pollution control programs.

Redesignation Request for Hillsborough-Polk County SO_2 Nonattainment Area

The Department is requesting that EPA redesignate the Hillsborough-Polk County SO_2 NAA to "attainment." EPA's memos *Procedures for Processing Requests to Redesignate Areas to Attainment*[4] and *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions*[5] discuss the five requirements for redesignation found in CAA Sections 107(d)(3)(E)(i-v):

i. the Administrator determines that the area has attained the national ambient air quality standard;
ii. the Administrator has fully approved the applicable implementation plan for the area under section 7410(k) of this title;
iii. the Administrator determines that the improvement in air quality is due to permanent and enforceable reductions in emissions resulting from implementation of the applicable implementation plan and applicable Federal air pollutant control regulations and other permanent and enforceable reductions;
iv. the Administrator has fully approved a maintenance plan for the area as meeting the requirements of section 7505a of this title; and
v. the State containing such area has met all requirements applicable to the area under section 7410 of this title and part D of this subchapter.

This submittal demonstrates that each of these requirements has been met and that a redesignation of the area to "attainment" is appropriate as detailed in this redesignation request.

1. Attainment of the SO_2 NAAQS [CAA section 107(d)(3)(E)(i)]

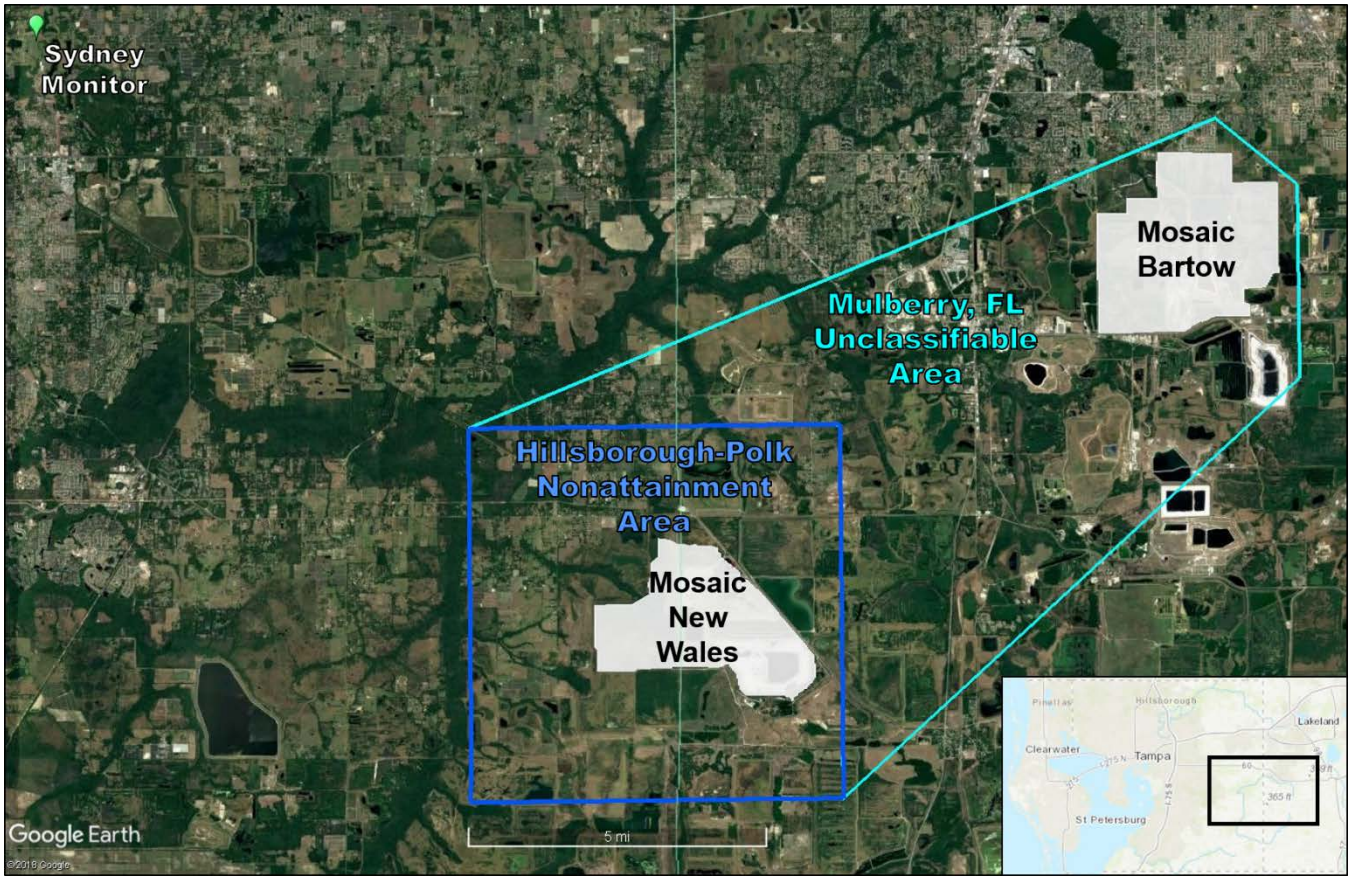
The State must show that the area is attaining the NAAQS. There are two components involved in making this demonstration which should be considered interdependently: ambient air quality data and EPA-approved air quality modeling.

1.1. Ambient Air Quality Data

In order to use ambient air quality data to demonstrate attainment of the NAAQS, a monitor must be located within the affected area and more specifically, in the area of maximum concentration. As can be seen in **Figure 1**, the NAA does not contain any SO_2 monitor. When there are no air quality monitors located in the affected area, then air quality dispersion modeling may be used in lieu of monitoring data to estimate SO_2 concentrations in the area and is sufficient to demonstrate attainment of the NAAQS. The Department submitted a modeled attainment demonstration using maximum allowable emissions in the December 1, 2017 SIP submittal. This modeling demonstration is being amended to add the Mulberry, FL Unclassifiable Area receptors (**Appendix I**). In addition, EPA requested supplemental modeling that includes revised background concentrations (**Appendix J**). These modeling demonstrations are detailed in section 1.2 of this Redesignation Request.

[4] Procedures for Processing Requests to Redesignate Areas to Attainment. John Calcagni Memorandum dated September 4, 1992, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/ozone-pollution/procedures-processing-requests-redesignate-areas-attainment
[5] Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip

Figure 1: Nearest ambient SO_2 monitor with valid data to the Hillsborough-Polk County SO_2 Nonattainment Area.



1.2. Air Quality Modeling

On December 1, 2017, the Department submitted a SIP containing a modeled attainment demonstration for the area surrounding New Wales using maximum allowable emissions. The December 1, 2017 SIP submittal demonstrates that the lower emission limits for New Wales and Bartow result in the area attaining and maintaining the 2010 SO_2 NAAQS. This demonstration was performed in 2017 with meteorological data from 2012-2016 and using the recommended AMS/EPA Regulatory Modeling (AERMOD) system including the pre-processors AERMET and AERMAP.[6]

Modeled Sources

An analysis of emissions data and spatial proximity was performed for all nearby sources to determine which sources to include in the modeling demonstration. All sources within 20 km of the primary facility that had 2014 SO_2 emissions of at least 100 tons were included. All other sources within 35 km were then subjected to a widely used screening procedure known as 20d. This method suggests that if a source's annual emissions in tons (Q) is less than its distance from the primary source in kilometers (d) multiplied by 20, then it is unlikely to have a significant concentration gradient in the area of concern. Finally, for all sources not already identified for inclusion, the Department considered emissions data, stack parameters, and spatial proximity (both to other sources and the background monitor), and used professional judgment to determine whether sources should be included. All other sources in the area (**Table 1**) are represented in the added monitored background concentrations. While the Lakeland

[6] *Guideline on Air Quality Models*. 40 CFR Part 51, Appendix W.

Electric C.D. McIntosh Jr. Power Plant (Lakeland McIntosh), Tampa Electric Company Big Bend Station (TECO Big Bend) and Mosaic Riverview facilities, all more than 30 km away, are technically above the 20d threshold, they were not explicitly included in the modeling demonstration because the monitor used to develop the modeled background concentrations is well placed to fully represent their emissions in the model. The modeling demonstration included all significant SO_2-emitting sources at the New Wales and Bartow facilities (including building downwash effects), as well as all significant SO_2-emitting sources at Mosaic South Pierce and TECO Polk Power Station. All sources were modeled using their maximum permitted, short-term emissions rates. EPA completed a preliminary review of the December 1, 2017 SIP submittal and requested that the Department provide further justification for the exclusion of certain intermittent sources in the modeling. This justification for excluding intermittent sources is included in **Appendix I**, which updates the modeling demonstration that was included in the December 1, 2017 SIP submittal.

Table 1: All sources of SO_2 emissions greater than 5 tons in 2014 within 35 km of Mosaic New Wales.

Facility ID	Facility Name	Distance from Mosaic New Wales (km) (d)	20d	2014 SO_2 Emissions (tons) (Q)	Q > 20d
105-0059	Mosaic Fertilizer New Wales [a]	0	0	7,126.50	Yes
105-0055	Mosaic Fertilizer South Pierce [a]	13	260	1,731.77	Yes
105-0233	TECO Polk Power Station [a]	13	260	1,245.17	Yes
105-0046	Mosaic Fertilizer Bartow [a]	16	320	4,045.72	Yes
105-0234	Duke Hines Energy Complex	18	360	23.72	No
049-0340	Seminole Electric Midulla Station	23	460	5.84	No
105-0216	Wheelabrator Ridge Energy	30	600	213.77	No
105-0004	Lakeland Electric McIntosh	30	600	2,156.63	Yes
057-0261	Hillsborough Resource Recovery	32	640	13.89	No
057-0008	Mosaic Fertilizer Riverview	34	680	2,209.13	Yes
057-0039	TECO Big Bend Station	35	700	11,156.71	Yes

a. Explicitly modeled facility.

Background Concentrations

The background concentrations were developed for each hour of the day by season from the Sydney monitor (12-057-3002) data for January 2014 through December 2016, following the procedure outlined in EPA's SO_2 NAAQS Designations Modeling Technical Assistance Document.[7] The background concentrations were filtered to remove measurements that were influenced by New Wales, Bartow, TECO Polk, and South Pierce (that is, measurements where the hourly wind direction was in the range of 57° to 175°); the final set of background concentrations is summarized in **Table 2** below.

[7] SO_2 National Ambient Air Quality Standards Designations Modeling Technical Assistance Document. U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711. *https://www.epa.gov/sites/production/files/2016-06/documents/so2modelingtad.pdf*

Table 2: Final set of SO_2 background concentrations from the December 1, 2017 SIP submittal modeling.

Hour	Winter	Spring	Summer	Autumn	Hour	Winter	Spring	Summer	Autumn
0:00	1.00	1.00	0.67	2.33	12:00	3.33	2.67	2.33	2.67
1:00	2.00	1.33	0.67	1.67	13:00	3.00	2.00	2.00	2.33
2:00	1.67	1.33	0.67	2.67	14:00	3.00	2.33	2.67	1.67
3:00	1.33	1.00	1.00	2.33	15:00	2.33	2.67	2.00	2.33
4:00	1.33	1.67	1.00	3.33	16:00	3.00	3.00	1.67	1.67
5:00	1.33	1.67	0.67	3.00	17:00	3.00	2.67	1.33	2.00
6:00	1.00	1.67	1.00	1.00	18:00	2.33	3.67	1.00	1.67
7:00	1.67	2.67	2.00	3.00	19:00	2.67	5.33	0.67	2.33
8:00	2.33	2.67	2.33	7.00	20:00	2.33	3.00	0.67	1.67
9:00	3.00	3.33	3.33	4.33	21:00	1.33	2.67	0.67	2.00
10:00	2.67	3.00	2.67	3.33	22:00	1.33	1.33	0.67	1.67
11:00	2.33	3.00	2.67	3.00	23:00	1.33	1.00	0.67	1.33

Critical Emission Values

The Department performed initial modeling to determine the critical emission values for the Mosaic New Wales and Bartow facilities on an hourly basis consistent with EPA guidance.[8] The purpose was to determine the highest aggregate hourly emission rate between any combinations of two, three, four, or five active SAPs at New Wales and the highest aggregate hourly emission rate between any combinations of the three SAPs at Bartow that would result in a cumulative modeling demonstration that was at the 1-hour NAAQS (i.e. the critical emission value). To determine which combination of SAPs produced the highest modeled concentrations, a series of emissions scenarios was modeled to account for the entire range of possible emissions distributions among the eight affected units. Eighty-four possible combinations of two, three, four, and five SAPs operating at Mosaic New Wales were modeled against four different scenarios at Mosaic Bartow. The four Mosaic Bartow operational scenarios included the three combinations of two SAPs at their individual maximum allowable emission rate (MAER) with the third SAP using the remainder of the modeled emissions and a fourth scenario with the emissions evenly distributed amongst the three SAPs. This resulted in a total of 336 modeling runs. The Department reviewed each run to determine which scenario resulted in the maximum modeled concentration. The Department determined that the scenario resulting in the highest modeled concentration was emissions split evenly among the Bartow SAPs, and New Wales SAPs 1 and 2 at their maximum hourly permitted emission rates and SAP 5 with less than its maximum hourly permitted emission rate (this operating scenario is the worst-case modeling used in this SIP submittal to demonstrate compliance with the NAAQS).

The analysis resulted in critical emission values of 1,118 lb/hr and 1,163 lb/hr for New Wales and Bartow, respectively. The critical emission value modeling is discussed further in **Appendix K**.

Equivalency Ratios

The averaging time for the revised SO_2 NAAQS is one hour; however, the New Wales and Bartow permitted emission rates are based on longer-term averaging times. If a compliance averaging time for

[8] Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip

an emission limit is longer than the averaging time for the applicable NAAQS, EPA guidance provides a method of calculating an "equivalent" longer-term emission limit where appropriate.[9] EPA's suggested adjustment method is to scale the longer-term average emission limit by the ratio of each source's historic 99th percentile one-hour average emissions rate to its 99th percentile longer-term average emissions rate. The premise is that a longer-term emission limit allows for a higher level of emissions variability than the short-term limit. It follows that a larger short-term limit must be input into the model to account for this variability. The SO_2 emission limits for each New Wales and Bartow SAP are based on longer-term averaging periods, so the Department undertook this adjustment and applied these ratios to all modeled scenarios. The Department performed this analysis using actual emissions data from 2012-2014 retrieved from each unit's CEMS to develop unit-specific equivalency ratios (**Table 3**). An Excel spreadsheet containing the hourly emissions data for 2012-2014 used to calculate the adjustment factors and 99th percentile values has been provided to EPA along with this SIP submittal.

Table 3: Emissions variability analysis and equivalent emissions rate calculations.

Unit Description	99th Percentile Rate (lb/hr)		Ratio	Permitted Limit (lb/hr)	Equivalent Limit (lb/hr)
	1-hour	Long-term			
New Wales SAP 1	419.22	412.13	0.983	496.00 24-hr	504.58
New Wales SAP 2	444.41	436.63	0.982	496.00 24-hr	505.09
New Wales SAP 3	408.25	400.62	0.981	496.00 24-hr	505.61
New Wales SAP 4	452.58	452.14	1.00	483.30 3-hr	483.30
New Wales SAP 5	458.06	457.90	1.00	483.30 3-hr	483.30
Bartow SAP 4	408.55	393.96	0.964	433.33 24-hr	449.51
Bartow SAP 6	441.98	431.89	0.977	433.33 24-hr	443.53
Bartow SAP 5	436.55	434.88	0.996	433.33 24-hr	435.07

The upgraded catalysts in the SAPs at Mosaic New Wales and Mosaic Bartow are not expected to affect the variability in the emissions distributions from these units. As discussed further in Section 3.1 of this Redesignation Request, SO_2 emissions from SAPs are controlled by the process itself rather than with an add-on pollution control device. Variability in emissions for these unit types is due mainly to the operation of the unit itself, as the control device – the catalyst bed – cannot be turned off, disabled, or bypassed. For SAPs, SO_2 is a process material rather than a byproduct, and any additional quantity of SO_2 captured and converted to sulfuric acid is product. Operators are, therefore, incentivized to run these units in the most efficient manner possible to increase the rate of return and minimize lost product (i.e., to minimize SO_2 emissions released through the stack). Catalysts are replaced in each unit on a three-year rotating cycle to maintain the efficiency of the conversion process and minimize SO_2 emissions.

The Department combined the critical emission values and the equivalency ratios for each SAP at New Wales and Bartow to determine the maximum 24-hour average permit limit that would still demonstrate compliance with the 2010 1-hour SO_2 NAAQS (i.e., 100% of the NAAQS) (**Table 4**). These maximum permit limits are 1,100 lb/hr and 1,138 lb/hr for New Wales and Bartow, respectively. In order to provide for a margin of safety in the modeling demonstration, the Department issued construction permits for the New Wales and Bartow facilities that resulted in modeled concentrations at approximately 99% of the NAAQS (1,090 lb/hr for New Wales and 1,100 lb/hr for Bartow). The

[9] Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions, Section V.D.2., Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/sites/production/files/2016-06/documents/20140423guidance_nonattainment_sip.pdf

December 1, 2017 SIP submittal modeling and supplemental modeling in **Appendix I** and **Appendix J** use these final permitted caps to demonstrate compliance with the NAAQS.

Table 4: New Wales and Bartow maximum permit cap calculations from the critical emission value modeling

Unit Description	Modeled SAP Emissions and Critical Emission Value	Adjustment Factor	Maximum Multi-Unit Cap Calculation
New Wales SAP 1	504.58	0.983	496.00
New Wales SAP 2	505.09	0.982	496.00
New Wales SAP 3	0	0.981	0
New Wales SAP 4	0	1.00	0
New Wales SAP 5	108.00	1.00	108.00
Total	**1,118**	**-**	**1,100**
Bartow SAP 4	393.36	0.964	379.20
Bartow SAP 6	388.3	0.977	379.37
Bartow SAP 5	381.14	0.996	379.62
Total	**1,163**	**-**	**1,138**

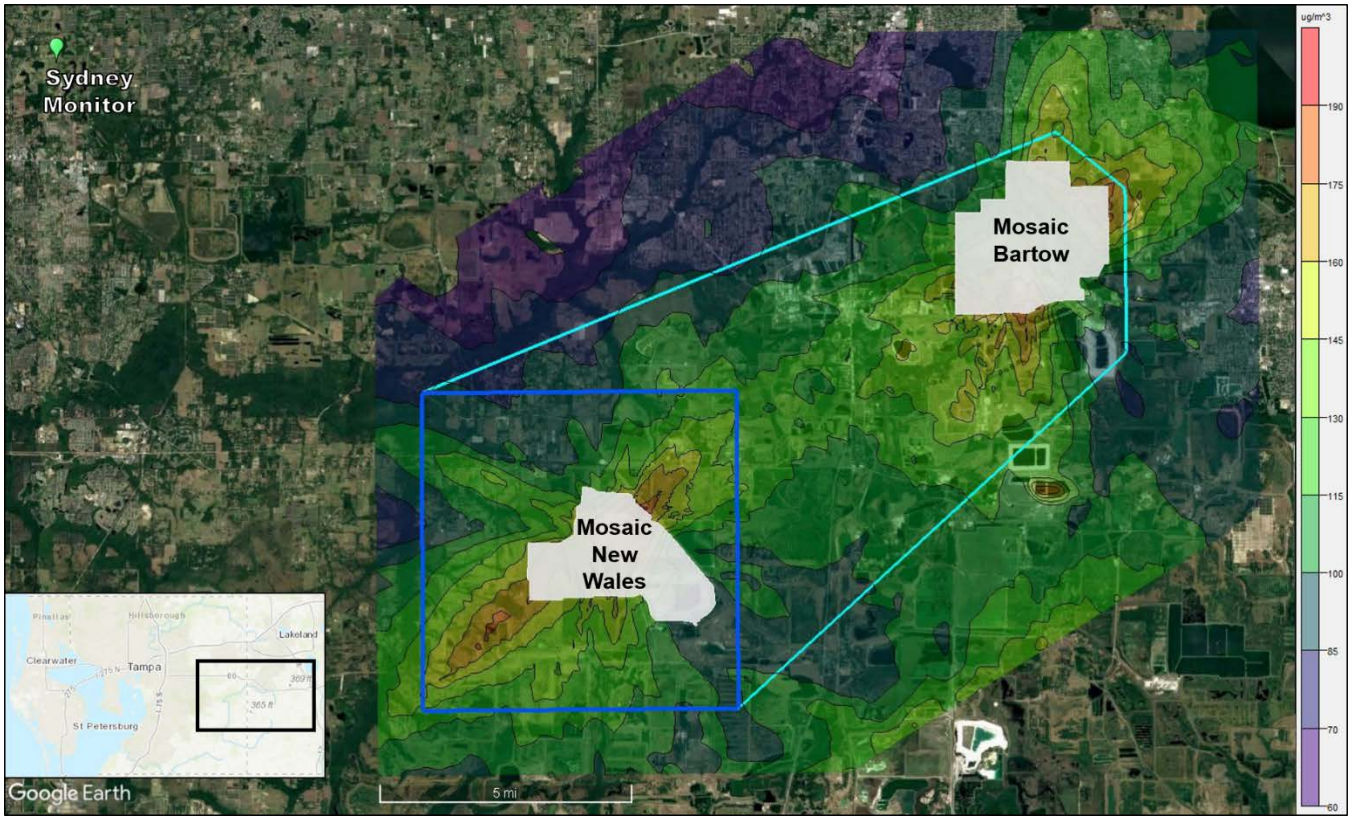
Receptor Grid

The December 1, 2017 SIP submittal modeling used a discrete Cartesian grid of 3,426 receptors with 100 m spacing to 2.5 km, 250 m spacing from 2.5 km to 5 km, and 500 m spacing from 5 km to 7.5 km (with 50 m spacing along property boundaries) encompassing the entire NAA, except facility property, to predict maximum concentrations in the modeling. Unlike the modeling demonstration in the December 1, 2017 SIP submittal, the Department expanded the receptor grid to include receptors in the Mulberry, FL Unclassifiable Area, which was designated unclassifiable due to the uncertainty regarding possible contribution from Bartow to the modeled violations in the NAA (**Appendix I**). The unclassifiable area receptors were added so that the unclassifiable area may also be redesignated, as discussed further in the **Redesignation Request for the Mulberry, FL Area**. This additional Cartesian grid contains 3,092 receptors with 100 m spacing to 2.5 km, 250 m spacing from 2.5 km to 5 km, and 500 m spacing from 5 km to 7.5 km (with 50 m spacing along the Bartow property boundary). This receptor grid encompasses the entire unclassifiable area, except facility property.

Modeling Results

Although there is no ambient monitor within the NAA to sample the highest SO_2 concentrations, the results of the modeling demonstration provided in **Appendix I** using maximum allowable emissions indicate that the NAA is complying with the revised SO_2 NAAQS as of August 31, 2019, as a result of significant real reductions of SO_2 emissions at the New Wales and Bartow facilities (**Figure 2**). The modeling results also show that concentrations decrease rapidly with increasing distance from the facility. Based on these results from this updated modeling demonstration, it can be concluded that the entire NAA is attaining the NAAQS as of August 31, 2019.

Figure 2: SO_2 monitor location and modeled design values from the supplemental modeling including receptors in the Mulberry, FL Unclassifiable Area (**Appendix I**).



Updated Background Concentrations

The Department's calculation of background concentrations for this modeling demonstration were appropriately chosen and consistent with the SO_2 NAAQS Designations Modeling Technical Assistance Document (Modeling TAD), which EPA agreed with in their review of the modeling in the Final Round 3 Area Designations Technical Support Document for Florida.[10] Per EPA's suggestion, however, the Department developed a more conservative background that included higher background concentrations. Specifically, EPA requested a revised background excluding measurements where the hourly wind direction was in the range of 85° to 175° instead of 57° to 175°. The updated set of SO_2 background concentrations is summarized in **Table 4** and the supplemental model with the more conservative background is summarized in **Appendix J**.

[10] [10] *See* Chapter 9, page 76 of EPA's Technical Support Document: Final Round 3 Area Designations for the 2010 1-Hour SO_2 Primary National Ambient Air Quality Standard for Florida, available here: https://www.epa.gov/sites/production/files/2017-12/documents/09-fl-so2-rd3-final.pdf

Table 5: Updated set of SO_2 background concentrations from supplemental modeling included in **Appendix J**.

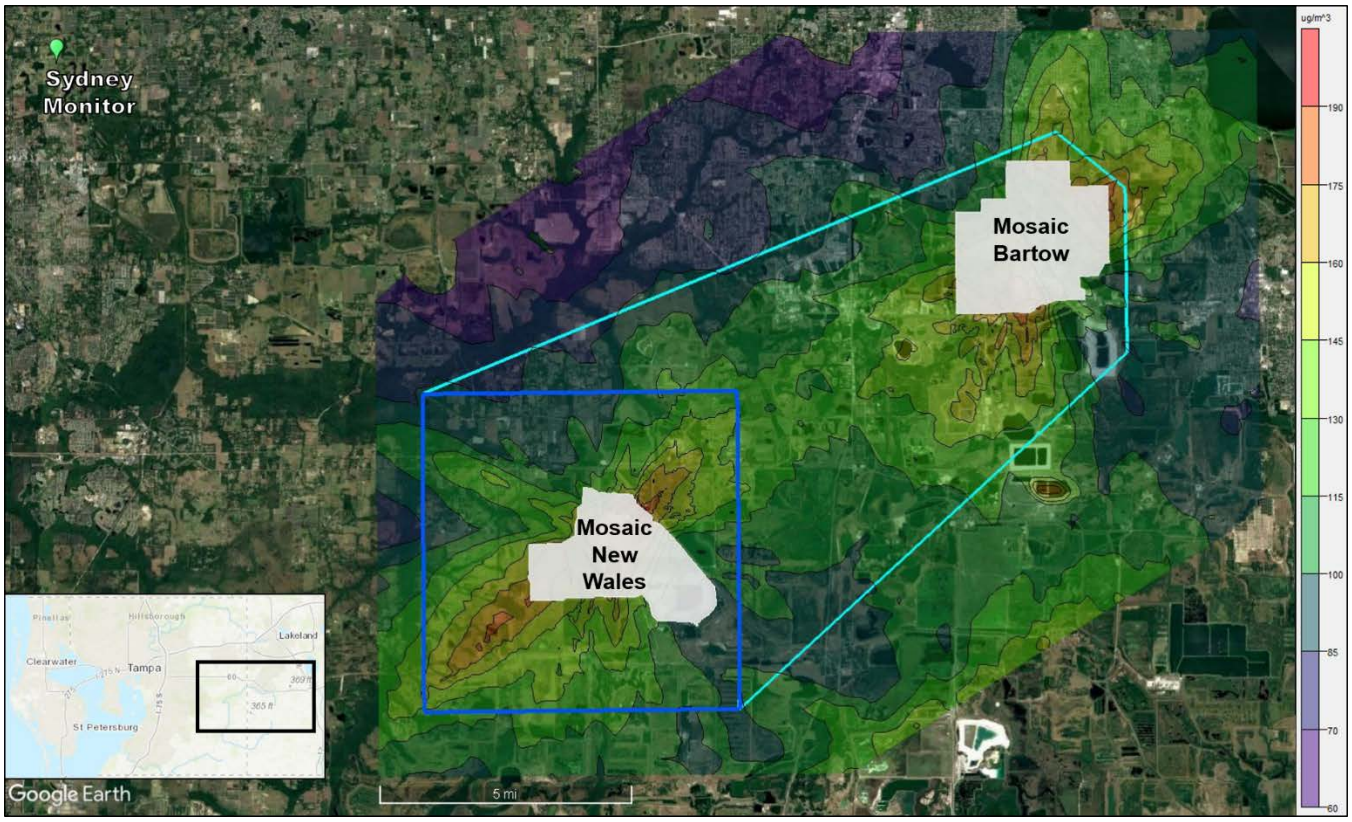
Hour	Winter	Spring	Summer	Autumn	Hour	Winter	Spring	Summer	Autumn
0:00	1.00	1.33	0.67	2.33	12:00	3.33	2.67	2.33	2.67
1:00	2.00	1.33	1.00	2.00	13:00	3.00	2.00	2.00	2.33
2:00	1.67	1.33	0.67	2.67	14:00	3.67	2.33	2.67	1.67
3:00	1.33	1.67	1.00	2.33	15:00	2.33	2.67	2.00	2.33
4:00	1.33	1.67	1.00	3.33	16:00	3.33	3.00	1.67	2.67
5:00	1.33	1.67	0.67	3.00	17:00	3.33	2.67	1.33	2.00
6:00	1.00	2.33	1.00	1.33	18:00	2.33	3.67	1.00	1.67
7:00	1.67	2.67	2.33	3.00	19:00	2.67	5.33	1.00	2.33
8:00	2.33	3.00	2.33	7.33	20:00	2.67	3.00	0.67	1.67
9:00	4.00	3.33	3.67	6.00	21:00	1.67	2.67	1.00	2.00
10:00	3.00	3.00	3.33	3.67	22:00	2.00	1.33	1.33	2.33
11:00	3.00	3.00	3.00	3.33	23:00	1.33	1.00	1.00	1.33

Modeling Results with Updated Background Concentrations

The Department ran AERMOD with these updated and more conservative background concentrations. All other aspects of this updated and more conservative model are the same as the supplemental modeling described in **Appendix I**. The results of this supplemental modeling demonstration using maximum allowable emissions also indicate that the NAA is complying with the 2010 SO_2 NAAQS as of August 31, 2019, as a result of significant real reductions of SO_2 emissions at the New Wales and Bartow facilities (**Figure 3**). The modeling results also show that concentrations decrease rapidly with increasing distance from the facility. Based on these results from this more conservative supplemental modeling demonstration, it can be concluded that the entire NAA is attaining the NAAQS as of August 31, 2019.

Further details on the modeling demonstration that the Department performed including receptors in the unclassifiable area can be found in **Appendix I**. Further details on the supplemental modeling demonstration that the Department performed including receptors in the unclassifiable area and the updated and more conservative background concentrations can be found in **Appendix J**.

Figure 3: SO_2 monitor location and modeled design values from supplemental modeling including receptors in the Mulberry, FL Unclassifiable Area and updated background concentrations (**Appendix J**).



2. Fully Approved Implementation Plan for the Area [CAA section 107(d)(3)(E)(ii)]

The SIP for the area must be fully approved under CAA section 110(k), and must satisfy all requirements that apply to the area.

Typically, a NAA requires submittal of a NAA plan that meets the following requirements as listed in Section 172(c) of the CAA:

- 172(c)(1): Analysis of RACM/RACT in the NAA
- 172(c)(2), (4), (6), (7): Modeling analysis showing that the enforceable emissions limitations and other control measures taken by the state will provide for reasonable further progress (RFP) and expeditious attainment of the NAAQS
- 172(c)(3): Base year emissions inventory
- 172(c)(5): Provide for a nonattainment new source review (NNSR) program and account for any emissions that may affect RFP or interference with attainment or maintenance of the NAAQS
- 172(c)(9): Contingency measures

Florida has a SIP-approved NNSR permitting program, outlined in Chapters 62-210 and 62-212, F.A.C., to address any new major stationary sources or source modifications in the NAA. A base year emissions inventory for the NAA has also been developed, as described below. However, for areas that are demonstrated through modeling to be meeting the NAAQS, EPA interprets the requirements of the CAA to submit a NAA plan and the other associated planning requirements to be suspended for as long as the

area is attaining the NAAQS.[11] Specifically, a NAA plan is not required or necessary to seek redesignation because attainment will have been reached. Implementation of RACM/RACT is not necessary and RFP is already fulfilled because the area will have already attained the NAAQS. Contingency measures are also not required because an area that has already achieved attainment by the attainment date has no need to rely on contingency measures to come into attainment or to make further progress to attainment.

Florida submitted the December 1, 2017 SIP submittal which included an attainment modeling demonstration based upon the lower permitted emission limits at the New Wales and Bartow facilities. The December 1, 2017 SIP submittal also requested to incorporate these lower emission limits at New Wales and Bartow, which are effective on August 31, 2019, into Florida's SIP. The dispersion modeling demonstrations included in the December 1, 2017 SIP submittal and the supplemental modeling in **Appendix I** and **Appendix J** indicate attainment of the NAAQS based on enforceable conditions from air construction permits issued to New Wales and Bartow. All control measures and emission limits are in place and in effect as of August 31, 2019, at which time the NAA is attaining the NAAQS. EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal requesting the incorporation of these lower emission limits into the SIP will make the limits permanent and federally-enforceable and will ensure that the area will continue to attain and maintain the 2010 SO_2 NAAQS after August 31, 2019.

Base Year Emissions Inventory

The base year emissions inventory required by CAA Section 172(c)(3) is the inventory for the year that the NAA was designated as nonattainment. Although the Hillsborough-Polk County SO_2 NAA was designated nonattainment in early 2018, the most recent complete year of data available is 2017. Therefore, the base year emissions inventory is the actual emissions in the NAA in the year 2017.

The complete NAA base year emissions inventory for 2017 is presented in **Table 5**. New Wales is the largest source of SO_2 emissions in the NAA (6,887 tons in 2017). SO_2 emissions from the nearby Mosaic Bartow facility are also included in the base year emission inventory (4,001 tons in 2017). Point source SO_2 emissions in and around the NAA are from the New Wales and Bartow Annual Operating Reports (AOR). Area and Non-Road emissions for the area are based on 2014 National Emissions Inventory (NEI) data for Hillsborough County and Polk County. The 2014 emissions for each category were projected to 2017 based on the increase in the Hillsborough County and Polk County population from 2014 to 2017, and then allocated to the NAA based on the area's fraction of land area within each county. On-Road emissions for the area are estimated with MOVES2014a and then allocated to the NAA based on the area's fraction of land area within each county. Further details on the data used to develop the base year inventory can be found in **Appendix L**.

Table 6: 2017 base year emissions inventory for the Hillsborough-Polk County SO_2 nonattainment area.

Source Type	Point	Area	Non-Road	On-Road	Total
2017 SO_2 Emissions (tons)	10,888	16.42	0.31	1.34	**10,906.07**

[11] *See* Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip

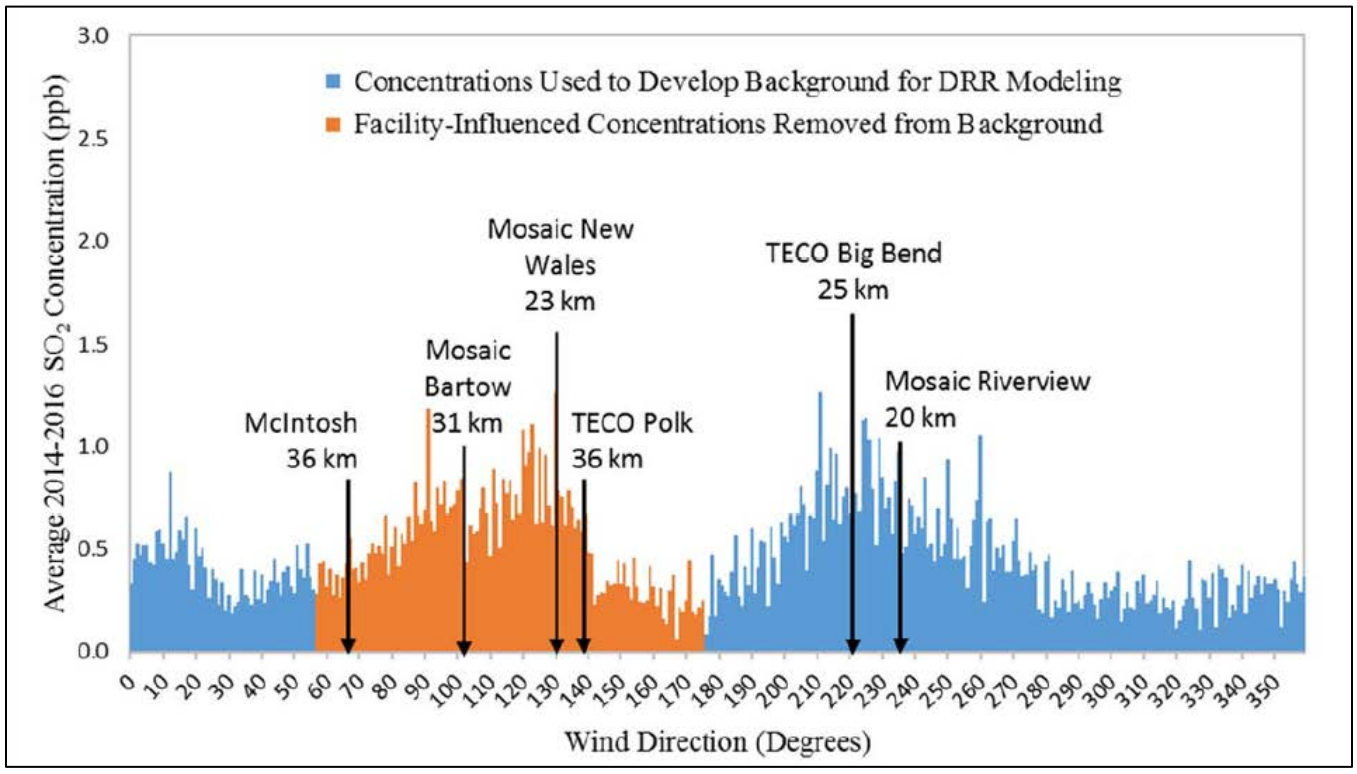
3. Permanent and Enforceable Air Quality Improvement [CAA section 107(d)(3)(E)(iii)]

The State must be able to reasonably attribute the improvement in air quality to emission reductions which are permanent and enforceable.

SO_2 is a source-oriented pollutant that is not naturally present in the environment in high concentrations and is not formed in large quantities by any atmospheric process. Elevated concentrations are often due to a single large industrial source or group of sources with localized impacts. The Hillsborough-Polk County NAA includes just one major point source of SO_2 within the NAA (Mosaic New Wales) and one major point source of SO_2 near the NAA, located within the unclassifiable area (Mosaic Bartow). Although there is not ambient monitoring data available within the NAA, analysis of nearby ambient monitoring data demonstrates which sources are most likely to influence ambient SO_2 concentrations in the NAA. Ambient monitoring data from the Sydney monitor show that elevated SO_2 concentrations are influenced by both New Wales and Bartow, as well as other nearby sources (**Figure 4**). Considering that New Wales and Bartow are the largest sources in or near the NAA, it follows that the elevated ambient SO_2 concentrations in the NAA are due primarily to these two sources.

The SO_2 emission limits in the Department's December 1, 2017 SIP submittal will successfully reduce ambient concentrations below the 2010 SO_2 NAAQS. These emission reductions will be made permanent and federally-enforceable upon EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal. The construction work at both New Wales and Bartow is underway and both facilities have already made significant progress toward completing the upgrades to the eight SAPs. This corresponds to the decrease in emissions from the facilities from 2016 projected through 2020 (**Figure 5**). The Bartow and New Wales facilities must comply with the emission limits in the December 1, 2017 SIP submittal by August 31, 2019. Once construction is completed and the SO_2 emission limits are made permanent and federally-enforceable upon EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal, the NAA will be meeting the 2010 SO_2 NAAQS. This is confirmed by the Department's modeling demonstrations in the December 1, 2017 SIP submittal and the supplemental modeling in **Appendix I** and **Appendix J** which utilized the revised SO_2 emission limits at New Wales and Bartow.

Figure 4: Ambient SO_2 concentrations by wind direction near New Wales and Bartow.



3.1. Permanent and Enforceable Emission Reductions at New Wales and Bartow

The New Wales and Bartow facilities have undergone construction and implementation of various control measures over the last several years.

The construction at New Wales included the following pollution control measures:

- Upgrade the catalysts in the converters in SAPs Nos. 1, 2, 3, 4, and 5;
- Compliance with a specific SO_2 emissions cap based on a 24-hour average as determined by CEMS data.

These control measures are required by the New Wales air construction permits[12] and the facility's Title V operating permit,[13] and were submitted to EPA in the December 1, 2017 SIP submittal. EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal will make these controls permanent and federally-enforceable.

The five SAPs are by far the largest sources of SO_2 at the New Wales facility. These plants are sulfur burning, double conversion, and double absorption plants of Leonard-Monsanto design. Sulfur is burned with dried atmospheric oxygen to produce SO_2. The SO_2 is then catalytically oxidized to sulfur trioxide (SO_3) over a catalyst bed. The SO_3 is then absorbed in sulfuric acid (H_2SO_4). The remaining SO_2, not previously oxidized, is passed over a final converter bed of catalyst and the SO_3 produced is then absorbed in H_2SO_4. The control of SO_2 emissions is primarily by the process itself. Improvements in catalyst efficiency allow the units to meet the five-unit cap incorporated into the December 1, 2017 SIP

[12] *See* Air Construction Permits 1050059-101-AC and 1050059-106-AC, issued by the Florida Department of Environmental Protection on January 4, 2017 and October 30, 2017, respectively.
[13] *See* Title V Operating Permit 1050059-107-AV issued by the Florida Department of Environmental Protection on November 30, 2017.

submittal by converting more SO_2 emissions formed during the manufacturing process to sulfuric acid, improving the efficiency of the manufacturing process and reducing SO_2 emissions.

To reduce SO_2 emissions at the five SAPs, the construction permits authorized New Wales to replace the vanadium catalyst in each unit with a more efficient catalyst. The new catalysts convert more SO_2 for process purposes and allow New Wales to meet the much more stringent SO_2 emissions cap for these units. The construction permits impose the new five-unit cap for scenarios where any number of units is operating while retaining the current individual unit limits as shown in **Table 6**. The five-unit cap provides much stricter emissions limitations than the individual limits. On average, at maximum production (i.e., five units in operation), the emissions are reduced by over 55 percent.

Table 7: New Wales Facility SO_2 Source Changes

	SO_2 Emission Limits (lb/hr)	
Source	**Individual (Not changing)**	**New 5-Unit***
SAP1	496	Combined emissions cannot exceed 1,090.
SAP2	496	
SAP3	496	
SAP4	483.3	
SAP5	483.3	
*SO_2 emission limit is a 24-hour block average.		

The construction at Bartow included the following pollution control measures:

- Upgrade the catalysts in the converters in SAPs Nos. 4, 5, and 6;
- Compliance with specific SO_2 emissions caps based on a 24-hour average as determined by CEMS data.

These control measures are required by the Bartow air construction permits[14] and the facility's Title V operating permit,[15] and were submitted to EPA in the December 1, 2017 SIP submittal. Upon EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal, these controls will be made permanent and federally-enforceable.

The three SAPs are by far the largest sources of SO_2 at the Bartow facility. These plants are sulfur burning, double conversion, and double absorption plants of Leonard-Monsanto design. Sulfur is burned with dried atmospheric oxygen to produce SO_2. The SO_2 is then catalytically oxidized to SO_3 over a catalyst bed. The SO_3 is then absorbed in H_2SO_4. The remaining SO_2, not previously oxidized, is passed over a final converter bed of catalyst and the SO_3 produced is then absorbed in H_2SO_4. The control of SO_2 emissions is primarily by the process itself. Improvements in catalyst efficiency allow the units to meet the three-unit cap incorporated into the December 1, 2017 SIP submittal by converting more SO_2 emissions formed during the manufacturing process to sulfuric acid, improving the efficiency of the manufacturing process and reducing SO_2 emissions.

To reduce SO_2 emissions at the three SAPs, the construction permits authorized Bartow to replace the vanadium catalyst in each unit with a more efficient catalyst. The new catalysts convert more SO_2 for process purposes and allow Bartow to meet the much more stringent SO_2 emissions cap for these units. The construction permit imposes the new three-unit cap for scenarios where any number of units is

[14] *See* Air Construction Permits 1050046-048-AC, 1050046-049-AC, 1050046-050-AC and 1050046-058-AC, issued by the Florida Department of Environmental Protection on September 30, 2016; July 14, 2017; July 3, 2017; and July XX, 2018, respectively.

[15] *See* Title V Operating Permit 1050046-053-AV issued by the Florida Department of Environmental Protection on February 1, 2018.

operating while retaining the current individual unit limits as shown in **Table 7**. The three-unit cap provides much stricter emissions limitations than the individual limits. On average, at maximum production (i.e., three units in operation), the emissions are reduced by over 15 percent.

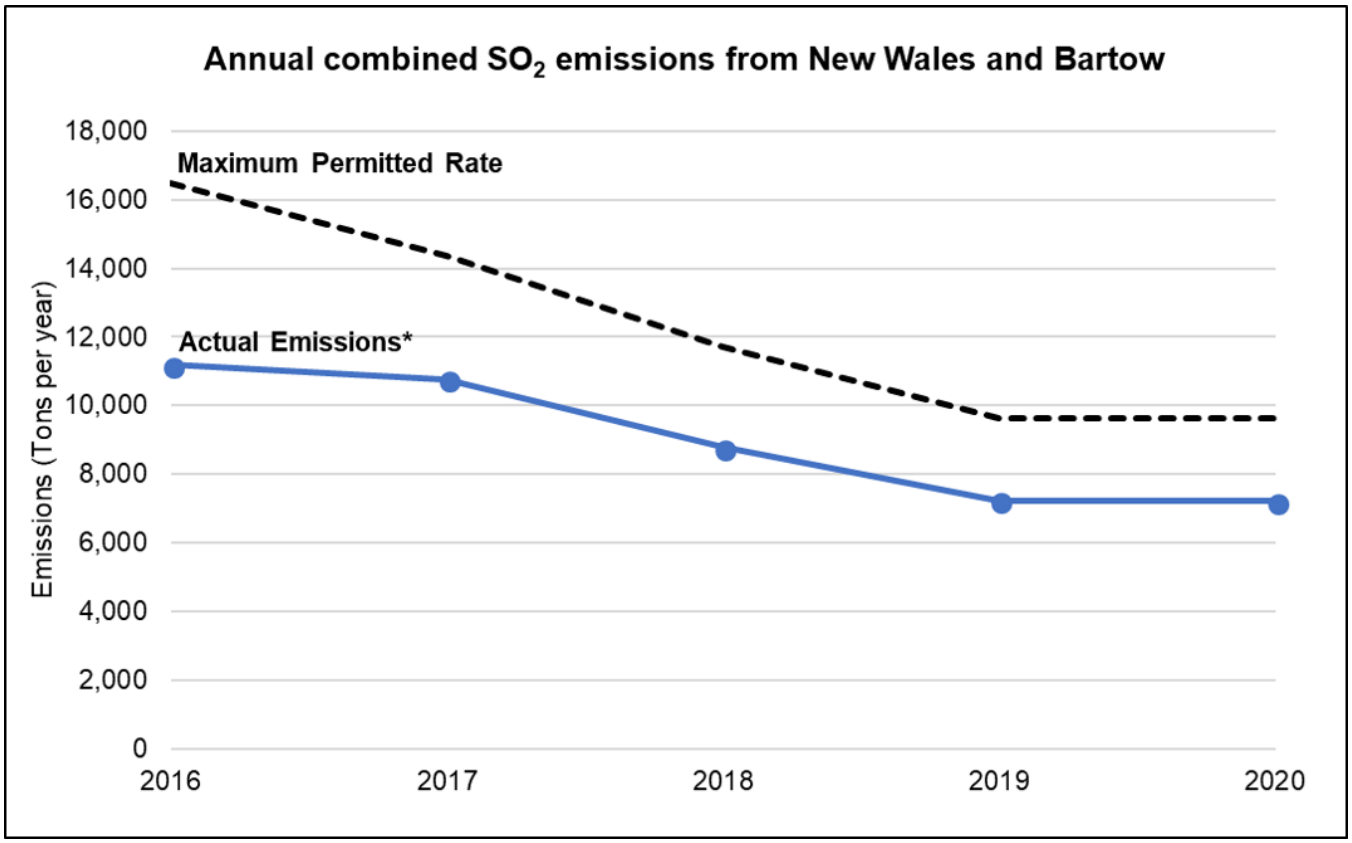
Table 8: Bartow Facility SO_2 Source Changes

Source	**SO_2 Emission Limits (lb/hr)**	
	Individual (Not changing)	**New 3-Unit***
SAP4	433.3	Combined emissions cannot exceed 1,100.
SAP5	433.3	
SAP6	433.3	
*SO_2 emission limit is a 24-hour block average.		

3.2. Estimated Emission Reductions

The potential to emit for SAPs 1-5 at New Wales and SAPs 4-6 at Bartow was previously 10,750 tons per year and 5,694 tons per year, respectively. With the new multi-unit caps implemented at New Wales and Bartow, the new potential to emit is 4,774 tons per year and 4,818 tons per year, respectively. This is approximately a 42 percent drop in total allowable emissions for the facilities. **Figure 5** shows how the potential to emit and actual emissions for each facility have changed due to implementation of the lower SO_2 emission limits. Actual SO_2 emissions are also projected to decrease 36 percent from 2016 to 2020.

Figure 5: Annual SO_2 emissions from the New Wales and Bartow facilities 2016 – 2020.



* Emissions for 2018 – 2020 are projections.

4. Fully Approved Maintenance Plan for the Area [CAA section 107(d)(3)(E)(iv)]

EPA must fully approve a maintenance plan which meets the requirements of CAA section 175A.

The maintenance plan for this area is contained in the "Area Maintenance Plan" section of this document and is subject to parallel processing with this redesignation request.

5. Section 110 and Part D Requirements [CAA section 107(d)(3)(E)(v)]

For the purposes of redesignation, a State must meet all requirements of CAA section 110 and Part D that were applicable prior to submittal of the complete redesignation request.

Section 110(a) of the CAA contains the general requirements for a SIP for national primary and secondary ambient air quality standards. Within three years of the promulgation of a new NAAQS, the State is required to submit an "infrastructure SIP" (ISIP) providing a plan for the implementation, maintenance, and enforcement of the new NAAQS. Florida's ISIP for the 2010 SO_2 NAAQS was submitted to EPA on June 3, 2013 (supplemented January 8, 2014). This submittal certified that the Florida SIP contains provisions that ensure the 2010 SO_2 NAAQS is implemented, enforced, and maintained in Florida. EPA approved Florida's ISIP on September 30, 2016, 81 Fed. Reg. 67,179 (effective October 31, 2016), except for the CAA section 110(a)(2)(D)(i)(I) element, which the Department submitted as an infrastructure SIP revision to Florida's June 3, 2013 ISIP submittal on September 18, 2018.

Subpart 1 of Part D of the CAA contains the general requirements applicable to all areas designated as nonattainment for any NAAQS. Subpart 5 contains requirements specific to areas designated nonattainment for a SO_2 NAAQS. However, for areas that have been demonstrated through modeling to be meeting the NAAQS, EPA interprets these requirements to be suspended for as long as the area is attaining the NAAQS,[16] except for those requirements already discussed and fulfilled in section 2 of this Redesignation Request. The December 1, 2017 SIP submittal and the supplemental modeling in **Appendix I** and **Appendix J** include maximum allowable emissions modeling demonstrating attainment of the NAAQS as of August 31, 2019 based on emission limits that will become permanent and federally-enforceable upon approval of the December 1, 2017 SIP submittal and this SIP submittal by EPA. Once approved by EPA, these Part D requirements are suspended for this NAA.

[16] *See* Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip.

Redesignation Request for Mulberry, FL Unclassifiable Area

The Department is requesting that EPA redesignate the Mulberry, FL Unclassifiable Area to "attainment." The Mulberry, FL Unclassifiable Area was designated as unclassifiable due to the uncertainty regarding possible contribution from Bartow to the modeled violations in the Hillsborough-Polk County NAA. CAA Section 107(d)(3)(D) provides that states may request to redesignate an area to attainment, except for nonattainment area redesignations, which are governed by 107(d)(3)(E). EPA's memo *Procedures for Processing Requests to Redesignate Areas to Attainment*[17] states that "areas seeking redesignation from unclassifiable to attainment will be addressed on a case-by-case-basis." This submittal provides justification that a redesignation of the area to "attainment" is appropriate as detailed in this redesignation request.

1. Attainment of the SO_2 NAAQS

1.1. Ambient Air Quality Data

As is the case for the NAA, the unclassifiable area does not contain any SO_2 monitor. When there are no air quality monitors located in the affected area, then air quality dispersion modeling may be used in lieu of monitoring data to estimate SO_2 concentrations in the area and is sufficient to demonstrate attainment of the NAAQS. The Department submitted a modeled attainment demonstration using maximum allowable emissions, which is detailed in section 1.2 of this Redesignation Request.

1.2. Air Quality Modeling

The Department has performed modeling that includes receptors in the Mulberry, FL Unclassifiable Area that demonstrates that the unclassifiable area is meeting the revised SO_2 NAAQS as of August 31, 2019, as discussed in section 1.2 of the **Redesignation Request for the Hillsborough-Polk County Nonattainment Area** and **Appendix I**. The Department has included supplemental modeling that includes the unclassifiable area receptors and the more conservative background concentrations requested by EPA in **Appendix J**.

The results of these modeling demonstrations using maximum allowable emissions indicate that the unclassifiable area, as well as the NAA to which Bartow was possibly contributing, are both complying with the 2010 SO_2 NAAQS as of August 31, 2019, as a result of significant real reductions of SO_2 emissions at the New Wales and Bartow facilities. Please refer to section 1.2 of the **Redesignation Request for the Hillsborough-Polk County Nonattainment Area** and **Appendix I** and **Appendix J** for further details on the modeling.

2. Permanent and Enforceable Air Quality Improvement

The Mulberry, FL Unclassifiable Area was designated as unclassifiable due to the uncertainty regarding possible contribution from Bartow to the modeled violations in the Hillsborough-Polk County NAA. The implementation of control measures at Bartow, submitted as part of the December 1, 2017 SIP submittal, and the estimated emission reductions, are discussed in detail in section 3 of the **Redesignation Request for the Hillsborough-Polk County Nonattainment Area**. Upon EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal, these controls will be made permanent and federally-enforceable.

[17] Procedures for Processing Requests to Redesignate Areas to Attainment. John Calcagni Memorandum dated September 4, 1992, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/ozone-pollution/procedures-processing-requests-redesignate-areas-attainment

Section 107(d)(3)(E) of the CAA stipulates that for an area to be redesignated to "attainment" from "nonattainment," the EPA must fully approve a maintenance plan which meets the requirements of section 175A. Section 175A outlines the framework of a maintenance plan that must provide for maintenance of the relevant NAAQS in the area for at least 10 years after redesignation. The Department is submitting this maintenance plan for the Hillsborough-Polk County NAA concurrently with the redesignation requests also contained within this SIP revision. This plan provides for maintenance of the 2010 SO_2 NAAQS through the year 2032.

EPA's memos *Procedures for Processing Requests to Redesignate Areas to Attainment*[18] and *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions*[19] recommend considering the following five provisions in the maintenance plan when seeking redesignation:

1. Attainment Emissions Inventory,
2. Maintenance Demonstration,
3. Monitoring Network,
4. Verification of Continued Attainment,
5. Contingency Plan.

Each of these provisions are addressed here in accordance with the same EPA memos and the CAA.

1. Attainment Emissions Inventory

The State should develop an attainment emissions inventory to identify the level of emissions in the area which is sufficient to attain the NAAQS. Where the State has made an adequate demonstration that air quality has improved as a result of the SIP, the attainment inventory will generally be the actual inventory at the time the area attained the standard.

As explained in **section 3** of the **Redesignation Request for the Hillsborough-Polk County Nonattainment Area** above, the improvement in air quality in the NAA is due directly to the SAP catalyst upgrades and more stringent emission limits at the New Wales and Bartow facilities. Through the control measures implemented at both facilities, SO_2 emissions have been dramatically reduced, and the standard is fully attained as of August 31, 2019. The attainment emissions inventory would therefore be the emissions inventory from the year after controls have been fully implemented, 2020. The Department developed a projected emissions inventory for the year 2020 as shown in **Table 8** and **Table 9** in section 2 below.

The Department relies on the maximum allowable emissions modeling in **Appendix I** and **Appendix J** to demonstrate attainment of the NAAQS, effective August 31, 2019. **Appendix I** and **Appendix J** include attainment modeling demonstrations that show compliance with the 2010 SO_2 NAAQS based on the facilities' permitted emission rates as of August 31, 2019. These permitted rates are based on the control measures implemented at New Wales and Bartow as a part of the December 1, 2017 SIP submittal, including the catalyst changes at the New Wales and Bartow SAP units and new SO_2 emission limits for units at both facilities. These emission limits will be made permanent and federally-

[18] Procedures for Processing Requests to Redesignate Areas to Attainment. John Calcagni Memorandum dated September 4, 1992, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: www.epa.gov/ozone-pollution/procedures-processing-requests-redesignate-areas-attainment

[19] Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip

enforceable through EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal. Because the modeling demonstrations in the December 1, 2017 SIP submittal and **Appendix I** and **Appendix J** rely on maximum allowable emissions, this modeling is sufficient to demonstrate that the standard will be attained in the NAA as of August 31, 2019.

2. Maintenance Demonstration

A State may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by modeling to show that the future mix of sources and emission rates will not cause a violation of the NAAQS.

New Wales and Bartow are the largest sources of SO_2 emissions in or near the Hillsborough-Polk County NAA. The December 1, 2017 SIP submittal and **Appendix I** and **Appendix J** include attainment modeling demonstrations for the Hillsborough-Polk County NAA that show compliance with the 2010 SO_2 NAAQS based on the facilities' permitted emission rates as of August 31, 2019. These permitted rates are based on control measures implemented at New Wales and Bartow as a part of the December 1, 2017 SIP submittal including the catalyst changes at the New Wales and Bartow SAP units and new SO_2 emission caps for units at both facilities. These control measures will be made permanent and federally-enforceable through EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal. No other major design or production changes are planned at the facilities. All existing control measures will remain in effect after redesignation and any potential future SO_2 emissions sources that may locate in the area would be required to comply with the Department's approved NSR PSD permitting program, to ensure that the NAAQS can be maintained.

Table 9 below presents projected emissions inventories for the NAA every three years beginning with the first full calendar year that the area will be in attainment (2020) until 2032. The purpose of these projected emissions inventories is to demonstrate that no significant growth is expected in the area to override the progress that is modeled in the attainment modeling demonstrations in the December 1, 2017 SIP submittal and **Appendix I** and **Appendix J.** Therefore, these modeling demonstrations are sufficient to maintain the NAAQS through the 10-year period following attainment and beyond.

Point source emissions for the NAA are comprised of emissions from New Wales, the only source of SO_2 within the NAA, as well as Bartow, the largest source of SO_2 near the NAA. SO_2 emissions projections for New Wales and Bartow are based on the historical ratio of actual to allowable emissions at the facilities. Historically, New Wales and Bartow have emitted between 60% and 75% of each facility's total PTE (**Table 8**). The Department estimated the projected actual emissions for 2018 through 2020 using a conservative utilization factor of 75%. **Table 8** shows the 2020 potential to emit (PTE) and projected actual emissions for New Wales and Bartow.

Table 9: 2020 projected SO_2 emissions inventory for New Wales (105-0059) and Bartow (105-0046).

New Wales Facility SO_2 Emissions					
Historic Emissions 2012 - 2016				**2020 Emission Projections**	
Unit	**Average Annual SO_2 Emissions**	**Annual SO_2 PTE (tons)**	**Average Percentage of PTE Emitted**	**2020 PTE**	**2020 Projected Actuals (75% of 2020 PTE)**
SAP 1	1,292	2,172	59.45%		
SAP 2	1,517	2,172	69.81%		
SAP 3	1,397	2,172	64.32%	4,774	3,581
SAP 4	1,532	2,117	72.36%		
SAP 5	1,394	2,117	65.86%		
Bartow Facility SO_2 Emissions					
Historic Emissions 2012 - 2016				**2020 Emission Projections**	
EU ID	**Average Annual SO_2 Emissions**	**Annual SO_2 PTE (tons)**	**Average Percentage of PTE Emitted**	**2020 PTE**	**2020 Projected Actuals (75% of 2020 PTE)**
SAP 4	1,315	1,897	69.33%		
SAP 5	1,308	1,897	68.94%	4,818	3,614
SAP 6	1,336	1,897	70.43%		
				Total	7,195

The Department is not aware of and does not anticipate any future development within the NAA that would increase SO_2 emissions. Therefore, the 2032 inventory and each of the interim year inventories is identical to the 2020 inventory for Point sources. Any increase in actual emissions from New Wales and Bartow are required by permit to remain below the modeled emissions in **Appendix I** and **Appendix J** that demonstrate attainment of the 2010 SO_2 NAAQS. Area and Non-Road emissions for the area are based on 2014 NEI data for Hillsborough County and Polk County. The 2014 emissions for each category were estimated by projecting 2014 NEI SO_2 emissions for these categories based on the projected population increase in Hillsborough and Polk Counties[20] and allocated to the NAA based on the area's fraction of land area within each county. Increases in emissions in the Area and Non-Road sectors are insignificant in comparison to the large emissions from the Point source sector. On-Road SO_2 emissions are estimated from MOVES2014a and allocated to the NAA based on the area's fraction of land area within each county; SO_2 emissions from the On-Road source sector remain very small. Further details on the data used to develop the projected future emissions inventories are in **Appendix L**.

[20] Population projections performed by: Florida Demographic Estimating Conference, February 2014 and the University of Florida, Bureau of Economic and Business Research, Florida Population Studies, Bulletin 168, April 2014, http://edr.state.fl.us/Content/population-demographics/data/Medium_Projections.pdf

Table 10: Projected future emissions inventories for the Hillsborough-Polk County NAA

Source Type	Projected 2020 SO_2 Emissions (tons)	Projected 2023 SO_2 Emissions (tons)	Projected 2026 SO_2 Emissions (tons)	Projected 2029 SO_2 Emissions (tons)	Projected 2032 SO_2 Emissions (tons)
Point	7,195	7,195	7,195	7,195	7,195
Area	16.97	17.83	18.66	19.44	20.16
Non-Road	0.32	0.33	0.35	0.37	0.38
On-Road	1.30	1.27	1.22	1.22	1.22
Total	7,213.59	7,214.43	7,215.23	7,216.03	7,216.76

3. Monitoring Network

Once an area has been redesignated, the State should continue to operate an appropriate air quality monitoring network, in accordance with 40 CFR Part 58, to verify the attainment status of the area.

For areas where air quality monitors exist in an area, the air agency is required to continue to operate the monitor(s) to verify the attainment status of the affected area. This NAA does not contain an air quality monitor. Therefore, modeling was used to demonstrate the attainment status of the NAA, as described in **section 1** of the **Redesignation Request for the Hillsborough-Polk County Nonattainment Area** above. Because the modeling demonstration relies on maximum allowable emissions and not actual emissions, this modeling suffices to verify continued attainment of the NAAQS.

4. Verification of Continued Attainment

Each State should ensure that it has the legal authority to implement and enforce all measures necessary to attain and maintain the NAAQS.

Section 403.061(35), Florida Statutes, authorizes the Department to "exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act." These duties and responsibilities include implementing and enforcing all measures necessary to attain and maintain the NAAQS. All measures necessary to attain and maintain the NAAQS are implemented through the December 1, 2017 SIP submittal and will be made permanent and federally-enforceable upon EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal. As discussed in section 3 of this **Area Maintenance Plan** above, the modeling demonstrations based on maximum allowable emissions in the December 1, 2017 SIP submittal and **Appendix I** and **Appendix J** are used to verify continued attainment in the area. Additionally, New Wales's and Bartow's required submittal of emissions data to the Department through the AOR will be used to verify continued compliance with the permitted emissions rates that were shown through the modeling demonstrations to be sufficient to provide for maintenance of the NAAQS throughout the NAA. Any increases in actual emissions from New Wales or Bartow, the largest SO_2 sources in or near the NAA, must remain below their permitted levels, which will be made permanent and federally-enforceable through EPA's approval of the December 1, 2017 SIP submittal and this SIP submittal, and which will continue to be federally-enforceable throughout the duration of this Maintenance Area SIP. Any potential future SO_2 emissions sources that may locate in or near the NAA would be required to comply with the Department's approved NSR permitting program, either NNSR or prevention of significant deterioration (PSD) review, to ensure that the area will continue to meet the NAAQS. The Department's SIP-approved NNSR and PSD permitting program is outlined in Chapters 62-210 and 62-212, F.A.C. and require any new major stationary source or major modification to undergo PSD or NNSR permitting.

The Department will also verify attainment through an annual review of source emissions data and air dispersion modeling inputs and assumptions. Prior to each annual review, the Department will contact EPA to discuss the emissions data and air dispersion modeling inputs and assumptions necessary for evaluation. The Department will verify attainment using the emissions data and air dispersion modeling inputs and assumptions identified by EPA as a result of coordination with the Department. The Department anticipates that the inputs and assumptions may include stack parameters for all modeled sources; significant changes to land-use in the area; a limited review of meteorology; changes in operation that lead to a temporal or spatial distribution of emissions; onsite construction that change building configuration/dimensions or add new buildings; changes in fuel that would alter emissions; and changes in ambient background concentrations used in the cumulative modeling analysis.

Based on its review of source emissions data and air dispersion modeling inputs and assumptions, the Department will provide an annual report to EPA on or before July 1st that certifies whether the area is continuing to attain the 2010 SO_2 NAAQS. This annual report will provide: 1) the status of ongoing compliance with the SO_2 emission limits for the New Wales and Bartow facilities; 2) a review of annual emissions data for these facilities; 3) a review of the air dispersion modeling inputs and assumptions identified by EPA as a result of coordination with the Department; 4) a certification that there are no changes in the air dispersion modeling inputs and assumptions that could result in a modeled violation; and 5) and all supporting documentation and data evaluated by the Department to prepare its annual report.

If the Department certifies that there are no changes in the modeling inputs and assumptions that could result in modeled violations, and EPA concurs, no additional action or information is necessary to verify continued attainment.

If the Department or EPA identifies a change in the modeling inputs and assumptions that could cause a modeled violation, the Department, in coordination with EPA, will further evaluate the modeling inputs and assumptions and complete this evaluation no later than 30 days after identifying the change. If this evaluation continues to indicate that a modeled violation could occur, the Department will conduct air dispersion modeling no later than 30 days after completing the evaluation. If the revised model does not produce a modeled violation, then no additional action or information is necessary to verify continued attainment. If the revised model produces a modeled violation of the 2010 SO_2 standard within the nonattainment area, the State will implement the relevant contingency measures.

5. Contingency Plan

CAA section 175A requires that a maintenance plan include contingency provisions, as necessary, to promptly correct any violation of the NAAQS that occurs after redesignation of the area.

In the "General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published on April 16, 1992 at 57 Fed. Reg. 13,498, EPA expressly discussed contingency measures for SO_2. This guidance states that in many cases, as is the case with Florida's Hillsborough-Polk County NAA, attainment revolves around compliance of a single source or small set of sources with emission limits shown to provide for attainment. This guidance concludes that in such cases, "EPA interprets 'contingency measures' to mean that the state agency has a comprehensive program to identify sources of violations of the SO_2 NAAQS and to undertake an aggressive follow-up for compliance and enforcement including expedited procedures for establishing enforceable consent agreements pending the adoption of revised SIPs." EPA's memo *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions*[21] further states that although the guidance discussed above applies to contingency measures

[21] Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North

for nonattainment plans under section 172(c)(9), the guidance may also be applied with respect to contingency measures required in maintenance plans under section 175A(d).

The Department has an active compliance and enforcement program to address violations. The Department will continue to operate this program to identify sources of violations of the SO_2 NAAQS and to undertake an aggressive follow-up for compliance and enforcement, including expedited procedures for establishing enforceable consent agreements pending the adoption of revised SIPs. The Department commits to adopt and expeditiously implement necessary corrective actions in the event of a violation.

In the event that adoption of any additional control measures is necessary, they are subject to the Department's administrative and legal process, which includes publication of notices, an opportunity for public hearing, and other measures required by Florida law for rulemaking, permitting, or revisions to the SIP.

The Title V operating permits for both New Wales and Bartow require the facilities to report any non-compliance with permit conditions or limitations. This reporting requirement is detailed in Appendix RR2(b) and (c) in the Title V permits as follows:

> "b. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately[22] provide the Department with the following information:
>
> (1) A description of and cause of noncompliance; and
>
> (2) The period of noncompliance, including dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages which may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.
>
> c. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly."[23]

Upon receipt of such a report from New Wales and/or Bartow that identifies non-compliance with the SO_2 emission limits, the Department will immediately begin a 30-day evaluation period to diagnose the cause of non-compliance. This will be followed by a 30-day consultation period with New Wales and/or Bartow to develop and implement operational changes as necessary. At the completion of this consultation period, the Department will mandate operational changes identified during the consultation period to prevent any future non-compliance with the SO_2 emission limits. These changes could include, but would not be limited to, physical or operational reduction of production capacity, as appropriate. Any necessary changes would be implemented as soon as practicable, with at least one measure identified during the full system audit implemented within 18-24 months of the non-compliance with the SO_2 emission limits, in order to bring the area into attainment as expeditiously as possible.

Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip

[22] "Immediately" means the same day, if during a workday (i.e., 8:00 a.m. – 5:00 p.m.), or the first business day after the incident, excluding weekends and holidays.

[23] *See* Title V Permit No. 1050059-107-AV and 1050046-053-AV, issued by the Florida Department of Environmental Protection on November 30, 2017 and February 1, 2018, respectively.

The Department would rely on its authority outlined in Rule 62-4.080, F.A.C., which expressly authorizes the Department to require the permittee to conform to new or additional conditions if there is a showing of any change in the environment or surrounding conditions that requires a modification to conform to applicable air quality standards. Depending on the present circumstances, the Department would exercise this authority to work expeditiously with New Wales and Bartow to make necessary permit modifications. If a permit modification is deemed necessary, the Department would issue a final permit within the statutory timeframes required in Sections 120 and 403, Florida Statues, and any new emission limits required by such a permit would be submitted to EPA as a SIP revision.

The attainment modeling demonstrations for the area (attached to this document as **Appendix I** and **Appendix J**) are still applicable and are sufficient evidence of continued maintenance of the SO_2 NAAQS into the foreseeable future. EPA's *Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions*[24] further states that because the modeling demonstration for the SIP revision relies on maximum allowable emissions, it demonstrates that the standard will be maintained and provide maintenance for the 10-year period and beyond.

However, if revised air dispersion modeling produces a violation of the standard due to changes in modeling inputs and assumptions (see Section 4.0 – Verification of Continued Attainment), the Department will immediately begin a 30-day evaluation period to diagnose the cause of the modeled violation, including consultation with any emission source(s) that the Department believes may be a cause of the modeled violation. At the completion of this evaluation period, the Department will begin to take the necessary measures to remedy the modeled violation of the 2010 SO_2 standard, which may include mandating physical or operational changes at emissions sources. Any necessary changes would be implemented as soon as practicable, with at least one measure implemented within 18-24 months of the modeled violation, in order to bring the area into modeled attainment as expeditiously as possible.

[24] Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-plans-sip

Response to 40 CFR Part 51, Appendix V, Criteria

Pursuant to 40 CFR Part 51, Appendix V, the following materials shall be included in State Implementation Plan (SIP) submissions for review and approval by the U.S. Environmental Protection Agency (EPA).

1. Administrative Materials

a. A formal letter of submittal from the Governor or his designee, requesting EPA approval of the plan or revision thereof (hereafter "the plan").

A Pre-Hearing Submittal Letter signed by the Director of the Division of Air Resource Management, Florida Department of Environmental Protection (Department), on behalf of the Governor of the State of Florida, is attached to the Pre-Hearing SIP Submittal.

b. Evidence that the State has adopted the plan in the State code or body of regulations; or issued the permit, order, consent agreement (hereafter "document") in final form. That evidence shall include the date of adoption or final issuance as well as the effective date of the plan, if different from the adoption/issuance date.

This Redesignation Request and Maintenance SIP relies on two air construction permits, Permit No. 1050059-106-AC, issued on October 30, 2017, and Permit No. 1050046-050-AC, issued on July 3, 2017. These two permits and the emission limits therein are pending approval by EPA in the December 1, 2017 SIP submittal.

On January 11, 2019, the Department issued Administrative Permit Corrections for Permit Nos. 1050059-106-AC and 1050046-050-AC that are pending approval by EPA in the December 1, 2017 SIP submittal. These Administrative Permit Corrections, Permit Nos. 1050059-114-AC and 1050046-063-AC, are included in **Appendix C** and **Appendix H**, respectively. This SIP submittal proposes to incorporate the Administrative Permit Corrections, thus superseding the permits in the December 1, 2017 SIP submittal that have not been administratively corrected.

c. Evidence that the State has the necessary legal authority under State law to adopt and implement the plan.

The Department has the necessary legal authority to adopt and implement this proposed revision to Florida's SIP. References to the pertinent Florida Statutes and Florida Administrative Code (F.A.C.) rules may be found in the "Legal Authority" section of this submittal.

d. A copy of the actual regulation, or document submitted for approval and incorporation by reference into the plan, including indication of the changes made (*such as, redline/strikethrough*) to the existing approved plan, where applicable. The submittal shall include a copy of the official State regulation/document signed, stamped and dated by the appropriate State official indicating that it is fully enforceable by the State. The effective date of any regulation/document contained in the submission shall, whenever possible, be indicated in the regulation/document itself. *If the State submits an electronic copy, it must be an exact duplicate of the hard copy with changes indicated, signed documents need to be in portable document format, rules need to be in text format and files need to be submitted in manageable amounts (e.g., a file for each section or chapter, depending on size, and separate files for each distinct document) unless otherwise agreed to by the State and Regional Office.*

See air construction permits 1050059-106-AC and 1050046-050-AC, issued by the Florida Department of Environmental Projection on October 30, 2017 and July 3, 2017, respectively, as

amended by Administrative Permit Correction Nos. 1050059-114-AC and 1050046-063-AC, respectively, on January 11, 2019.

e. Evidence that the State followed all of the procedural requirements of the State's laws and constitution in conducting and completing the adoption/issuance of the plan.

State law (Section 120.525, F.S.) requires the Department to give notice of public meetings, hearings, and workshops by publication in the Florida Administrative Register (FAR) not less than seven days before the event. Through publication in the FAR of the notice of opportunity to participate in a public hearing, if requested, at least 30 days before the event, the Department has complied with all state procedural requirements relevant to the development of this proposed SIP revision. A copy of the notice of proposed SIP revision is found in the "Public Participation" section of the Pre-Hearing SIP Submittal.

f. Evidence that public notice was given of the proposed change consistent with procedures approved by EPA, including the date of publication of such notice.

The Department is in compliance with all public hearing requirements of 40 CFR 51.102. Copies of all relevant notices are in the "Public Participation" section of the Pre-Hearing SIP Submittals. A copy of the notification e-mails to Florida's local air pollution control programs, the Department's District offices, and neighboring states will be included in the final SIP submittal.

g. Certification that public hearing(s) were held in accordance with the information provided in the public notice and the State's laws and constitution, if applicable and consistent with the public hearing requirements in 40 CFR 51.102.

Certification of compliance with all state and federal public notice and hearing requirements is provided in the "Letter of Submittal" for the final SIP revision.

h. Compilation of public comments and the State' response thereto.

Written comments received during the public notice period on this proposed SIP revision, and the Department's response thereto, will be included in the "Public Participation" section of this submittal.

2. Technical Support

a. Identification of all regulated pollutants affected by the plan.

This SIP revision addresses only the air pollutant sulfur dioxide (SO_2).

b. Identification of the locations of affected sources including the EPA attainment/nonattainment designation of the locations and the status of the attainment plan for the affected areas(s).

This SIP revision applies to the SO_2 nonattainment area in Hillsborough-Polk County defined as follows:

That portion of Hillsborough and Polk Counties encompassed by the polygon with the vertices using Universal Traverse Mercator (UTM) coordinates in UTM zone 17 with datum NAD83 as follows: 390,500 E, 3,073,500 N; 390,500 E, 3,083,500 N; 400,500 E, 3,083,500 N; 400,500 E, 3,073,500 N.

This SIP revision also applies to the SO_2 unclassifiable area in Mulberry, FL defined as follows:

That portion of Hillsborough and Polk Counties encompassed by the polygon with the vertices using Universal Traverse Mercator (UTM) coordinates in UTM zone 17 with datum

NAD83 starting with the Northwest Corner and proceeding to the Northeast as follows: 390,500 E, 3,083,500 N; 410,700 E, 3,091,600 N; 412,900 E, 3,089,800 N; 412,900 E, 3,084,600 N; 400,500 E, 3,073,500 N; 400,500 E, 3,083,500 N

c. Quantification of the changes in plan allowable emissions from the affected sources; estimates of changes in current actual emissions from affected sources or, where appropriate, quantification of changes in actual emissions from affected sources through calculations of the differences between certain baseline levels and allowable emissions anticipated as a result of the revision.

See the Redesignation Request for the Hillsborough-Polk County Nonattainment Area section of this submittal.

d. The State's demonstration that the national ambient air quality standards, prevention of significant deterioration increments, reasonable further progress demonstration, and visibility, as applicable, are protected if the plan is approved and implemented. For all requests to redesignate an area to attainment for a national primary ambient air quality standard, under section 107 of the Act, a revision must be submitted to provide for the maintenance of the national primary ambient air quality standards for at least 10 years as required by section 175A of the Act.

See the Redesignation Request for the Hillsborough-Polk County Nonattainment Area section of this submittal.

e. Modeling information required to support the proposed revision, including input data, output data, models used, justification of model selections, ambient monitoring data used, meteorological data used, justification for use of offsite data (where used), modes of models used, assumptions, and other information relevant to the determination of adequacy of the modeling analysis.

See Appendix I and Appendix J of this submittal.

f. Evidence, where necessary, that emission limitations are based on continuous emission reduction technology.

See air construction permits 1050059-106-AC and 1050046-050-AC, issued by the Florida Department of Environmental Projection on October 30, 2017 and July 3, 2017, respectively, as amended by Administrative Permit Correction Nos. 1050059-114-AC and 1050046-063-AC, respectively, on January 11, 2019.

g. Evidence that the plan contains emission limitations, work practice standards and recordkeeping/reporting requirements, where necessary, to ensure emission levels.

See air construction permits 1050059-106-AC and 1050046-050-AC, issued by the Florida Department of Environmental Projection on October 30, 2017 and July 3, 2017, respectively, as amended by Administrative Permit Correction Nos. 1050059-114-AC and 1050046-063-AC, respectively, on January 11, 2019.

h. Compliance/enforcement strategies, including how compliance will be determined in practice.

See air construction permits 1050059-106-AC and 1050046-050-AC, issued by the Florida Department of Environmental Projection on October 30, 2017 and July 3, 2017, respectively, as amended by Administrative Permit Correction Nos. 1050059-114-AC and 1050046-063-AC, respectively, on January 11, 2019.

i. Special economic and technological justifications required by any applicable EPA policies, or an explanation of why such justifications are not necessary.

Not Applicable.

3. Exceptions

Not applicable.

Legal Authority

Chapter 403 of the Florida Statutes (F.S.), entitled "Environmental Control," provides the legal framework for most of the activities of the air resource management program within the Florida Department of Environmental Protection (Department). Except as provided at sections 403.8055 and 403.201, F.S., for fast-track rulemaking and the granting of variances under Chapter 403, F.S., respectively, Chapter 120, F.S., Florida's "Administrative Procedure Act," sets forth the procedures the Department must follow for rulemaking, variances, and public meetings. The most recent version of the Florida Statutes can be found online at http://www.leg.state.fl.us/Statutes.

The principal sections of Chapter 403, F.S., that grant the Department authority to operate its air program are listed below. Authority to develop and update Florida's State Implementation Plan (SIP) and 111(d) Designated Facilities Plan is expressly provided by subsection 403.061(35), F.S., which provides that the Department shall have the power and the duty to control and prohibit pollution of air and water in accordance with the law and rules adopted and promulgated by it and, for this purpose, to "exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act, 42 U.S.C. ss. 7401 et seq."

403.031	Definitions, including the definition of "regulated air pollutant" (403.031(19)).
403.061	Authority to: promulgate plans to provide for air quality control and pollution abatement (403.061(1)); adopt rules for the control of air pollution in the state (403.061(7)); take enforcement action against violators of air pollution laws, rules and permits (403.061(8)); establish and administer an air pollution control program (403.061(9)); set ambient air quality standards (403.061(11)); monitor air quality (403.061(12)); require reports from air pollutant emission sources (403.061(13)); require permits for construction, operation, and modification of air pollutant emission sources (403.061(14)); and exercise the duties, powers, and responsibilities required of the state under the federal Clean Air Act (403.061(35)).
403.087	Authority to issue, deny, modify, and revoke permits.
403.0872	Authority to establish an air operating permit program as required by Title V of the Clean Air Amendments of 1990.
403.0877	Authority to require engineering certification of permit applications.
403.121	Authority to seek judicial and administrative remedies for violations.
403.131	Authority to seek injunctive relief for violations.
403.141	Authority to find civil liability for violations.
403.161	Authority to assess civil and criminal penalties for violations.
403.182	Authority for local pollution control programs.
403.201	Authority to grant variances.
403.8052	Authority to establish a Small Business Assistance Program for small-business sources of air pollutant emissions.
403.8055	Authority to adopt U.S. Environmental Protection Agency (EPA) standards by reference through a fast-track process.
403.814	Authority to allow use of general permits (permits-by-rule) for minor sources.

Other statutory authorities, outside of Chapter 403, F.S., for Florida's air program are as follows:

112.3143	Requirement that public officials disclose potential conflicts of interest.
112.3144	Requirement for disclosure of financial interests by public officials.
120.569	Authority of agency head to issue an emergency order in response to an immediate threat to public health, safety, or welfare.
316.2935	Authority to prohibit the sale and operation of motor vehicles whose emission control systems have been tampered with, and to prohibit the operation of motor vehicles that emit excessive smoke.
320.03	Authority to establish Air Pollution Control Trust Fund and use $1 fee on every motor vehicle license registration sold in the state for air pollution control purposes, including support of approved local air pollution control programs.
376.60	Authority to establish a fee for asbestos removal projects.

Current and historical versions of Florida Administrative Code (F.A.C.) rule sections and chapters back to January 1, 2006, may be accessed from the Florida Department of State (DOS) website https://www.flrules.org. The DOS website also provides access to materials adopted by reference since January 1, 2011. Department rule chapters containing State Implementation Plan (SIP) or 111(d) State Plan provisions are as follows:

62-204	Air Pollution Control – General Provisions
62-210	Stationary Sources – General Requirements
62-212	Stationary Sources – Preconstruction Review
62-243	Tampering with Motor Vehicle Air Pollution Control Equipment
62-252	Gasoline Vapor Control
62-256	Open Burning
62-296	Stationary Sources – Emission Standards
62-297	Stationary Sources – Emissions Monitoring

Other air-related Department rule chapters—not part of the SIP or 111(d) State Plan—include:

62-213	Operation Permits for Major Sources of Air Pollution (Title V)
62-214	Requirements for Sources Subject to the Federal Acid Rain Program
62-257	Asbestos Program

Notice of Opportunity to Submit Comments and Participate in Public Hearing

DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

Board of Professional Engineers

The Florida Board of Professional Engineers Fire Protection Rules Committee announces a telephone conference call to which all persons are invited.

DATE AND TIME: March 20, 2019, 10:00 a.m. or soon thereafter

PLACE: Florida Board of Professional Engineers, 2639 North Monroe St., Building B-112, Tallahassee, FL 32303

GENERAL SUBJECT MATTER TO BE CONSIDERED: general business of the committee. If you would like to participate in the call, please contact Rebecca Sammons at (850)521-0500 ext. 114 at least 10 days prior to the date of the meeting. The call in number is 1(888)392-4560 (you will need to contact Ms. Sammons for the participant code).

A copy of the agenda may be obtained by contacting: Rebecca Sammons, rsammons@fbpe.org.

Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 10 days before the workshop/meeting by contacting: Rebecca Sammons. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

If any person decides to appeal any decision made by the Board with respect to any matter considered at this meeting or hearing, he/she will need to ensure that a verbatim record of the proceeding is made, which record includes the testimony and evidence from which the appeal is to be issued.

For more information, you may contact: Rebecca Sammons, rsammons@fbpe.org.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

The Division of Air Resource Management, announces a hearing, if requested, to which all persons are invited.

DATE AND TIME: March 20, 2019, 10:00 a.m.

PLACE: Department of Environmental Protection, Bob Martinez Center, 2600 Blair Stone Road, Room 195, Tallahassee, Florida.

GENERAL SUBJECT MATTER TO BE CONSIDERED: Pursuant to 40 CFR 51.102, the Department of Environmental Protection (DEP) announces a public hearing and opportunity to offer comments on a proposed revision to Florida's State Implementation Plan (SIP) under the Clean Air Act. This proposed SIP revision consists of a request to redesignate the Hillsborough-Polk County sulfur dioxide (SO2) nonattainment area (NAA) and the Hillsborough-Polk County unclassifiable area (Mulberry Area) to attainment. This SIP submittal also includes the required CAA section 175A Maintenance plan for the Hillsborough-Polk County SO2 NAA, the CAA section 172(c)(3) emissions inventory and certification of the existing SIP-approved nonattainment new source review permitting program. This SIP submittal updates the modeling demonstration previously included in our December 1, 2017 source-specific SIP submittal requesting that EPA adopt into the Florida SIP the SO2 emission limits and compliance parameters for the Mosaic New Wales and Mosaic Bartow facilities. The Department is requesting that United States Environmental Protection Agency parallel process approval of this proposed SIP revision.

The materials comprising DEP's proposed SIP revision may be obtained through the Department's website at https://floridadep.gov/air/air-business-planning/content/air-regulatory-projects or by contacting Hastings Read at Hastings.Read@Floridadep.gov. The materials may also be inspected during normal business hours at DEP, Division of Air Resource Management offices, Bob Martinez Center, 2600 Blair Stone Road, Tallahassee, Florida. A public hearing will be held, if requested, at the date, time and place given above. Any request for a public hearing must be submitted by letter or e-mail to Hastings Read, Department of Environmental Protection, Division of Air Resource Management, 2600 Blair Stone Road, MS #5500, Tallahassee, Florida 32399-2400 (Hastings.Read@Floridadep.gov), and received no later than March 18, 2019. A copy of the agenda may be obtained by contacting: Mr. Read by letter or email at the above addresses or by calling (850)717-9017. It is not necessary that the hearing be held or attended for persons to comment on DEP's proposed submittal to EPA. Any comments must be submitted to Hastings Read by letter or e-mail, with a copy to Terri Long (Terri.Long@Floridadep.gov), and received no later than March 18, 2019.

If no request for a public hearing is received, the hearing will be cancelled, and notice of the cancellation will be posted at the following website: https://floridadep.gov/events/month?field_county_tid=All&field_is_a_public_notice_value=Yes.

Persons may also contact Terri Long at (850)717-9023 to find out if the hearing has been cancelled. Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in this workshop/meeting is asked to advise the agency at least 48 hours before the workshop/meeting by contacting Terri Long at (850)717-9023 or Terri.Long@Floridadep.gov. If you are hearing or speech impaired, please contact the agency using the Florida Relay Service, 1(800)955-8771 (TDD) or 1(800)955-8770 (Voice).

For more information, you may contact Hastings Read by letter or e-mail, or by calling (850)717-9017.

Public Participation

Documentation will be added upon completion of the 30-day comment period for the pre-hearing submittal and public notice.

Appendix A – Mosaic New Wales Air Construction Permit (1050059-101-AC)

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

PERMITTEE

New Wales Facility
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, Florida 33547

Authorized Representative:
Mr. Joseph Kline, General Manager- New Wales

Permit No. 1050059-101-AC
Permit Expires: March 1, 2020
New Wales Facility
Catalyst Change/Augmentation
Sulfuric Acid Plant Nos. 1 to 5
Polk County

PROJECT

This is the final air construction permit to change and augment the convert catalyst in Sulfuric Acid Plant Nos. 1 to 5 (SAP Nos. 1 to 5) at the New Wales Facility. In addition, the permit forbids the use of No. 6 fuel oil in DAP Plant No. 2 - East Train, DAP Plant No. 2 - West Train, the GMAP Plant, DAP Plant No. 1 (EU 009) and the AFI Granulation Plant. The only authorized fuel going forward for these units will be natural gas.

The New Wales Facility is an existing phosphate fertilizer manufacturer categorized under Standard Industrial Classification Number (No.) 2874. The existing facility is in Polk County at 3095 Hwy 640 W in Mulberry, Florida. The UTM coordinates are Zone 17, 396.67 kilometers (km) East and 3079.3 km North. Latitude is: 27° 50` 3.7065" North; and, Longitude is: 82° 2` 57.3205" West.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction requirements for major new source review in Chapter 62-212, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

David Lyle Read, P.E.
2017.01.04 11:23:21 -05'00'

For:
Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr

www.dep.state.fl.us

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this final air permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Joseph Kline, Mosaic Fertilizer, LLC: joseph.kline@mosaicco.com
Mr. Rama Iyer, P.E., Mosaic Fertilizer, LLC: rama.iyer@mosaicco.com
DEP SWD: SWD_Air_Permitting@dep.state.fl.us
Mr. Steve Morgan, DEP SWD: Steve.Morgan@dep.state.fl.us
EPA Region 4 NSR/PSD: NSRsubmittals@epa.gov
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Lynn Scearce

2017.01.04 12:54:33 -05'00'

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

This existing Mosaic New Wales facility consists of five double absorption sulfuric acid plants; three phosphoric acid plants; a phosphoric acid clarification and storage area; three diammonium phosphate (DAP) plants; a monoammonium phosphate (MAP) plant; a granular monoammonium phosphate (GMAP) plant; an animal feed ingredients (AFI) plant; a molten sulfur storage & handling system; a limestone storage silo/rock grinding operation; and a phosphogypsum stack. This plant started operations in 1975. The emission units affected by this permitting action is highlighted in yellow.

LIST OF EMISSION UNITS.

EU No.	a. Brief Description
Regulated Emissions Units	
002	No. 1 Sulfuric Acid Plant
003	No. 2 Sulfuric Acid Plant
004	No. 3 Sulfuric Acid Plant
042	No. 4 Sulfuric Acid Plant
044	No. 5 Sulfuric Acid Plant
008	Phosphoric Acid Plant (East)
017	Phosphoric Acid Plant (West)
039	Phosphoric Acid Plant No. 3
053	Phosphoric Acid Clarification and Storage Area
048	30% Clarification Area (Area 10)
009	DAP Plant No. 1
045	DAP Plant No. 2 - East Train
046	DAP Plant No. 2 - West Train
047	DAP Plant No. 2 - West Product Cooler
056	DAP Plant No. 2 - East Product Cooler
011	MAP Prill Plant
055	MAP Plant Cooler
015	Animal Feed Ingredients (AFI) Shipping/Truck Loadout
023	AFI Storage Silos (3) - North Side
024	AFI Storage/Shipping/Rail Car Loading
025	AFI Limestone Storage Silos (2)
026	AFI Silica Storage Bin
027	AFI Granulation Plant
086	AFI Defluorination Batch Tanks
028	AFI Storage Silos (3) - South Side
052	AFI Limestone Feed Bin
030	Soda Ash Unloading System
060	7,500 Ton Rail Storage Molten Sulfur Storage Tank
062	15,000 Ton Molten Sulfur Storage Tank
063	1,500 Ton Truck Unloading Pit, Sulfur Pit (North)

067	1,500 Ton Truck Unloading Pit, Sulfur Pit Front Vent
068	1,500 Ton Truck Unloading Pit, Sulfur Pit Rear Vent
064	350 Ton Truck Unloading Pit, Sulfur Pit (South)
069	350 Ton Truck Unloading Pit, Sulfur Pit Vent
065	800 Ton Railcar Unloading Pit
066	200 Ton Molten Sulfur Transfer Pit
080	1 Molten Sulfur Loading Station
070	Limestone Storage Silo/Rock Grinding
071	Phosphogypsum Stack
078	GMAP Plant
087	Existing Emergency CI RICE ≤ 500 HP
093	New Emergency CI ICE
Unregulated Emissions Units and Activities	
072	Facility-Wide Fugitive Emissions - SO_2, SO_3, SAM and NOx emissions from the 1, 2, 3, 4 and 5 Sulfuric Acid Plants (SAPs) - Fluoride emissions from the Phosphoric Acid Plants (PAPs) East and West and No. 3 PAP - Fluoride, NH_3, PM emissions from Diammonium Phosphate (DAP), Monoammonium Phosphate (MAP) and Granular Monoammonium Phosphate (GMAP) Plants. - Hydrogen Fluoride (HF) emissions from the Phosphogypsum Stack and Cooling Pond *Note: For this emission unit, Annual Operation Report (AOR) emissions estimates are required only for Hydrogen Fluoride emissions from the Phosphogypsum Stack and Cooling Pond.*
012	GMAP Plant Storage Building

PROPOSED PROJECT

The purpose of the proposed project is to authorize the changing and augmentation the converter catalyst in SAP Nos. 1 to 5 while eliminating the use of No. 6 fuel oil Diammonium Phosphate (DAP) Plant No. 1, DAP Plant No. 2 - East Train, DAP Plant No. 2 - West Train, the Granular Monoammonium Phosphate (GMAP) Plant, and the Animal Feed Ingredients (AFI) Granulation Plant.

FACILITY REGULATORY CLASSIFICATION

- The existing facility is a major source of HAP.
- The existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The existing facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA)
- The facility operates units that are subject to the New Source Performance Standards (NSPS) at 40 Code of Federal Regulations, Part 60 (40 CFR 60), and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR 63.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Compliance Authority, the Department's Southwest District (SWD). The Compliance Authority's mailing address is:

   Florida Department of Environmental Protection
   Southwest District Office
   Air and Solid Waste Permitting Program
   13051 North Telecom Parkway
   Temple Terrace, Florida 33637-0926
   Telephone: 813-470-5700
   E-mail: SWD_Air_Permitting@dep.state.fl.us

3. Appendices: The following Appendices are attached as a part of this permit and the permittee must comply with the requirements of the appendices:
   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions and
   d. Appendix D. Common Testing Requirements

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

8. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

   {Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

9. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. General reasonable precautions include the following: a. Paving and maintenance of roads, parking areas and yards; b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulates from becoming airborne; e. Landscaping or planting of vegetation; f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g. Confining abrasive blasting where possible; and h. Enclosure or covering of conveyor systems.
[Rule 62-296.320(4)(c), F.A.C.]

PREVIOUS APPLICABLE REQUIREMENTS

10. Effect on Other Permits: The conditions of this permit supplement and or replace all previously issued air construction and operation permits for this emissions unit. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions, rules and regulations. [Rule 62-4.070(1) & (3), Reasonable Assurance, F.A.C.]

SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS

A. SAP Nos. 1 to 5 (EU No. 002, 003, 004, 042 and 044)

This subsection of the permit addresses the following emission units:

EU No.	Brief Description
002	No. 1 Sulfuric Acid Plant
003	No. 2 Sulfuric Acid Plant
004	No. 3 Sulfuric Acid Plant
042	No. 4 Sulfuric Acid Plant
044	No. 5 Sulfuric Acid Plant

Sulfur dioxide emissions from SAPs are controlled by a double absorption system technology with vanadium and/or cesium catalyst in the converters and the use of good combustion practices and best operational practices to minimize excess emissions during startup and shutdown. SAP Nos. 2, 3 and 4 each utilizes a heat recovery system (HRS) absorption tower instead of a traditional interpass absorption tower. For all SAPs, Sulfuric Acid Mist (SAM) emissions are controlled by Brownian diffusion type candles in the mist eliminator section in the final absorption tower (FAT). SAP Nos. 1, 2 and 3 produce a maximum of 3,400 tons per day of sulfuric acid (100% H_2SO_4 basis) while SAP Nos. 4 and 5 produce a maximum of 2,900 tons per day of sulfuric acid (100% H_2SO_4 basis). This project will not change the production capacity of any SAP nor will any permitted emission limits be changed.

{Permitting note: This emission unit is regulated under NSPS - 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid, adopted and incorporated by reference in Rule 62-204.800(7)(b)10., F.A.C.; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards; and Rule 296.402, F.A.C., Sulfuric Acid Plant.}

Authorized Physical Changes

1. Converter Catalyst Replacement and Augmentation: In accordance with the work schedule specified in **Condition 2** of this subsection, the permittee shall change/augment the convert catalyst in SAP Nos. 1 to 5. The permitted capacity of each SAP after the change/augmentation of the converter catalyst shall remain unchanged and no emission limits shall be increased. Within 45 days of commencing operation following the turnaround (including catalyst installation and arrangement for each SAP), the permittee shall provide the following information to the Division and the Compliance Authority: the type of catalyst; the amount of catalyst and the catalyst arrangement within the convertor.

   [Rules 62-4.070(1) and (3) and 62-4.080, F.A.C.]; and Application No. 1050059-101-AC

2. Work Schedule: The permittee shall conduct the required work in accordance with the following schedule, which is based on the facility's planned turnaround.

Turnaround Date	SAP Number, EU No.	Modification
January 2017 (completed by 03/31/17)	SAP No. 2, EU 003	Catalyst Change/Augmentation
January 2018 (completed by 03/31/18)	SAP No. 1, EU 002	Catalyst Change/Augmentation
June 2018 (completed by 08/31/18)	SAP No. 3, EU 004	Catalyst Change/Augmentation
January 2019 (completed by 03/31/19)	SAP No. 4, EU 042	Catalyst Change/Augmentation
June 2019 (completed by 08/31/19)	SAP No. 5, EU 044	Catalyst Change/Augmentation

   [Application No. 1050059-101-AC]

Notifications

3. Work Status: The permittee shall notify the Compliance Authority within 5 business days prior to starting the catalyst replacement/augmentation work on each SAP. The permittee shall notify the Compliance Authority within 5 business days after the turnaround (including catalyst installation and arrangement for each SAP) is completed. [Rules 62-4.070(1) and (3) and 62-4.080, F.A.C.; and Application No. 1050059-101-AC]

B. DAP Plant No. 2 - East Train, DAP Plant No. 2 - West Train, the GMAP Plant, DAP Plant No. 1 and the AFI Granulation Plant (EU No. EU 045, 046, 078, 009 and 027)

This subsection of the permit addresses the following emission units:

EU No.	Brief Description
045	DAP Plant No. 2 - East Train
046	DAP Plant No. 2 - West Train
078	GMAP Plant
009	DAP Plant No. 1
027	AFI Granulation Plant

The DAP Plant No. 2 consist of two trains, each of them identical process flow diagram-wise, an East Train and a West Train. Each train produces the granular ammoniated phosphate products monoammonium phosphate (GMAP), diammonium phosphate (DAP) and MicroEssentials™ (MESZ, MES15, MES10, etc.) at a design maximum capacity of 170 tons per hour (TPH) of these products which approximately equates to a nominal 80 tons diphosphorus pentoxide (P_2O_5) per hour feed input. The Granular Monoammonium Phosphate (GMAP) Plant has a maximum production rate of 150 TPH of GMAP (75 TPH P_2O_5 feed). GMAP is made by reacting anhydrous ammonia and phosphoric acid in a covered reaction tank with the further addition of ammonia and acid in a granulator. The granulated product is then dried in a rotary drier. The dried product is further processed by screening, milling (oversized), and reprocessing (undersized). The properly sized product is conveyed to the storage building for eventual load out. The Animal Feed Ingredient (AFI) Granulation Plant produces 120 TPH of animal feed.. The Diammonium Phosphate (DAP) Plant No. 1 produces monoammonium phosphate (MAP) or diammonium phosphate (DAP) at a maximum rate of 150 TPH.

Allowable Fuels

1. Natural Gas: TDAP Plant No. 2 - East Train, DAP Plant No. 2 - West Train, the GMAP Plant, DAP Plant No. 1 and the AFI Granulation Plant shall henceforth be fired on natural gas. The use of No. 6 fuel oil in these emission units is forbidden. This condition with regards to the allowable fuel for these emission unit supersedes all previous conditions with respect to allowable fuels in previous air construct permits for these emissions units. [Application No. 1050059-101-AC]

Appendix B – Mosaic New Wales Air Construction Permit (1050059-106-AC)

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

PERMITTEE

Mosaic Fertilizer, LLC
New Wales Facility

Authorized Representative:
Mr. Joseph Kline, General Manager

Permit No. 1050059-106-AC
Permit Expires: October 31, 2019
Project: Minor Source Air Construction Permit (Revised)
1-hour SO_2 NAAQS Compliance
Polk County, Florida

PROJECT

This permit revises the previously issued Permit No. 1050059-103-AC, replacing it in its entirety with this permit.

This is the final air construction (AC) permit, which authorizes sulfuric acid plant numbers 1, 2, 3, 4 & 5 to comply with the U.S. EPA's 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) final rule (Project). This facility is an existing phosphate fertilizer manufacturing facility categorized under Standard Industrial Classification No. 2874. The existing New Wales Facility is located in Polk County at 3095 Highway 640 in Mulberry, Florida. UTM coordinates are: Zone 17, 396.7 km East and 3079. 3 km North; Latitude: 27° 50'03" North and Longitude: 82°02'57" West.

This final permit is organized into the following sections: Section I (General Information), Section II (Requirements); and, Section III (Emission(s) Unit(s) Specific Conditions). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section IV of this permit. [As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.]

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

David Lyle Read, P.E.
2017.10.30 12:25:46 -04'00'

For.

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr/sms

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the persons listed below.

Mr. Joseph Kline, Mosaic Fertilizer, LLC: joseph.kline@mosaicco.com
Mr. Rama K. Iyer, P.E., Mosaic Fertilizer, LLC: rama.iyer@mosaicco.com
Mr. Ghani Baig, Mosaic Fertilizer, LLC: ghani.baig@mosaicco.com
DEP SWD Office: SWD_Air@dep.state.fl.us & SWD_Air_Permitting@dep.state.fl.us
Mr. Hastings Read, DEP OBP: hastings.read@dep.state.fl.us
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us
U.S. EPA Region 4: R4TitleVFL@epa.gov

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

2017.10.30 13:14:56 -04'00'

FACILITY DESCRIPTION

This existing facility consists of five double absorption sulfuric acid plants; three phosphoric acid plants; a phosphoric acid clarification and storage area; three diammonium phosphate (DAP) plants; a monoammonium phosphate (MAP) plant; a granular monoammonium phosphate (GMAP) plant; an animal feed ingredients (AFI) Defluorination Batch Tank Area; an animal feed ingredients (AFI) granulation plant; a sulfur storage & handling system; a limestone storage silo/rock grinding operation; and a phosphogypsum stack.

Also included at this facility are miscellaneous insignificant emissions units and/or activities.

This project will affect the following *existing* permitted emissions units:

E.U. ID No.	Brief Description
002	Sulfuric Acid Plant No. 1
003	Sulfuric Acid Plant No. 2
004	Sulfuric Acid Plant No. 3
042	Sulfuric Acid Plant No. 4
044	Sulfuric Acid Plant No. 5

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

PROPOSED PROJECT

Major changes made in the draft version of the permit documents are specifically shown as follows: deletions are noted in ~~strikethrough~~ and additions are noted in double underline. The changes will not be shown in the final permit documents.

This minor source air construction (AC) permit is for the sulfuric acid plant numbers 1, 2, 3, 4 & 5 to comply with the U.S. EPA's 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) final rule.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Minor Source Air Construction Permit Application received on October 11, 2017 (complete).

SECTION II. REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities, such as reports, tests, and notifications, shall be submitted to the Compliance Authority. The Compliance Authority is listed on the cover page of the Title V air operation permit.
3. Appendices. The following Appendices are attached as part of this permit:
   a. Appendix A. Citation Formats and Definitions;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and,
   d. Appendix D. Common Testing Requirements.
4. Applicable Regulations, Forms and Application Procedures. Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and, Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 & 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications. The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) & 62-212.300(1)(a), F.A.C.]
7. Source Obligation. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]
8. Construction. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance prior to the expiration of this permit. [Rules 62-210.300(1), 62-4.070(4) 62-4.080, and 62-4.210, F.A.C.]

SECTION III. EMISSION(S) UNIT(S) SPECIFIC CONDTIONS

Subsection A. Sulfuric Acid Plant Nos. 1, 2, 3, 4 & 5 (Emission Units 002, 003, 004, 042 & 044)

This subsection of the permit addresses the following emission units:

E.U. ID No.	Brief Description
002	Sulfuric Acid Plant No. 1
003	Sulfuric Acid Plant No. 2
004	Sulfuric Acid Plant No. 3
042	Sulfuric Acid Plant No. 4
044	Sulfuric Acid Plant No. 5

This permit is for the addition of an SO_2 emission limit applicable to Sulfuric Acid Plant Nos. 1, 2, 3, 4 & 5. This emission limit is based on an allowable SO_2 emissions rate that demonstrates compliance with the U.S. Environmental Protection Agency's (U.S. EPA's) 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) final rule. Compliance with the new SO_2 emission limit shall occur on or before **August 31, 2019**.

No new or modified equipment (physical changes) or changes in methods of operation associated with this project (SO_2 emission limit addition) are authorized under this permit. No changes are authorized to any of the sulfuric acid plant stacks, e.g., stack height, diameter.

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

PERMITTED CAPACITIES

2. Permitted Capacities: The permitted capacities of the SAPs shall remain the same. [Application Nos. 1050059-103-AC & 1050059-106-AC; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

SO_2 EMISSION LIMIT

3. SO_2 Emission Limit: The following SO_2 emission limit applies to the Sulfuric Acid Plant (SAP) Nos. 1, 2, 3, 4 & 5:
   a. When all five SAPs are in operation within the same 24-hour block averaging period, a cap of 1,090 lb SO2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) is applicable; and,
   b. The cap of 1,090 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) applies in scenarios when any combination of any number of the SAPs are not in operation and when any number of the SAPs are in operation.

   Any requested revisions to this emission limit requires air dispersion modelling review and written approval from the Department's Meteorology and Air Modeling Section in the Office of Business Planning to confirm SO_2 NAAQS compliance. [Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.; and, Application Nos. 1050059-103-AC & 1050059-106-AC.]

COMPLIANCE REQUIREMENTS

4. Initial Compliance: These emission units shall use certified SO_2 CEMS data to demonstrate initial compliance with the new SO_2 emission limit. [Rules 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; and, Application Nos. 1050059-103-AC & 1050059-106-AC.]

5. Recordkeeping: The permittee shall keep records of the initial compliance demonstration. The records shall include the SO_2 CEMS data along with the sulfuric acid production rate (TPH, tons per hour) during the demonstration. Any reports shall be prepared in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(10), F.A.C.; and, Application Nos. 1050059-103-AC & 1050059-106-AC.]

FLORIDA DEPARTMENT OF
Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

NOTICE OF ADMINISTRATIVELY CORRECTED PERMIT

In the Matter of a Request for Administrative Permit Correction:

Mr. Robert Fredere, General Manager
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, Florida 33547

Project Nos. 1050059-114-AC & 1050059-115-AV
Administrative Corrections to Permit Nos.
1050059-106-AC & 1050059-102-AV, Respectively
New Wales Facility
Polk County

Enclosed are Administrative Permit Corrections to air construction permit No. 1050059-106-AC and Title V air operation permit No. 1050059-102-AV (and similar corrective language in subsequent permit revision Nos. 1050059-104-AV, 1050059-107-AV and 1050059-110-AV), for the operation of the Mosaic Fertilizer New Wales Facility, which is located in Polk County at 3095 Highway 640 in Mulberry, Florida. This administrative permit correction is issued pursuant to Rule 62-210.360, Florida Administrative Code (F.A.C.), and Chapter 403, Florida Statutes (F.S.). These changes are being made in consultation with the permittee to remove unnecessary and confusing language from the sulfur dioxide emissions limiting conditions contained in the above referenced permits. This permitting action does not authorize any new or additional construction, nor does it alter any previously established/extended expiration dates.

The Department of Environmental Protection (Department) will consider the above-noted action final unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57, F.S. Mediation under Section 120.573, F.S., will not be available for this proposed action.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS #35, Tallahassee, Florida 32399-3000, Agency_Clerk@dep.state.fl.us, before the deadline. Petitions filed by the permit applicant or any of the parties listed below must be filed within 14 (fourteen) days of receipt of this notice. Petitions filed by any other person must be filed within 14 (fourteen) days of receipt of this proposed action. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact.

If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the

Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the permitting authority's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the permitting authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Any party to this order (permit) has the right to seek judicial review of it under Section 120.68, F.S., by the filing of a Notice of Appeal, under Rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000; and, by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal.

The Notice of Appeal must be filed within thirty days from the date this notice is filed with the Clerk of the permitting authority (or within 30 days from the date this becomes a final action if a petition is filed as described above). Questions pertaining to this permitting action should be addressed to Jon Holtom, PE, Florida Department of Environmental Protection, Office of Permitting and Compliance by phone at (850) 717-9079 or by email at jon.holtom@dep.state.fl.us.

Executed in Tallahassee, Florida.

Jonathan Holtom

Digitally signed by Jonathan Holtom, P.E.
Date: 2019.01.11 10:39:05 -05'00'

for:

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/jh

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Administratively Corrected Permit or a link to these documents available electronically on a publicly accessible server, was sent by electronic mail with received receipt requested to the persons listed below:

Mr. Robert Fredere, General Manager, Mosaic Fertilizer, LLC: robert.fredere@mosaicco.com
Mr. Santino Provenzano, Senior Env. Manager, Mosaic Fertilizer, LLC: santino.provenzano@mosaicco.com
Mr. Jeffrey Insalaco, Senior EHS Specialist, Mosaic Fertilizer, LLC: jeffrey.Insalaco@mosaicco.com
DEP SWD Office: DEP_SWD@dep.state.fl.us
Mr. Hastings Read, DEP - TAL: hastings.read@dep.state.fl.us
EPA Region 4: R4TitleVFL@epa.gov
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Lynn Scearce

Digitally signed by Lynn Scearce
Date: 2019.01.11 11:18:24 -05'00'

Project No. 1050059-114-AC:

Permit Being Administratively Corrected: **1050059-106-AC** (which replaced permit No. 1050059-103-AC). Pursuant to the applicant's request to remove unnecessary and confusing language, Specific Condition 3. of Section III, Subsection A. is administratively corrected as follows:

3. SO_2 Emission Limit: The following SO_2 emission limit applies to the Sulfuric Acid Plant (SAP) Nos. 1, 2, 3, 4 & 5:
   a. When all five SAPs are in operation within the same 24-hour block averaging period, a cap of 1,090 lb SO2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) is applicable; and,
   b. The cap of 1,090 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) applies in scenarios when any combination of any number of the SAPs are not in operation and when any number of the SAPs are in operation.

   ~~Any requested revisions to this emission limit requires air dispersion modelling review and written approval from the Department's Meteorology and Air Modeling Section in the Office of Business Planning to confirm SO_2 NAAQS compliance.~~ [Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.; ~~and,~~ Application Nos. 1050059-103-AC & 1050059-106-AC; and, Administrative Permit Correction Application No. 1050059-114-AC.]

Project No. 1050059-115-AV:

Permit(s) Being Administratively Corrected: **1050059-102**-AV (and similar language in subsequent permit revision Nos. 1050059-104-AV, 1050059-107-AV, and 1050059-110-AV). Pursuant to the applicant's request to remove unnecessary and confusing language, Specific Condition **A.12.** of Section III, Subsection A. is administratively corrected as follows:

A.3.3. This condition applies after initial compliance has been demonstrated, yet no later than August 31, 2019. SO_2 Emission Limit: The following SO_2 emission limit applies to the Sulfuric Acid Plant (SAP) Nos. 1, 2, 3, 4 & 5:
   a. When all five SAPs are in operation within the same 24-hour block averaging period, a cap of 1,090 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) is applicable; and,
   b. The cap of 1,090 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) applies in scenarios when any combination of any number of the SAPs are not in operation and when any number of the SAPs are in operation.

   ~~Any requested revisions to this emission limit requires air dispersion modelling review and written approval from the Department's Meteorology and Air Modeling Section in the Office of Business Planning to confirm SO_2 NAAQS compliance.~~

   [Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.; ~~and,~~ Permit Nos. 1050059-103-AC & 1050059-106-AC; and, Administrative Permit Correction No. 1050059-114-AC.]

A copy of this administrative permit correction shall be kept on file with air construction permit No. 1050059-106-AC and Title V air operation permit renewal No. 1050059-102-AV (and subsequent permit revision Nos. 1050059-104-AV, 1050059-107-AV, and 1050059-110-AV). A full update to the Title V air operation permit will occur the next time the permit is opened for revision or renewal.

Appendix D – Mosaic Bartow Air Construction Permit (1050046-048-AC)

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

PERMITTEE

Bartow Facility
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, Florida 33547

Authorized Representative:
Mr. Keith Nadaskay, Senior Environmental Specialist

Permit No. 1050046-048-AC
Permit Expires: December 31, 2017
Bartow Facility
Catalyst Change/Augmentation
Sulfuric Acid Plant No. 4
Polk County

PROJECT

This is the final air construction permit to change and augment the convert catalyst in Sulfuric Acid Plant No. 4 at the Bartow Facility.

The Bartow Facility is an existing phosphate fertilizer manufacturer categorized under Standard Industrial Classification Number (No.) 2874. The existing facility is located in Polk County at 3200 Hwy 60 West in Bartow, Florida. UTM Coordinates are: Zone 17, 409.77 East and 3087.26 North. Latitude is: 27° 54' 25.938" North; and, Longitude is: 81° 55' 0.9691" West.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction requirements for major new source review in Chapter 62-212, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

David Lyle Read, P.E.
2016.09.30 12:13:47 -04'00'

For:

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr

www.dep.state.fl.us

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this final air permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Keith Nadaskay, Mosaic Fertilizer, LLC: keith.nadaskay@mosaicco.com
Mr. Rama Iyer, P.E., Mosaic Fertilizer, LLC: rama.iyer@mosaicco.com
DEP SWD: SWD_Air_Permitting@dep.state.fl.us
Mr. Steve Morgan, DEP SWD: Steve.Morgan@dep.state.fl.us
EPA Region 4 NSR/PSD: NSRsubmittals@epa.gov
Ms. Diana Lee, P.E., HCEPC: lee@epchc.org
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

This existing Mosaic Bartow facility consists of one phosphoric acid plant (two trains), one monoammonium phosphate/diammonium phosphate (MAP/DAP) plant, one DAP fertilizer plant, three sulfuric acid plants (SAP), two fertilizer shipping plants, an auxiliary boiler and a molten sulfur storage and handling system. This facility consists of the regulated emissions units shown below. The emission unit affected by this permitting action is highlighted in yellow.

LIST OF EMISSION UNITS.

EU No.	Brief Description
Regulated Emissions Units	
001	No. 3 Fertilizer (DAP/MAP) Plant
002	No. 4 Fertilizer Shipping Plant
004	No. 3 Fertilizer Shipping Plant
010	Wet Phosphoric Acid Plant (No. 4 & No. 5 combined)
012	No. 4 Sulfuric Acid Plant
021	No. 4 Fertilizer Plant
032	No. 6 Sulfuric Acid Plant
033	No. 5 Sulfuric Acid Plant
045	Molten Sulfur System - Stack 45 (Pit A), 200-ton molt sulf pit
046	Molten Sulfur Storage - Vent 44 from 6,000-ton tank
047	Molten Sulfur System (Vent from 3,000-ton surge tank)
050	Molten Sulfur System - Stack 47 (Pit B), 300-ton molt sulf pit
052	Phosphogypsum Stack
073	NG Fired 75 mmBtu/hr boiler at Greenbay
074	New Stationary Emergency CI RICE
075	Existing Emergency CI RICE > 500 hp
076	Existing Emergency CI RICE < or equal to 500 hp
077	Existing Non-Emergency CI RICE 100 < hp < 500
078	Existing Non-Emergency Stationary CI RICE < 100 hp

PROPOSED PROJECT

The purpose of the proposed project is authorization to change and augment the converter catalyst in Sulfuric Acid Plant No. 4 (SAP 4) in the forthcoming Quarter 4, 2016 turnaround that commences on October 1, 2016.

FACILITY REGULATORY CLASSIFICATION

- The existing facility is a major source of HAP.
- The existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The existing facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C.
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA)
- The facility operates units that are subject to the New Source Performance Standards (NSPS) at 40 Code of Federal Regulations, Part 60 (40 CFR 60), and the National Emissions Standards for Hazardous Air Pollutants (NESHAP) at 40 CFR 63.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Compliance Authority, the Department's Southwest District (SWD). The Compliance Authority's mailing address is:

   Southwest District Office
   13051 N. Telecom Parkway
   Temple Terrace, FL 33637-0926
   Telephone: 813/470/5700, Fax: 813/470/5995

3. Appendices: The following Appendices are attached as a part of this permit and the permittee must comply with the requirements of the appendices:
   a. Appendix A. Citation Formats and Glossary of Common Terms
   b. Appendix B. General Conditions
   c. Appendix C. Common Conditions
   d. Appendix D. Common Testing Requirements

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: No emissions unit shall be constructed or modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Title V Permit: This permit authorizes specific modifications and/or new construction on the affected emissions units as well as initial operation to determine compliance with conditions of this permit. A Title V operation permit is required for regular operation of the permitted emissions units. The permittee shall apply for a Title V operation permit at least 90 days prior to expiration of this permit. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority. [Rules 62-4.030, 62-4.050, 62-4.220, and Chapter 62-213, F.A.C.]

8. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

   {Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

9. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading,

storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. General reasonable precautions include the following: a. Paving and maintenance of roads, parking areas and yards; b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulates from becoming airborne; e. Landscaping or planting of vegetation; f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g. Confining abrasive blasting where possible; and h. Enclosure or covering of conveyor systems.
[Rule 62-296.320(4)(c), F.A.C.]

PREVIOUS APPLICABLE REQUIREMENTS

10. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for this emissions unit. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions, rules and regulations. [Rule 62-4.070(1) & (3), Reasonable Assurance, F.A.C.]

SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS

A. SAP No. 4 (EU No. 012)

This subsection of the permit addresses the following emission unit:

EU No.	Brief Description
012	Sulfuric Acid Plant No. 4

Sulfur dioxide emissions from SAP No. 4 are controlled by a dual absorption tower, and acid mist is controlled by high volume and high efficiency mist eliminators. The plant produces a maximum of 2600 tons per day of sulfuric acid (100% H_2SO_4 basis).

{Permitting note: This emission unit is regulated under NSPS - 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid, adopted and incorporated by reference in Rule 62-204.800(7)(b)10., F.A.C.; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-296.320, F.A.C., General Pollutant Emission Limiting Standards; and Rule 296.402, F.A.C., Sulfuric Acid Plant.}

Authorized Physical Changes

1. Converter Catalyst Replacement and Augmentation: The SAPs is double-absorption plant with a four catalyst bed converter and waste heat boiler, cold and hot pass heat exchangers, economizers, and heat recovery systems. In accordance with the work schedule specified in **Condition 2** of this subsection, the permittee shall change/augment the convert catalyst in SAP No. 4. The permitted SAP capacity will remain unchanged and no emission limits are increased. Within 45 days of commencing operation following the turnaround (including catalyst installation and arrangement for the SAP), the permittee shall provide the following information to the Division and the Compliance Authority: the type of catalyst; the amount of catalyst and the catalyst arrangement within the convertor. [Rules 62-4.070(1) and (3) and 62-4.080, F.A.C.]

2. Work Schedule: The permittee shall conduct the required work in accordance with the following schedule, which is based on the facility's planned turnaround.

Date Completed	SAP	SAP Project Work - Activity
November 2016	SAP No. 4 (EU No. 012)	Catalyst change/augmentation

Notifications

3. Work Status: The permittee shall notify the Compliance Authority within 5 business days prior to starting the catalyst replacement/augmentation work on SAP No. 4. The permittee shall notify the Compliance Authority within 5 business days after the turnaround (including catalyst installation and arrangement for the SAP) is completed. [Rules 62-4.070(1) and (3) and 62-4.080, F.A.C.]

Appendix E – Mosaic Bartow Air Construction Permit (1050046-049-AC)

Florida Department of Environmental Protection

Southwest District Office
13051 North Telecom Parkway, Suite 101
Temple Terrace, Florida 33637-0926

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

PERMITTEE

Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, FL 33547

Authorized Representative:
Keith Nadaskay, Environmental Superintendent

Air Permit No. 1050046-049-AC
Permit Expires: 06/30/2018
Minor Air Construction Permit

Bartow Facility
Upgrade adsorption tower internals, replace super-heater, catalyst change-out and misc. repairs to No. 6 SAP.

PROJECT

This is the final air construction permit, which authorizes improvements to the final adsorption tower internals, installation of a redesigned replacement in-kind super-heater in the heat recovery system (HRS) associated with the IPA tower and typical turnaround work such as converter catalyst change and augmentation, repair and replacement of ancillary ducts, pumps, etc. in No. 6 Sulfuric Acid Plant (SAP6), Emissions Unit No. 032. The proposed work will be conducted at the existing Mosaic Bartow Facility, which is a Phosphate Fertilizer Manufacturing Facility categorized under Standard Industrial Classification No. 2874. The existing facility is located in Polk County at 3200 Hwy West in Bartow, Florida. The UTM coordinates are Zone 17, 409.77 km East and 3087.26 km North.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit. As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit. This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

www.dep.state.fl.us

Executed in Hillsborough County, Florida

for

Pamala Vazquez
Program Administrator
Permitting & Waste Cleanup Program
Southwest District

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Air Permit package was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Keith Nadaskay, Mosaic Fertilizer, LLC, keith.nadaskay@mosaicco.com
Rama Iyer, P.E., Mosaic Fertilizer, LLC, rama.iyer@mosaicco.com
Scott Borderieux, Florida DEP Southwest District, scott.borderieux@dep.state.fl.us
Danielle D. Henry, Florida DEP Southwest District, danielle.d.henry@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Cathy Rodriguez July 14, 2017
(Clerk) (Date)

FACILITY DESCRIPTION

The existing facility consists of the following emissions units.

Facility ID No. 1050046

ID No.	Emission Unit Description
Regulated Emissions Units	
001	No. 3 Fertilizer (DAP/MAP) Plant
002	No. 4 Fertilizer Shipping Plant
004	No. 3 Fertilizer Shipping Plant
010	Wet Phosphoric Acid Plant (No. 4 & No. 5 combined)
012	No. 4 Sulfuric Acid Plant
021	No. 4 Fertilizer Plant
032	No. 6 Sulfuric Acid Plant
033	No. 5 Sulfuric Acid Plant
045	Molten Sulfur System - Stack 45 (Pit A), 200 ton molt sulf pit
046	Molten Sulfur Storage - Vent 44 from 6,000 ton tank
047	Molten Sulfur System (Vent from 3,000 ton surge tank)
050	Molten Sulfur System - Stack 47 (Pit B), 300 ton molt sulf pit
052	Phosphogypsum Stack
073	NG Fired 75 mmBtu/hr boiler at Greenbay
Unregulated Emissions Units and Activities	
051	Cleaver Brooks Package Watertube Boiler
053	Facility Wide Unregulated Emissions
061	Waste Heat Boiler Blowdown/Flash Tank Discharge
062	Tank Truck Loading/Unloading of Sulfuric Acid
063	Industrial Cooling Towers
064	Process and Product Storage Tanks
065	Auxiliary Power Generators and Diesel Fuel Tank
066	Molten Sulfur Fires and Spill Cleanup
067	VOC From Solvent Cleaning of Small Parts
068	Welding, Grinding, and Cutting Metal for Maintenance
069	Fugitive Dust/Exhaust Emissions From Maint. Vehicles
070	Misc. Painting and Relining Rubber-Lined Vessels
071	Vehicle Fleet Fuel Storage Tanks
072	Sulfuric Acid Plant Catalyst Removal and Classifying
074	New Stationary Emergency CI RICE
075	Existing Emergency CI RICE > 500 hp
076	Existing Emergency CI RICE < or equal to 500 hp
077	Existing Non-Emergency CI RICE 100 < hp < 500
078	Existing Non-Emergency Stationary CI RICE < 100 hp
079	Green Bay Phosphogypsum Stacks I & II

PROPOSED PROJECT

This project refurbishes Sulfuric Acid Plant (SAP) #6 (EU 032) by making improvements to the final absorption tower internals and installing a redesigned replacement in kind super-heater in the heat recovery system (HRS) associated with the IPA tower. The project also includes general maintenance and repair including converter catalyst change and augmentation along with repair and replacement of ducts, pumps and other ancillary equipment.

This project will modify the following emissions units.

Facility ID No. 1050046	
ID No.	**Emission Unit Description**
032	No. 6 Sulfuric Acid Plant

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- The facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.

PERMIT HISTORY/AFFECTED PERMITS

This permit references current Title V Air Operation Permit 1050046-042-AV.

ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Southwest District of the Department of Environmental Protection (Department). The mailing address, phone number and e-mail address is:

   Florida Department of Environmental Protection
   Southwest District Office
   Air and Solid Waste Permitting Program
   13051 North Telecom Parkway, Suite 101
   Temple Terrace, Florida 33637-0926
   Telephone: 813-470-5700
   E-mail: SWD_Air_Permitting@dep.state.fl.us

   All documents related to applications for permits shall be submitted to the above e-mail address and/or address.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Florida Department of Environmental Protection (Department), Southwest District Office's Compliance Assurance Program. The mailing address, phone number and e-mail address is:

   Florida Department of Environmental Protection
   Southwest District Office
   Compliance Assurance Program
   13051 North Telecom Parkway, Suite 101
   Temple Terrace, Florida 33637-0926
   Telephone: 813-470-5700
   E-mail: SWD_Air@dep.state.fl.us

3. Appendices: The following Appendices are attached as a part of this permit:
   - Appendix A (Citation Formats and Glossary of Common Terms);
   - Appendix B (General Conditions);
   - Appendix C (Common Conditions);
   - Appendix D (Common Testing Requirements);
   - Appendix E (40 CFR 60 Subpart A – General Provisions); and
   - Appendix F (40 CFR 60 Subpart H – Standards of Performance for Sulfuric Acid Plants).

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.
[Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification.
[Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Construction and Expiration. The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires.
[Rules 62-4.070(4), 62-4.080 & 62-210.300(1), F.A.C.]

8. Source Obligation:
   a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.
   b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

   [Rule 62-212.400(12), F.A.C.]

9. Actual Emissions Reporting: This permit is based on an analysis that compared baseline actual emissions with projected actual emissions and avoided the requirements of subsection 62-212.400(4) through (12), F.A.C. for several pollutants. Therefore, pursuant to Rule 62-212.300(1)(e), F.A.C., the permittee is subject to the following monitoring, reporting and recordkeeping provisions.

   a. The permittee shall monitor the emissions of any PSD pollutant that the Department identifies could increase as a result of the construction or modification and that is emitted by any emissions unit that could be affected; and, using the most reliable information available, calculate and maintain a record of the annual emissions, in tons per year on a calendar year basis, for a period of 5 years following resumption of regular operations after the change. Emissions shall be computed in accordance with the provisions in Rule 62-210.370, F.A.C., which are provided in Appendix C of this permit.

   b. The permittee shall report to the Department within 60 days after the end of each calendar year during the 5-year period setting out the unit's annual emissions during the calendar year that preceded submission of the report. The report shall contain the following:

      1) The name, address and telephone number of the owner or operator of the major stationary source;
      2) The annual emissions calculations pursuant to the provisions of 62-210.370, F.A.C., which are provided in Appendix C of this permit;
      3) If the emissions differ from the preconstruction projection, an explanation as to why there is a difference; and
      4) Any other information that the owner or operator wishes to include in the report.

   c. The information required to be documented and maintained pursuant to subparagraphs 62-212.300(1)(e)1 and 2, F.A.C., shall be submitted to the Department, which shall make it available for review to the general public.

   For this project, the permit requires the annual reporting of actual Nitrogen Oxides, Sulfur Dioxide and Sulfuric Acid Mist emissions for the following unit: EU 032 - No. 6 Sulfuric Acid Plant.

   [Application 1050046-049-AC; and Rules 62-212.300(1)(e) and 62-210.370, F.A.C.]

10. Application for Title V Air Operation Permit: This permit authorizes modification of the permitted emissions unit(s) and initial operation to determine compliance with Department rules. A Title V air operation permit is required for continued operation of the permitted emissions unit(s). The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation or commencing operation as modified. Commencing operation means setting into operation of any emissions unit for any purpose. To apply for a Title V air operation permit, the applicant shall submit the following:

    a. the appropriate permit application form *(see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: http://www.dep.state.fl.us/air/)*; and

    b. a copy of the initial compliance test report(s) required by Specific Condition No. A.6., if not previously submitted.

    The application shall be submitted to the Permitting Authority.

    [Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]

11. Electronic Annual Operating Report and Title V Annual Emissions Fees. The information required by the Annual Operating Report for Air Pollutant Emitting Facility [Including Title V Source Emissions Fee Calculation] (DEP Form No. 62-210.900(5)) shall be submitted by April 1 of each year, for the previous calendar year, to the Department of Environmental Protection's (DEP) Division of Air Resource Management. Each Title V source shall submit the annual operating report using the DEP's Electronic Annual Operating Report (EAOR) software, unless the Title V source claims a technical or financial hardship by submitting DEP Form No. 62-210.900(5) to the DEP Division of Air Resource Management instead of using the reporting software. Emissions shall be computed in accordance with the provisions of subsection 62-210.370(2), F.A.C. Each Title V source must pay between January 15 and April 1 of each year an annual emissions fee in an amount determined as set forth in subsection 62-213.205(1), F.A.C. The annual fee shall only apply to those regulated pollutants, except carbon monoxide and greenhouse gases, for which an allowable numeric emission-limiting standard is specified in the source's most recent construction permit or operation permit. Upon completing the required EAOR entries, the EAOR Title V Fee Invoice can be printed by the source showing which of the reported emissions are subject to the fee and the total Title V Annual Emissions Fee that is due. The submission of the annual Title V emissions fee payment is also due (postmarked) by April 1st of each year. A copy of the system-generated EAOR Title V Annual Emissions Fee Invoice and the indicated total fee shall be submitted to: **Major Air Pollution Source Annual Emissions Fee, Post Office Box 3070, Tallahassee, Florida 32315-3070**. Additional information is available by accessing the Title V Annual Emissions Fee On-line Information Center at the following Internet web site: http://www.dep.state.fl.us/air/emission/tvfee.htm. [Rules 62-210.370(3), 62-210.900 & 62-213.205, F.A.C.; and, §403.0872(11), Florida Statutes (2013)]
{Permitting Note: Resources to help you complete your AOR are available on the electronic AOR (EAOR) website at: http://www.dep.state.fl.us/air/emission/eaor. If you have questions or need assistance after reviewing the information posted on the EAOR website, please contact the Department by phone at (850) 717-9000 or email at eaor@dep.state.fl.us.}

{Permitting Note: The Title V Annual Emissions Fee form (DEP Form No. 62-213.900(1)) has been repealed. ***A separate Annual Emissions Fee form is no longer required to be submitted by March 1st each year.****}*

A. EU 032, No. 6 Sulfuric Acid Plant

This section of the permit addresses the following emissions unit.

EU No.	Emission Unit Description
032	No. 6 Sulfuric Acid Plant Sulfur dioxide emissions are controlled by a dual absorption tower, and acid mist is controlled by high volume (HV) and high efficiency (HE) mist eliminators. Each plant produces a maximum of 2600 tons per day of sulfuric acid (100% H_2SO_4 basis).

FEDERAL REGULATIONS

A.1. Federal Regulatory Requirements: This emission unit is subject to 40 CFR 60, Subpart H—Standards of Performance for Sulfuric Acid Plants, which is adopted by reference in Rule 62-204.800, F.A.C.
[Rule 62-204.800(8), F.A.C.]

EQUIPMENT

A.2. No. 6. Sulfuric Acid Plant Maintenance, Repair & Upgrade: The permittee is authorized to install improvements to the final absorption tower internals, a redesigned replacement in-kind super-heater in the heat recovery system (HRS) associated with the IPA tower and perform typical turnaround work such as converter catalyst change and augmentation, repair and replacement of ancillary ducts, pumps, etc. in No. 6 Sulfuric Acid Plant (SAP6), Emissions Unit No. 032.
[Application No. 1050046-049-AC]

PERFORMANCE RESTRICTIONS

A.3. Permitted Capacity: The production rate of sulfuric acid for each plant, measured as 100% H_2SO_4, shall not exceed 2600 tons per day (108.33 tons/hr daily average basis).
[Rules 62-4.160(2), 62-204.800, 62-210.200(PTE), F.A.C.; and, Air Construction Permit No. AC53-271436/PSD-FL-229.]

A.4. Restricted Operation: The hours of operation are not limited (8760 hours per year).
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]

EMISSIONS STANDARDS

A.5. Emissions Standards:

a. Visible Emissions. Visible emissions from each plant shall not exceed 10% opacity. The visible emissions test shall be conducted by a certified observer and be a minimum of thirty minutes in duration, unless otherwise specified. The test observation period shall include the period during which the highest opacity can reasonably be expected to occur.
[Rule 62-204.800(8)(b)., F.A.C., Rule 62-297.310(5)(b), and 40 CFR 60.83(a)(2)]

b. NO_X Emissions. Nitrogen oxide (NO_X) emissions from each plant shall not exceed 0.12 pounds per ton of 100% H_2SO_4 produced, or 13.0 pounds per hour or 57 tons per year.
[Construction Permit No. AC53-271436/PSD-FL-229]

c. SO_2 Emissions. Sulfur Dioxide emissions from each plant shall not exceed 4 pounds per ton of 100% H_2SO_4 produced, or 433.3 pounds per hour or 1898 tons per year.
[Rule 62-204.800(8)(b), F.A.C.; 40 CFR 60.82(a), and Air Construction Permit No. AC53-271436/PSD-FL-229]

d. H_2SO_4 Mist Emissions. Sulfuric Acid Mist (SAM) emissions from each plant shall not exceed 0.15 pounds per ton of 100% H_2SO_4 produced, or 16.25 pounds per hour or 71.2 tons per year. [Rule 62-204.800(8)(b), F.A.C., 40 CFR 60.83(a)(1), and Air Construction Permit No. AC53-271436/PSD-FL-229]

TESTING REQUIREMENTS

A.6. Initial Compliance Tests: The emissions unit shall be tested to demonstrate initial compliance with the emissions standards for Nitrogen Oxides, Sulfur Dioxide, Sulfuric Acid Mist and Visible Emissions. The initial tests shall be conducted within 60 days after returning to permitted capacity, but not later than 180 days after initial operation of the unit.
[Rules 62-4.070(3) and 62-297.310(8)(b)1, F.A.C.]

A.7. Annual Compliance Tests: During each calendar year (January 1st to December 31st), the emissions unit shall be tested to demonstrate compliance with the emissions standards for Sulfur Dioxide, Sulfuric Acid Mist and Visible Emissions.
[Rule 62-297.310(8)(a)1, F.A.C.]

A.8. Test Requirements: The permittee shall notify the Compliance Authority in writing at least 15 days prior to any required tests. Tests shall be conducted in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310(9), F.A.C.]

A.9. Test Methods: Required tests shall be performed in accordance with the following reference methods.

Method	Description of Method and Comments
1-4	Traverse Points, Velocity and Flow Rate, Gas Analysis, and Moisture Content
7E	Determination of Nitrogen Oxide Emissions from Stationary Sources
8	Determination of Sulfuric Acid Mist and Sulfur Dioxide Emissions from Stationary Sources
9	Visual Determination of the Opacity of Emissions from Stationary Sources

The above methods are described in Appendix A of 40 CFR 60 and are adopted by reference in Rule 62-204.800, F.A.C. No other methods may be used unless prior written approval is received from the Department.

[Rules 62-204.800, F.A.C.; and Appendix A of 40 CFR 60]

MONITORING REQUIREMENTS

A.10. SO_2 CEMS. For each plant, a continuous emission monitoring system for the measurement of sulfur dioxide shall be calibrated, maintained and operated as specified in 40 CFR 60.84. The span value of the continuous monitor shall be set at 1000 ppm. The permittee shall determine emissions in the units of the applicable standard (lb/ton) in accordance with 40 CFR 60.84(b) or (d).
[Rule 62-204.800(7)(b)10, F.A.C.; 40 CFR 60.84]

NOTIFICATION REQUIREMENTS

A.11. Notification of Operation Commencement: The permittee shall notify the Compliance Authority in writing of the date of commencing operation of the EU No. 032 after completing the modifications authorized by this permit, no later than fifteen (15) days after that date. Commencing operation means setting into operation of any emissions unit for any purpose.
[Rules 62-4.070, and 62-210.200, F.A.C., (definition of Commence Operation)]

RECORDS AND REPORTS

A.12. Test Reports: The permittee shall prepare and submit reports for all required tests in accordance with the requirements specified in Appendix D (Common Testing Requirements) of this permit.
[Rule 62-297.310(10), F.A.C.]

{Permitting Note: EU No. 032 remains subject to all valid conditions contained in the current Title V Air Operation permit.}

Appendix F – Mosaic Bartow Air Construction Permit (1050046-058-AC)

FLORIDA DEPARTMENT OF
Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

PERMITTEE

Bartow Facility
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, Florida 33547

Authorized Representative:
Mr. Jeraud Dominic, General Manager

Permit No. 1050046-058-AC
Permit Expires: December 31, 2019
Bartow Facility
Turnaround & Catalyst Change/Augmentation
Sulfuric Acid Plant No. 5
Polk County

PROJECT

This is the final air construction permit to authorize the Turnaround & Catalyst Change/Augmentation along with other work on Sulfuric Acid Plant (SAP) No. 5 at the Bartow Facility. Some of the work on SAP No. 5 is necessary to comply with the sulfur dioxide (SO_2) emission cap of 1,100 pounds per hour that comes into force no later than August 31, 2019 and applies to the total emissions of SO_2 from all three SAPs at the Bartow facility. The Bartow Facility is an existing phosphate fertilizer manufacturer categorized under Standard Industrial Classification Number (No.) 2874. The existing facility is located in Polk County at 3200 Hwy 60 West in Bartow, Florida. UTM Coordinates are: Zone 17, 409.77 East and 3087.26 North. Latitude is: 27° 54' 25.938" North; and, Longitude is: 81° 55' 0.9691" West.

This final permit is organized into the following sections: Section 1 (General Information); Section 2 (Administrative Requirements); Section 3 (Emissions Unit Specific Conditions); and Section 4 (Appendices). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix CF of Section 4 of this permit

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction requirements for major new source review in Chapter 62-212, F.A.C.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

David Lyle Read, P.E.
2018.07.10 08:58:33 -04'00'

For:
Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr

www.dep.state.fl.us

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this final air permit package (including the Final Determination and Final Permit with Appendices) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Mr. Jeraud Dominic, Mosaic Fertilizer, LLC: jerry.dominic@mosaicco.com
Mr. Veronicas Figueroa, P.E., Mosaic Fertilizer, LLC: Veronica.Figueroa@mosaicco.com
DEP SWD: SWD_Air_Permitting@dep.state.fl.us
Mr. Steve Morgan, DEP SWD: Steve.Morgan@dep.state.fl.us
EPA Region 4 NSR/PSD: NSRsubmittals@epa.gov
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

SECTION 1. GENERAL INFORMATION

FACILITY DESCRIPTION

This existing Mosaic Bartow facility consists of one phosphoric acid plant (two trains), one monoammonium phosphate/diammonium phosphate (MAP/DAP) plant, one DAP fertilizer plant, three sulfuric acid plants (SAP), two fertilizer shipping plants, an auxiliary boiler and a molten sulfur storage and handling system. This facility consists of the regulated emissions units shown below. The emission unit affected by this permitting action is highlighted in yellow.

LIST OF EMISSION UNITS.

EU No.	Brief Description
Regulated Emissions Units	
001	No. 3 Fertilizer (DAP/MAP) Plant
002	No. 4 Fertilizer Shipping Plant
004	No. 3 Fertilizer Shipping Plant
010	Wet Phosphoric Acid Plant (No. 4 & No. 5 combined)
012	No. 4 Sulfuric Acid Plant
021	No. 4 Fertilizer Plant
032	No. 6 Sulfuric Acid Plant
033	No. 5 Sulfuric Acid Plant
045	Molten Sulfur System - Stack 45 (Pit A), 200-ton molt sulf pit
046	Molten Sulfur Storage - Vent 44 from 6,000-ton tank
047	Molten Sulfur System (Vent from 3,000-ton surge tank)
050	Molten Sulfur System - Stack 47 (Pit B), 300-ton molt sulf pit
052	Phosphogypsum Stack
073	NG Fired 75 mmBtu/hr boiler at Greenbay
074	New Stationary Emergency CI RICE
075	Existing Emergency CI RICE > 500 hp
076	Existing Emergency CI RICE < or equal to 500 hp
077	Existing Non-Emergency CI RICE 100 < hp < 500
078	Existing Non-Emergency Stationary CI RICE < 100 hp

PROPOSED PROJECT

The purpose of the proposed project is to authorize the Turnaround & Catalyst Change and Augmentation along with other work on SAP No. 5 at the Bartow Facility. Some of the work on SAP No. 5 is necessary to comply with the sulfur dioxide (SO_2) emission cap of 1,100 pounds per hour that comes into force no later than August 31, 2019 and applies to the total emissions of SO_2 from all three SAPs at the Bartow facility.

FACILITY REGULATORY CLASSIFICATION

- The existing facility is a major source of hazardous air pollutants (HAP).
- The existing facility is a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The existing facility is a major stationary source in accordance with Rule 62-212.400 (PSD), F.A.C. This project as proposed is not a 'major modification.'
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act (CAA).

- The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.
- The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

SECTION 2. ADMINISTRATIVE REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.

2. Compliance Authority: All documents related to compliance activities such as reports, tests, and notifications shall be submitted to the Compliance Authority, the Department's Southwest District (SWD). The Compliance Authority's mailing address is:

   Southwest District Office
   13051 N. Telecom Parkway
   Temple Terrace, FL 33637-0926
   Telephone: 813/470/5700, Fax: 813/470/5995

3. Appendices: The following Appendices are attached as a part of this permit and the permittee must comply with the requirements of the appendices:
   a. Appendix A. Citation Formats and Glossary of Common Terms;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and
   d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures: Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions: For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]

6. Modifications: The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) and 62-212.300(1)(a), F.A.C.]

7. Application for Title V Permit: This permit authorizes construction of the permitted emissions units and initial operation to determine compliance with Department rules. A Title V air operation permit is required for regular operation of the permitted emissions unit. The permittee shall apply for a Title V air operation permit at least 90 days prior to expiration of this permit, but no later than 180 days after commencing operation. To apply for a Title V operation permit, the applicant shall submit the appropriate application form, compliance test results, and such additional information as the Department may by law require. The application shall be submitted to the appropriate Permitting Authority with copies to the Compliance Authority. [Rules 62-4.030, 62-4.050 and Chapter 62-213, F.A.C.]

8. Construction and Expiration: The expiration date shown on the first page of this permit provides time to complete the physical construction activities authorized by this permit, complete any necessary compliance testing, and obtain an operation permit. Notwithstanding this expiration date, all specific emissions limitations and operating requirements established by this permit shall remain in effect until the facility or emissions unit is permanently shut down. For good cause, the permittee may request that a permit be extended. Pursuant to Rule 62-4.080(3), F.A.C., such a request shall be submitted to the Permitting Authority in writing before the permit expires. [Rules 62-4.070(3) & (4), 62-4.080 & 62-210.300(1), F.A.C.]

9. Objectionable Odors Prohibited: No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

   {Note: An objectionable odor is defined in Rule 62-210.200(Definitions), F.A.C., as any odor present in the outdoor atmosphere which by itself or in combination with other odors, is or may be harmful or injurious to human health or welfare, which unreasonably interferes with the comfortable use and enjoyment of life or property, or which creates a nuisance.}

10. Unconfined Emissions of Particulate Matter: No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Any permit issued to a facility with emissions of unconfined particulate matter shall specify the reasonable precautions to be taken by that facility to control the emissions of unconfined particulate matter. General reasonable precautions include the following: a. Paving and maintenance of roads, parking areas and yards; b. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing; c. Application of asphalt, water, oil, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities; d. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from buildings or work areas to prevent particulates from becoming airborne; e. Landscaping or planting of vegetation; f. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter; g. Confining abrasive blasting where possible; and h. Enclosure or covering of conveyor systems.
    [Rule 62-296.320(4)(c), F.A.C.]

11. Source Obligation:

    a. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

    b. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by exceeding its projected actual emissions, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification.

    [Rule 62-212.400(12), F.A.C.]

PREVIOUS APPLICABLE REQUIREMENTS

12. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for this emissions unit. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions, rules and regulations. [Rule 62-4.070(1) & (3), Reasonable Assurance, F.A.C.]

SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS

A. SAP No. 5 (EU No. 033)

This subsection of the permit addresses the following emission unit:

EU No.	Brief Description
033	Sulfuric Acid Plant No. 5

SAP No. 5 is a sulfur burning plant of Leonard-Monsanto design. Sulfur is burned with dried atmospheric oxygen to produce SO_2. The SO_2 is then catalytically oxidized to sulfur trioxide (SO_3) over a catalyst bed. The SO_3 is then absorbed in sulfuric acid (H_2SO_4). The remaining SO_2, not previously oxidized, is passed over a final converter bed of catalyst and the SO_3 produced is then absorbed in H_2SO_4. Control of SO_2 emissions is achieved primarily through the chemical process itself. In a double absorption system, the conversion efficiency from SO_2 to SO_3 is at least 99.7%. SAP No. 5 uses a combination of vanadium/cesium catalyst in the converters. Sulfuric acid mist (SAM) emissions are controlled using high efficiency acid mist eliminators (demister pads) or impaction-type glass fiber collection devices. SAP No. 5 is a double absorption, and double absorption plant with a four-pass converter and hot, cold pass heat exchangers, economizers, superheaters, waste heat boilers, interpass absorber (IPA) heat recovery system (HRS) superheater and other process equipment. SAP No. 5 is permitted to produce a maximum of 2,600 tons per day (TPD) of 100 percent H_2SO_4 and is permitted to operate continuously (8,760 hours per year).

{Permitting note: This emission unit is regulated under NSPS - 40 CFR 60, Subpart H, Standards of Performance for Sulfuric Acid, adopted and incorporated by reference in Rule 62-204.800(7)(b)10., F.A.C.; Rule 62-212.300, F.A.C., General Preconstruction Review Requirements; Rule 62-212.400, F.A.C., Prevention of Significant Deterioration (PSD); Rule 62-2212.400, F.A.C., General Pollutant Emission Limiting Standards; and Rule 296.402, F.A.C., Sulfuric Acid Plant.}

AUTHORIZED PHYSICAL CHANGES

1. Turnaround Work on SAP No. 5: The following work is authorized to take place on SAP No. 5 during is turnaround which is scheduled to take place during September 2018:
   a. Replace the IPA HRS superheater to improve the overall reliability of the HRS unit and catalyst longevity. The re-designed HRS superheater will maintain the same operating parameters and heat duty as the existing superheater, but will physically change from square to cylindrical shape for improved reliability;
   b. Modify the drying tower packing to increase the efficiency of moisture removal;
   c. Restore the main blower turbine to its name plate capacity by improving turbine hardware;
   d. Evaluate converter catalyst conditions and perform catalyst changes and augmentation necessary to comply with current and future air operating permit emission limitations. The fourth bed catalyst will be changed and/or augmented as needed with enhanced cesium catalyst, along with any necessary changes to the catalyst in the other beds; and
   e. General maintenance, repair, and replacement of ducts, pumps, vessels, and other ancillary equipment as determined by turnaround inspections may be performed as part of this project

   [Permit Application No. 1050046-058-AC]
2. Permitted SAP Capacity: There is no authorization to increase the current permitted capacity of SAP No. 5 which is 2,600 TPD of 100% H_2SO_4. In addition, no increase in emission limits are authorized by this project. [Permit Application No. 1050046-058-AC; Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
3. Catalyst Configuration and Type: Within 45 days of commencing operation following the turnaround (including catalyst installation/augmentation and arrangement for the SAP), the permittee shall provide the following information to the Division and the Compliance Authority: the type of catalyst; the amount of catalyst and the catalyst arrangement within the convertor. [Rules 62-4.070(1) and (3) and 62-4.080, F.A.C.]
4. Work Status: The permittee shall notify the Compliance Authority within 5 business days prior to starting work on SAP No. 5. The permittee shall notify the Compliance Authority within 5 business days after the

turnaround (including catalyst installation and arrangement for the SAP) is completed. [Rules 62-4.070(1) and (3) and 62-4.080, F.A.C.]

COMPLIANCE DEMONSTRATION

5. Initial Compliance Demonstration: After the project's completion, SAP No. 5 shall be tested for initial compliance for nitrogen oxide (NO_X) and SAM emissions. The compliance demonstration report shall be submitted within 45 days of completion of the test. The permittee shall include in the report a statement as to whether or not SAP No. 5 is in compliance with the specific emission standards/limitations for NO_X and SAM. [Rules 62-4.070(1) & (3) and 62-297.310(10), F.A.C.]

6. Test Methods and Procedures: The test methods and procedures specified in the current, valid Title V air operation permit shall be used for the initial compliance demonstration under this permit. [Rules 62-4.070(1) & (3); 62-4.030; and, 62-4.210, F.A.C.]

REPORTING

7. Reporting: The permittee shall notify the compliance authority of when the project was completed. [Rule 62-4.070(1) & (3), F.A.C.]

Appendix G – Mosaic Bartow Air Construction Permit (1050046-050-AC)

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Noah Valenstein
Secretary

PERMITTEE

Mosaic Fertilizer, LLC
Bartow Facility

Authorized Representative:
Mr. Jeraud Dominic, General Manager

Permit No. 1050046-050-AC
Permit Expires: October 31, 2019

Project: Minor Source Air Construction Permit
1-hour SO_2 NAAQS Compliance

Polk County, Florida

PROJECT

This is the final air construction (AC) permit, which authorizes sulfuric acid plant numbers 4, 5 & 6 to comply with the U.S. EPA's 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) final rule (Project). This facility is an existing phosphate fertilizer manufacturing facility categorized under Standard Industrial Classification No. 2874. The existing Bartow Facility is in Polk County at 3200 Highway 60 West in Bartow, Florida. UTM coordinates are: Zone 17, 409.77 East and 3087.26 North. Latitude is: 27° 54' 25.938" North; and, Longitude is: 81° 55' 0.9691" West.

This final permit is organized into the following sections: Section I (General Information), Section II (Requirements); and, Section III (Emission(s) Unit(s) Specific Conditions). Because of the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section IV of this permit. [As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.]

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is not subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

David Lyle Read, P.E.
2017.07.03 09:34:15 -04'00'

For.

Syed Arif, P.E., Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/dlr/sms

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the persons listed below.

Mr. Jeraud Dominic, Mosaic Fertilizer, LLC: jerry.dominic@mosaicco.com
Mr. Rama K. Iyer, P.E., Mosaic Fertilizer, LLC: rama.iyer@mosaicco.com
Mr. Keith Nadaskay, Mosaic Fertilizer, LLC: keith.nadaskay@mosaicco.com
DEP SWD Office: SWD_Air@dep.state.fl.us & SWD_Air_Permitting@dep.state.fl.us
Mr. Hastings Read, DEP OBP: hastings.read@dep.state.fl.us
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us
U.S. EPA Region 4: R4TitleVFL@epa.gov

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

Lynn Scearce

2017.07.03 09:38:35 -04'00'

FACILITY DESCRIPTION

This existing facility consists of one phosphoric acid plant (two trains), one monoammonium phosphate/ diammonium phosphate (MAP/DAP) plant, one DAP fertilizer plant, three sulfuric acid plants, two fertilizer shipping plants, an auxiliary boiler and a molten sulfur storage and handling system.

Also included at this facility are miscellaneous insignificant emissions units and/or activities.

This project will affect the following *existing* permitted emissions units:

E.U. ID No.	Brief Description
012	No. 4 Sulfuric Acid Plant
032	No. 6 Sulfuric Acid Plant
033	No. 5 Sulfuric Acid Plant

FACILITY REGULATORY CLASSIFICATION

- The facility is a major source of hazardous air pollutants (HAP).
- This facility does not operate units subject to the acid rain provisions of the Clean Air Act.
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality.

PROPOSED PROJECT

This minor source air construction (AC) permit is for the sulfuric acid plant numbers 4, 5 & 6 to comply with the U.S. EPA's 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) final rule.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Minor Source Air Construction Permit Application received on June 9, 2017 (complete).

SECTION II. REQUIREMENTS

1. Permitting Authority: The permitting authority for this project is the Office of Permitting and Compliance, Division of Air Resource Management, Florida Department of Environmental Protection (Department). The mailing address for the Office of Permitting and Compliance is 2600 Blair Stone Road (MS #5505), Tallahassee, Florida 32399-2400.
2. Compliance Authority: All documents related to compliance activities, such as reports, tests, and notifications, shall be submitted to the Compliance Authority. The Compliance Authority is listed on the cover page of the Title V air operation permit.
3. Appendices. The following Appendices are attached as part of this permit:
   a. Appendix A. Citation Formats and Definitions;
   b. Appendix B. General Conditions;
   c. Appendix C. Common Conditions; and,
   d. Appendix D. Common Testing Requirements.
4. Applicable Regulations, Forms and Application Procedures. Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and, Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 & 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.
5. New or Additional Conditions. For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time. [Rule 62-4.080, F.A.C.]
6. Modifications. The permittee shall notify the Compliance Authority upon commencement of construction. No new emissions unit shall be constructed and no existing emissions unit shall be modified without obtaining an air construction permit from the Department. Such permit shall be obtained prior to beginning construction or modification. [Rules 62-210.300(1) & 62-212.300(1)(a), F.A.C.]
7. Source Obligation. At such time that a particular source or modification becomes a major stationary source or major modification (as these terms were defined at the time the source obtained the enforceable limitation) solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, then the requirements of subsections 62-212.400(4) through (12), F.A.C., shall apply to the source or modification as though construction had not yet commenced on the source or modification. [Rule 62-212.400(12), F.A.C.]
8. Construction. The permittee, for good cause, may request that this construction permit be extended. Such a request shall be submitted to the Department's Office of Permitting and Compliance prior to the expiration of this permit. [Rules 62-210.300(1), 62-4.070(4) 62-4.080, and 62-4.210, F.A.C.]

SECTION III. EMISSION(S) UNIT(S) SPECIFIC CONDTIONS

Subsection A. Sulfuric Acid Plant Nos. 4, 5 & 6 (Emission Units 012, 033 & 032)

This subsection of the permit addresses the following emission units:

E.U. ID No.	Brief Description
012	No. 4 Sulfuric Acid Plant
032	No. 6 Sulfuric Acid Plant
033	No. 5 Sulfuric Acid Plant

This permit is for the addition of an SO_2 emission limit applicable to Sulfuric Acid Plant Nos. 4, 5 & 6. This emission limit is based on an allowable SO_2 emissions rate that demonstrates compliance with the U.S. Environmental Protection Agency's (U.S. EPA's) 2010 1-hour sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) final rule. Compliance with the new SO_2 emission limit shall occur on or before **August 31, 2019**.

No new or modified equipment (physical changes) or changes in methods of operation associated with this project (SO_2 emission limit addition) are authorized under this permit. No changes are authorized to any of the sulfuric acid plant stacks, e.g., stack height, diameter.

PREVIOUS APPLICABLE REQUIREMENTS

1. Effect on Other Permits: The conditions of this permit supplement all previously issued air construction and operation permits for these emissions units. Unless otherwise specified, these conditions are in addition to all other applicable permit conditions and regulations. [Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

PERMITTED CAPACITIES

2. Permitted Capacities: The permitted capacities of the SAPs shall remain the same. [Application No. 1050046-050-AC; and, Rule 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.]

SO_2 EMISSION LIMIT

3. SO_2 Emission Limit: The following SO_2 emission limit applies to the Sulfuric Acid Plant (SAP) Nos. 4, 5 & 6:
   a. When all three SAPs are in operation within the same 24-hour block averaging period, a cap of 1,100 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) is applicable; and,
   b. The cap of 1,100 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) applies in scenarios when any combination of any number of the SAPs are not in operation and when any number of the SAPs are in operation.

   Any requested revisions to this emission limit requires air dispersion modelling review and written approval from the Department's Meteorology and Air Modeling Section in the Office of Business Planning to confirm SO_2 NAAQS compliance. [Rule 62-4.030, *General Prohibition*, F.A.C.; and, Rule 62-4.210, *Construction Permits*, F.A.C.; and, Application No. 1050046-050-AC.]

COMPLIANCE REQUIREMENTS

4. Initial Compliance: These emission units shall use certified SO_2 CEMS data to demonstrate initial compliance with the new SO_2 emission limit. [Rules 62-4.070(1)&(3), *Reasonable Assurance*, F.A.C.; and, Application No. 1050046-050-AC.]

5. Recordkeeping: The permittee shall keep records of the initial compliance demonstration. The records shall include the SO_2 CEMS data along with the sulfuric acid production rate (TPH, tons per hour) during the demonstration. Any reports shall be prepared in accordance with the applicable requirements specified in Appendix D (Common Testing Requirements) of this permit. [Rule 62-297.310(10), F.A.C.; and, Application No. 1050046-050-AC.]

Appendix H – Mosaic Bartow Administrative Permit Correction (1050046-063-AC)

FLORIDA DEPARTMENT OF
Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

NOTICE OF ADMINISTRATIVELY CORRECTED PERMIT

In the Matter of a Request for Administrative Permit Correction:

Mr. Jeraud Dominic, General Manager
Mosaic Fertilizer, LLC
13830 Circa Crossing Drive
Lithia, Florida 33547

Project Nos. 1050046-063-AC & 1050046-064-AV
Administrative Corrections to Permit Nos.
1050046-050-AC & 1050046-051-AV, Respectively
Bartow Facility
Polk County

Enclosed are Administrative Corrections to air construction permit No. 1050046-050-AC and Title V air operation permit No. 1050046-051-AV (and similar corrective language in subsequent permit revision Nos. 1050046-053-AV, 1050046-056-AV, and 1050046-061-AV), for the operation of the Mosaic Fertilizer Bartow Facility, which is located in Polk County at 3200 Highway 60 West in Bartow, Florida. This administrative permit correction is issued pursuant to Rule 62-210.360, Florida Administrative Code (F.A.C.), and Chapter 403, Florida Statutes (F.S.). These changes are being made in consultation with the permittee to remove unnecessary and confusing language from the sulfur dioxide emissions limiting conditions contained in the above referenced permits. This permitting action does not authorize any new or additional construction, nor does it alter any previously established/extended expiration dates.

The Department of Environmental Protection (Department) will consider the above-noted action final unless a timely petition for an administrative hearing is filed pursuant to Sections 120.569 and 120.57, F.S. Mediation under Section 120.573, F.S., will not be available for this proposed action.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Department's Office of General Counsel, 3900 Commonwealth Boulevard, MS #35, Tallahassee, Florida 32399-3000, Agency_Clerk@dep.state.fl.us, before the deadline. Petitions filed by the permit applicant or any of the parties listed below must be filed within 14 (fourteen) days of receipt of this notice. Petitions filed by any other person must be filed within 14 (fourteen) days of receipt of this proposed action. A petitioner must mail a copy of the petition to the applicant at the address indicated above, at the time of filing. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, and telephone number of the petitioner; the name, address and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact.

If there are none, the petition must so indicate; (e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the

Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the permitting authority's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the permitting authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Any party to this order (permit) has the right to seek judicial review of it under Section 120.68, F.S., by the filing of a Notice of Appeal, under Rule 9.110 of the Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida, 32399-3000; and, by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal.

The Notice of Appeal must be filed within thirty days from the date this notice is filed with the Clerk of the permitting authority (or within 30 days from the date this becomes a final action if a petition is filed as described above). Questions pertaining to this permitting action should be addressed to Jon Holtom, PE, Florida Department of Environmental Protection, Office of Permitting and Compliance by phone at (850) 717-9079 or by email at jon.holtom@dep.state.fl.us.

Executed in Tallahassee, Florida.

Jonathan Holtom

Digitally signed by Jonathan Holtom, P.E.
Date: 2019.01.11 10:37:40 -05'00'

for:

Syed Arif, P.E, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

SA/jh

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Notice of Administratively Corrected Permit or a link to these documents available electronically on a publicly accessible server, was sent by electronic mail with received receipt requested to the persons listed below:

Mr. Jeraud Dominic, General Manager, Mosaic Fertilizer, LLC: jerry.dominic@mosaicco.com
Mr. Santino Provenzano, Senior Env. Manager, Mosaic Fertilizer, LLC: santino.provenzano@mosaicco.com
Ms. Veronica Figuero, Senior Env. Specialist, Mosaic Fertilizer, LLC: veronica.Figueroa@mosaicco.com
DEP SWD Office: DEP_SWD@dep.state.fl.us
Mr. Hastings Read, DEP - TAL: hastings.read@dep.state.fl.us
EPA Region 4: R4TitleVFL@epa.gov
Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to §120.52(7), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

Lynn Scearce

Digitally signed by Lynn Scearce
Date: 2019.01.11 10:52:45 -05'00'

Project No. 1050046-063-AC:

Permit Being Corrected: **1050046-050-AC**. Pursuant to the applicant's request to remove unnecessary and confusing language, Specific Condition 3. of Section III, Subsection A. is administratively corrected as follows:

3. SO_2 Emission Limit: The following SO_2 emission limit applies to the Sulfuric Acid Plant (SAP) Nos. 4, 5 & 6:
   a. When all three SAPs are in operation within the same 24-hour block averaging period, a cap of 1,100 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) is applicable; and,
   b. The cap of 1,100 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) applies in scenarios when any combination of any number of the SAPs are not in operation and when any number of the SAPs are in operation.

   ~~Any requested revisions to this emission limit requires air dispersion modelling review and written approval from the Department's Meteorology and Air Modeling Section in the Office of Business Planning to confirm SO_2 NAAQS compliance.~~ [Rules 62-4.030, *General Prohibition*, F.A.C. & Rule 62-4.210, *Construction Permits*, F.A.C.; ~~and,~~ Application No. 1050046-050-AC; and, Administrative Permit Correction Application No. 1050046-063-AC.]

Project No. 1050046-064-AV:

Permit Being Corrected: **1050046-051-AV** (and similar language in subsequent permit revision No. 1050046-053-AV, 1050046-056-AV and 1050046-061-AV). Pursuant to the applicant's request to remove unnecessary and confusing language, Specific Condition **E.6.1.** of Section III, Subsection E. is administratively corrected as follows:

E.6.1. This condition applies after initial compliance has been demonstrated, yet no later than August 31, 2019. SO_2 Emission Limit: The following SO_2 emission limit applies to the Sulfuric Acid Plant (SAP) Nos. 4, 5 & 6:
   a. When all three SAPs are in operation within the same 24-hour block averaging period, a cap of 1,100 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) is applicable; and,
   b. The cap of 1,100 lb SO_2/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.) applies in scenarios when any combination of any number of the SAPs are not in operation and when any number of the SAPs are in operation.

   ~~Any requested revisions to this emission limit requires air dispersion modelling review and written approval from the Department's Meteorology and Air Modeling Section in the Office of Business Planning to confirm SO_2 NAAQS compliance.~~ [Rule 62-4.030, *General Prohibition*, F.A.C. & Rule 62-4.210, *Construction Permits*, F.A.C.; ~~and,~~ Permit No. 1050046-050-AC; and, Administrative Permit Correction No. 10500046-063-AC.]

A copy of this administrative permit correction shall be kept on file with air construction permit No. 1050046-050-AC and Title V air operation permit renewal No. 1050046-051-AV (and subsequent permit revision Nos. 1050046-053-AV, 1050046-056-AV & 1050046-061-AV). A full update to the Title V air operation permit will occur the next time the permit is opened for revision or renewal.

Appendix I – Supplemental Air Quality Modeling Demonstration with Mulberry, FL Unclassifiable Area Receptors

The Department utilized air dispersion modeling to demonstrate that the SO_2 emissions caps imposed by the New Wales permits and the Bartow permits, once effective, will provide for attainment and maintenance of the 2010 SO_2 NAAQS in the area around the New Wales facility in Hillsborough and Polk counties. This modeling is discussed in the Department's the December 1, 2017 SIP submittal.

EPA has requested additional justification for excluding certain intermittent and background sources at the TECO Polk, Mosaic Bartow, and Mosaic South Pierce facilities. This additional information is provided below.

Because the Department is also requesting redesignation of the Mulberry, FL Unclassifiable Area around the Bartow facility in Hillsborough and Polk Counties, the Department performed updated modeling including receptors surrounding the Bartow facility and encompassing the entire unclassifiable area. All other aspects of this modeling (e.g. model version, modeled facilities, meteorological inputs, building downwash, background concentrations, etc.) are identical to the original December 1, 2017 SIP submittal modeling; please refer to the December 1, 2017 SIP submittal for a discussion of these aspects of the modeling. Only the receptor grid has been updated and is discussed below.

1. Intermittent Sources

EPA has requested additional information to support excluding the TECO Polk Solid Fuel Gasification System (EU006) from the modeling as an intermittent source of SO_2 and excluding the Mosaic Bartow and Mosaic South Pierce Molten Sulfur Systems from the modeling demonstration as negligible sources of SO_2.

a. TECO Polk EU006

TECO Polk's EU006 converts solid fuel (coal or blends of up to 85 percent petroleum coke and 15 percent bituminous coal) into syngas for combustion in the combined cycle combustion turbine for the purpose of electric generation. The combined cycle combustion turbine was also recently permitted to increase hours run on natural gas.[1] As an emergency safety device, a flare combusts excess syngas from EU006 during startup, shutdown, and emergencies. The SO_2 emissions from EU006 are exclusively from the combustion of syngas during emergency flare operation.

Although the EU006 gasification system operates to create syngas approximately 8,000 hours per year, the emergency flare that is part of the system is only permitted to operate during startup, shutdown, or emergencies.[2] Startups, shutdowns, and emergencies are intermittent modes of operation that only accounted for 102 hours in 2016 and 121 hours in 2017 per year of operation. In addition, all the SO_2 emissions at the flare are from the combustion of syngas during flaring. Therefore, the EU006 unit is an intermittent source of SO_2 emissions and it is appropriate modeling judgment to exclude those emissions from the model per EPA guidance.[3]

[1] *See* Air Construction Permit No. 1050233-042-AC, issued by the Florida Department of Environmental Protection on October 5, 2016.
[2] *See* Title V Permit No. 1050233-045-AV, issued by the Florida Department of Environmental Protection on October 12, 2017.
[3] *See* Additional Clarification Regarding Application of Appendix W Modeling Guidance for 1-hour NO2 NAAQS. Tyler Fox Memorandum dated March 1, 2011, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/sites/production/files/2015-07/documents/appwno2_2.pdf

The Department also expects that SO_2 emissions and the hours of operation of the gasification system and flare will decrease over the next few years. TECO Polk has been permitted to increase the number of hours it fires natural gas, which will greatly reduce the utilization and SO_2 emissions from EU006. 2017 emissions decreased 26 percent from 2016 emissions to 54.7 tons per year.

Lastly, the Department's decision to not model the intermittent emissions from EU006 will not impact the attainment demonstration. This is because the TECO Polk facility is not aligned with the maximum concentrations in the modeling, which are to the northeast of New Wales. The receptors that would be affected by SO_2 emissions from the EU006 flare are to the northwest of New Wales, which has maximum modeled concentrations at 80 percent of the SO_2 NAAQS.

b. Bartow and South Pierce Molten Sulfur Systems

The molten sulfur systems at both Bartow and South Pierce each consist of two molten sulfur unloading pits and two molten sulfur storage tanks. These are low-level, fugitive sources of SO_2 emissions, with a maximum source release height of 25 feet or 7.6 meters. Due to the low-level of the release height and very low emissions, it is expected that the impact from these sources would be very small and be located very near the source itself. EPA considers the distance to the maximum 1-hour impact of a source to be approximately 10 times the source release height,[3] which for these sources is approximately 76 meters from the source. Beyond this point, source impacts drop and significant concentration gradients are not expected. The molten sulfur systems at each facility are located more than 250 meters from the ambient air boundary of its respective facility meaning all significant concentration gradients from each molten sulfur system are expected to occur within the ambient air boundary of its respective facility. Therefore, these sources are expected to have a negligible impact on SO_2 concentrations in the NAA and the unclassifiable area.

2. Mulberry, FL Unclassifiable Area Receptor Grid

To demonstrate attainment and maintenance of the 2010 SO_2 NAAQS in the Mulberry, FL Unclassifiable Area, a receptor grid was added to the modeling encompassing the area around Bartow and covering the entire unclassifiable area. This receptor grid was included in addition to the existing receptor grid surrounding New Wales.

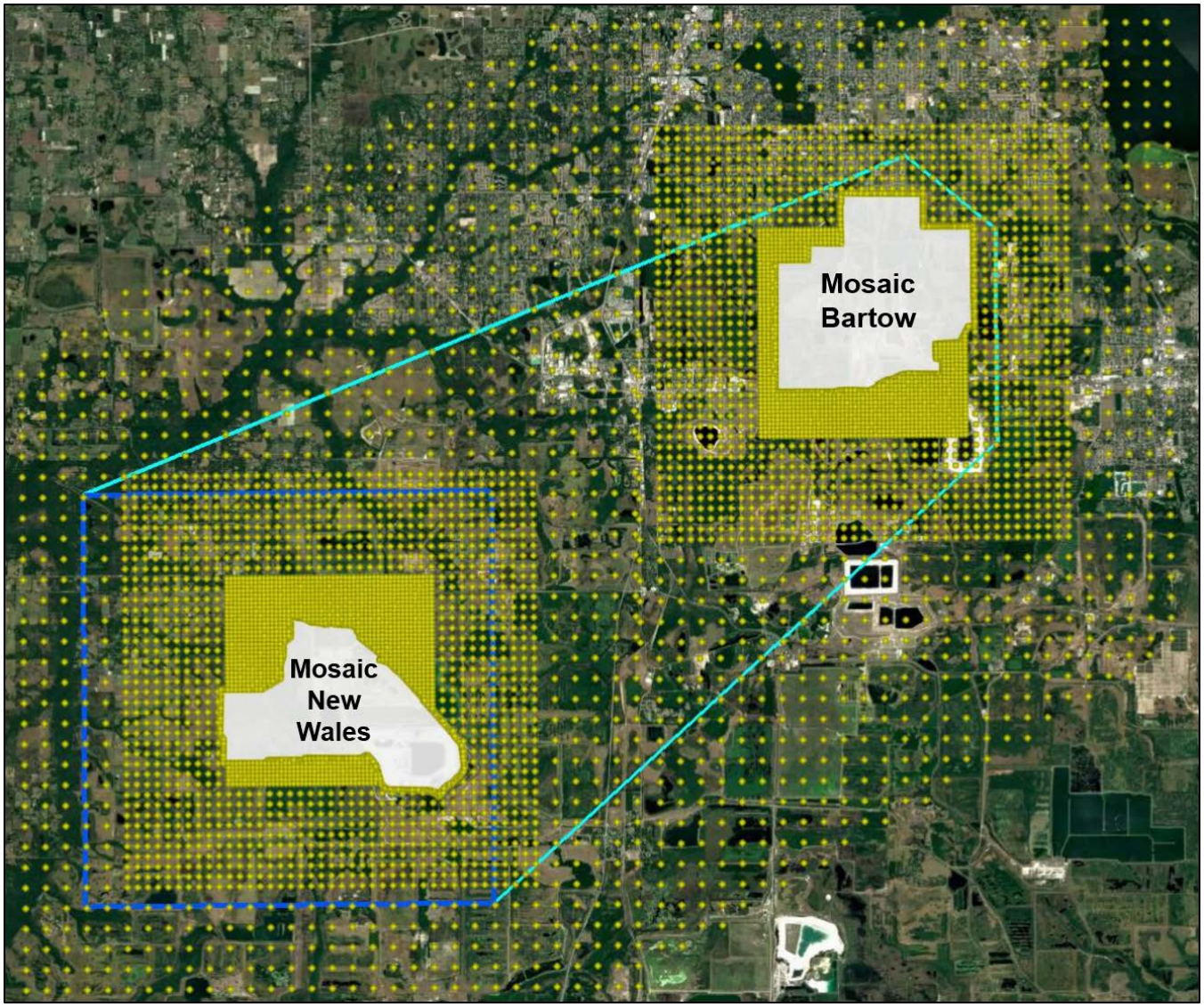
The receptor grid surrounding Bartow is identical to the receptor grid used in the Polk County - Bartow DRR Modeling submittal.[4] According to EPA's March 2011 Memo *Additional Clarification Regarding Application of Appendix W Modeling Guidance for the 1-hour NO2 National Ambient Air Quality Standard* and reiterated in the SO_2 Modeling Technical Assistance Document (TAD), it is expected that the distance from the source to the area of the maximum ground-level 1-hour impact of SO_2 will be approximately 10 times the source release height. Based on this guidance, the Department developed a uniform method for receptor grid placement for all DRR sources in Florida. As a conservative approach, a dense grid of receptors was placed from the primary facility's tallest stack (if multiple stacks are the tallest, the most centrally located was chosen) to the greater of 20 times the tallest stack height at the primary facility or 2500 m. Receptor density then decreased in 2500m intervals. Receptors located within Bartow's fenceline were removed and receptors were placed with 50 m spacing along the fenceline. The Modeling TAD describes a process for removing receptors placed in areas that it would not be feasible to place an actual monitor, such as bodies of water, that is unique to the DRR. The Department chose not to employ this process and instead included receptors in all areas of ambient air within 7.5 km of Bartow. The receptor grid is described below in **Table 1** and shown along with the December 1, 2017 SIP submittal receptor grid surrounding New Wales in **Figure 1**.

[4] See State of Florida Data Requirements Rule Submittal Appendix I, January 13, 2017. Available at: https://www.epa.gov/sites/production/files/2017-01/documents/florida_drr_submittal_01-13-17.pdf

Table 1: Bartow Mulberry, FL Unclassifiable Area receptor grid description.

Receptor Grid Parameter	Value/Description
Description of Unit at Grid Center	SAP 5
Unit UTM Zone	17N
Unit UTM Easting (m)	409,655.34
Unit UTM Northing (m)	3,087,320.67
Actual Stack Height (m)	60.96
Expected Distance to Max Concentration (m)	610
20 Times Stack Height (m)	1,219
100 m Receptor Spacing - Extent from the Origin (m)	2,500
250 m Receptor Spacing - Extent from the Origin (m)	5,000
500 m Receptor Spacing - Extent from the Origin (m)	7,500
Plant Boundary Receptor Spacing (m)	50
Total Receptors	3,092

Figure 1: Receptor grid placement for the updated modeling.



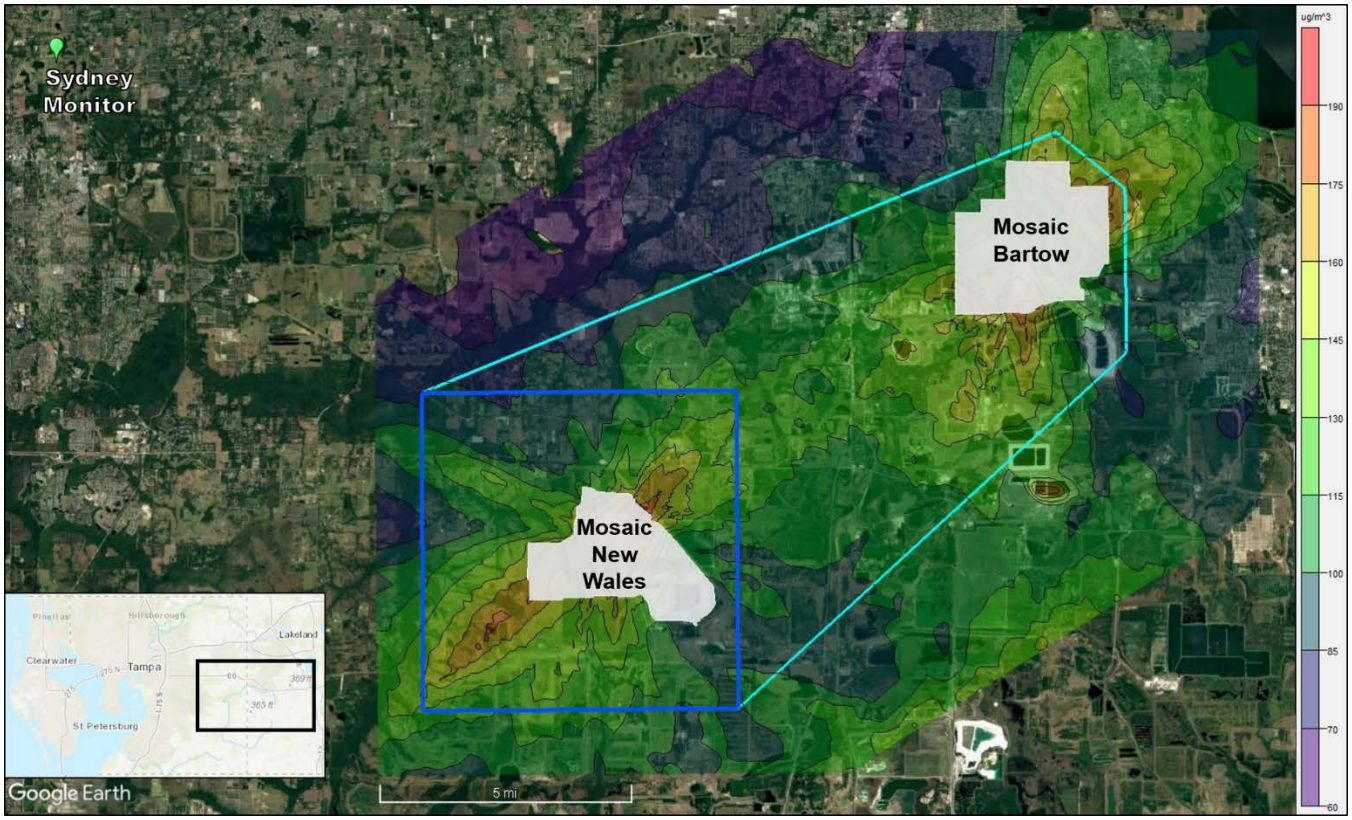
3. Modeling Results

The EPA-recommended dispersion model AERMOD was used to evaluate the area around New Wales and Bartow to ensure compliance with the 2010 SO_2 NAAQS. The model was run from 2012-2016 using maximum allowable emission rates for the same operating scenario modeled in the December 1, 2017 SIP submittal. The 99th percentile (4th high) daily maximum 1-hour average concentration for each year at each receptor was averaged across all five years. The highest modeled design value at any receptor was then compared to the NAAQS. The results from the worst-case emissions scenario summarized in **Table 2** and visualized in **Figure 2** indicate that once the currently ongoing work is completed at the facilities by August 31, 2019, all areas around New Wales and Bartow will be in full compliance with the 2010 SO_2 NAAQS. The supplemental modeling files have been provided to EPA along with this SIP submittal.

Table 2: Maximum modeled SO_2 design value in updated modeling demonstration.

UTM 17N Easting (m)	UTM 17N Northing (m)	Max Modeled Design Value (µg/m^3)				1-Hour SO_2 NAAQS	Percent of NAAQS
		Mosaic New Wales	Others	Background	Total		
397,553.84	3,079,786.04	185.55	1.39	6.98	193.92	196.4	98.7%

Figure 2: Modeled design values from updated modeling including receptors in the Mulberry, FL Unclassifiable Area.



Appendix J – Supplemental Air Quality Modeling Demonstration with Mulberry, FL Unclassifiable Area Receptors and Updated Background Concentrations

The Department utilized air dispersion modeling to demonstrate that the SO_2 emissions caps imposed by the New Wales permits and the Bartow permits, once effective, will allow for attainment and maintenance of the 2010 SO_2 NAAQS in the area around the New Wales facility and Bartow facility in Hillsborough and Polk counties. This modeling is discussed in **Appendix I** in this document.

Per EPA's suggestion, the Department also performed supplemental modeling with an updated set of background concentrations. All other aspects of this supplemental modeling (e.g. model version, modeled facilities, meteorological inputs, building downwash, receptor grid, etc.) are identical to the updated December 1, 2017 SIP submittal modeling discussed in **Appendix I**. Only the background concentrations have been updated and are discussed below.

1. Background Concentrations

In the original December 1, 2017 SIP submittal modeling and updated December 1, 2017 SIP submittal modeling (**Appendix I**), any measurement recorded when the wind direction was from 57° to 175° was removed from the background. Per EPA's suggestion, however, the Department developed a more conservative background that included higher background concentrations. Specifically, EPA requested a revised background excluding measurements where the hourly wind direction was in the range of 85° to 175° instead of 57° to 175°, as shown in **Figure 1**. The 99th percentile (2nd high) concentration for each hour by season was then averaged across the three years and the resulting array was input to AERMOD with the BACKGRND SEASHR keyword. The final set of background concentrations is summarized in **Table 1**.

Figure 1: Ambient SO_2 concentrations by wind direction near New Wales and Bartow.

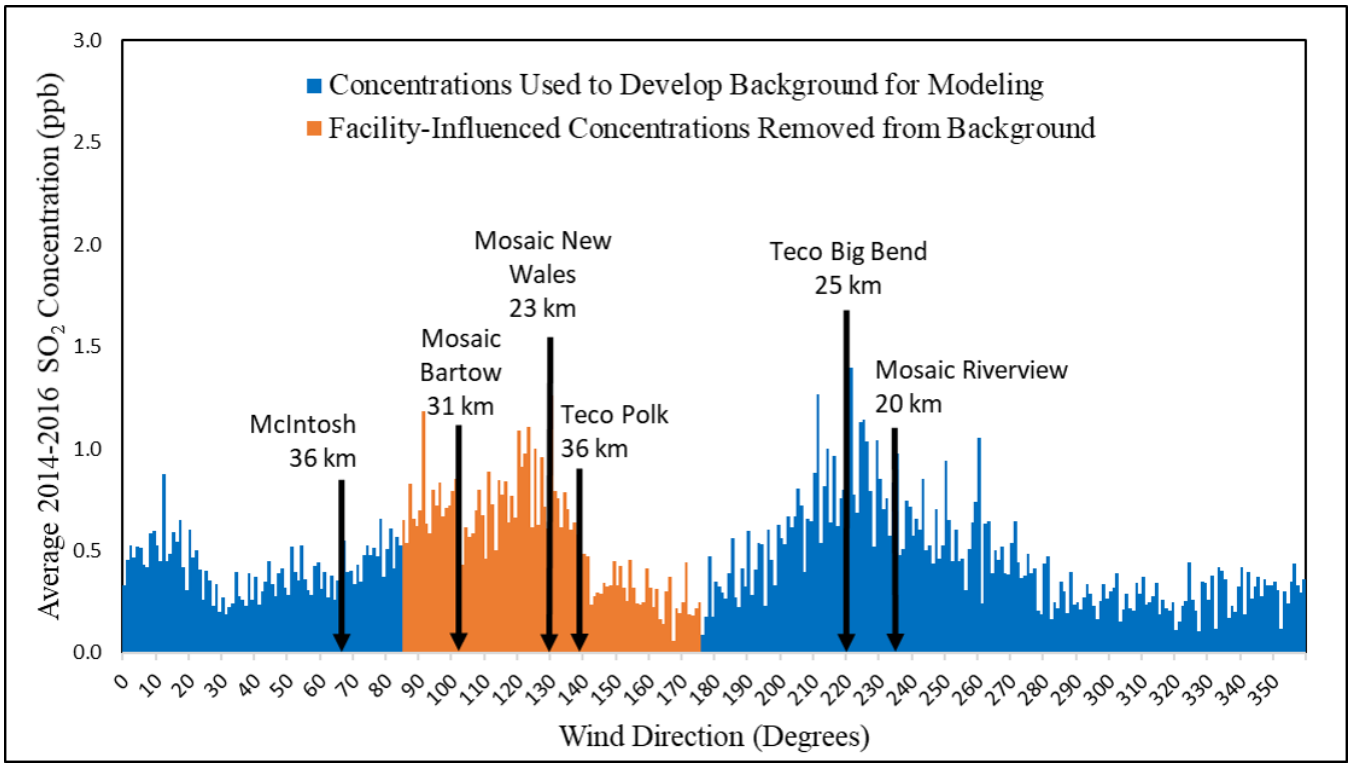


Table 1: Updated set of SO_2 background concentrations from supplemental modeling.

Hour	Winter	Spring	Summer	Autumn	Hour	Winter	Spring	Summer	Autumn
0:00	1.00	1.33	0.67	2.33	12:00	3.33	2.67	2.33	2.67
1:00	2.00	1.33	1.00	2.00	13:00	3.00	2.00	2.00	2.33
2:00	1.67	1.33	0.67	2.67	14:00	3.67	2.33	2.67	1.67
3:00	1.33	1.67	1.00	2.33	15:00	2.33	2.67	2.00	2.33
4:00	1.33	1.67	1.00	3.33	16:00	3.33	3.00	1.67	2.67
5:00	1.33	1.67	0.67	3.00	17:00	3.33	2.67	1.33	2.00
6:00	1.00	2.33	1.00	1.33	18:00	2.33	3.67	1.00	1.67
7:00	1.67	2.67	2.33	3.00	19:00	2.67	5.33	1.00	2.33
8:00	2.33	3.00	2.33	7.33	20:00	2.67	3.00	0.67	1.67
9:00	4.00	3.33	3.67	6.00	21:00	1.67	2.67	1.00	2.00
10:00	3.00	3.00	3.33	3.67	22:00	2.00	1.33	1.33	2.33
11:00	3.00	3.00	3.00	3.33	23:00	1.33	1.00	1.00	1.33

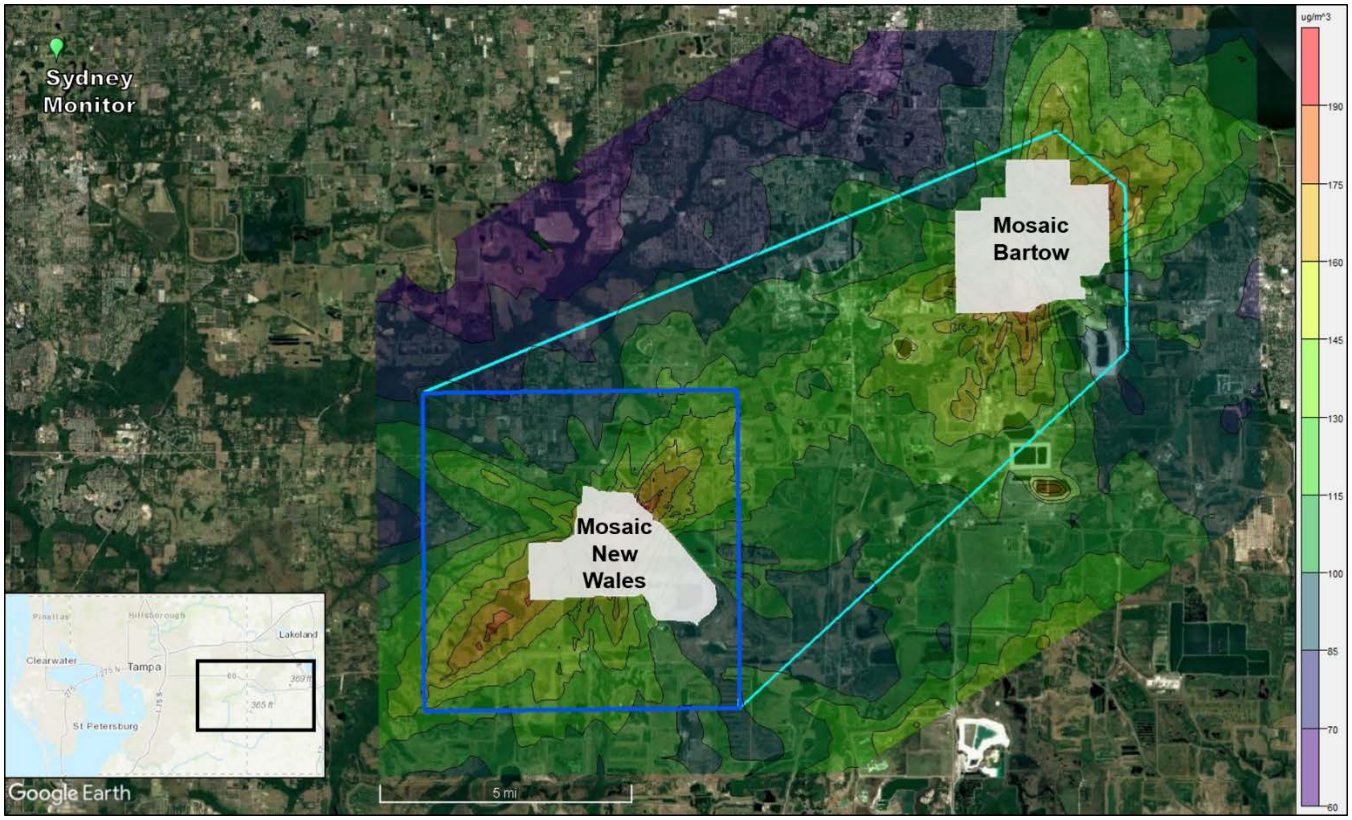
2. Modeling Results

The EPA-recommended dispersion model AERMOD was used to evaluate the area around New Wales and Bartow to ensure compliance with the 2010 SO_2 NAAQS. The model was run from 2012-2016 using maximum allowable emission rates and updated monitored background concentrations for the same operating scenario modeled in the December 1, 2017 SIP submittal. The 99th percentile (4th high) daily maximum 1-hour average concentration for each year at each receptor was averaged across all five years. The highest modeled design value at any receptor was then compared to the NAAQS. The results from the worst-case emissions scenario summarized in **Table 2** and visualized in **Figure 2** indicate that once the currently ongoing work is completed at the facilities by August 31, 2019, all areas around New Wales and Bartow will be in full compliance with the 2010 SO_2 NAAQS. The supplemental modeling files have been provided to EPA along with this SIP submittal.

Table 2: Maximum modeled SO_2 design value in updated modeling demonstration.

UTM 17N Easting (m)	UTM 17N Northing (m)	Max Modeled Design Value (µg/m^3)				1-Hour SO_2 NAAQS	Percent of NAAQS
		Mosaic New Wales	Others	Background	Total		
397,553.84	3,079,786.04	185.55	1.39	7.84	194.78	196.4	99.18%

Figure 2: SO_2 monitor location and modeled design values from supplemental modeling including receptors in the Mulberry, FL Unclassifiable Area and updated background concentrations.



Appendix K – Critical Emission Value Modeling

The Department utilized air dispersion modeling to determine the highest aggregate hourly emission rate between any combinations of two, three, four, or five active SAPs at New Wales and the highest aggregate hourly emission rate between any combinations of the three SAPs at Bartow that would result in a cumulative modeling demonstration that was at the 1-hour NAAQS (i.e. the critical emission value). To determine which combination of SAPs produced the highest modeled concentrations, a series of emissions scenarios was modeled to account for the entire range of possible emissions distributions among the eight affected units. Eighty-four possible combinations of two, three, four, and five SAPs operating at Mosaic New Wales were modeled against four different scenarios at Mosaic Bartow. The four Mosaic Bartow operational scenarios included the three combinations of two SAPs at their individual maximum allowable emission rate (MAER) with the third SAP using the remainder of the modeled emissions and a fourth scenario with the emissions evenly distributed amongst the three SAPs. This resulted in a total of 336 modeling runs. The Department reviewed each run to determine which scenario resulted in the maximum modeled concentration. The Department determined that the scenario resulting in the highest modeled concentration was emissions split evenly among the Bartow SAPs, and New Wales SAPs 1 and 2 at their maximum hourly permitted emission rates and SAP 5 with less than its maximum hourly permitted emission rate (this scenario is the worst-case modeling used in this SIP submittal to demonstrate compliance with the NAAQS).

The Department chose to use the expanded receptor grid and more conservative set of background concentrations requested by EPA as discussed in **Appendix J**. That is, all aspects of this modeling (e.g. model version, modeled facilities, background concentrations, meteorological inputs, building downwash, receptor grid, etc.) are identical to the supplemental modeling discussed in **Appendix J**, except that the emission rates for New Wales and Bartow are the multi-unit critical emission values.

1. Modeling Results

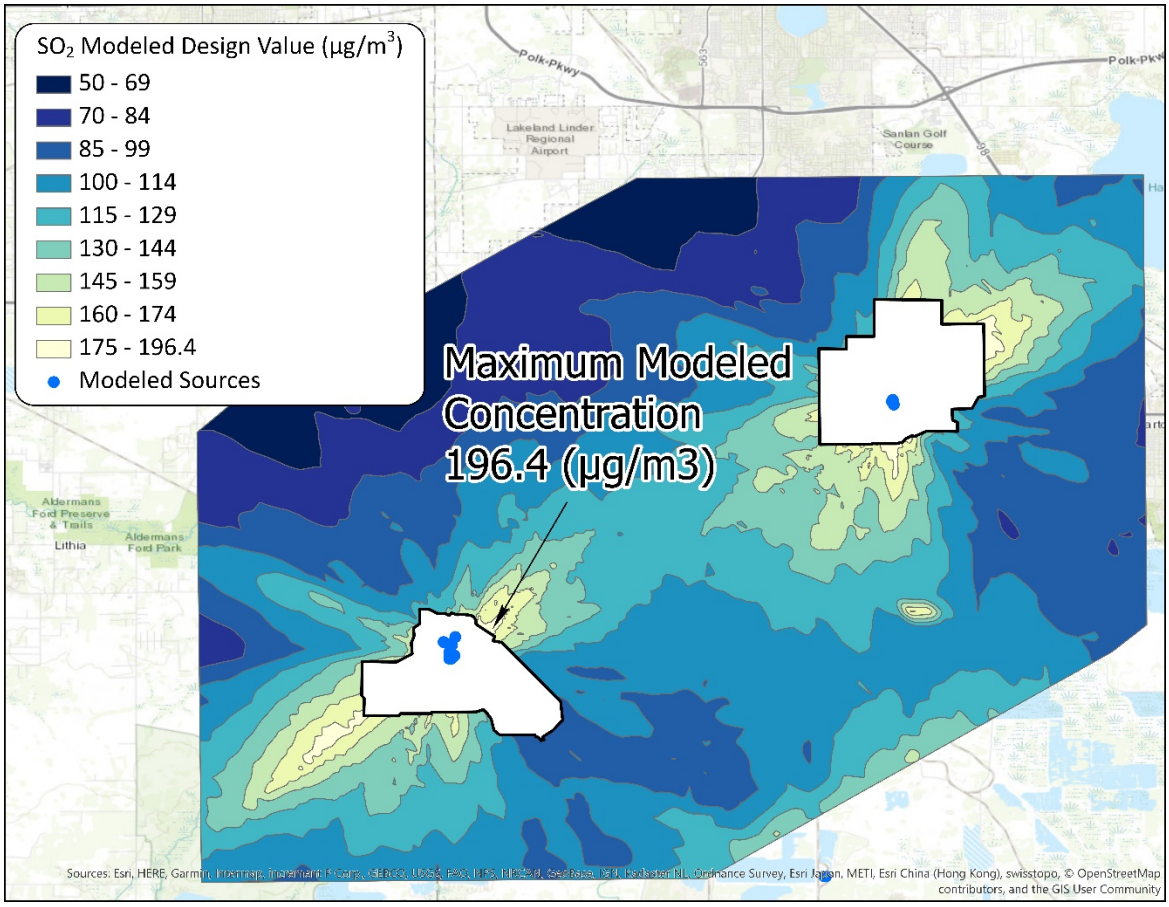
The EPA-recommended dispersion model AERMOD was used to evaluate the area around New Wales and Bartow to identify the critical emission values for each facility. The model was run from 2012-2016 using maximum allowable emission rates. The 99th percentile (4th high) daily maximum 1-hour average concentration for each year at each receptor was averaged across all five years.

The analysis resulted in critical emission values of 1,118 lb/hr and 1,163 lb/hr for New Wales and Bartow, respectively. The Department combined the critical emission values and the equivalency ratios for each SAP at New Wales and Bartow to determine the maximum 24-hour average permit limit that would still demonstrate compliance with the 2010 1-hour SO_2 NAAQS (i.e., 100% of the NAAQS). These maximum permit limits are 1,100 lb/hr and 1,138 lb/hr for New Wales and Bartow, respectively. The modeled emission rates, multi-unit critical emission values, and the maximum permit limit calculations are summarized in **Table 1**. The modeling results are visualized in **Figure 1**. The critical emission values modeling files have been provided to EPA along with this SIP submittal.

Table 1: SAP emission rates and critical emission values from the critical emission value modeling.

Unit Description	Modeled SAP Emissions and Critical Emission Value	Adjustment Factor	Maximum Multi-Unit Cap Calculation
New Wales SAP 1	504.58	0.983	496.00
New Wales SAP 2	505.09	0.982	496.00
New Wales SAP 3	0	0.981	0
New Wales SAP 4	0	1.00	0
New Wales SAP 5	108.00	1.00	108.00
Total	**1,118**	**-**	**1,100**
Bartow SAP 4	393.36	0.964	379.20
Bartow SAP 6	388.3	0.977	379.37
Bartow SAP 5	381.14	0.996	379.62
Total	**1,163**	**-**	**1,138**

Figure 1: Modeled design values from critical emission value modeling.



Appendix L – Base Year Inventory and Projected Emissions Inventory Development

The Hillsborough-Polk County SO_2 nonattainment area (NAA) base year and projected emissions inventories consist of four source categories: Point, On-Road mobile, Area/Nonpoint, and Non-Road mobile. The data and methods used to estimate these source categories are described below for the creation of the base year (2017) and projected future (2032, and four interim years in three-year increments) emissions inventories.

1. Point Sources

The largest Point sources of SO_2 in or near the NAA are the New Wales and Bartow facilities which combined account for over 99% of the SO_2 emissions in or near the NAA. The emissions from these sources were estimated for 2020 using historical actual to allowable emission rate ratios for the SAPs from 2012-2016. **Table 1** shows past actual emissions and potential to emit (PTE) and the average percentage of PTE emitted from the facilities' Annual Operating Reports (AOR).

Table 1

New Wales Facility SO_2 Emissions					
Historic Emissions 2012 - 2016				**Emission Projections**	
Unit	**Average Annual SO_2 Emissions**	**Annual SO_2 PTE (tons)**	**Average Percentage of PTE Emitted**	**2020 PTE**	**2020 Projected Actuals (75% of 2020 PTE)**
SAP 1	1,292	2,172	59.45%		
SAP 2	1,517	2,172	69.81%		
SAP 3	1,397	2,172	64.32%	4,774	3,581
SAP 4	1,532	2,117	72.36%		
SAP 5	1,394	2,117	65.86%		
Bartow Facility SO_2 Emissions					
Historic Emissions 2012 - 2016				**Emission Projections**	
EU ID	**Average Annual SO_2 Emissions**	**Annual SO_2 PTE (tons)**	**Average Percentage of PTE Emitted**	**2020 PTE**	**2020 Projected Actuals (75% of 2020 PTE)**
SAP 4	1,315	1,897	69.33%		
SAP 5	1,308	1,897	68.94%	4,818	3,614
SAP 6	1,336	1,897	70.43%		
				Total	7,195

The data in **Table 1** demonstrate that the facilities emit between 60% and 75% of each facility's total PTE. The Department used a conservative utilization factor of 75% to estimate actual emissions for the projected future inventory in 2020. The Department is not aware of and does not anticipate any future development within the NAA that would increase SO_2 emissions. Therefore, the 2032 inventory and each of the interim year inventories are identical to the 2020 inventory for Point sources.

The base year inventory includes only emissions within the NAA. New Wales is the only Point source in the NAA. Point source emissions for the 2017 base year are the emissions from New Wales's 2017 AOR, summarized in **Table 2** below.

Table 2

New Wales Facility 2017 SO_2 Emissions		
EU ID	**Unit Description**	**2017 SO_2 Emissions (tons)**
2	Sulfuric Acid Plant No. 1	1,272.87
3	Sulfuric Acid Plant No. 2	797.716
4	Sulfuric Acid Plant No. 3	1,455.33
9	Diammonium Phosphate Plant No. 1	0.025135
27	AFI Granulation Plant	0.155506
42	Sulfuric Acid Plant No. 4	1,707.0735
44	Sulfuric Acid Plant No. 5	1,646.4038
45	Diammonium Phosphate Plant No. 2 – East Train	0.036359
46	Diammonium Phosphate Plant No. 2 – West Train	0.032221
60	7500 Ton Rail Storage Molten Sulfur Storage Tank	3.025299
78	Granular Monoammonium Phosphate Plant	0.023702
87	Existing Emergency CI RICE	0.005228
91	Sulfur Melter Scrubber Stack	1.870492
92	Concrete Batch Plant	2.112286
93	New Emergency CI ICE	0.00019
	Total	6,886.68

2. On-Road Mobile Sources

The Department estimated the On-Road mobile source category by utilizing the most recent version of the Environmental Protection Agency's (EPA) Motor Vehicle Emission Simulator (MOVES), MOVES2014a. MOVES2014a is a state-of-the-science emission modeling system that estimates emissions from mobile sources for criteria pollutants, greenhouse gases, and air toxics. The Department ran the model at the county scale for Hillsborough County and Polk County for the 2017 base year inventory, the 2032 projected emissions inventory, and the interim years 2020, 2023, 2026, and 2029.

The Department developed MOVES inputs for the 2017 base year using county-level traffic modeling from the Florida Department of Transportation (FDOT) and vehicle population information from the Florida Department of Highway Safety and Motor Vehicles (FLDHSMV). Where county-level data was not available, the Department used MOVES default data. To develop MOVES inputs for future years, the Department calculated the linear trend of vehicle population growth using FLDHSMV data from 2008 to 2018 and projected it to future years.

The Department apportioned the Hillsborough County and Polk County results of the MOVES2014a model runs for each year to the NAA by using the fraction of the county land area contained within the boundaries of the NAA. Land area and MOVES2014a results are summarized in **Table 3**.

Table 3

Summary of MOVES2014a Results for Hillsborough and Polk County SO_2 Emissions (tons)							
Area	**Land Area**	**SO_2 Emissions (tons)**					
	(km)	**2017**	**2020**	**2023**	**2026**	**2029**	**2032**
Hillsborough County	2,761	54	52	51	49	49	49
NAA Apportionment	56.25	1.10	1.06	1.04	1.00	1.00	1.00
Polk County	4,657	26	26	25	24	24	24
NAA Apportionment	43.75	0.24	0.24	0.23	0.22	0.22	0.22
Total Hillsborough-Polk NAA	100	1.34	1.30	1.27	1.22	1.22	1.22

3. Area/Nonpoint and Non-Road Sources

Given the small land area size of the NAA in Hillsborough and Polk Counties, it is expected that there are very few emissions of SO_2 from Area/Nonpoint and Non-Road sources. For this reason, the 2014 National Emissions Inventory (NEI) Version 2, which EPA developed, is considered to be a reasonable basis for these categories. The NEI is a comprehensive and detailed estimate of air emissions of both criteria and hazardous air pollutants from all air emissions sources. The NEI is prepared every three years by the EPA based primarily upon emission estimates and emission model inputs provided by State, Local, and Tribal air agencies for sources in their jurisdictions, and supplemented by data developed by the EPA.

Estimates for the 2017 base year inventory for these categories were calculated by multiplying the 2014 data by the increase in population in Hillsborough and Polk Counties from 2014 to 2017. Estimates for the projected future emissions inventories for these categories were calculated by multiplying the 2014 data by the projected increase in population in Hillsborough and Polk Counties in each of these years. The population data for 2014 and 2017 were obtained from the US Census Bureau.[1] Population projections for 2020 through 2032 were developed by the Florida Bureau of Economic and Business Research.[2] For years where projections were not available, the projections were interpolated. Population data and projections are summarized in **Table 4**.

Table 4

Hillsborough and Polk County Population Data							
Year	**2014**	**2017**	**2020**	**2023**	**2026**	**2029**	**2032**
Hillsborough	1,319,511	1,408,566	1,463,205	1,537,133	1,608,653	1,675,358	1,737,037
Polk	623,174	686,483	693,095	727,382	761,344	794,657	825,886

The county level emissions were again apportioned to the NAA using the fraction of the county land area within the boundaries of the NAA. A summary of the Nonpoint and Non-Road source emissions from the 2014 NEI is provided in **Table 5** below.

[1] *https://www.census.gov/data/datasets/2017/demo/popest/counties-total.html*

[2] Population projections performed by: Florida Demographic Estimating Conference, February 2014 and the University of Florida, Bureau of Economic and Business Research, Florida Population Studies, Bulletin 168, April 2014. *http://edr.state.fl.us/Content/population-demographics/data/Medium_Projections.pdf*

Table 5

Details of SO_2 Area/Nonpoint and Non-Road Source Categories (tons)								
Description	**Hillsborough County 2014**	**Polk County 2014**	**NAA Portion**					
			2017	**2020**	**2023**	**2026**	**2029**	**2032**
Fires - Agricultural Field Burning	3.56	17.17						
Miscellaneous Non-Industrial NEC	0.89	0.43						
Fuel Comb - Comm/Institutional - Biomass	1.49	0.45						
Fuel Comb - Comm/Institutional - Natural Gas	0.85	0.25						
Fuel Comb - Comm/Institutional - Oil	3.51	1.07						
Fuel Comb - Comm/Institutional - Other	0.18	0.05						
Fuel Comb - Industrial Boilers, ICEs – Coal	331.94	239.54						
Fuel Comb - Industrial Boilers, ICEs – Oil	8.67	7.28						
Fuel Comb - Residential - Natural Gas	0.37	0.10						
Fuel Comb - Residential - Oil	0.95	0.50						
Fuel Comb - Residential - Other	0.06	0.05						
Fuel Comb - Residential - Wood	2.89	2.40						
Port and Underway Emissions	187.44	-						
Railroad Equipment	0.13	0.21						
Waste Disposal	69.17	31.21						
Area/Nonpoint Totals	**612.11**	**300.71**	**16.42**	**16.97**	**17.83**	**18.66**	**19.44**	**20.16**
Mobile - Non-Road Equipment - Diesel	7.43	2.98						
Mobile - Non-Road Equipment - Gasoline	3.79	2.74						
Mobile - Non-Road Equipment - Other	0.21	0.11						
Non-Road Mobile Totals	**11.42**	**5.82**	**0.31**	**0.32**	**0.33**	**0.35**	**0.37**	**0.38**