STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PROPOSED REVISION TO STATE IMPLEMENTATION PLAN

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

October 9, 2019

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 requested in the Pre-Hearing SIP submittal that this proposed SIP revision be completed through parallel processing. On September 9, 2019, EPA proposed approval of Florida's Pre-Hearing SIP submittal using parallel processing. The submittal of this final SIP completes the parallel processing request as no significant changes have been made from the Pre-Hearing SIP to this SIP submittal.

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 was 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 was 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 used 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 has been fully implemented with the completion of all construction, installation of controls, and compliance with emission limits by August 31, 2019.

Mosaic provided data to the Department on September 25, 2019 demonstrating compliance with the SO_2 emission limits. Both facilities have demonstrated initial compliance with the permitted SO_2 emission limits, all SAPs are equipped with the required CEMS monitoring equipment, and Mosaic is complying with the permitted recordkeeping requirements. **Appendix N** provides details on compliance with the 24-hour limit including data demonstrating initial compliance and a description of the interlock system Mosaic uses to prevent violation of the emission limits at each facility. **Appendix N** also provides 62 days of hourly CEMS data for each facility (6:00 AM, August 1, 2019 to 6:00 AM October 3, 2019). Each facility has demonstrated that they have been in compliance with the emission limits since 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. The Department requests that three specific conditions from the Mosaic Bartow Permit No. 1050046-050-AC, as administratively corrected by Permit No. 1050046-063-AC, and three specific conditions from the Mosaic New Wales Permit No. 1050059-106-AC, as administratively corrected by Permit No. 1050059-114-AC, be incorporated into

[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.

Florida's SIP. These specific conditions are detailed in the **Materials to be Incorporated into the SIP** section.

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 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 were effective as of August 31, 2019. Therefore, the Department has demonstrated through this SIP submittal that the NAA and unclassifiable area are attaining the 2010 SO_2 NAAQS as of August 31, 2019.

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. No hearing was requested; therefore, a hearing was not held. No public comments were received on the pre-hearing submittal other than EPA comments.

In accordance with the 30-day notice requirement of 40 CFR 51.102, the 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.

[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.

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.

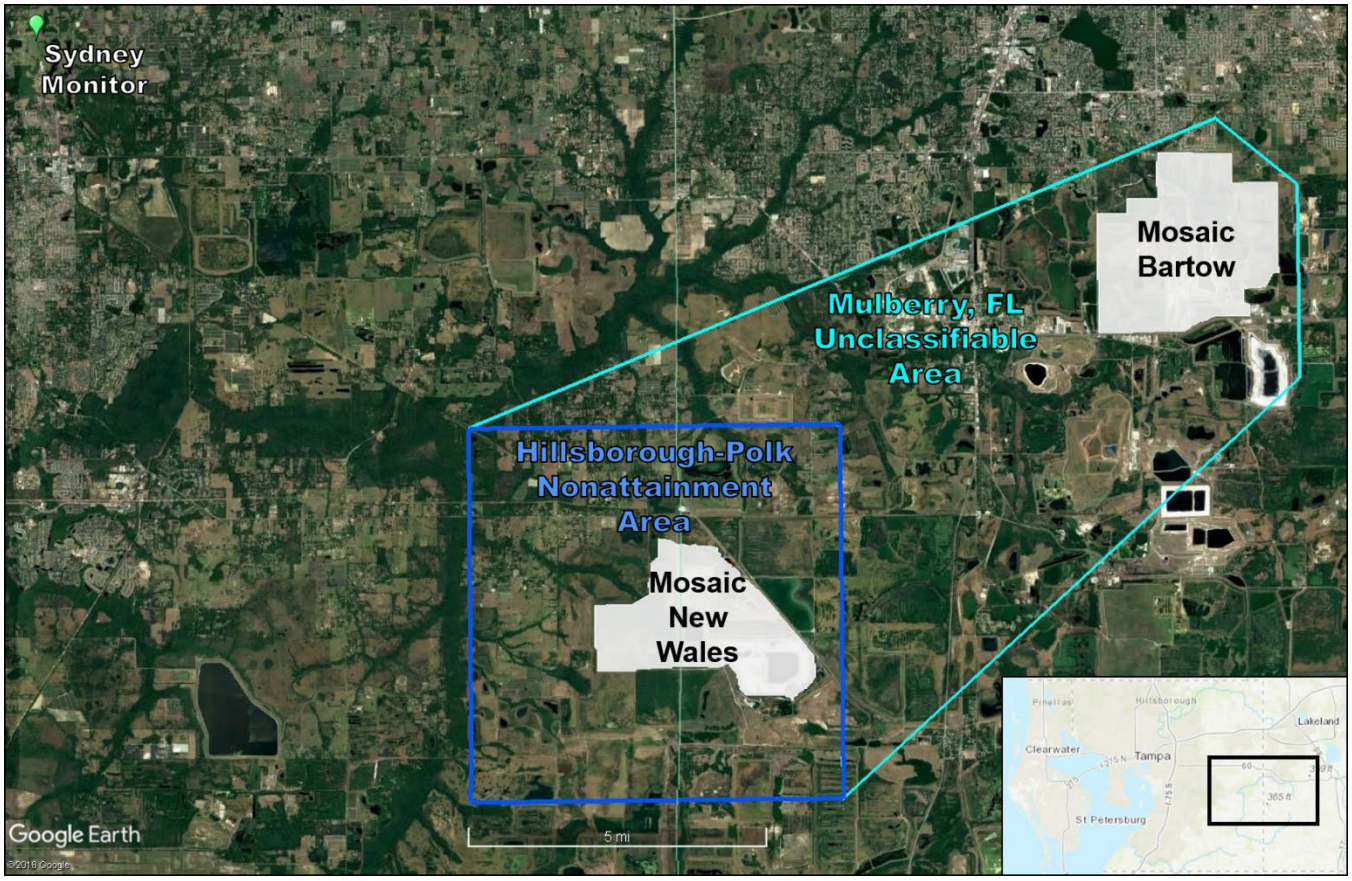
1. Attainment of the SO_2 NAAQS [CAA section 107(d)(3)(E)(i)]

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



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*

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 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.

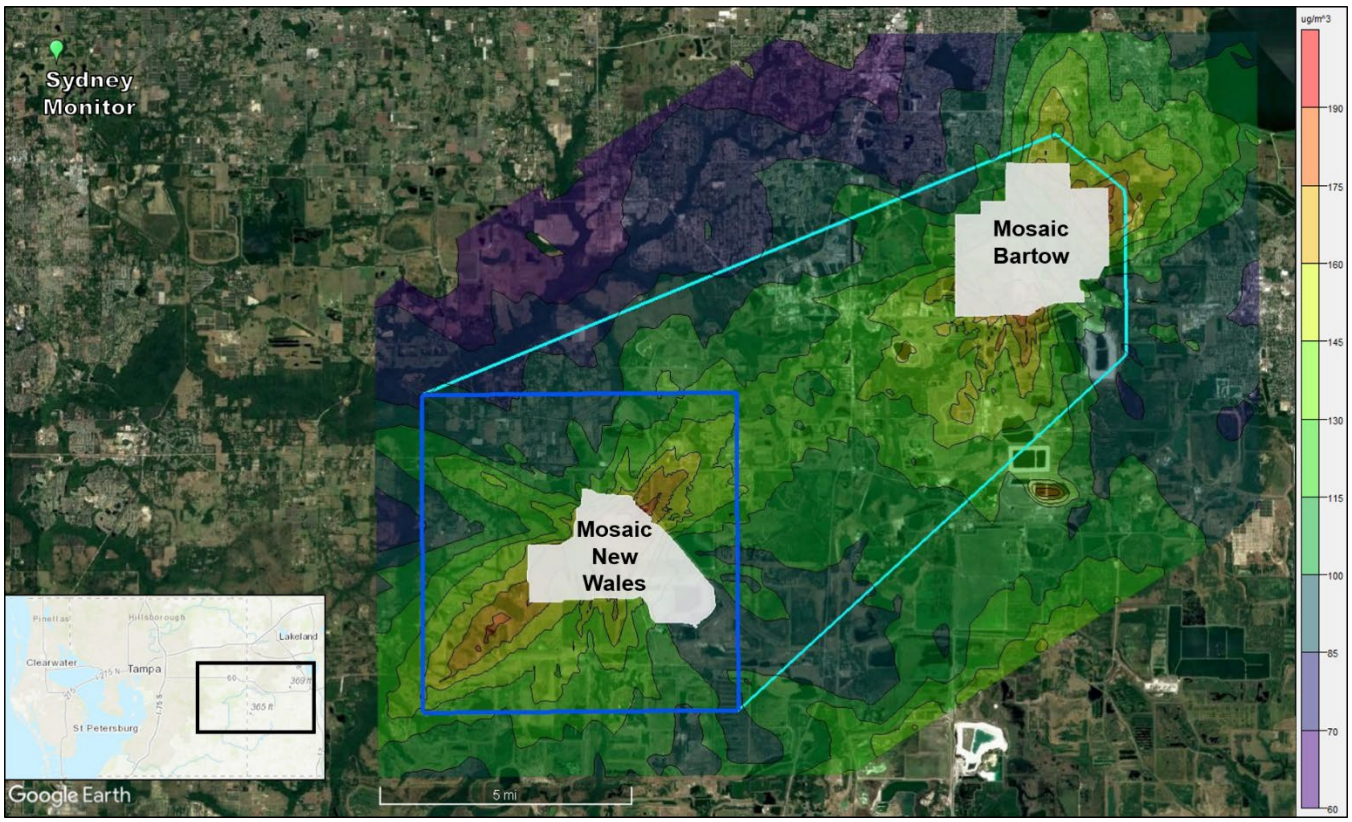
As part of the upgrades at New Wales, Mosaic also improved the fence line on company-owned property to deter unauthorized trespassing. In most areas, there are existing physical barriers including densely vegetated ditches and canals with steep banks, forested and herbaceous wetlands with dense vegetation and standing water, deep water industrial ponds, and densely vegetated uplands. Fencing was constructed in any area lacking these impenetrable natural barriers, and gates were constructed across roadways to preclude access to the general public around the entire plant boundary. The ambient air boundary used in the modeling reflects the updated fence line work. This work was completed on August 18, 2019 and is the same as the proposed work that was described in the December 1, 2017 SIP submittal except for one proposed gate which was no longer necessary to preclude public access. **Appendix M** includes detailed descriptions and documentation of the completed fence line work.

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 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.

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 5** and the supplemental model with the more conservative background is summarized in **Appendix J**.

[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**.

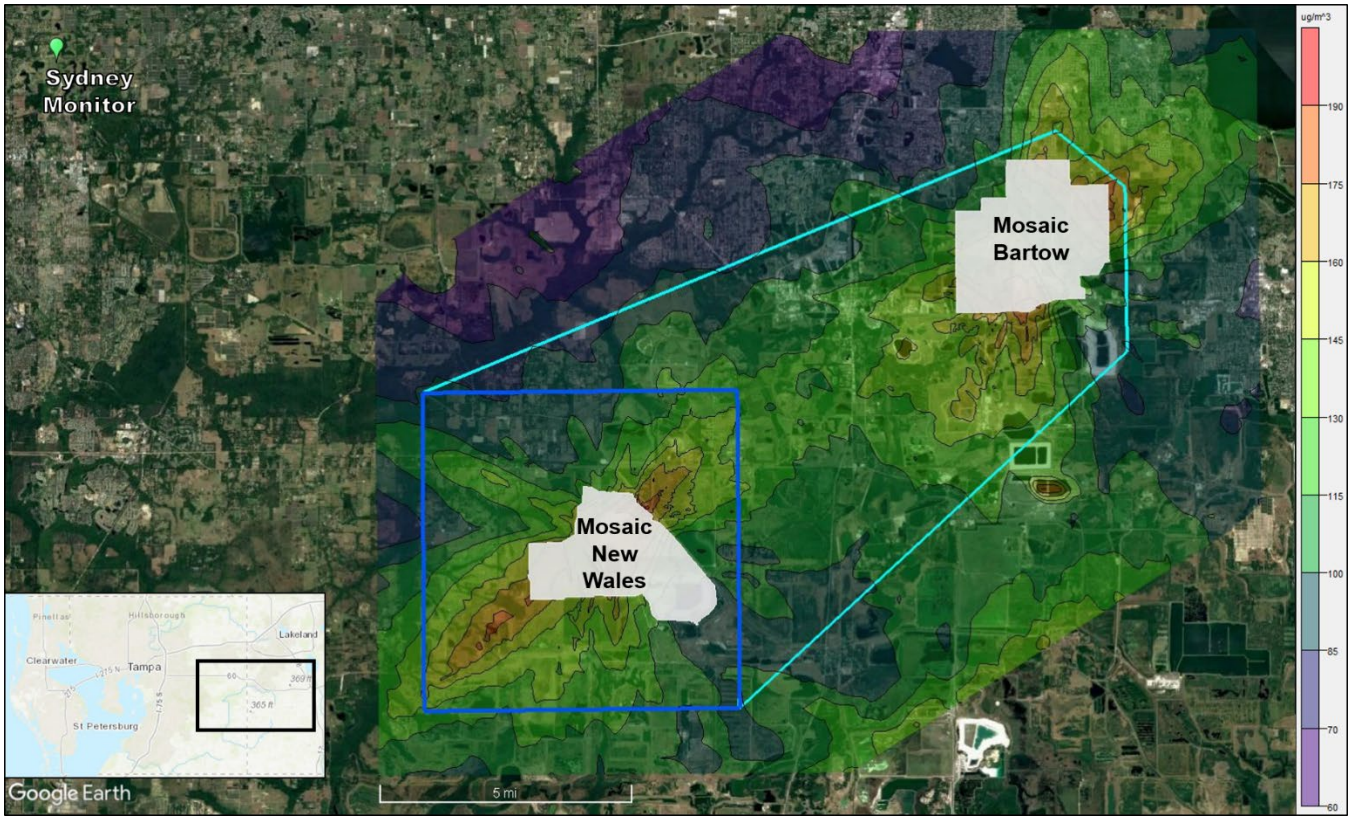
Hour	Winter	Spring	Summer	Autumn	Hour	Winter	Spring	Summer	Autumn
0:00	1.00	1.33	0.67	2.33	12:00	3.33	2.67	2.33	2.67
1:00	2.00	1.33	1.00	2.00	13:00	3.00	2.00	2.00	2.33
2:00	1.67	1.33	0.67	2.67	14:00	3.67	2.33	2.67	1.67
3:00	1.33	1.67	1.00	2.33	15:00	2.33	2.67	2.00	2.33
4:00	1.33	1.67	1.00	3.33	16:00	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 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.

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 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 were 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 were in place and in effect as of August 31, 2019, at which time the NAA was 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.

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 6**. 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**

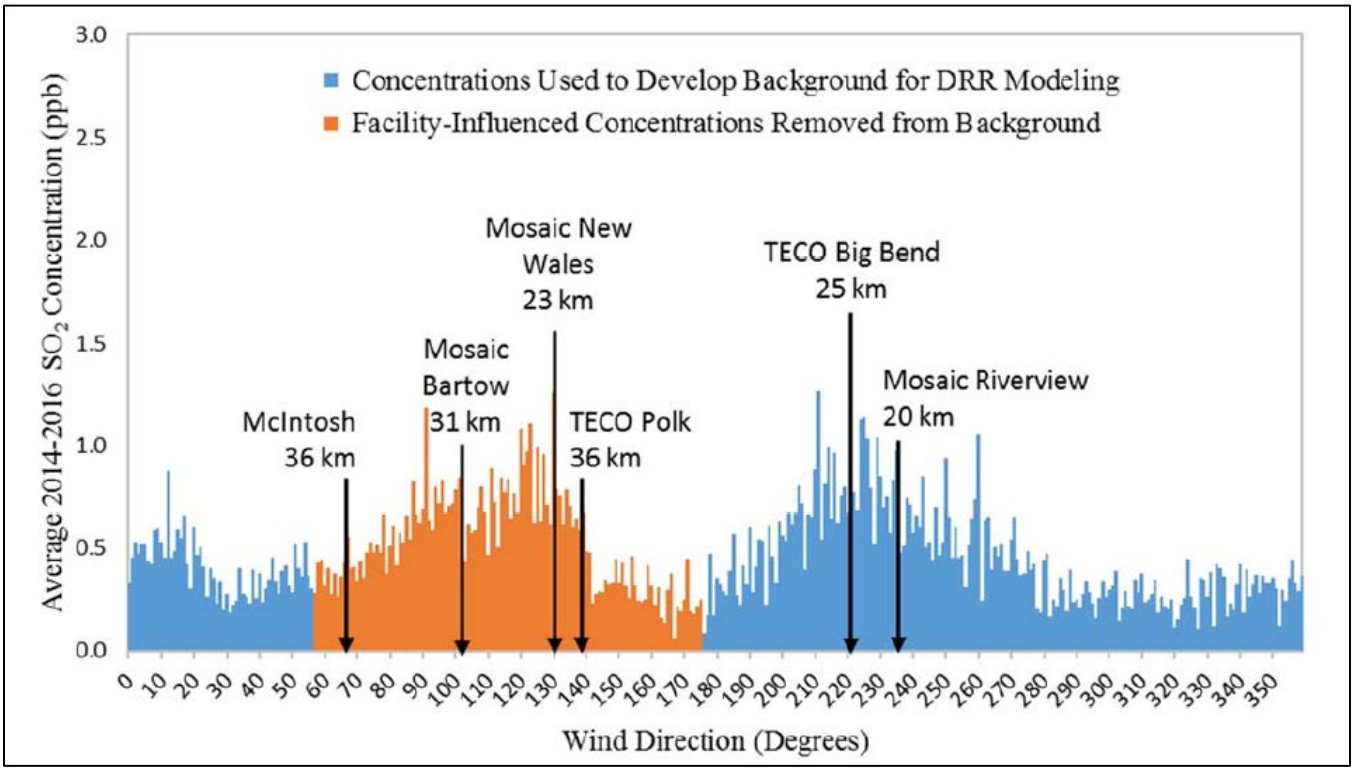
[11] *See* Guidance for 1-Hour SO_2 Nonattainment Area SIP Submissions. Stephen D. Page Memorandum dated April 23, 2014, Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, available at: https://www.epa.gov/so2-pollution/guidance-1-hour-sulfur-dioxide-so2-nonattainment-area-state-implementation-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 successfully reduced modeled SO_2 concentrations below the 2010 SO_2 NAAQS. Additionally, the Department projects a reduction in actual SO_2 emissions by 36 percent. 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. On May 23, 2019, Mosaic confirmed that the construction work at both New Wales and Bartow was completed by May 2019. This corresponds to the decrease in emissions from the facilities from 2016 projected through 2020 (**Figure 5**). The Bartow and New Wales facilities are complying with the emission limits in the December 1, 2017 SIP submittal and the NAA is 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.



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 7**. 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 10, 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 8**. 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.

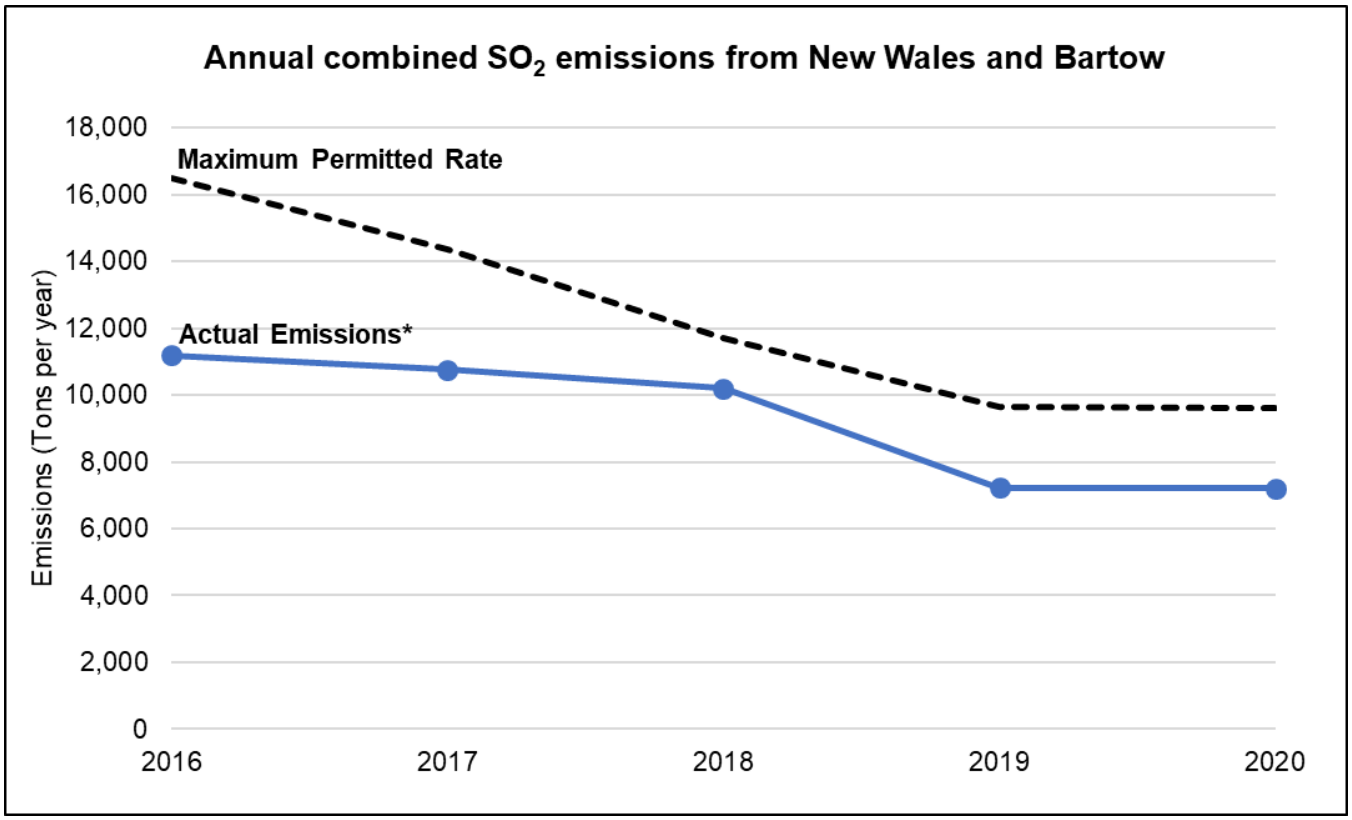
Table 8: Bartow Facility SO_2 Source Changes

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 2019 – 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.

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 reduced, and the standard was 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 9** and **Table 10** 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 has been 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 10 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 9**). The Department estimated the projected actual emissions for 2018 through 2020 using a conservative utilization factor of 75%. **Table 9** 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) 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 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

[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 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.

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.

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

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 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 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. The Department requests that three specific conditions from the Mosaic Bartow Permit No. 1050046-050-AC, as administratively corrected by Permit No. 1050046-063-AC, and three specific conditions from the Mosaic New Wales Permit No. 1050059-106-AC, as administratively corrected by Permit No. 1050059-114-AC, be incorporated into Florida's SIP. These specific conditions are detailed in the **Materials to be Incorporated into the SIP** section.

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 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 and notification emails are in the "Public Participation" section of this 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.

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.

Response to 40 CFR 51.102 Requirements

(a) Except as otherwise provided in paragraph (c) of this section and within the 30-day notification period as required by paragraph (d) of this section, States must provide notice, provide the opportunity to submit written comments and allow the public the opportunity to request a public hearing. The State must hold a public hearing or provide the public the opportunity to request a public hearing. The notice announcing the 30-day notification period must include the date, place and time of the public hearing. If the State provides the public the opportunity to request a public hearing and a request is received the State must hold the scheduled hearing or schedule a public hearing (as required by paragraph (d) of this section). The State may cancel the public hearing through a method it identifies if no request for a public hearing is received during the 30 day notification period and the original notice announcing the 30 day notification period clearly states: ***If no request for a public hearing is received the hearing will be cancelled; identifies the method and time for announcing that the hearing has been cancelled; and provides a contact phone number for the public to call to find out if the hearing has been cancelled.***

The opportunity to submit written comments, request a public hearing, and participate in a public hearing, if requested, on the proposed SIP revision was advertised in the Florida Administrative Register (FAR) at least 30 days prior to the scheduled date of the hearing. Information regarding the date, place, and time of the public hearing was included in the notice along with information on how to request the hearing or ascertain whether the hearing would be cancelled. A copy of the notice is included in this section. No hearing was requested; therefore, no hearing was held.

(b) Separate hearings may be held for plans to implement primary and secondary standards.

Not applicable.

(c) No hearing will be required for any change to an increment of progress in an approved individual compliance schedule unless such change is likely to cause the source to be unable to comply with the final compliance date in the schedule. The requirements of §§51.104 and 51.105 will be applicable to such schedules, however.

Not applicable.

(d) Any hearing required by paragraph (a) of this section will be held only after reasonable notice, which will be considered to include, at least 30 days prior to the date of such hearing(s):

(1) Notice given to the public by prominent advertisement in the area affected announcing the date(s), time(s), and place(s) of such hearing(s);

The opportunity to submit comments, request a public hearing, and participate in a public hearing, if requested, on the proposed SIP revision was advertised in the FAR at least 30 days prior to the scheduled date of the hearing (see response (a)).

(2) Availability of each proposed plan or revision for public inspection in at least one location in each region to which it will apply, and the availability of each compliance schedule for public inspection in at least one location in the region in which the affected source is located;

The materials proposed to be incorporated into the SIP were made available for public inspection in the offices of DEP's Division of Air Resource Management (DARM) and on the DARM website. The materials were also made accessible to the public through each of the DEP's district offices and in the offices of each DEP-approved local air pollution control program. The notifications that such information be made available by the district and local offices are included in this section.

(3) Notification to the Administrator (through the appropriate Regional Office);

The Region 4 office of the EPA was notified at least 30 days in advance of the scheduled hearing date and provided with copies of the materials proposed to be incorporated into the SIP. The pre-hearing submittal letter is included in the "Pre-Hearing Submittal to EPA" section of this submittal.

(4) Notification to each local air pollution control agency which will be significantly impacted by such plan, schedule or revision;

Notification to affected local programs occurred with the transmittal of e-mails requesting that the material proposed to be incorporated into the SIP be made available for public inspection (see response (d)(2)).

(5) In the case of an interstate region, notification to any other States included, in whole or in part, in the regions which are significantly impacted by such plan or schedule or revision.

Not applicable.

(e) The State must prepare and retain, for inspection by the Administrator upon request, a record of each hearing. The record must contain, as a minimum, a list of witnesses together with the text of each presentation.

No hearing was requested; therefore, no hearing was held.

(f) The State must submit with the plan, revision, or schedule, a certification that the requirements in paragraph (a) and (d) of this section were met. Such certification will include the date and place of any public hearing(s) held or that no public hearing was requested during the 30-day notification period.

Certification is provided in the letter of submittal that the opportunity to submit comments, request a public hearing, and participate in a public hearing on the proposed SIP revision was noticed in accordance with the requirements of 40 CFR 51.102. No hearing was requested; therefore, no hearing was held.

(g) Upon written application by a State agency (through the appropriate Regional Office), the Administrator may approve State procedures for public hearings. […]

Not applicable.

From:	Long, Terri
To:	"John Hickey"; "Tallam, Laxmana"; "Fernandez, Lorenzo"; satyal, AJ; "woodard@epchc.org"; "MCWilliams@coj.net"; "susana.palmino@miamidade.gov"; "Wanda.Parker@ocfl.net"; Hamilton, Shawn; Strong, Greg; Watkins, Aaron; Yeargan, Mary; Iglehart, Jon; Smith, Jennifer K.
Cc:	Read, Hastings
Subject:	Florida DEP - Notice of Proposed SIP Revisions - District - Locals
Date:	Friday, February 15, 2019 3:30:46 PM
Attachments:	SIP 2019-01 Polk County Redesignation FAR Notice 2-15-19.pdf

Good afternoon,

Notice is hereby given that, pursuant to 40 CFR 51.102, the Florida Department of Environmental Protection is accepting comments and will hold public hearing(s), if requested
on proposed revisions to Florida's State Implementation Plans (SIP) requesting resignation for the Polk County SO2 nonattainment areas.

Please find attached the notice of opportunity to offer comments and request a public hearing. This notice was published on Friday, February 15, 2019, in the Florida Administrative Register. The comment period for these proposed SIP revisions will close on March 18, 2019, and the public hearing, if requested will be held on Wednesday, March 20, 2019.

The materials comprising the proposed SIP revisions will be posted at https://floridadep.gov/air/air-business-planning/content/air-regulatory-projects. Please assist any member of the public who may contact you to view these materials. In the event that members of the public have substantive questions related to the proposed revisions, please direct them to Hastings.Read@FloridaDEP.gov , (850) 717-9017.

Terri Long
Office of Business Planning
Division of Air Resource Management
Florida Department of Environmental Protection
(850) 717-9023
Terri.long@FloridaDEP.gov

No public comments were received.

No public comments were received; therefore, DEP did not prepare any responses to public comments.

Pre-Hearing Submittal Letter to EPA

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

Via U.S. Mail and Electronic Mail

February 15, 2019

Ms. Mary Walker
Acting Regional Administrator
U. S. Environmental Protection Agency (EPA) – Region 4
61 Forsyth Street, SW – Mail Code: 9T25
Atlanta, GA 30303-8909

Re: Air Program Pre-Hearing Submittal & Parallel Processing Request: Proposed Revision to Florida's State Implementation Plan – Redesignation Request and Maintenance Plan for the Hillsborough-Polk County Sulfur Dioxide (SO_2) Nonattainment Area

Dear Ms. Walker:

Pursuant to 40 C.F.R. 51.102, the Florida Department of Environmental Protection (Department) is submitting a pre-hearing State Implementation Plan (SIP) package to revise Florida's SIP under the federal Clean Air Act (CAA).

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 revised SO_2 standard is the first one-hour primary standard promulgated by EPA for this air pollutant. The level of the revised standard is 75 parts per billion (ppb), based on a three-year average of the annual 99^{th} percentile of one-hour daily maximum concentrations.

On January 9, 2018, EPA designated a small portion of Polk and Hillsborough Counties as nonattainment (the "Hillsborough-Polk County Nonattainment Area [NAA]") and a portion of Hillsborough and Polk Counties as unclassifiable (the "Mulberry Unclassifiable Area"). The effective date of the nonattainment and unclassifiable area designations was April 9, 2018.

This SIP submittal requests that EPA redesignate the Hillsborough-Polk County NAA and the Mulberry Unclassifiable Area to attainment based on air dispersion modeling of new SO_2 emission limits for the Mosaic New Wales and Bartow fertilizer facilities. 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. This SIP submittal resubmits and updates the modeling demonstration previously included in our December 1, 2017 source-specific SIP submittal requesting that EPA adopt into the Florida SIP the SO_2 emission limits and compliance parameters for the Mosaic New Wales and Bartow facilities.

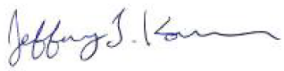
The Department is also requesting that EPA parallel process the redesignation and maintenance plan SIP submittals for the Hillsborough-Polk NAA and Mulberry Unclassifiable Area, respectively, including the air dispersion modeling revisions to Florida's December 1, 2017 source-specific SIP submission that provide modeled attainment to support the redesignation request. The Department's request for parallel process includes EPA approval of the following:

1. EPA's approval of Florida's Emissions Inventory pursuant to Clean Air Act Section 172(c)(3).
2. EPA's redesignation of the Polk County Nonattainment Area to Attainment.
3. EPA's approval of the Polk County Maintenance Plan.
4. EPA's redesignation of the Mulberry Area to Attainment.
5. The parallel processing of the air dispersion modeling revisions to the December 1, 2017, Hillsborough-Polk County source-specific SIP, as revised by this SIP submittal.
6. Certification of Florida's SIP-approved NNSR permitting program.

The Department intends to submit the final SIP requesting redesignation of the Hillsborough-Polk County NAA and Mulberry Unclassifiable Area and approval of the Maintenance plan on or after August 31, 2019, once the multi-unit emissions cap limits for the Mosaic New Wales and Bartow facilities become effective.

If you have any questions, please contact Hastings Read at (850) 717-9017 or by email at Hastings.Read@floridadep.gov.

Sincerely,



Jeffery F. Koerner, Director
Division of Air Resource Management

JFK/tl
cc (with Pre-Hearing SIP package):
Beverly Bannister, Division Director, Air, Pesticides and Toxics Management Division, EPA Region 4;
R. Scott Davis, Chief, Air Planning and Implementation Branch, EPA Region 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

March 18, 2019

Mr. Jeff Koerner
Director
Division of Air Resource Management
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Koerner:

Thank you for your letter dated February 15, 2019, transmitting a prehearing package and request for parallel processing, revising Florida's State Implementation Plan regarding the redesignation request of the Hillsborough-Polk County Nonattainment Area and Mulberry Unclassifiable Area and approval of the maintenance plan on or after August 31, 2019, once the multi-unit emissions cap limits for the Mosaic New Wales and Bartow facilities become effective. These rules are the subject of a public hearing scheduled for March 18, 2019, with written comments due by the close of business on March 18, 2019. We have completed our review of the prehearing submittal and would like to have further discussion with Florida Department of Environmental Protection regarding the establishment of the longer-term average permit limits.

We thank you for the opportunity and look forward to continuing to work with you and your staff. If you have any questions, please contact Mrs. Jane Spann, Acting Section Chief, Air Regulatory Management Section at (404) 562-9029, or have your staff contact Ms. Tiereny Bell at (404) 562-9088.

Sincerely,

Lynorae Benjamin
Acting Chief
Air Planning and Implementation Branch

The Department responded to EPA's comments to the Department's Pre-Hearing submittal by making non-substantive revisions to this SIP submittal.

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

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'

SECTION I. GENERAL INFORMATION

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.]

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.]

Appendix C – Mosaic New Wales Administrative Permit Correction (1050059-114-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

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.

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

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'

SECTION I. GENERAL INFORMATION

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 and Bartow permits, effective August 31, 2019, 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 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

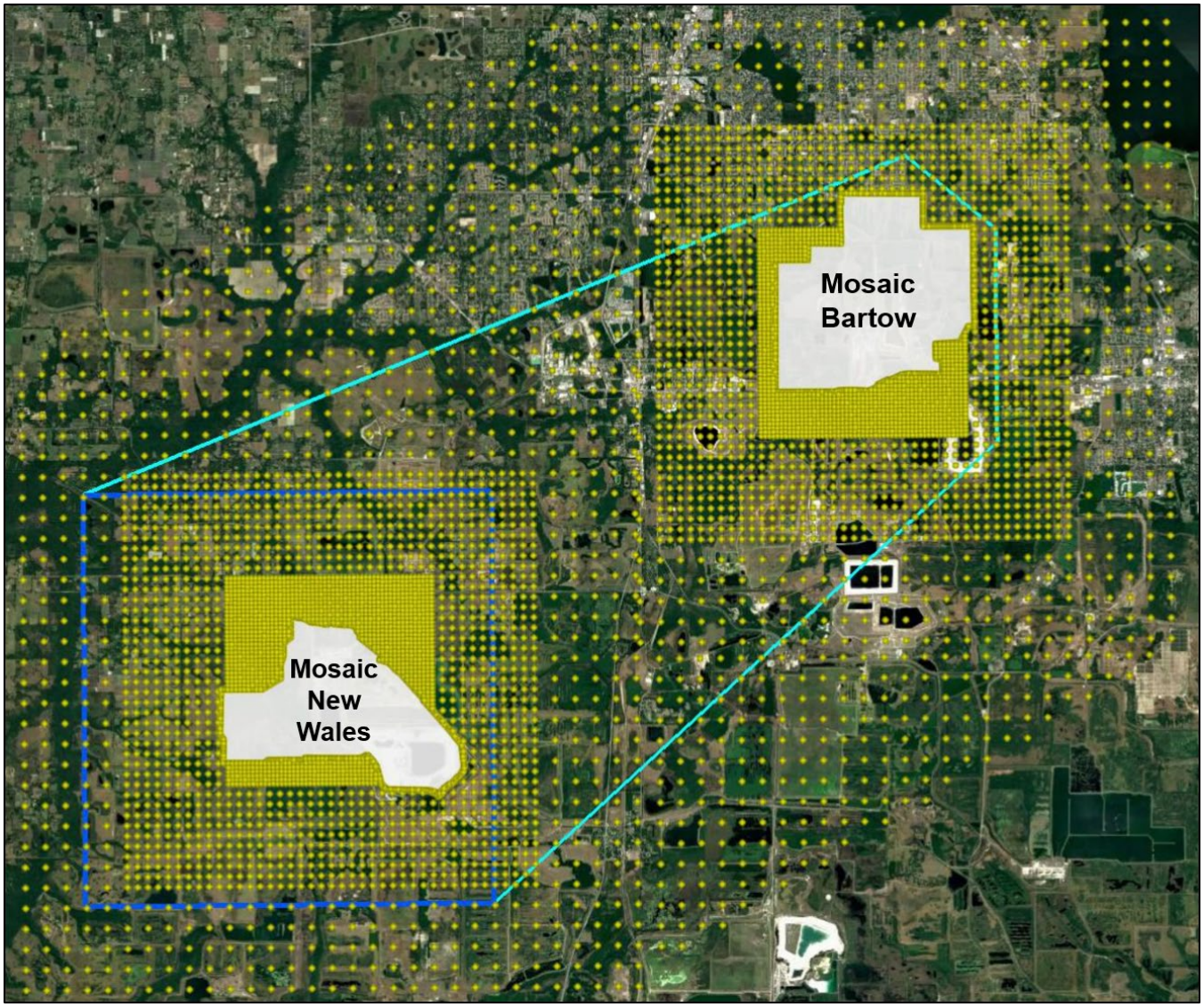
To demonstrate attainment and maintenance of the 2010 SO_2 NAAQS in the Mulberry, FL Unclassifiable Area, a receptor grid was added to the modeling encompassing the area around Bartow and covering the entire unclassifiable area. This receptor grid was included in addition to the existing receptor grid 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 fence line were removed and receptors were placed with 50 m spacing along the fence line. 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

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.



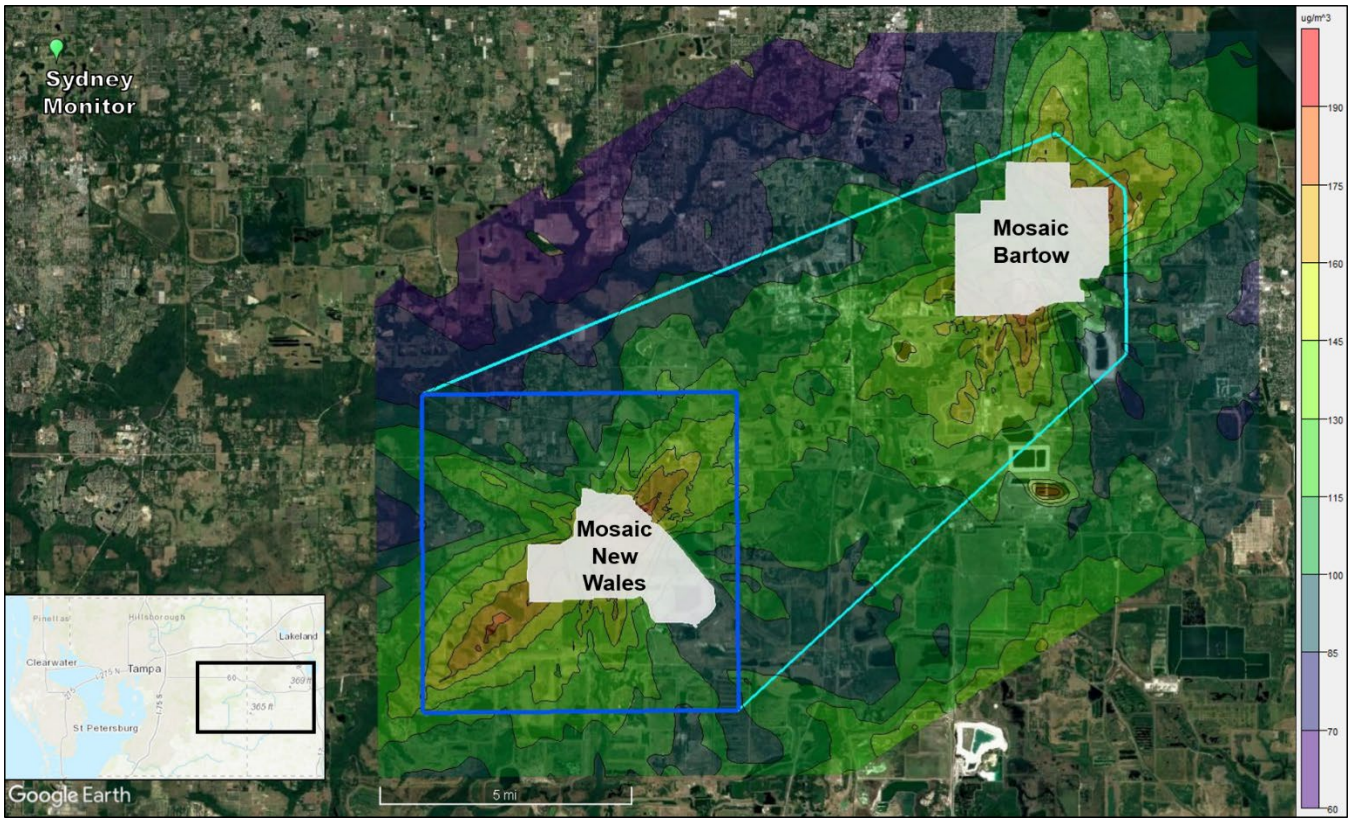
3. Modeling Results

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 as of August 31, 2019, all areas around New Wales and Bartow are 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/m³)				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

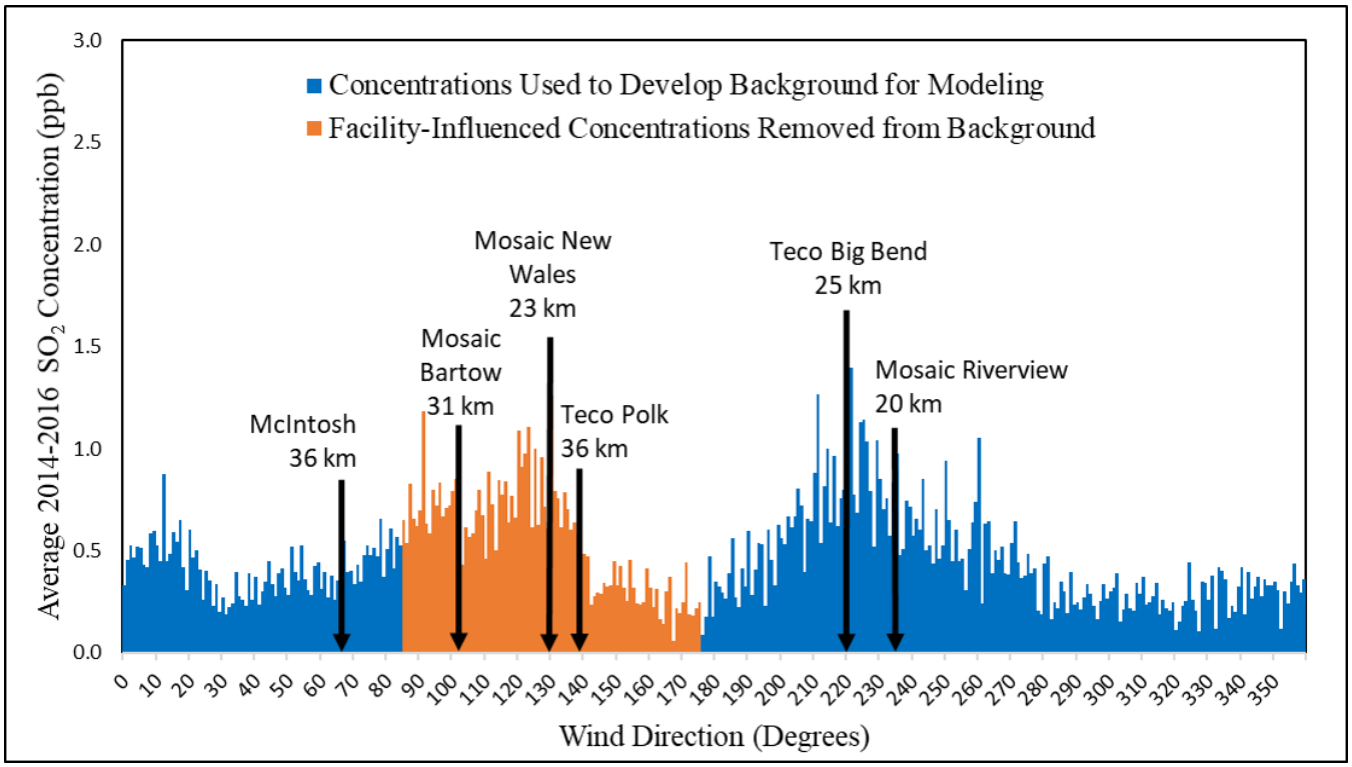
The Department utilized air dispersion modeling to demonstrate that the SO_2 emissions caps imposed by the New Wales and Bartow permits, effective August 31, 2019, allow for attainment and maintenance of the 2010 SO_2 NAAQS in the area around the New Wales facility and Bartow facility in Hillsborough 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.



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

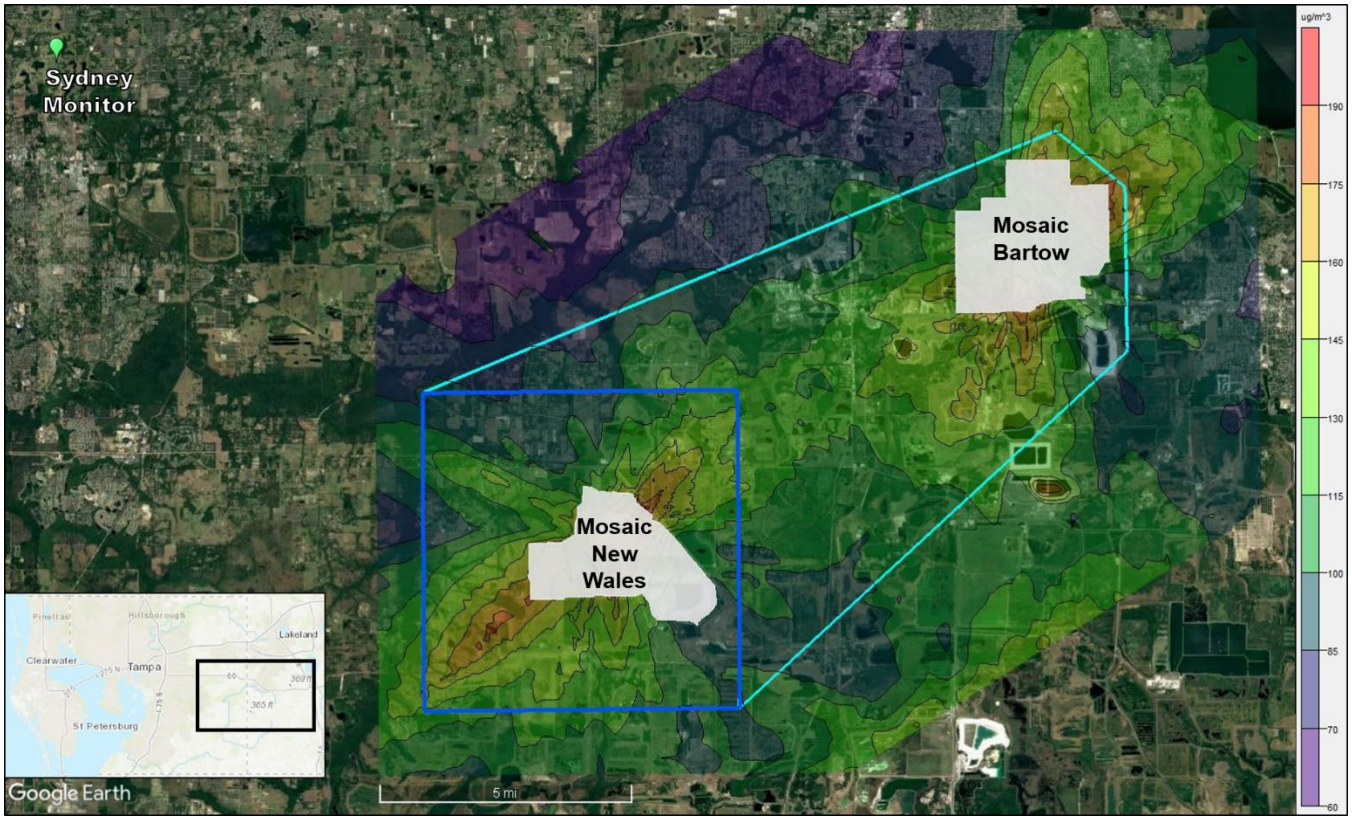
2. Modeling Results

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 as of August 31, 2019, all areas around New Wales and Bartow are 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.



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

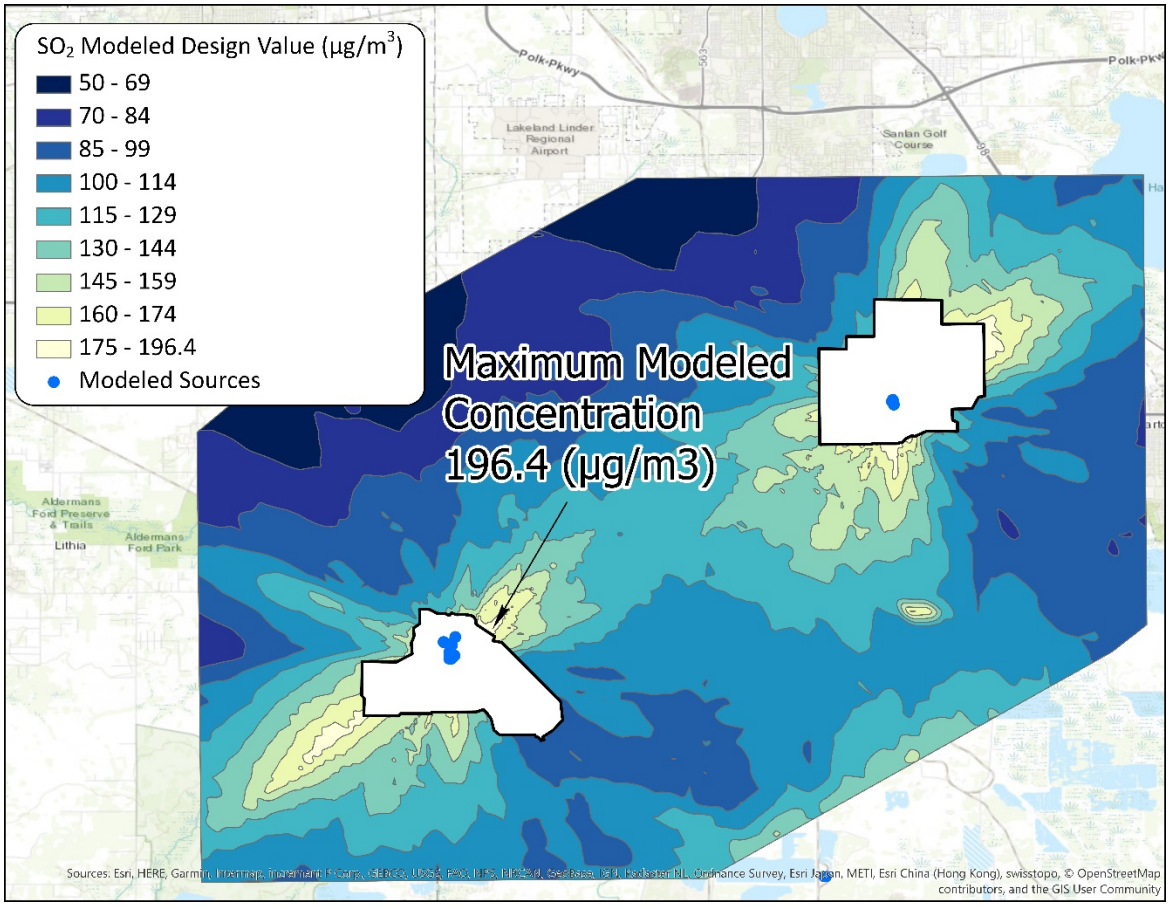
The EPA-recommended dispersion model AERMOD was used to evaluate the area around New Wales and Bartow to identify the critical emission values for each facility. The model was run from 2012-2016 using maximum allowable emission rates. The 99th percentile (4th high) daily maximum 1-hour average concentration 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 emissions from the New Wales facility, the only Point source within the NAA, and emissions from the nearby Bartow facility. Point source emissions for the 2017 base year are the emissions from the New Wales and Bartow 2017 AOR, summarized in **Table 2** below.

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**.

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*

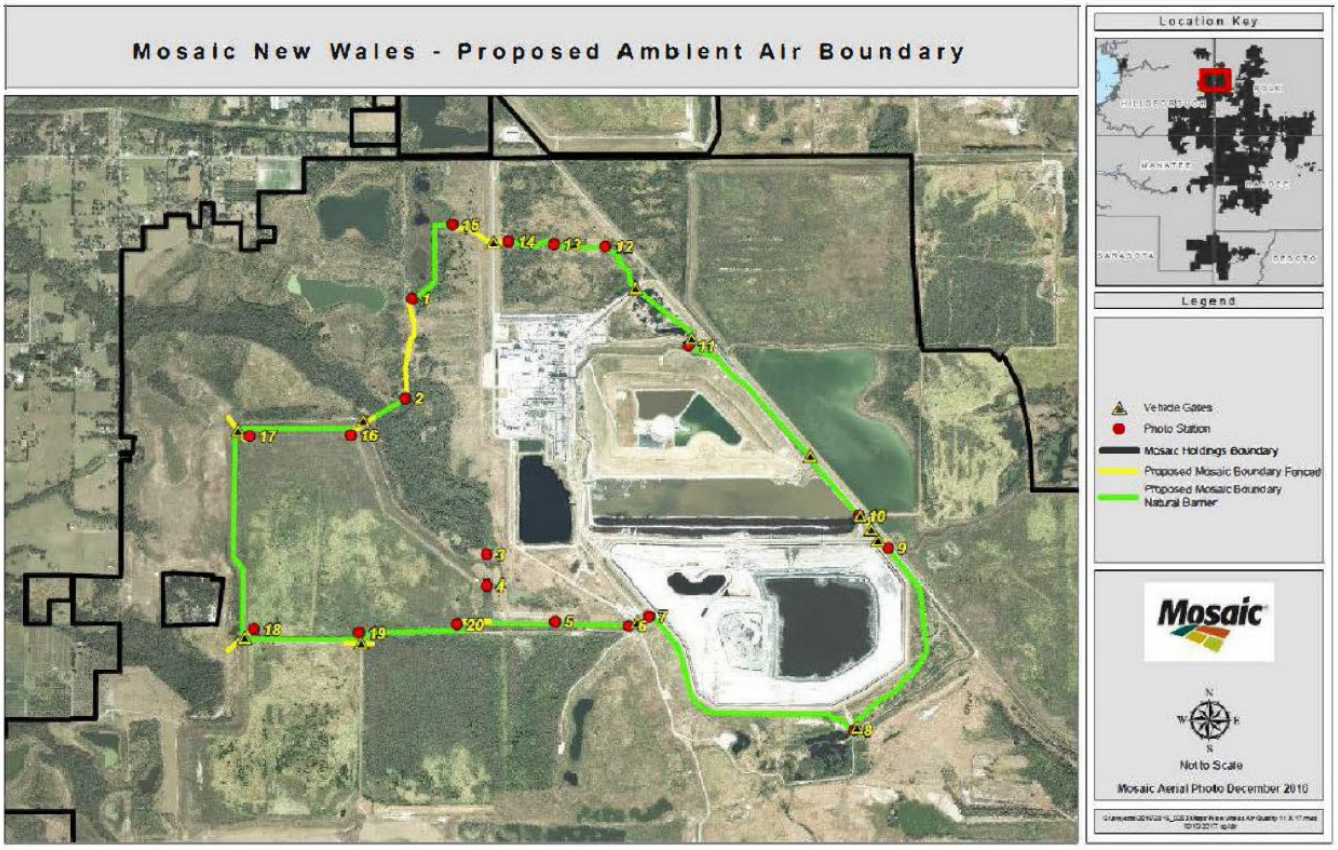
Details of SO_2 Area/Nonpoint and Non-Road Source Categories (tons)									
Description	**Hillsborough County 2014**	**Polk County 2014**	**NAA Portion**						
			2017	**2020**	**2023**	**2026**	**2029**	**2032**
Fires - Agricultural Field Burning	3.56	17.17						
Miscellaneous Non-Industrial NEC	0.89	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**

On August 18, 2019, Mosaic completed improvements to the fence line on company-owned property to deter unauthorized trespassing at New Wales. The ambient air boundary used in the modeling reflects this updated fence line work. The plans for this work were documented in the December 1, 2017 SIP submittal.

Figure 1 below shows the New Wales ambient air boundary, with new fencing and gates in yellow and existing natural barriers in green. In most areas, there are existing natural physical barriers including densely vegetated ditches and canals with steep banks, forested and herbaceous wetlands with dense vegetation and standing water, deep water industrial ponds, and densely vegetated uplands. Fencing was constructed in any area lacking these impenetrable natural barriers and gates were constructed across roadways to preclude access to the general public around the entire plant boundary. **Table 1** below includes descriptions of the barriers for each section of the ambient air boundary.

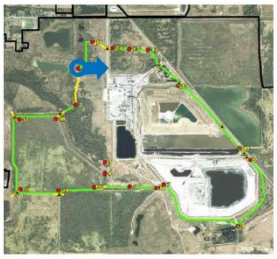
The fence line work completed is the same as the proposed work that was described in the December 1, 2017 SIP submittal except for one proposed gate, at location number 8 in **Figure 1**, which was no longer necessary to preclude public access. This location is currently an active construction area and is no longer a facility point of ingress. There is a pre-existing gate to the southeast of this location that will control access to the plant.

Figure 1: Complete Mosaic New Wales Ambient Air Boundary.



Section	Description
1 – 2	New fencing installed.
2 – 16	Combination of new fencing and areas of thick vegetation and swamp.
16 – 17	Combination of new fencing and the crest of a steep 12 m berm along the outside edge of a clay settling area that consists of heavily vegetated swampland.
17 – 18	
18 – 19	Raised berm through two separate clay settling areas surrounded by heavily vegetated swampland.
19 – 20	
20 – 5	Combination of new fencing and the crest of a 10 m berm along the inside edge of a clay settling area consisting of heavily vegetated swampland.
5 – 6	
6 – 7	New fencing and vehicle gate installed.
7 – 8	Base of a 60 m gypsum stack with a 10 m wide, water-filled ditch.
8 – 9	Water-filled retention/industrial pond.
9 – 10	New fencing and vehicle gates installed.
10 – 11	Two 60 m gypsum stacks and water-filled retention/industrial ponds along raised railway.
11 – 12	Water-filled retention/industrial pond.
12 – 13	Heavily vegetated swampland.
13 – 14	
14 – 15	New fencing and vehicle gate installed.
15 – 1	Heavily vegetated swampland.

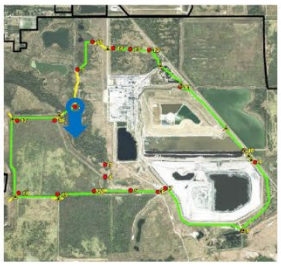
Mosaic provided updated photographs of each numbered segment, provided below.



Location No. 1 – Natural Barrier looking east into forested wetland

2017

Current



Location No. 2 – Natural Barrier
View to South into forested wetland of Mizelle Creek

2017

Current

Boundary between Locations No. 1 and 2
Newly installed fence and signage

No. 1 Looking south

No. 2 Looking North

Location No. 3 – Natural Barrier looking north into forested wetland

2017

Current

Location No. 4 – Natural Barrier looking south into thick woods

2017

Current

Location No. 5 – Natural barrier looking into deep ditch/wetland

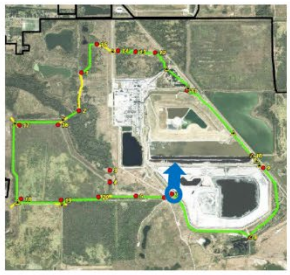
2017

Current

Location No. 6 – ditch along road and newly installed gate

2017

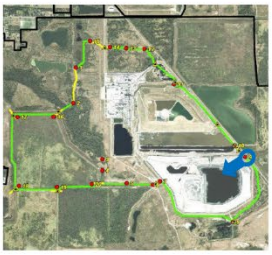
Current



Location No. 7 – Ditch barrier along road looking north

2017

Current



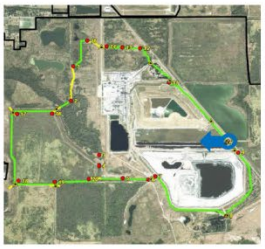
Location No. 9 – wetland Ditch Barrier looking southwest

2017

Current

Locations No. 9 and 10 –
Newly installed gates

Un-numbered access point -
Newly installed fence to prevent vehicle access
ditch barriers on either side



Location No. 10 – ditch barrier looking west

2017

Current

Location No. 11 – ditch barrier looking east

2017

Current

Location No. 12 – natural barrier looking south into forested wetland

2017

Current

Location No. 13 – natural Barrier looking south into dense marsh

2017

Current

Main Entrance Road - Newly installed fence and Live Security Cameras

New Fencing and Signage looking east

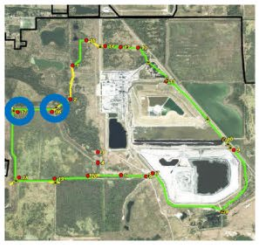
Monitoring Camera with live feed to existing guardhouse

New Fencing and Signage Looking west

Location No. 15 – intersection of new fence and natural barrier looking west into forested wetland along newly installed fence

2017

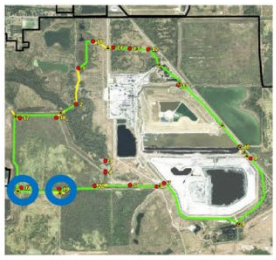
Current



Locations No. 16 and 17
Newly installed gates

Location 16

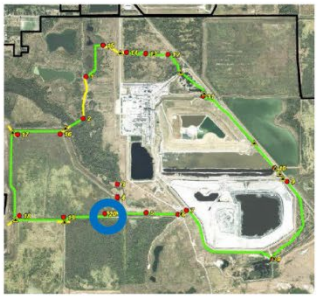
Location 17



Locations No. 18 and 19
Newly installed gates and fencing

Location 18

Location 19



Location No. 20
Newly installed gate

Appendix N – Compliance Demonstration

Mosaic Fertilizer, LLC
Bartow and New Wales Facilities
13830 Circa Crossing Drive
Lithia, FL 33547

September 25, 2019 **ELECTRONIC SUBMITTAL**

Mr. Hastings Read
Florida Department of Environmental Protection
Division of Air Resources Management
2600 Blairstone Road
Tallahassee, FL 32399

RE: **SO_2 NAAQS Demonstration Period**
Mosaic New Wales Facility, Permit Nos. 1050059-106-AC & 1050059-114-AC
Mosaic Bartow Facility, Permit Nos. 1050046-050-AC & 1050046-063-AC

Dear Mr. Read:

This submittal serves as a summary of the sulfur dioxide (SO_2) National Ambient Air Quality Standard (NAAQS) demonstration period for the Mosaic Fertilizer LLC (Mosaic) New Wales and Bartow facilities. In January 2017, air dispersion modeling indicated the area immediately surrounding Mosaic New Wales did not comply with the U.S. Environmental Protection Agency's (U.S. EPA's) 2010 1-hour SO_2 NAAQS final rule. Permit Nos. 1050059-106-AC, 1050059-114-AC, 1050046-050-AC, and 1050046-063-AC, added a SO_2 lb/hr 24-hour block average cap at each facility that are based on allowable SO_2 emissions rates that demonstrate compliance with the U.S. EPA's 2010 1-hour SO_2 NAAQS final rule. In addition to the SO_2 lb/hr 24-hour block average cap at each facility, the New Wales facility has completed ambient air boundary improvements. A summary documenting completion of those improvements was sent previously to the Department via electronic mail on August 20, 2019.

There are five SAPs at the New Wales facility which include SAP No. 1 (EU 002), SAP No. 2 (EU 003), SAP No. 3 (EU 004), SAP No. 4 (EU 042), and SAP No. 5 (EU 044). Under Permit Nos. 1050059-106-AC, 1050059-114-AC, 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 for the New Wales facility. 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 SAPs are in operation. Table 1 demonstrates that the New Wales facility has been operating under the new 1,090 lb SO_2/hour, 24-hour block average cap.

There are three Sulfuric Acid Plants (SAPs) at the Bartow facility which include No. 4 SAP (EU 012), No. 5 SAP (EU 033), and No. 6 SAP (EU 032). Under Permit Nos. 1050046-050-AC and 1050046-050-AC, 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 for the Bartow facility. The cap of 1,110 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 SAPs are in operation. Table 1 demonstrates that the Bartow facility has been operating under the new 1,110 lb SO_2/hour, 24-hour block average cap.

Table 1. SO_2 lb/hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

Date	*New Wales (Cap 1,090 PPH)*	*Bartow (Cap 1,100 PPH)*	*Date*	*New Wales (Cap 1,090 PPH)*	*Bartow (Cap 1,100 PPH)*
8/1/2019	985	1,078	9/1/2019	687	917
8/2/2019	891	1,090	9/2/2019	783	963
8/3/2019	969	1,084	9/3/2019	854	964
8/4/2019	1,012	1,080	9/4/2019	913	900
8/5/2019	1,029	986	9/5/2019	947	791
8/6/2019	947	811	9/6/2019	953	936
8/7/2019	1,040	910	9/7/2019	949	978
8/8/2019	989	930	9/8/2019	1,020	943
8/9/2019	971	1,073	9/9/2019	1,012	946
8/10/2019	1,015	973	9/10/2019	1,007	927
8/11/2019	1,001	1,051	9/11/2019	1,011	953
8/12/2019	997	1,044	9/12/2019	1,024	929
8/13/2019	944	1,044	9/13/2019	970	985
8/14/2019	858	1,012	9/14/2019	1,032	952
8/15/2019	917	980	9/15/2019	1,054	971
8/16/2019	717	1,033	9/16/2019	1,042	986
8/17/2019	898	980	9/17/2019	1,062	869
8/18/2019	892	1,058	9/18/2019	945	851
8/19/2019	910	1,062	9/19/2019	808	826
8/20/2019	918	1,046	9/20/2019	706	1,003
8/21/2019	807	1,073	9/21/2019	923	993
8/22/2019	906	1,020	9/22/2019	1,027	1,070
8/23/2019	847	1,002	9/23/2019	1,021	1,070
8/24/2019	898	959	9/24/2019	988	1,071
8/25/2019	881	973	9/25/2019	1,044	1,048
8/26/2019	926	995	9/26/2019	973	1,043
8/27/2019	810	1,066	9/27/2019	1037	985
8/28/2019	785	952	9/28/2019	1055	1,057
8/29/2019	756	874	9/29/2019	960	849
8/30/2019	730	870	9/30/2019	1015	975
8/31/2019	433	843	10/1/2019	987	995

Measures that are in place to prevent exceedance of the SO_2 lb/hr 24-hour block average caps include alarms (visual & audible) to alert Operators, automated messages to alert site supervision, and interlocks to shut plants down. Both facilities have simulated alarms and interlocks for verification of operation. As with any process, improvements on the alarm and interlock logic are expected to occur, however the initial alarm and interlock logic for each facility is outlined below.

Bartow Alarm/Interlock Measures:

- At 3:00 p.m. the Shift Supervisor will begin to receive hourly text messages if the combined emissions from the three units is over 1,100 lb/hr SO_2, block average
- At 7:00 p.m. site supervision will receive hourly text messages if the combined emissions from the three units is over 1,100 lb/hr SO_2 block average
- At 2:00 a.m. the plant with the highest SO_2 emission rate will shut down if the combined emissions from the three units is over 1,100 lb/hr SO_2 block average

New Wales Alarm/Interlock Measures:

- At any time of the day, the Operator DCS will begin alarming if the facility is above 1,090 lb SO_2/hr block average
- Beginning at 10:00 p.m. and recurring every hour after, site supervision will begin receiving hourly text messages and emails if the combined emissions exceed the designated set point (currently set at 1,000 lb/hr SO_2)
- Beginning at 1:00 a.m. and recurring every hour after, one of the five plants will be shut down if the combined emissions (daily average) from the five units is over the SO_2 cap. Subsequent plants will be shut down on an hourly basis as needed.
- Beginning at 4:00 a.m. and continuously after, one of the five plants will be shut down if the combined emissions (daily average) from the five units is over the SO_2 cap. Subsequent plants will be shut down every twenty minutes as needed.

If you have any questions on the enclosed reports, please do not hesitate to contact me at 813-500-6853, or email me at Santino.Provenzano@mosaicco.com.

Sincerely,

Santino Provenzano
Director, Environmental

cc: D. Jagiella
P. Kane
K. Nadaskay
J. Dominic
R. Fredere
K. Farrell
D. Ford
S. Doty
R. Thomas
SWD_AIR@dep.state.fl.us

New Wales SO_2 lb /hour Data

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/1/2019	891

08/01/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/1/19 6:00 AM	220	0	233	332	207	993
8/1/19 7:00 AM	218	0	236	338	204	997
8/1/19 8:00 AM	214	0	234	319	197	965
8/1/19 9:00 AM	205	0	241	318	203	967
8/1/19 10:00 AM	200	0	227	347	201	976
8/1/19 11:00 AM	197	0	226	0	198	621
8/1/19 12:00 PM	210	0	228	0	193	632
8/1/19 1:00 PM	215	0	222	0	187	624
8/1/19 2:00 PM	229	0	227	0	209	665
8/1/19 3:00 PM	240	0	229	1	202	669
8/1/19 4:00 PM	208	0	233	225	208	873
8/1/19 5:00 PM	203	0	227	200	210	840
8/1/19 6:00 PM	212	0	234	186	212	844
8/1/19 7:00 PM	225	0	229	192	206	852
8/1/19 8:00 PM	224	0	240	214	214	892
8/1/19 9:00 PM	222	0	245	258	215	940
8/1/19 10:00 PM	224	0	237	322	222	1005
8/1/19 11:00 PM	223	0	240	340	222	1026
8/2/19 12:00 AM	223	0	241	356	221	1041
8/2/19 1:00 AM	220	0	246	312	220	996
8/2/19 2:00 AM	222	0	245	310	219	997
8/2/19 3:00 AM	223	0	244	320	221	1008
8/2/19 4:00 AM	220	0	232	328	220	1001
8/2/19 5:00 AM	222	0	247	323	218	1009

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/2/2019	969

08/02/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/2/19 6:00 AM	221	0	218	323	222	983
8/2/19 7:00 AM	221	0	212	345	243	1020
8/2/19 8:00 AM	214	0	226	410	224	1074
8/2/19 9:00 AM	192	0	224	364	210	990
8/2/19 10:00 AM	0	0	229	346	205	777
8/2/19 11:00 AM	0	0	216	359	205	780
8/2/19 12:00 PM	0	0	212	353	202	767
8/2/19 1:00 PM	151	0	211	397	211	970
8/2/19 2:00 PM	167	0	232	385	211	995
8/2/19 3:00 PM	166	0	226	389	209	990
8/2/19 4:00 PM	161	0	226	372	212	972
8/2/19 5:00 PM	155	0	218	402	210	985
8/2/19 6:00 PM	159	0	225	395	213	991
8/2/19 7:00 PM	157	0	232	412	217	1018
8/2/19 8:00 PM	159	0	236	406	209	1010
8/2/19 9:00 PM	155	0	240	394	218	1005
8/2/19 10:00 PM	157	0	241	384	212	994
8/2/19 11:00 PM	156	0	246	397	212	1011
8/3/19 12:00 AM	155	0	245	387	220	1007
8/3/19 1:00 AM	158	0	250	396	213	1017
8/3/19 2:00 AM	160	0	236	378	213	987
8/3/19 3:00 AM	160	0	226	404	214	1004
8/3/19 4:00 AM	160	0	229	388	214	988
8/3/19 5:00 AM	163	0	234	384	211	992

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/3/2019	1012

08/03/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/3/19 6:00 AM	164	0	234	375	207	981
8/3/19 7:00 AM	160	0	232	382	208	982
8/3/19 8:00 AM	159	0	229	384	199	971
8/3/19 9:00 AM	160	0	223	369	203	955
8/3/19 10:00 AM	157	0	230	372	204	962
8/3/19 11:00 AM	153	0	226	371	201	951
8/3/19 12:00 PM	159	0	224	364	199	946
8/3/19 1:00 PM	154	0	210	354	196	915
8/3/19 2:00 PM	158	0	217	371	197	943
8/3/19 3:00 PM	158	0	210	384	196	949
8/3/19 4:00 PM	198	0	216	381	197	992
8/3/19 5:00 PM	216	0	231	397	194	1037
8/3/19 6:00 PM	212	0	240	395	198	1046
8/3/19 7:00 PM	213	0	245	395	208	1061
8/3/19 8:00 PM	217	0	221	399	211	1047
8/3/19 9:00 PM	226	0	226	395	209	1057
8/3/19 10:00 PM	225	0	231	399	211	1067
8/3/19 11:00 PM	222	0	242	231	213	908
8/4/19 12:00 AM	226	0	245	391	210	1071
8/4/19 1:00 AM	227	0	229	389	207	1052
8/4/19 2:00 AM	225	0	225	402	210	1063
8/4/19 3:00 AM	226	0	239	392	214	1070
8/4/19 4:00 AM	226	0	244	386	214	1070
8/4/19 5:00 AM	225	0	245	394	209	1073

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/4/2019	1029

08/04/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/4/19 6:00 AM	224	0	226	389	210	1049
8/4/19 7:00 AM	220	0	212	387	208	1027
8/4/19 8:00 AM	219	0	212	386	208	1025
8/4/19 9:00 AM	217	0	214	389	207	1026
8/4/19 10:00 AM	216	0	197	386	207	1006
8/4/19 11:00 AM	218	0	201	386	203	1008
8/4/19 12:00 PM	218	0	228	380	202	1029
8/4/19 1:00 PM	218	0	235	384	205	1041
8/4/19 2:00 PM	220	0	243	386	208	1057
8/4/19 3:00 PM	218	0	231	383	210	1043
8/4/19 4:00 PM	216	0	229	378	207	1030
8/4/19 5:00 PM	221	0	230	382	209	1042
8/4/19 6:00 PM	218	0	228	381	212	1038
8/4/19 7:00 PM	219	0	227	385	209	1040
8/4/19 8:00 PM	218	0	233	396	208	1055
8/4/19 9:00 PM	221	0	224	399	207	1051
8/4/19 10:00 PM	223	0	229	392	208	1052
8/4/19 11:00 PM	220	0	233	394	209	1056
8/5/19 12:00 AM	216	0	236	398	207	1057
8/5/19 1:00 AM	218	0	232	390	207	1047
8/5/19 2:00 AM	216	0	217	390	205	1029
8/5/19 3:00 AM	216	0	237	388	206	1048
8/5/19 4:00 AM	194	0	246	393	207	1040
8/5/19 5:00 AM	1	0	267	387	204	858

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/5/2019	947

08/05/19						
Time	**SAP1**	**SAP2**	**SAP3**	**SAP4**	**SAP5**	**Total**
8/5/19 6:00 AM	184	0	235	401	204	1024
8/5/19 7:00 AM	233	0	237	394	211	1075
8/5/19 8:00 AM	236	0	232	399	204	1072
8/5/19 9:00 AM	226	0	246	399	203	1075
8/5/19 10:00 AM	204	0	221	392	204	1022
8/5/19 11:00 AM	202	0	236	395	205	1039
8/5/19 12:00 PM	211	0	241	395	204	1049
8/5/19 1:00 PM	196	0	238	397	212	1042
8/5/19 2:00 PM	63	0	249	391	214	916
8/5/19 3:00 PM	66	0	246	391	197	898
8/5/19 4:00 PM	0	0	246	394	198	838
8/5/19 5:00 PM	0	0	236	400	201	838
8/5/19 6:00 PM	0	0	239	425	211	875
8/5/19 7:00 PM	0	0	238	389	206	833
8/5/19 8:00 PM	0	0	217	386	203	806
8/5/19 9:00 PM	0	0	221	392	208	820
8/5/19 10:00 PM	0	0	221	394	207	822
8/5/19 11:00 PM	1	0	219	392	206	818
8/6/19 12:00 AM	158	0	204	396	201	959
8/6/19 1:00 AM	151	0	218	386	206	961
8/6/19 2:00 AM	163	0	228	379	205	975
8/6/19 3:00 AM	142	0	242	388	202	973
8/6/19 4:00 AM	173	0	240	388	200	1001
8/6/19 5:00 AM	191	0	232	383	203	1008

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/6/2019	1040

08/06/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/6/19 6:00 AM	201	0	226	384	202	1014
8/6/19 7:00 AM	213	0	230	379	203	1025
8/6/19 8:00 AM	217	0	230	329	203	980
8/6/19 9:00 AM	196	0	237	383	205	1022
8/6/19 10:00 AM	191	0	238	381	202	1013
8/6/19 11:00 AM	199	0	240	390	205	1034
8/6/19 12:00 PM	197	0	217	390	208	1011
8/6/19 1:00 PM	210	0	265	402	210	1088
8/6/19 2:00 PM	222	0	245	399	211	1077
8/6/19 3:00 PM	222	0	220	397	213	1053
8/6/19 4:00 PM	214	0	218	401	214	1047
8/6/19 5:00 PM	215	0	242	405	214	1076
8/6/19 6:00 PM	227	0	244	405	220	1096
8/6/19 7:00 PM	219	0	242	380	213	1054
8/6/19 8:00 PM	225	0	247	399	210	1081
8/6/19 9:00 PM	212	0	261	374	192	1039
8/6/19 10:00 PM	215	0	226	378	196	1016
8/6/19 11:00 PM	211	0	228	382	203	1024
8/7/19 12:00 AM	219	0	229	383	201	1032
8/7/19 1:00 AM	226	0	231	375	207	1039
8/7/19 2:00 AM	209	0	238	390	207	1044
8/7/19 3:00 AM	206	0	235	394	206	1041
8/7/19 4:00 AM	216	0	237	397	203	1052
8/7/19 5:00 AM	213	0	238	392	202	1042

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/7/2019	989

08/07/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/7/19 6:00 AM	214	0	240	392	199	1046
8/7/19 7:00 AM	212	0	231	396	197	1036
8/7/19 8:00 AM	212	0	234	401	197	1044
8/7/19 9:00 AM	219	0	221	380	196	1015
8/7/19 10:00 AM	213	0	248	387	195	1043
8/7/19 11:00 AM	213	0	233	386	197	1028
8/7/19 12:00 PM	216	0	158	384	200	958
8/7/19 1:00 PM	218	0	150	392	204	964
8/7/19 2:00 PM	213	0	152	387	204	957
8/7/19 3:00 PM	215	0	162	387	202	966
8/7/19 4:00 PM	215	0	154	399	206	973
8/7/19 5:00 PM	223	0	168	419	207	1017
8/7/19 6:00 PM	222	0	187	402	203	1014
8/7/19 7:00 PM	216	0	187	377	197	976
8/7/19 8:00 PM	220	0	161	374	199	954
8/7/19 9:00 PM	222	0	161	384	202	969
8/7/19 10:00 PM	221	0	163	384	207	975
8/7/19 11:00 PM	218	0	165	385	204	972
8/8/19 12:00 AM	215	0	173	390	201	978
8/8/19 1:00 AM	216	0	172	390	199	977
8/8/19 2:00 AM	214	0	159	389	199	961
8/8/19 3:00 AM	214	0	164	388	202	968
8/8/19 4:00 AM	217	0	164	385	204	970
8/8/19 5:00 AM	218	0	163	390	204	975

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/8/2019	971

08/08/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/8/19 6:00 AM	218	0	160	387	205	970
8/8/19 7:00 AM	218	0	153	388	203	962
8/8/19 8:00 AM	218	0	155	388	204	966
8/8/19 9:00 AM	216	0	147	381	202	946
8/8/19 10:00 AM	227	0	147	371	202	947
8/8/19 11:00 AM	216	0	154	365	203	938
8/8/19 12:00 PM	219	0	158	386	203	966
8/8/19 1:00 PM	226	0	163	393	207	988
8/8/19 2:00 PM	220	0	172	373	202	966
8/8/19 3:00 PM	220	0	163	408	202	994
8/8/19 4:00 PM	223	0	160	413	201	997
8/8/19 5:00 PM	221	0	168	390	205	985
8/8/19 6:00 PM	222	0	159	399	206	986
8/8/19 7:00 PM	224	0	159	383	203	968
8/8/19 8:00 PM	226	0	166	381	206	978
8/8/19 9:00 PM	224	0	164	394	204	986
8/8/19 10:00 PM	225	0	159	387	205	975
8/8/19 11:00 PM	226	0	158	388	206	978
8/9/19 12:00 AM	223	0	155	389	207	975
8/9/19 1:00 AM	219	0	165	380	206	971
8/9/19 2:00 AM	216	0	152	378	209	956
8/9/19 3:00 AM	220	0	153	379	209	961
8/9/19 4:00 AM	217	0	148	383	211	958
8/9/19 5:00 AM	219	0	157	383	207	966

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/9/2019	1015

08/09/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/9/19 6:00 AM	219	0	154	393	210	976
8/9/19 7:00 AM	219	0	156	391	209	975
8/9/19 8:00 AM	218	0	149	423	207	997
8/9/19 9:00 AM	217	0	150	430	207	1004
8/9/19 10:00 AM	218	0	151	437	209	1016
8/9/19 11:00 AM	215	0	147	440	209	1012
8/9/19 12:00 PM	219	0	146	441	207	1014
8/9/19 1:00 PM	219	0	155	432	205	1011
8/9/19 2:00 PM	219	0	154	431	206	1009
8/9/19 3:00 PM	218	0	160	434	206	1018
8/9/19 4:00 PM	217	0	164	440	209	1031
8/9/19 5:00 PM	219	0	151	446	217	1032
8/9/19 6:00 PM	219	0	160	435	214	1029
8/9/19 7:00 PM	220	0	162	433	208	1023
8/9/19 8:00 PM	220	0	158	421	211	1010
8/9/19 9:00 PM	223	0	159	429	214	1025
8/9/19 10:00 PM	224	0	161	432	211	1028
8/9/19 11:00 PM	223	0	162	444	216	1045
8/10/19 12:00 AM	224	0	160	441	196	1021
8/10/19 1:00 AM	223	0	159	433	201	1016
8/10/19 2:00 AM	228	0	161	435	198	1023
8/10/19 3:00 AM	221	0	155	436	196	1008
8/10/19 4:00 AM	223	0	159	432	199	1012
8/10/19 5:00 AM	221	0	156	426	197	1000

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/10/2019	1001

08/10/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/10/19 6:00 AM	223	0	154	427	199	1003
8/10/19 7:00 AM	223	0	151	428	203	1006
8/10/19 8:00 AM	224	0	148	428	201	1001
8/10/19 9:00 AM	221	0	146	426	199	993
8/10/19 10:00 AM	222	0	143	438	193	996
8/10/19 11:00 AM	223	0	147	433	198	1000
8/10/19 12:00 PM	223	0	157	445	214	1039
8/10/19 1:00 PM	225	0	157	435	203	1020
8/10/19 2:00 PM	224	0	145	442	206	1017
8/10/19 3:00 PM	214	0	149	331	204	898
8/10/19 4:00 PM	218	0	152	377	208	955
8/10/19 5:00 PM	223	0	157	492	199	1070
8/10/19 6:00 PM	226	0	152	404	192	974
8/10/19 7:00 PM	220	0	154	383	207	964
8/10/19 8:00 PM	224	0	155	394	210	983
8/10/19 9:00 PM	225	0	150	425	210	1010
8/10/19 10:00 PM	223	0	149	428	207	1007
8/10/19 11:00 PM	225	0	150	426	210	1011
8/11/19 12:00 AM	226	0	155	424	205	1011
8/11/19 1:00 AM	226	0	156	422	196	1000
8/11/19 2:00 AM	224	0	158	433	200	1015
8/11/19 3:00 AM	224	0	158	435	203	1021
8/11/19 4:00 AM	226	0	155	428	206	1014
8/11/19 5:00 AM	224	0	155	423	210	1012

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/11/2019	997

08/11/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/11/19 6:00 AM	226	0	157	433	211	1027
8/11/19 7:00 AM	229	0	146	442	208	1025
8/11/19 8:00 AM	229	0	147	435	76	887
8/11/19 9:00 AM	226	0	152	377	195	950
8/11/19 10:00 AM	226	0	153	415	208	1002
8/11/19 11:00 AM	228	0	150	395	209	983
8/11/19 12:00 PM	224	0	155	406	209	994
8/11/19 1:00 PM	224	0	156	407	206	994
8/11/19 2:00 PM	232	0	146	411	208	997
8/11/19 3:00 PM	225	0	153	404	210	992
8/11/19 4:00 PM	210	0	153	404	202	969
8/11/19 5:00 PM	215	0	156	420	207	998
8/11/19 6:00 PM	216	0	154	416	204	989
8/11/19 7:00 PM	216	0	153	437	204	1010
8/11/19 8:00 PM	209	0	157	432	210	1008
8/11/19 9:00 PM	215	0	155	432	209	1012
8/11/19 10:00 PM	211	0	156	420	206	993
8/11/19 11:00 PM	212	0	157	438	211	1017
8/12/19 12:00 AM	210	0	153	428	207	998
8/12/19 1:00 AM	210	0	163	430	208	1012
8/12/19 2:00 AM	210	0	170	431	208	1019
8/12/19 3:00 AM	210	0	166	423	209	1009
8/12/19 4:00 AM	210	0	166	439	210	1025
8/12/19 5:00 AM	210	0	170	439	209	1028

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/12/2019	944

08/12/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/12/19 6:00 AM	209	0	172	432	207	1021
8/12/19 7:00 AM	210	0	169	430	208	1018
8/12/19 8:00 AM	211	0	173	431	210	1025
8/12/19 9:00 AM	206	0	177	430	206	1020
8/12/19 10:00 AM	209	0	173	416	207	1005
8/12/19 11:00 AM	209	0	178	427	198	1012
8/12/19 12:00 PM	187	0	167	429	199	982
8/12/19 1:00 PM	181	0	175	423	198	977
8/12/19 2:00 PM	182	0	160	418	199	959
8/12/19 3:00 PM	189	0	168	439	196	992
8/12/19 4:00 PM	188	0	165	435	201	989
8/12/19 5:00 PM	185	0	164	425	201	975
8/12/19 6:00 PM	187	0	159	430	202	979
8/12/19 7:00 PM	198	0	164	425	205	992
8/12/19 8:00 PM	193	0	168	396	192	950
8/12/19 9:00 PM	189	0	168	428	209	994
8/12/19 10:00 PM	188	0	168	437	198	990
8/12/19 11:00 PM	189	0	172	448	201	1010
8/13/19 12:00 AM	171	0	167	448	199	986
8/13/19 1:00 AM	0	0	161	444	199	804
8/13/19 2:00 AM	0	0	163	427	206	796
8/13/19 3:00 AM	0	0	164	414	202	779
8/13/19 4:00 AM	0	0	162	365	200	726
8/13/19 5:00 AM	0	0	160	404	201	765

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/13/2019	858

08/13/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/13/19 6:00 AM	0	0	163	403	202	768
8/13/19 7:00 AM	0	0	171	419	202	791
8/13/19 8:00 AM	0	0	165	418	207	790
8/13/19 9:00 AM	0	0	169	424	207	800
8/13/19 10:00 AM	0	0	163	402	205	770
8/13/19 11:00 AM	0	0	159	408	201	768
8/13/19 12:00 PM	0	0	174	434	199	807
8/13/19 1:00 PM	0	0	178	395	178	751
8/13/19 2:00 PM	0	0	201	411	207	819
8/13/19 3:00 PM	0	0	220	420	194	833
8/13/19 4:00 PM	0	0	171	425	195	790
8/13/19 5:00 PM	0	0	175	412	196	783
8/13/19 6:00 PM	0	0	150	412	198	759
8/13/19 7:00 PM	1	0	34	411	201	645
8/13/19 8:00 PM	325	0	74	358	201	957
8/13/19 9:00 PM	199	0	166	405	203	972
8/13/19 10:00 PM	168	0	168	445	200	978
8/13/19 11:00 PM	188	0	163	420	192	959
8/14/19 12:00 AM	202	0	163	413	194	969
8/14/19 1:00 AM	188	0	166	420	197	968
8/14/19 2:00 AM	222	0	162	420	197	997
8/14/19 3:00 AM	227	0	160	394	198	975
8/14/19 4:00 AM	215	0	163	410	198	984
8/14/19 5:00 AM	215	0	166	404	198	979

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/14/2019	917

08/14/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/14/19 6:00 AM	211	0	170	412	196	984
8/14/19 7:00 AM	186	0	188	428	196	996
8/14/19 8:00 AM	187	0	180	428	198	989
8/14/19 9:00 AM	181	0	188	422	196	986
8/14/19 10:00 AM	180	0	167	438	199	983
8/14/19 11:00 AM	184	0	161	435	200	979
8/14/19 12:00 PM	186	0	167	438	203	993
8/14/19 1:00 PM	184	0	174	424	198	981
8/14/19 2:00 PM	183	0	177	369	202	931
8/14/19 3:00 PM	174	0	175	400	200	950
8/14/19 4:00 PM	177	0	173	409	198	958
8/14/19 5:00 PM	177	0	159	414	197	947
8/14/19 6:00 PM	177	0	170	428	196	970
8/14/19 7:00 PM	180	0	157	427	198	963
8/14/19 8:00 PM	178	0	151	410	203	941
8/14/19 9:00 PM	178	0	153	404	203	938
8/14/19 10:00 PM	177	0	157	414	203	951
8/14/19 11:00 PM	176	0	155	411	207	948
8/15/19 12:00 AM	178	0	156	419	204	958
8/15/19 1:00 AM	180	0	155	421	203	959
8/15/19 2:00 AM	178	0	158	428	202	965
8/15/19 3:00 AM	178	0	155	198	189	719
8/15/19 4:00 AM	186	0	156	0	198	541
8/15/19 5:00 AM	189	0	162	0	204	554

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/15/2019	717

08/15/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/15/19 6:00 AM	181	0	160	0	207	548
8/15/19 7:00 AM	172	0	153	0	204	529
8/15/19 8:00 AM	172	0	160	0	209	540
8/15/19 9:00 AM	167	0	151	0	204	522
8/15/19 10:00 AM	177	0	158	0	205	541
8/15/19 11:00 AM	169	0	159	0	206	535
8/15/19 12:00 PM	168	0	153	0	202	523
8/15/19 1:00 PM	177	0	153	0	208	539
8/15/19 2:00 PM	173	0	155	0	199	526
8/15/19 3:00 PM	173	0	167	1	13	353
8/15/19 4:00 PM	170	0	157	359	213	898
8/15/19 5:00 PM	171	0	155	342	211	879
8/15/19 6:00 PM	173	0	156	115	209	654
8/15/19 7:00 PM	170	0	153	192	196	712
8/15/19 8:00 PM	170	0	156	256	202	784
8/15/19 9:00 PM	171	0	156	244	197	769
8/15/19 10:00 PM	172	0	157	343	200	872
8/15/19 11:00 PM	176	0	158	447	209	989
8/16/19 12:00 AM	175	0	155	406	203	939
8/16/19 1:00 AM	174	0	156	416	198	943
8/16/19 2:00 AM	175	0	160	430	202	968
8/16/19 3:00 AM	176	0	161	423	203	963
8/16/19 4:00 AM	186	0	158	168	175	687
8/16/19 5:00 AM	181	0	153	281	209	824

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/16/2019	898

08/16/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/16/19 6:00 AM	182	0	156	250	201	788
8/16/19 7:00 AM	181	0	158	383	189	910
8/16/19 8:00 AM	176	0	161	301	184	821
8/16/19 9:00 AM	176	0	161	329	188	854
8/16/19 10:00 AM	172	0	159	357	190	878
8/16/19 11:00 AM	174	0	158	434	194	960
8/16/19 12:00 PM	175	0	158	372	193	897
8/16/19 1:00 PM	175	0	156	429	198	958
8/16/19 2:00 PM	175	0	158	412	196	941
8/16/19 3:00 PM	175	0	155	428	190	948
8/16/19 4:00 PM	175	0	165	404	190	935
8/16/19 5:00 PM	172	0	168	402	179	920
8/16/19 6:00 PM	173	0	154	396	192	915
8/16/19 7:00 PM	176	0	150	458	199	984
8/16/19 8:00 PM	174	0	151	462	197	983
8/16/19 9:00 PM	174	0	161	92	186	612
8/16/19 10:00 PM	179	0	161	386	183	910
8/16/19 11:00 PM	178	0	156	346	185	865
8/17/19 12:00 AM	174	0	162	398	172	907
8/17/19 1:00 AM	174	0	163	396	187	920
8/17/19 2:00 AM	178	0	156	410	184	929
8/17/19 3:00 AM	171	0	160	403	189	923
8/17/19 4:00 AM	171	0	161	371	187	888
8/17/19 5:00 AM	170	0	163	384	187	905

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/17/2019	892

08/17/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/17/19 6:00 AM	175	0	156	378	192	901
8/17/19 7:00 AM	177	0	158	407	189	931
8/17/19 8:00 AM	174	0	153	334	185	846
8/17/19 9:00 AM	172	0	153	352	183	860
8/17/19 10:00 AM	172	0	151	381	185	889
8/17/19 11:00 AM	180	0	163	433	188	965
8/17/19 12:00 PM	180	0	156	411	196	942
8/17/19 1:00 PM	113	0	166	410	199	889
8/17/19 2:00 PM	0	0	165	432	202	799
8/17/19 3:00 PM	1	0	168	426	198	792
8/17/19 4:00 PM	5	0	164	430	202	801
8/17/19 5:00 PM	0	0	172	402	190	764
8/17/19 6:00 PM	31	0	157	409	199	794
8/17/19 7:00 PM	153	0	149	399	196	898
8/17/19 8:00 PM	105	0	149	412	201	867
8/17/19 9:00 PM	127	0	152	405	198	882
8/17/19 10:00 PM	169	0	155	407	201	929
8/17/19 11:00 PM	170	0	151	407	202	927
8/18/19 12:00 AM	168	0	156	410	205	939
8/18/19 1:00 AM	174	0	158	419	207	957
8/18/19 2:00 AM	172	0	160	419	207	958
8/18/19 3:00 AM	172	0	159	422	204	956
8/18/19 4:00 AM	171	0	158	429	206	965
8/18/19 5:00 AM	172	0	152	425	202	950

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/18/2019	910

08/18/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/18/19 6:00 AM	169	0	153	424	198	944
8/18/19 7:00 AM	168	0	158	436	202	963
8/18/19 8:00 AM	173	0	166	434	200	972
8/18/19 9:00 AM	176	0	159	427	191	953
8/18/19 10:00 AM	175	0	156	459	194	983
8/18/19 11:00 AM	180	0	152	439	196	966
8/18/19 12:00 PM	179	0	146	402	171	899
8/18/19 1:00 PM	180	0	153	360	97	789
8/18/19 2:00 PM	177	0	153	242	0	571
8/18/19 3:00 PM	175	0	152	290	52	670
8/18/19 4:00 PM	175	0	155	352	198	881
8/18/19 5:00 PM	178	0	157	377	164	877
8/18/19 6:00 PM	181	0	165	424	165	935
8/18/19 7:00 PM	179	0	155	411	167	911
8/18/19 8:00 PM	174	0	149	420	185	927
8/18/19 9:00 PM	183	0	152	410	201	946
8/18/19 10:00 PM	180	0	152	414	201	947
8/18/19 11:00 PM	177	0	148	410	198	932
8/19/19 12:00 AM	177	0	150	405	196	928
8/19/19 1:00 AM	175	0	155	401	198	929
8/19/19 2:00 AM	176	0	156	409	202	944
8/19/19 3:00 AM	179	0	162	408	198	946
8/19/19 4:00 AM	176	0	164	411	199	950
8/19/19 5:00 AM	177	0	167	415	203	961

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/19/2019	918

08/19/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/19/19 6:00 AM	178	0	163	403	203	947
8/19/19 7:00 AM	176	0	157	401	202	936
8/19/19 8:00 AM	177	0	156	389	202	925
8/19/19 9:00 AM	178	0	155	393	202	928
8/19/19 10:00 AM	174	0	154	395	201	924
8/19/19 11:00 AM	174	0	151	387	201	912
8/19/19 12:00 PM	177	0	150	385	199	911
8/19/19 1:00 PM	177	0	152	394	196	916
8/19/19 2:00 PM	177	0	156	403	200	935
8/19/19 3:00 PM	177	0	171	404	201	953
8/19/19 4:00 PM	179	0	178	413	202	972
8/19/19 5:00 PM	180	0	153	401	201	936
8/19/19 6:00 PM	176	0	159	387	192	914
8/19/19 7:00 PM	174	0	157	375	192	898
8/19/19 8:00 PM	174	0	154	389	195	911
8/19/19 9:00 PM	173	0	159	389	197	917
8/19/19 10:00 PM	174	0	157	400	194	924
8/19/19 11:00 PM	175	0	155	397	197	923
8/20/19 12:00 AM	176	0	152	403	198	929
8/20/19 1:00 AM	174	0	150	390	199	912
8/20/19 2:00 AM	175	0	149	396	199	919
8/20/19 3:00 AM	174	0	148	393	198	912
8/20/19 4:00 AM	175	0	154	391	198	918
8/20/19 5:00 AM	177	0	157	399	0	733

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/20/2019	807

08/20/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/20/19 6:00 AM	179	0	159	396	0	735
8/20/19 7:00 AM	181	0	164	401	0	746
8/20/19 8:00 AM	180	0	165	396	0	738
8/20/19 9:00 AM	177	0	158	405	0	740
8/20/19 10:00 AM	181	0	150	404	0	734
8/20/19 11:00 AM	186	0	161	372	0	720
8/20/19 12:00 PM	178	0	174	402	0	754
8/20/19 1:00 PM	177	0	169	394	0	740
8/20/19 2:00 PM	180	0	163	397	0	740
8/20/19 3:00 PM	181	0	175	415	0	771
8/20/19 4:00 PM	176	0	165	374	0	715
8/20/19 5:00 PM	177	0	158	351	1	688
8/20/19 6:00 PM	179	0	163	86	261	687
8/20/19 7:00 PM	176	0	169	405	6	756
8/20/19 8:00 PM	181	0	173	388	124	866
8/20/19 9:00 PM	186	0	170	396	237	989
8/20/19 10:00 PM	179	0	160	380	83	802
8/20/19 11:00 PM	181	0	155	428	78	842
8/21/19 12:00 AM	179	0	156	430	158	922
8/21/19 1:00 AM	176	0	153	432	169	930
8/21/19 2:00 AM	178	0	160	430	100	868
8/21/19 3:00 AM	181	0	162	433	166	942
8/21/19 4:00 AM	179	0	160	424	169	929
8/21/19 5:00 AM	180	0	159	428	161	928

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/21/2019	906

08/21/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/21/19 6:00 AM	185	0	157	430	173	945
8/21/19 7:00 AM	184	0	149	430	119	882
8/21/19 8:00 AM	180	0	146	440	108	874
8/21/19 9:00 AM	180	0	150	436	103	869
8/21/19 10:00 AM	181	0	146	442	90	859
8/21/19 11:00 AM	180	0	154	439	137	910
8/21/19 12:00 PM	184	0	170	431	124	908
8/21/19 1:00 PM	182	0	163	432	122	899
8/21/19 2:00 PM	183	0	150	428	121	882
8/21/19 3:00 PM	184	0	167	425	118	894
8/21/19 4:00 PM	181	0	167	428	116	892
8/21/19 5:00 PM	182	0	158	430	117	888
8/21/19 6:00 PM	183	0	153	433	119	888
8/21/19 7:00 PM	189	0	169	435	119	912
8/21/19 8:00 PM	185	0	160	433	113	892
8/21/19 9:00 PM	178	0	159	444	113	893
8/21/19 10:00 PM	176	0	155	433	115	878
8/21/19 11:00 PM	180	0	154	442	139	915
8/22/19 12:00 AM	184	0	155	447	170	955
8/22/19 1:00 AM	184	0	154	445	178	961
8/22/19 2:00 AM	180	0	154	423	166	923
8/22/19 3:00 AM	182	0	157	439	170	948
8/22/19 4:00 AM	182	0	162	440	166	951
8/22/19 5:00 AM	183	0	163	443	179	968

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/22/2019	847

08/22/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/22/19 6:00 AM	182	0	157	435	178	953
8/22/19 7:00 AM	182	0	162	438	108	889
8/22/19 8:00 AM	189	0	156	413	0	758
8/22/19 9:00 AM	191	0	151	441	0	783
8/22/19 10:00 AM	176	0	158	386	0	721
8/22/19 11:00 AM	182	0	178	437	0	797
8/22/19 12:00 PM	183	0	175	417	0	775
8/22/19 1:00 PM	183	0	165	422	0	770
8/22/19 2:00 PM	183	0	156	425	0	764
8/22/19 3:00 PM	180	0	145	415	0	740
8/22/19 4:00 PM	177	0	168	417	0	763
8/22/19 5:00 PM	184	0	167	405	1	757
8/22/19 6:00 PM	179	0	163	408	99	848
8/22/19 7:00 PM	183	0	167	393	152	895
8/22/19 8:00 PM	189	0	172	380	76	816
8/22/19 9:00 PM	187	0	165	423	99	874
8/22/19 10:00 PM	182	0	162	418	109	870
8/22/19 11:00 PM	176	0	163	427	130	896
8/23/19 12:00 AM	177	0	159	437	127	901
8/23/19 1:00 AM	179	0	156	444	181	960
8/23/19 2:00 AM	178	0	161	446	180	965
8/23/19 3:00 AM	176	0	161	435	173	945
8/23/19 4:00 AM	178	0	162	436	186	963
8/23/19 5:00 AM	186	0	157	436	187	965

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/23/2019	898

08/23/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/23/19 6:00 AM	181	0	158	439	188	966
8/23/19 7:00 AM	179	0	153	433	189	954
8/23/19 8:00 AM	182	0	156	425	193	955
8/23/19 9:00 AM	181	0	151	422	190	944
8/23/19 10:00 AM	178	0	144	397	183	903
8/23/19 11:00 AM	180	0	147	402	187	916
8/23/19 12:00 PM	181	0	147	401	194	923
8/23/19 1:00 PM	154	0	144	394	188	877
8/23/19 2:00 PM	144	0	150	403	195	892
8/23/19 3:00 PM	148	0	157	411	191	907
8/23/19 4:00 PM	153	0	147	405	193	899
8/23/19 5:00 PM	153	0	145	401	188	887
8/23/19 6:00 PM	154	0	148	404	192	898
8/23/19 7:00 PM	157	0	152	399	189	897
8/23/19 8:00 PM	153	0	152	401	188	893
8/23/19 9:00 PM	155	0	152	388	189	884
8/23/19 10:00 PM	151	0	154	371	178	854
8/23/19 11:00 PM	146	0	156	378	179	858
8/24/19 12:00 AM	150	0	158	371	182	861
8/24/19 1:00 AM	150	0	156	377	188	871
8/24/19 2:00 AM	149	0	160	390	191	890
8/24/19 3:00 AM	151	0	151	388	190	880
8/24/19 4:00 AM	150	0	148	389	186	873
8/24/19 5:00 AM	149	0	146	390	189	875

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/24/2019	881

08/24/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/24/19 6:00 AM	147	0	149	389	185	870
8/24/19 7:00 AM	146	0	152	390	185	871
8/24/19 8:00 AM	146	0	150	391	184	869
8/24/19 9:00 AM	145	0	148	388	187	868
8/24/19 10:00 AM	149	0	147	390	183	868
8/24/19 11:00 AM	151	0	149	392	173	866
8/24/19 12:00 PM	147	0	141	388	170	845
8/24/19 1:00 PM	143	0	147	373	166	828
8/24/19 2:00 PM	145	0	152	382	186	865
8/24/19 3:00 PM	144	0	152	382	210	887
8/24/19 4:00 PM	143	0	152	388	191	875
8/24/19 5:00 PM	143	0	160	388	190	881
8/24/19 6:00 PM	144	0	166	391	195	896
8/24/19 7:00 PM	141	0	165	391	195	892
8/24/19 8:00 PM	142	0	163	390	198	892
8/24/19 9:00 PM	140	0	156	407	195	897
8/24/19 10:00 PM	140	0	155	421	197	913
8/24/19 11:00 PM	143	0	152	416	194	904
8/25/19 12:00 AM	143	0	150	400	192	885
8/25/19 1:00 AM	142	0	150	399	189	878
8/25/19 2:00 AM	142	0	151	399	188	880
8/25/19 3:00 AM	144	0	153	400	192	888
8/25/19 4:00 AM	142	0	154	421	187	904
8/25/19 5:00 AM	142	0	152	410	190	895

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/25/2019	926

08/25/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/25/19 6:00 AM	142	0	153	420	189	904
8/25/19 7:00 AM	139	0	151	453	186	929
8/25/19 8:00 AM	143	0	156	413	189	902
8/25/19 9:00 AM	137	0	155	412	191	895
8/25/19 10:00 AM	137	0	149	408	192	886
8/25/19 11:00 AM	140	0	150	412	190	893
8/25/19 12:00 PM	137	0	149	403	194	882
8/25/19 1:00 PM	138	0	148	427	199	912
8/25/19 2:00 PM	139	0	156	428	208	930
8/25/19 3:00 PM	140	0	158	431	211	939
8/25/19 4:00 PM	140	0	157	430	211	938
8/25/19 5:00 PM	141	0	156	430	210	937
8/25/19 6:00 PM	142	0	156	430	209	937
8/25/19 7:00 PM	143	0	155	429	209	936
8/25/19 8:00 PM	144	0	154	429	208	935
8/25/19 9:00 PM	145	0	154	429	207	934
8/25/19 10:00 PM	146	0	153	428	206	933
8/25/19 11:00 PM	147	0	152	428	206	932
8/26/19 12:00 AM	147	0	152	428	205	932
8/26/19 1:00 AM	148	0	151	427	204	931
8/26/19 2:00 AM	149	0	150	427	204	930
8/26/19 3:00 AM	150	0	150	427	203	929
8/26/19 4:00 AM	151	0	149	426	202	928
8/26/19 5:00 AM	152	0	148	426	202	927

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/26/2019	810

08/26/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/26/19 6:00 AM	153	0	149	427	202	930
8/26/19 7:00 AM	153	0	152	461	196	962
8/26/19 8:00 AM	152	0	150	338	175	815
8/26/19 9:00 AM	153	0	156	369	198	875
8/26/19 10:00 AM	152	0	153	405	206	917
8/26/19 11:00 AM	151	0	153	135	235	675
8/26/19 12:00 PM	150	0	155	0	201	507
8/26/19 1:00 PM	148	0	160	36	153	496
8/26/19 2:00 PM	150	0	165	361	209	885
8/26/19 3:00 PM	151	0	157	383	200	891
8/26/19 4:00 PM	150	0	156	348	204	858
8/26/19 5:00 PM	145	0	163	325	196	829
8/26/19 6:00 PM	135	0	169	383	191	877
8/26/19 7:00 PM	132	0	166	362	200	860
8/26/19 8:00 PM	149	0	157	318	193	816
8/26/19 9:00 PM	1	0	160	323	187	671
8/26/19 10:00 PM	2	0	153	360	192	707
8/26/19 11:00 PM	62	0	146	402	196	805
8/27/19 12:00 AM	78	0	150	405	196	829
8/27/19 1:00 AM	69	0	152	422	199	842
8/27/19 2:00 AM	113	0	153	429	206	901
8/27/19 3:00 AM	63	0	150	425	200	838
8/27/19 4:00 AM	65	0	153	427	198	843
8/27/19 5:00 AM	72	0	152	432	199	854

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/27/2019	785

08/27/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/27/19 6:00 AM	67	0	152	431	199	848
8/27/19 7:00 AM	65	0	154	440	197	856
8/27/19 8:00 AM	66	0	15	306	153	540
8/27/19 9:00 AM	64	0	89	348	171	672
8/27/19 10:00 AM	67	0	107	285	179	638
8/27/19 11:00 AM	65	0	98	331	173	666
8/27/19 12:00 PM	65	0	92	315	173	646
8/27/19 1:00 PM	55	0	102	319	183	659
8/27/19 2:00 PM	56	0	118	353	201	727
8/27/19 3:00 PM	56	0	121	316	182	674
8/27/19 4:00 PM	56	0	120	291	201	668
8/27/19 5:00 PM	55	0	159	317	178	709
8/27/19 6:00 PM	75	0	130	330	167	702
8/27/19 7:00 PM	118	0	135	334	171	757
8/27/19 8:00 PM	129	0	156	358	186	828
8/27/19 9:00 PM	124	0	164	400	193	881
8/27/19 10:00 PM	122	0	165	404	200	892
8/27/19 11:00 PM	136	0	172	421	200	929
8/28/19 12:00 AM	139	0	168	417	200	924
8/28/19 1:00 AM	139	0	159	419	203	920
8/28/19 2:00 AM	139	0	155	415	197	906
8/28/19 3:00 AM	139	0	162	400	205	906
8/28/19 4:00 AM	139	0	162	394	201	895
8/28/19 5:00 AM	142	0	164	396	198	901

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/28/2019	756

08/28/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/28/19 6:00 AM	139	0	162	400	200	901
8/28/19 7:00 AM	139	0	161	394	201	896
8/28/19 8:00 AM	137	0	158	403	172	870
8/28/19 9:00 AM	138	0	162	395	1	695
8/28/19 10:00 AM	138	0	158	393	0	690
8/28/19 11:00 AM	140	0	154	400	0	694
8/28/19 12:00 PM	142	0	167	404	0	714
8/28/19 1:00 PM	139	0	161	393	0	692
8/28/19 2:00 PM	139	0	165	382	0	686
8/28/19 3:00 PM	142	0	150	370	0	661
8/28/19 4:00 PM	139	0	145	380	0	664
8/28/19 5:00 PM	139	0	145	383	7	673
8/28/19 6:00 PM	138	0	141	363	239	881
8/28/19 7:00 PM	140	0	163	348	215	866
8/28/19 8:00 PM	140	0	160	368	173	842
8/28/19 9:00 PM	140	0	158	393	206	897
8/28/19 10:00 PM	143	0	153	413	1	710
8/28/19 11:00 PM	143	0	151	402	0	696
8/29/19 12:00 AM	140	0	155	403	9	707
8/29/19 1:00 AM	144	0	152	398	326	1019
8/29/19 2:00 AM	88	0	48	395	142	674
8/29/19 3:00 AM	20	0	113	393	177	704
8/29/19 4:00 AM	70	0	56	384	178	687
8/29/19 5:00 AM	54	0	76	387	187	705

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/29/2019	730

08/29/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/29/19 6:00 AM	65	0	72	392	197	726
8/29/19 7:00 AM	65	0	68	399	201	734
8/29/19 8:00 AM	62	0	70	415	182	729
8/29/19 9:00 AM	63	0	66	419	189	737
8/29/19 10:00 AM	64	0	65	428	186	743
8/29/19 11:00 AM	64	0	65	434	189	753
8/29/19 12:00 PM	64	0	65	428	188	746
8/29/19 1:00 PM	64	0	62	431	190	747
8/29/19 2:00 PM	66	0	69	431	188	753
8/29/19 3:00 PM	61	0	69	427	191	749
8/29/19 4:00 PM	65	0	62	434	165	726
8/29/19 5:00 PM	64	0	76	398	166	705
8/29/19 6:00 PM	66	0	80	394	179	719
8/29/19 7:00 PM	66	0	68	383	180	697
8/29/19 8:00 PM	65	0	70	389	178	702
8/29/19 9:00 PM	67	0	61	394	184	706
8/29/19 10:00 PM	71	0	57	398	189	715
8/29/19 11:00 PM	66	0	74	398	192	731
8/30/19 12:00 AM	69	0	71	395	193	729
8/30/19 1:00 AM	68	0	67	391	199	725
8/30/19 2:00 AM	71	0	61	397	192	722
8/30/19 3:00 AM	69	0	85	401	199	754
8/30/19 4:00 AM	67	0	73	401	198	740
8/30/19 5:00 AM	68	0	62	400	193	725

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/30/2019	433

08/30/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/30/19 6:00 AM	67	0	77	400	201	744
8/30/19 7:00 AM	73	0	64	416	117	671
8/30/19 8:00 AM	75	0	64	391	0	530
8/30/19 9:00 AM	77	0	73	268	0	418
8/30/19 10:00 AM	39	0	59	258	0	356
8/30/19 11:00 AM	57	0	35	263	0	354
8/30/19 12:00 PM	42	0	36	268	0	346
8/30/19 1:00 PM	44	0	40	262	0	345
8/30/19 2:00 PM	41	0	32	264	0	337
8/30/19 3:00 PM	44	0	41	109	0	194
8/30/19 4:00 PM	43	0	44	334	0	421
8/30/19 5:00 PM	43	0	35	227	1	306
8/30/19 6:00 PM	41	0	34	308	19	403
8/30/19 7:00 PM	44	0	42	267	292	646
8/30/19 8:00 PM	43	0	42	221	175	481
8/30/19 9:00 PM	43	0	40	253	213	549
8/30/19 10:00 PM	46	0	31	266	151	494
8/30/19 11:00 PM	40	0	38	261	64	403
8/31/19 12:00 AM	47	0	35	245	89	416
8/31/19 1:00 AM	43	0	31	252	105	431
8/31/19 2:00 AM	45	0	37	256	108	446
8/31/19 3:00 AM	44	0	39	248	96	428
8/31/19 4:00 AM	43	0	35	252	102	432
8/31/19 5:00 AM	42	0	40	253	97	432

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/31/2019	687

08/31/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
8/31/19 6:00 AM	46	0	39	255	101	441
8/31/19 7:00 AM	43	1	38	256	105	443
8/31/19 8:00 AM	47	121	36	255	104	562
8/31/19 9:00 AM	44	0	46	246	111	448
8/31/19 10:00 AM	39	0	41	242	117	439
8/31/19 11:00 AM	47	0	34	242	112	435
8/31/19 12:00 PM	41	39	37	240	110	466
8/31/19 1:00 PM	69	541	63	242	110	1025
8/31/19 2:00 PM	155	18	172	244	111	699
8/31/19 3:00 PM	148	140	170	242	111	812
8/31/19 4:00 PM	144	248	155	243	115	906
8/31/19 5:00 PM	144	197	150	229	113	832
8/31/19 6:00 PM	144	172	142	214	112	784
8/31/19 7:00 PM	146	116	144	208	114	729
8/31/19 8:00 PM	148	78	140	209	111	685
8/31/19 9:00 PM	154	1	133	214	108	609
8/31/19 10:00 PM	157	0	175	223	107	662
8/31/19 11:00 PM	154	20	202	212	110	699
9/1/19 12:00 AM	154	0	197	223	110	684
9/1/19 1:00 AM	152	59	139	229	111	690
9/1/19 2:00 AM	150	72	130	234	113	699
9/1/19 3:00 AM	146	137	170	225	113	792
9/1/19 4:00 AM	147	111	188	224	113	783
9/1/19 5:00 AM	147	97	179	217	113	752

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/1/2019	783

09/01/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/1/19 6:00 AM	147	93	155	223	112	731
9/1/19 7:00 AM	148	92	153	220	113	726
9/1/19 8:00 AM	147	87	130	221	113	698
9/1/19 9:00 AM	146	84	136	222	112	701
9/1/19 10:00 AM	143	80	148	220	112	703
9/1/19 11:00 AM	141	104	142	208	112	706
9/1/19 12:00 PM	144	134	137	217	109	740
9/1/19 1:00 PM	143	154	153	236	105	791
9/1/19 2:00 PM	143	155	170	239	111	819
9/1/19 3:00 PM	145	151	174	59	130	660
9/1/19 4:00 PM	145	148	148	451	113	1006
9/1/19 5:00 PM	149	148	148	255	107	808
9/1/19 6:00 PM	157	128	150	234	110	778
9/1/19 7:00 PM	154	117	151	231	113	766
9/1/19 8:00 PM	156	92	152	233	105	738
9/1/19 9:00 PM	157	89	153	232	105	736
9/1/19 10:00 PM	157	95	153	235	108	749
9/1/19 11:00 PM	154	110	153	230	110	757
9/2/19 12:00 AM	155	136	170	233	108	802
9/2/19 1:00 AM	155	149	176	248	108	836
9/2/19 2:00 AM	155	159	188	249	110	862
9/2/19 3:00 AM	155	160	187	273	112	886
9/2/19 4:00 AM	156	163	205	278	107	907
9/2/19 5:00 AM	155	162	216	282	106	918

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/2/2019	854

09/02/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/2/19 6:00 AM	156	162	186	285	104	892
9/2/19 7:00 AM	157	184	207	284	104	935
9/2/19 8:00 AM	156	221	202	290	105	972
9/2/19 9:00 AM	158	152	162	287	104	863
9/2/19 10:00 AM	123	164	143	281	101	813
9/2/19 11:00 AM	141	209	138	284	104	877
9/2/19 12:00 PM	153	180	151	283	106	873
9/2/19 1:00 PM	162	0	161	283	100	707
9/2/19 2:00 PM	156	0	172	286	101	715
9/2/19 3:00 PM	142	0	166	298	107	713
9/2/19 4:00 PM	144	0	175	310	103	732
9/2/19 5:00 PM	151	0	129	311	98	690
9/2/19 6:00 PM	153	0	148	316	101	718
9/2/19 7:00 PM	147	1	146	318	99	711
9/2/19 8:00 PM	19	112	141	317	100	689
9/2/19 9:00 PM	165	371	148	316	100	1100
9/2/19 10:00 PM	154	256	149	340	99	997
9/2/19 11:00 PM	153	173	155	326	102	911
9/3/19 12:00 AM	153	190	158	322	102	926
9/3/19 1:00 AM	153	200	151	318	104	925
9/3/19 2:00 AM	154	206	145	305	103	913
9/3/19 3:00 AM	152	212	152	303	105	925
9/3/19 4:00 AM	156	196	172	299	107	930
9/3/19 5:00 AM	156	211	164	297	105	933

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/3/2019	913

09/03/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/3/19 6:00 AM	156	215	163	297	103	934
9/3/19 7:00 AM	156	228	163	300	103	951
9/3/19 8:00 AM	153	100	152	302	103	811
9/3/19 9:00 AM	158	125	162	302	107	854
9/3/19 10:00 AM	155	166	161	301	104	886
9/3/19 11:00 AM	152	202	132	299	104	890
9/3/19 12:00 PM	155	179	143	296	105	878
9/3/19 1:00 PM	153	173	165	299	110	899
9/3/19 2:00 PM	155	172	139	298	110	874
9/3/19 3:00 PM	156	172	161	281	107	877
9/3/19 4:00 PM	154	171	162	326	113	926
9/3/19 5:00 PM	156	194	154	304	107	914
9/3/19 6:00 PM	157	222	153	301	105	937
9/3/19 7:00 PM	157	207	151	307	105	927
9/3/19 8:00 PM	155	210	146	307	108	927
9/3/19 9:00 PM	159	202	152	314	107	935
9/3/19 10:00 PM	154	211	148	313	108	934
9/3/19 11:00 PM	158	208	149	315	108	936
9/4/19 12:00 AM	156	206	149	313	108	933
9/4/19 1:00 AM	154	206	148	313	108	929
9/4/19 2:00 AM	155	211	150	314	107	938
9/4/19 3:00 AM	153	219	148	314	106	941
9/4/19 4:00 AM	155	206	151	315	107	934
9/4/19 5:00 AM	151	213	154	314	108	940

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/4/2019	947

09/04/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/4/19 6:00 AM	153	207	148	315	108	931
9/4/19 7:00 AM	154	214	157	316	109	950
9/4/19 8:00 AM	153	210	158	315	108	944
9/4/19 9:00 AM	153	211	157	317	111	949
9/4/19 10:00 AM	154	210	156	266	108	895
9/4/19 11:00 AM	154	217	158	331	114	974
9/4/19 12:00 PM	155	214	155	323	111	959
9/4/19 1:00 PM	153	224	153	318	112	957
9/4/19 2:00 PM	152	235	155	318	115	975
9/4/19 3:00 PM	153	235	155	315	106	963
9/4/19 4:00 PM	150	225	154	312	112	954
9/4/19 5:00 PM	154	220	154	312	115	954
9/4/19 6:00 PM	153	215	158	314	112	952
9/4/19 7:00 PM	151	221	164	308	110	955
9/4/19 8:00 PM	154	218	156	317	112	958
9/4/19 9:00 PM	155	212	159	320	110	956
9/4/19 10:00 PM	153	216	159	310	113	953
9/4/19 11:00 PM	154	211	153	311	114	943
9/5/19 12:00 AM	155	210	157	319	110	951
9/5/19 1:00 AM	156	205	145	328	111	944
9/5/19 2:00 AM	157	211	153	335	110	967
9/5/19 3:00 AM	156	209	154	331	108	957
9/5/19 4:00 AM	161	213	153	326	106	957
9/5/19 5:00 AM	155	211	147	330	108	948

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/5/2019	953

09/05/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/5/19 6:00 AM	152	210	146	331	108	946
9/5/19 7:00 AM	152	207	141	338	107	944
9/5/19 8:00 AM	153	214	150	340	0	857
9/5/19 9:00 AM	154	209	146	340	0	850
9/5/19 10:00 AM	153	213	146	338	0	849
9/5/19 11:00 AM	167	212	146	340	0	865
9/5/19 12:00 PM	180	210	143	345	0	878
9/5/19 1:00 PM	169	209	141	339	5	862
9/5/19 2:00 PM	102	162	147	317	216	944
9/5/19 3:00 PM	100	114	139	334	189	877
9/5/19 4:00 PM	98	177	138	315	218	946
9/5/19 5:00 PM	95	175	139	322	182	913
9/5/19 6:00 PM	96	197	143	317	182	936
9/5/19 7:00 PM	132	211	156	346	164	1008
9/5/19 8:00 PM	139	210	149	340	191	1027
9/5/19 9:00 PM	145	221	159	337	198	1059
9/5/19 10:00 PM	142	206	159	326	184	1018
9/5/19 11:00 PM	138	206	153	334	185	1015
9/6/19 12:00 AM	141	204	159	334	184	1021
9/6/19 1:00 AM	139	209	161	328	176	1013
9/6/19 2:00 AM	142	214	168	331	182	1038
9/6/19 3:00 AM	140	214	170	331	176	1031
9/6/19 4:00 AM	141	212	161	326	178	1018
9/6/19 5:00 AM	138	219	167	327	174	1026

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/6/2019	949

09/06/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/6/19 6:00 AM	141	213	154	332	180	1020
9/6/19 7:00 AM	140	223	156	312	176	1006
9/6/19 8:00 AM	138	217	155	1	179	691
9/6/19 9:00 AM	141	215	163	0	189	708
9/6/19 10:00 AM	138	215	160	0	191	703
9/6/19 11:00 AM	142	210	156	0	187	694
9/6/19 12:00 PM	140	218	149	0	186	692
9/6/19 1:00 PM	142	220	157	0	178	697
9/6/19 2:00 PM	141	223	157	476	163	1159
9/6/19 3:00 PM	144	220	157	459	142	1122
9/6/19 4:00 PM	142	219	151	290	168	969
9/6/19 5:00 PM	141	230	165	294	189	1019
9/6/19 6:00 PM	143	233	161	298	173	1007
9/6/19 7:00 PM	144	220	165	307	177	1013
9/6/19 8:00 PM	143	245	161	311	180	1041
9/6/19 9:00 PM	145	224	160	309	172	1010
9/6/19 10:00 PM	148	236	154	303	174	1014
9/6/19 11:00 PM	144	232	158	304	181	1018
9/7/19 12:00 AM	144	235	157	305	179	1021
9/7/19 1:00 AM	147	228	154	303	180	1014
9/7/19 2:00 AM	142	227	155	305	180	1007
9/7/19 3:00 AM	146	234	158	306	183	1026
9/7/19 4:00 AM	146	236	156	307	183	1028
9/7/19 5:00 AM	147	234	159	305	181	1026

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/7/2019	1020

09/07/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/7/19 6:00 AM	147	238	160	309	188	1043
9/7/19 7:00 AM	144	232	160	308	181	1024
9/7/19 8:00 AM	145	233	162	301	183	1023
9/7/19 9:00 AM	146	226	159	324	177	1033
9/7/19 10:00 AM	143	234	147	292	176	993
9/7/19 11:00 AM	147	234	163	283	159	987
9/7/19 12:00 PM	146	239	168	285	179	1016
9/7/19 1:00 PM	146	240	156	280	170	992
9/7/19 2:00 PM	146	248	157	280	179	1009
9/7/19 3:00 PM	146	229	161	284	172	991
9/7/19 4:00 PM	145	236	165	290	179	1015
9/7/19 5:00 PM	145	237	162	306	175	1026
9/7/19 6:00 PM	144	238	162	299	184	1026
9/7/19 7:00 PM	148	247	167	304	179	1045
9/7/19 8:00 PM	146	226	163	306	174	1014
9/7/19 9:00 PM	151	249	163	309	181	1053
9/7/19 10:00 PM	144	219	158	307	176	1003
9/7/19 11:00 PM	145	230	162	304	179	1020
9/8/19 12:00 AM	148	235	163	309	184	1039
9/8/19 1:00 AM	146	235	166	308	179	1033
9/8/19 2:00 AM	148	232	164	306	178	1028
9/8/19 3:00 AM	143	235	162	308	171	1019
9/8/19 4:00 AM	147	231	161	310	175	1024
9/8/19 5:00 AM	144	234	160	310	178	1025

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/8/2019	1012

09/08/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/8/19 6:00 AM	147	231	158	311	177	1025
9/8/19 7:00 AM	144	232	157	305	178	1015
9/8/19 8:00 AM	147	234	158	306	178	1023
9/8/19 9:00 AM	144	235	157	310	178	1023
9/8/19 10:00 AM	146	236	157	306	176	1022
9/8/19 11:00 AM	144	230	143	309	183	1010
9/8/19 12:00 PM	147	237	162	302	179	1026
9/8/19 1:00 PM	148	225	140	312	173	999
9/8/19 2:00 PM	146	149	121	299	187	903
9/8/19 3:00 PM	147	164	131	310	171	924
9/8/19 4:00 PM	144	192	129	310	183	957
9/8/19 5:00 PM	146	206	118	321	182	973
9/8/19 6:00 PM	148	226	128	329	214	1045
9/8/19 7:00 PM	147	235	131	325	216	1054
9/8/19 8:00 PM	147	241	135	339	114	976
9/8/19 9:00 PM	149	252	154	333	154	1042
9/8/19 10:00 PM	147	268	169	342	140	1066
9/8/19 11:00 PM	146	249	163	338	140	1037
9/9/19 12:00 AM	146	244	152	328	143	1014
9/9/19 1:00 AM	153	244	154	330	153	1033
9/9/19 2:00 AM	148	253	156	314	146	1017
9/9/19 3:00 AM	149	245	159	311	152	1015
9/9/19 4:00 AM	146	247	165	313	146	1016
9/9/19 5:00 AM	147	250	158	345	146	1047

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/9/2019	1007

09/09/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/9/19 6:00 AM	141	240	153	337	148	1018
9/9/19 7:00 AM	149	235	161	305	150	1000
9/9/19 8:00 AM	147	240	152	294	156	990
9/9/19 9:00 AM	149	225	163	333	157	1026
9/9/19 10:00 AM	147	214	161	325	150	997
9/9/19 11:00 AM	148	220	160	316	151	995
9/9/19 12:00 PM	148	219	157	313	151	988
9/9/19 1:00 PM	148	227	159	320	149	1002
9/9/19 2:00 PM	146	225	161	308	153	994
9/9/19 3:00 PM	146	227	156	300	158	987
9/9/19 4:00 PM	146	235	161	268	179	989
9/9/19 5:00 PM	145	228	159	279	173	983
9/9/19 6:00 PM	148	235	159	320	178	1040
9/9/19 7:00 PM	148	232	161	315	196	1052
9/9/19 8:00 PM	148	243	160	314	175	1039
9/9/19 9:00 PM	145	236	156	333	169	1041
9/9/19 10:00 PM	148	234	158	335	168	1044
9/9/19 11:00 PM	150	236	164	325	170	1045
9/10/19 12:00 AM	148	235	160	309	170	1022
9/10/19 1:00 AM	148	240	164	293	166	1012
9/10/19 2:00 AM	148	235	153	283	181	1001
9/10/19 3:00 AM	147	237	156	223	155	919
9/10/19 4:00 AM	147	239	157	277	151	972
9/10/19 5:00 AM	149	241	169	295	162	1016

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/10/2019	1011

09/10/19						
Time	**SAP1**	**SAP2**	**SAP3**	**SAP4**	**SAP5**	**Total**
9/10/19 6:00 AM	146	243	162	303	160	1013
9/10/19 7:00 AM	147	241	165	300	176	1028
9/10/19 8:00 AM	148	234	165	307	191	1045
9/10/19 9:00 AM	148	164	167	306	180	965
9/10/19 10:00 AM	141	0	161	327	194	823
9/10/19 11:00 AM	143	0	164	329	206	842
9/10/19 12:00 PM	143	0	163	331	199	836
9/10/19 1:00 PM	141	0	150	319	206	817
9/10/19 2:00 PM	141	91	156	323	206	917
9/10/19 3:00 PM	144	186	164	325	213	1031
9/10/19 4:00 PM	143	165	167	322	209	1006
9/10/19 5:00 PM	145	214	158	322	209	1048
9/10/19 6:00 PM	144	234	163	327	210	1078
9/10/19 7:00 PM	144	243	162	326	207	1082
9/10/19 8:00 PM	146	238	164	337	212	1098
9/10/19 9:00 PM	145	234	164	335	204	1083
9/10/19 10:00 PM	145	230	165	336	207	1083
9/10/19 11:00 PM	144	233	166	331	198	1072
9/11/19 12:00 AM	144	233	165	329	202	1074
9/11/19 1:00 AM	145	235	166	331	194	1071
9/11/19 2:00 AM	145	233	166	330	203	1076
9/11/19 3:00 AM	145	229	170	328	205	1078
9/11/19 4:00 AM	146	234	167	329	206	1081
9/11/19 5:00 AM	144	229	169	330	208	1079

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/11/2019	1024

09/11/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/11/19 6:00 AM	148	230	167	330	206	1080
9/11/19 7:00 AM	146	228	163	322	205	1063
9/11/19 8:00 AM	144	229	159	306	171	1009
9/11/19 9:00 AM	145	223	158	306	163	996
9/11/19 10:00 AM	142	218	153	308	175	995
9/11/19 11:00 AM	142	233	150	310	182	1017
9/11/19 12:00 PM	144	223	149	312	185	1013
9/11/19 1:00 PM	144	226	151	311	189	1021
9/11/19 2:00 PM	145	226	145	310	162	987
9/11/19 3:00 PM	143	213	150	304	164	974
9/11/19 4:00 PM	145	214	147	306	162	975
9/11/19 5:00 PM	142	228	148	305	175	997
9/11/19 6:00 PM	146	224	149	303	173	995
9/11/19 7:00 PM	144	225	151	320	176	1015
9/11/19 8:00 PM	147	225	150	333	186	1042
9/11/19 9:00 PM	144	229	151	336	189	1048
9/11/19 10:00 PM	147	234	153	382	164	1079
9/11/19 11:00 PM	144	243	155	355	182	1079
9/12/19 12:00 AM	149	255	151	336	207	1098
9/12/19 1:00 AM	145	238	151	316	146	997
9/12/19 2:00 AM	148	242	150	305	159	1005
9/12/19 3:00 AM	145	240	149	303	177	1015
9/12/19 4:00 AM	148	249	153	312	190	1051
9/12/19 5:00 AM	146	251	151	313	179	1040

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/12/2019	970

09/12/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/12/19 6:00 AM	147	212	153	320	186	1016
9/12/19 7:00 AM	148	238	150	310	180	1026
9/12/19 8:00 AM	145	224	150	318	166	1002
9/12/19 9:00 AM	147	214	153	313	183	1010
9/12/19 10:00 AM	143	223	0	307	178	851
9/12/19 11:00 AM	143	217	0	307	168	836
9/12/19 12:00 PM	142	267	0	305	161	876
9/12/19 1:00 PM	145	250	-1	307	169	870
9/12/19 2:00 PM	141	45	26	306	161	677
9/12/19 3:00 PM	143	221	156	305	168	993
9/12/19 4:00 PM	145	259	118	295	175	992
9/12/19 5:00 PM	144	184	109	295	174	906
9/12/19 6:00 PM	145	268	99	298	186	995
9/12/19 7:00 PM	144	262	89	295	171	960
9/12/19 8:00 PM	146	270	84	298	167	965
9/12/19 9:00 PM	145	256	80	298	167	946
9/12/19 10:00 PM	145	262	81	317	178	981
9/12/19 11:00 PM	146	262	75	326	169	979
9/13/19 12:00 AM	145	263	79	342	182	1011
9/13/19 1:00 AM	147	263	79	342	195	1026
9/13/19 2:00 AM	145	264	79	341	190	1020
9/13/19 3:00 AM	146	274	81	364	208	1073
9/13/19 4:00 AM	147	274	79	376	268	1144
9/13/19 5:00 AM	146	211	88	380	285	1109

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/13/2019	1032

09/13/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/13/19 6:00 AM	145	131	249	379	261	1164
9/13/19 7:00 AM	146	160	119	367	259	1051
9/13/19 8:00 AM	146	217	82	350	75	870
9/13/19 9:00 AM	145	242	76	363	0	826
9/13/19 10:00 AM	146	232	68	367	0	813
9/13/19 11:00 AM	145	234	79	371	10	839
9/13/19 12:00 PM	146	217	57	362	112	894
9/13/19 1:00 PM	148	228	59	338	129	901
9/13/19 2:00 PM	146	224	51	339	207	967
9/13/19 3:00 PM	148	220	56	353	234	1010
9/13/19 4:00 PM	147	231	61	359	199	997
9/13/19 5:00 PM	148	225	62	365	221	1021
9/13/19 6:00 PM	147	219	58	346	232	1002
9/13/19 7:00 PM	148	213	2	346	220	930
9/13/19 8:00 PM	146	224	0	349	207	927
9/13/19 9:00 PM	147	281	20	346	210	1004
9/13/19 10:00 PM	147	277	145	354	211	1134
9/13/19 11:00 PM	150	291	157	393	238	1229
9/14/19 12:00 AM	151	215	141	393	233	1134
9/14/19 1:00 AM	146	262	147	398	226	1180
9/14/19 2:00 AM	151	290	136	382	220	1179
9/14/19 3:00 AM	150	318	136	379	211	1195
9/14/19 4:00 AM	153	312	140	423	210	1238
9/14/19 5:00 AM	149	322	148	391	229	1235

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/14/2019	1054

09/14/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/14/19 6:00 AM	152	292	140	336	225	1143
9/14/19 7:00 AM	150	232	150	304	213	1048
9/14/19 8:00 AM	146	267	149	225	214	1001
9/14/19 9:00 AM	147	256	157	253	227	1040
9/14/19 10:00 AM	144	227	151	319	220	1059
9/14/19 11:00 AM	148	224	163	321	225	1080
9/14/19 12:00 PM	147	227	164	319	195	1052
9/14/19 1:00 PM	150	229	155	297	218	1050
9/14/19 2:00 PM	146	228	147	311	210	1042
9/14/19 3:00 PM	144	219	155	309	212	1040
9/14/19 4:00 PM	144	223	165	319	220	1071
9/14/19 5:00 PM	143	218	154	312	215	1042
9/14/19 6:00 PM	145	220	154	311	244	1074
9/14/19 7:00 PM	144	226	162	314	202	1048
9/14/19 8:00 PM	147	231	155	313	214	1057
9/14/19 9:00 PM	144	227	152	310	216	1048
9/14/19 10:00 PM	148	228	159	313	222	1070
9/14/19 11:00 PM	143	228	159	313	214	1056
9/15/19 12:00 AM	145	226	160	310	217	1058
9/15/19 1:00 AM	144	219	156	311	215	1045
9/15/19 2:00 AM	145	227	163	314	217	1065
9/15/19 3:00 AM	146	233	168	314	210	1072
9/15/19 4:00 AM	145	243	161	316	208	1072
9/15/19 5:00 AM	146	242	165	317	214	1083

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/15/2019	1042

09/15/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/15/19 6:00 AM	144	215	166	318	195	1036
9/15/19 7:00 AM	147	211	162	319	218	1057
9/15/19 8:00 AM	145	225	166	318	194	1047
9/15/19 9:00 AM	143	224	164	311	197	1039
9/15/19 10:00 AM	144	226	155	311	200	1037
9/15/19 11:00 AM	142	222	152	309	203	1027
9/15/19 12:00 PM	143	221	157	305	223	1050
9/15/19 1:00 PM	144	219	165	304	212	1044
9/15/19 2:00 PM	148	220	160	301	214	1042
9/15/19 3:00 PM	141	219	150	302	194	1004
9/15/19 4:00 PM	147	225	169	305	201	1045
9/15/19 5:00 PM	143	228	160	307	198	1036
9/15/19 6:00 PM	143	210	141	312	200	1007
9/15/19 7:00 PM	146	218	160	314	210	1047
9/15/19 8:00 PM	144	215	155	316	213	1043
9/15/19 9:00 PM	143	219	154	308	203	1027
9/15/19 10:00 PM	148	222	170	314	206	1060
9/15/19 11:00 PM	142	228	159	318	210	1056
9/16/19 12:00 AM	146	224	166	315	208	1060
9/16/19 1:00 AM	146	218	161	316	207	1046
9/16/19 2:00 AM	144	215	161	313	202	1035
9/16/19 3:00 AM	144	220	164	312	209	1049
9/16/19 4:00 AM	147	221	161	314	211	1054
9/16/19 5:00 AM	143	219	165	318	207	1051

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/16/2019	1062

09/16/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/16/19 6:00 AM	146	225	162	319	211	1063
9/16/19 7:00 AM	145	222	157	319	205	1049
9/16/19 8:00 AM	145	232	156	321	208	1062
9/16/19 9:00 AM	146	227	157	319	210	1058
9/16/19 10:00 AM	141	232	157	319	211	1058
9/16/19 11:00 AM	145	224	152	319	208	1047
9/16/19 12:00 PM	142	223	147	318	202	1029
9/16/19 1:00 PM	147	226	160	315	237	1083
9/16/19 2:00 PM	142	228	164	318	226	1076
9/16/19 3:00 PM	145	234	169	315	192	1053
9/16/19 4:00 PM	142	230	169	319	187	1048
9/16/19 5:00 PM	145	233	168	324	197	1068
9/16/19 6:00 PM	143	237	155	320	205	1060
9/16/19 7:00 PM	146	236	155	324	188	1049
9/16/19 8:00 PM	144	242	167	327	195	1074
9/16/19 9:00 PM	147	240	156	331	191	1064
9/16/19 10:00 PM	142	247	163	333	186	1072
9/16/19 11:00 PM	148	243	162	335	190	1077
9/17/19 12:00 AM	143	243	161	335	193	1074
9/17/19 1:00 AM	147	251	160	326	194	1076
9/17/19 2:00 AM	146	250	165	316	195	1072
9/17/19 3:00 AM	144	252	162	314	197	1070
9/17/19 4:00 AM	146	241	162	319	193	1062
9/17/19 5:00 AM	143	244	158	322	193	1061

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/17/2019	945

09/17/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/17/19 6:00 AM	146	246	163	325	197	1077
9/17/19 7:00 AM	142	243	160	324	189	1058
9/17/19 8:00 AM	142	237	155	313	187	1035
9/17/19 9:00 AM	145	220	158	302	178	1003
9/17/19 10:00 AM	141	228	151	304	185	1008
9/17/19 11:00 AM	143	231	153	300	187	1014
9/17/19 12:00 PM	147	223	153	289	187	999
9/17/19 1:00 PM	144	225	162	306	155	993
9/17/19 2:00 PM	148	220	151	313	185	1017
9/17/19 3:00 PM	149	239	77	314	191	970
9/17/19 4:00 PM	144	242	0	296	179	861
9/17/19 5:00 PM	143	287	1	62	156	648
9/17/19 6:00 PM	143	201	150	181	181	855
9/17/19 7:00 PM	139	208	427	186	181	1140
9/17/19 8:00 PM	141	203	95	209	168	814
9/17/19 9:00 PM	137	211	162	230	169	909
9/17/19 10:00 PM	138	210	163	230	181	922
9/17/19 11:00 PM	141	221	133	243	169	908
9/18/19 12:00 AM	139	220	144	241	163	907
9/18/19 1:00 AM	139	225	148	245	164	922
9/18/19 2:00 AM	138	230	170	252	165	955
9/18/19 3:00 AM	135	232	137	248	164	916
9/18/19 4:00 AM	138	235	148	242	170	933
9/18/19 5:00 AM	135	238	150	243	164	926

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/18/2019	808

09/18/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/18/19 6:00 AM	137	242	144	243	171	936
9/18/19 7:00 AM	136	244	149	242	186	957
9/18/19 8:00 AM	136	246	143	252	179	955
9/18/19 9:00 AM	137	254	146	280	167	983
9/18/19 10:00 AM	131	239	160	280	168	979
9/18/19 11:00 AM	137	237	0	278	160	811
9/18/19 12:00 PM	127	223	0	279	137	766
9/18/19 1:00 PM	35	230	0	308	56	627
9/18/19 2:00 PM	65	252	0	294	218	827
9/18/19 3:00 PM	67	243	4	323	32	669
9/18/19 4:00 PM	64	211	111	296	157	839
9/18/19 5:00 PM	68	206	110	304	109	796
9/18/19 6:00 PM	66	207	105	258	107	743
9/18/19 7:00 PM	70	210	142	234	95	751
9/18/19 8:00 PM	71	208	184	187	84	734
9/18/19 9:00 PM	70	209	106	217	96	697
9/18/19 10:00 PM	75	210	115	250	107	757
9/18/19 11:00 PM	70	214	125	272	121	802
9/19/19 12:00 AM	73	207	128	249	127	785
9/19/19 1:00 AM	66	213	153	250	82	764
9/19/19 2:00 AM	68	218	189	254	103	832
9/19/19 3:00 AM	67	217	179	259	101	823
9/19/19 4:00 AM	68	218	154	261	101	802
9/19/19 5:00 AM	69	220	146	266	98	798

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/19/2019	706

09/19/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/19/19 6:00 AM	67	223	145	275	106	817
9/19/19 7:00 AM	70	225	152	2	144	592
9/19/19 8:00 AM	70	228	157	0	0	455
9/19/19 9:00 AM	157	216	136	0	0	508
9/19/19 10:00 AM	156	221	141	0	0	517
9/19/19 11:00 AM	153	234	139	0	0	525
9/19/19 12:00 PM	144	235	149	0	0	528
9/19/19 1:00 PM	138	236	143	0	0	517
9/19/19 2:00 PM	134	232	140	0	3	509
9/19/19 3:00 PM	133	232	156	0	175	697
9/19/19 4:00 PM	137	235	159	0	123	654
9/19/19 5:00 PM	135	235	149	0	159	678
9/19/19 6:00 PM	136	238	253	0	163	791
9/19/19 7:00 PM	137	246	294	102	175	954
9/19/19 8:00 PM	132	260	127	385	70	975
9/19/19 9:00 PM	125	235	112	123	66	661
9/19/19 10:00 PM	128	227	152	102	78	687
9/19/19 11:00 PM	142	232	138	111	103	726
9/20/19 12:00 AM	137	233	136	126	98	730
9/20/19 1:00 AM	144	233	135	189	113	813
9/20/19 2:00 AM	139	228	151	233	131	881
9/20/19 3:00 AM	139	227	147	246	125	885
9/20/19 4:00 AM	139	228	146	246	129	889
9/20/19 5:00 AM	133	230	154	272	125	914

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/20/2019	923

09/20/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/20/19 6:00 AM	90	242	165	277	121	896
9/20/19 7:00 AM	153	86	170	262	125	795
9/20/19 8:00 AM	153	0	189	259	122	722
9/20/19 9:00 AM	142	0	198	253	123	714
9/20/19 10:00 AM	145	0	195	267	158	763
9/20/19 11:00 AM	144	0	190	259	166	759
9/20/19 12:00 PM	140	0	174	258	192	764
9/20/19 1:00 PM	145	0	181	258	194	778
9/20/19 2:00 PM	142	1	186	257	204	789
9/20/19 3:00 PM	151	204	182	252	196	984
9/20/19 4:00 PM	141	362	194	259	200	1156
9/20/19 5:00 PM	140	144	182	261	203	930
9/20/19 6:00 PM	141	178	181	263	204	967
9/20/19 7:00 PM	142	161	182	283	206	974
9/20/19 8:00 PM	143	155	198	296	194	985
9/20/19 9:00 PM	143	163	195	310	198	1009
9/20/19 10:00 PM	141	147	187	316	201	993
9/20/19 11:00 PM	156	172	186	324	201	1039
9/21/19 12:00 AM	155	162	187	331	204	1039
9/21/19 1:00 AM	155	166	181	327	209	1038
9/21/19 2:00 AM	155	175	173	321	208	1032
9/21/19 3:00 AM	154	175	168	318	208	1024
9/21/19 4:00 AM	152	167	163	323	210	1014
9/21/19 5:00 AM	155	169	166	318	209	1015

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/21/2019	1027

09/21/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/21/19 6:00 AM	152	169	173	318	207	1020
9/21/19 7:00 AM	156	170	185	318	209	1037
9/21/19 8:00 AM	154	177	188	317	211	1047
9/21/19 9:00 AM	154	208	193	313	212	1080
9/21/19 10:00 AM	151	223	190	311	213	1089
9/21/19 11:00 AM	155	197	181	311	212	1055
9/21/19 12:00 PM	154	220	175	306	211	1065
9/21/19 1:00 PM	154	244	172	307	209	1085
9/21/19 2:00 PM	152	227	166	301	212	1059
9/21/19 3:00 PM	149	223	155	302	214	1041
9/21/19 4:00 PM	153	228	165	302	217	1065
9/21/19 5:00 PM	150	238	177	302	216	1083
9/21/19 6:00 PM	152	214	163	301	206	1037
9/21/19 7:00 PM	151	168	175	302	196	992
9/21/19 8:00 PM	151	176	160	304	197	989
9/21/19 9:00 PM	153	175	152	310	194	984
9/21/19 10:00 PM	151	176	153	310	195	985
9/21/19 11:00 PM	152	178	154	307	195	985
9/22/19 12:00 AM	149	182	156	317	196	999
9/22/19 1:00 AM	153	178	153	301	195	980
9/22/19 2:00 AM	148	188	152	310	199	996
9/22/19 3:00 AM	154	179	152	308	196	989
9/22/19 4:00 AM	150	187	154	306	197	995
9/22/19 5:00 AM	151	182	154	308	198	992

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/22/2019	1021

09/22/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/22/19 6:00 AM	153	186	150	313	199	1002
9/22/19 7:00 AM	150	187	157	311	197	1003
9/22/19 8:00 AM	153	186	156	306	197	997
9/22/19 9:00 AM	150	188	160	308	201	1006
9/22/19 10:00 AM	151	185	152	301	197	985
9/22/19 11:00 AM	151	190	150	306	197	994
9/22/19 12:00 PM	153	191	158	306	198	1006
9/22/19 1:00 PM	150	190	167	302	199	1008
9/22/19 2:00 PM	153	188	163	299	199	1003
9/22/19 3:00 PM	149	192	174	311	199	1025
9/22/19 4:00 PM	153	200	191	306	200	1049
9/22/19 5:00 PM	149	190	187	307	201	1033
9/22/19 6:00 PM	153	193	181	306	201	1035
9/22/19 7:00 PM	151	200	163	309	203	1024
9/22/19 8:00 PM	153	203	162	309	199	1025
9/22/19 9:00 PM	153	204	162	306	201	1027
9/22/19 10:00 PM	152	202	163	309	200	1026
9/22/19 11:00 PM	153	208	161	313	199	1035
9/23/19 12:00 AM	151	203	162	316	202	1035
9/23/19 1:00 AM	154	206	167	317	202	1047
9/23/19 2:00 AM	152	200	168	316	203	1039
9/23/19 3:00 AM	154	198	160	312	198	1021
9/23/19 4:00 AM	153	195	172	309	200	1027
9/23/19 5:00 AM	152	197	170	313	197	1030

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/23/2019	988

09/23/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/23/19 6:00 AM	152	189	165	311	204	1021
9/23/19 7:00 AM	155	191	172	315	200	1033
9/23/19 8:00 AM	151	187	179	313	201	1031
9/23/19 9:00 AM	148	185	157	311	196	998
9/23/19 10:00 AM	145	189	157	308	197	996
9/23/19 11:00 AM	135	179	249	304	197	1064
9/23/19 12:00 PM	136	196	163	300	201	996
9/23/19 1:00 PM	135	181	157	302	182	955
9/23/19 2:00 PM	3	175	155	303	195	830
9/23/19 3:00 PM	3	249	150	302	191	895
9/23/19 4:00 PM	3	196	159	307	194	857
9/23/19 5:00 PM	56	231	160	299	198	944
9/23/19 6:00 PM	126	218	154	299	201	999
9/23/19 7:00 PM	129	270	141	305	195	1040
9/23/19 8:00 PM	136	222	151	307	201	1016
9/23/19 9:00 PM	123	217	157	306	197	999
9/23/19 10:00 PM	119	223	159	305	198	1004
9/23/19 11:00 PM	112	224	160	307	196	998
9/24/19 12:00 AM	112	224	159	307	197	999
9/24/19 1:00 AM	119	224	161	309	199	1012
9/24/19 2:00 AM	117	227	163	309	194	1011
9/24/19 3:00 AM	120	227	162	310	196	1015
9/24/19 4:00 AM	118	221	166	311	191	1007
9/24/19 5:00 AM	118	226	165	315	195	1017

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/24/2019	950

09/24/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/24/19 6:00 AM	113	225	156	317	194	1005
9/24/19 7:00 AM	115	224	160	320	197	1015
9/24/19 8:00 AM	113	229	157	310	197	1006
9/24/19 9:00 AM	26	207	172	316	195	915
9/24/19 10:00 AM	0	213	168	315	191	886
9/24/19 11:00 AM	0	224	161	297	191	872
9/24/19 12:00 PM	0	365	163	296	190	1014
9/24/19 1:00 PM	0	158	160	298	202	818
9/24/19 2:00 PM	52	72	136	299	184	743
9/24/19 3:00 PM	84	125	139	302	196	845
9/24/19 4:00 PM	126	169	152	316	197	961
9/24/19 5:00 PM	98	224	166	326	190	1004
9/24/19 6:00 PM	97	220	168	304	190	979
9/24/19 7:00 PM	91	233	167	300	191	980
9/24/19 8:00 PM	90	219	160	293	187	949
9/24/19 9:00 PM	89	222	161	300	191	964
9/24/19 10:00 PM	89	219	159	308	192	968
9/24/19 11:00 PM	88	217	160	322	190	977
9/25/19 12:00 AM	88	216	161	328	193	986
9/25/19 1:00 AM	88	209	165	332	193	987
9/25/19 2:00 AM	88	205	160	332	195	981
9/25/19 3:00 AM	88	191	159	335	193	967
9/25/19 4:00 AM	89	179	163	338	194	963
9/25/19 5:00 AM	89	212	139	330	190	961

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/25/2019	998

09/25/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/25/19 6:00 AM	89	164	149	330	190	921
9/25/19 7:00 AM	86	236	140	320	194	974
9/25/19 8:00 AM	92	194	146	321	191	944
9/25/19 9:00 AM	86	187	141	312	189	916
9/25/19 10:00 AM	94	175	138	308	189	904
9/25/19 11:00 AM	94	186	137	277	181	876
9/25/19 12:00 PM	103	204	138	288	177	909
9/25/19 1:00 PM	102	204	141	298	183	928
9/25/19 2:00 PM	101	207	141	333	176	957
9/25/19 3:00 PM	105	214	144	297	181	943
9/25/19 4:00 PM	106	247	145	308	196	1002
9/25/19 5:00 PM	114	240	177	313	194	1038
9/25/19 6:00 PM	106	241	129	309	202	987
9/25/19 7:00 PM	107	243	149	307	230	1036
9/25/19 8:00 PM	109	252	149	307	199	1015
9/25/19 9:00 PM	107	253	152	311	192	1016
9/25/19 10:00 PM	107	250	204	307	201	1070
9/25/19 11:00 PM	109	254	171	309	202	1045
9/26/19 12:00 AM	107	261	151	311	201	1030
9/26/19 1:00 AM	106	251	145	314	199	1016
9/26/19 2:00 AM	93	249	147	310	200	999
9/26/19 3:00 AM	77	280	167	338	224	1087
9/26/19 4:00 AM	81	285	222	340	238	1166
9/26/19 5:00 AM	79	280	202	338	265	1164

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/26/2019	1044

09/26/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/26/19 6:00 AM	95	278	197	334	259	1164
9/26/19 7:00 AM	175	242	201	348	256	1222
9/26/19 8:00 AM	134	249	194	337	261	1174
9/26/19 9:00 AM	168	257	205	339	277	1246
9/26/19 10:00 AM	158	218	209	297	234	1115
9/26/19 11:00 AM	156	142	204	295	164	961
9/26/19 12:00 PM	156	156	191	297	197	996
9/26/19 1:00 PM	152	209	298	298	196	1153
9/26/19 2:00 PM	157	164	185	299	191	996
9/26/19 3:00 PM	159	173	195	297	178	1004
9/26/19 4:00 PM	162	174	204	296	174	1010
9/26/19 5:00 PM	164	177	206	295	177	1019
9/26/19 6:00 PM	157	181	202	296	174	1010
9/26/19 7:00 PM	162	182	185	295	173	997
9/26/19 8:00 PM	158	181	173	298	176	984
9/26/19 9:00 PM	161	185	178	299	174	996
9/26/19 10:00 PM	160	186	172	301	175	995
9/26/19 11:00 PM	160	187	171	300	177	996
9/27/19 12:00 AM	163	191	173	300	175	1003
9/27/19 1:00 AM	158	192	176	304	179	1010
9/27/19 2:00 AM	161	194	165	305	179	1004
9/27/19 3:00 AM	158	192	170	303	179	1003
9/27/19 4:00 AM	162	196	173	305	177	1012
9/27/19 5:00 AM	159	195	180	304	175	1014

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/27/2019	973

09/27/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/27/19 6:00 AM	161	195	165	305	173	1000
9/27/19 7:00 AM	160	199	170	311	174	1014
9/27/19 8:00 AM	162	198	164	314	173	1012
9/27/19 9:00 AM	162	201	162	314	172	1011
9/27/19 10:00 AM	158	199	157	318	175	1006
9/27/19 11:00 AM	162	202	161	314	174	1012
9/27/19 12:00 PM	159	198	156	316	174	1004
9/27/19 1:00 PM	160	198	150	197	185	891
9/27/19 2:00 PM	159	198	144	0	167	668
9/27/19 3:00 PM	160	199	159	0	173	690
9/27/19 4:00 PM	160	205	164	9	174	712
9/27/19 5:00 PM	160	202	159	310	175	1007
9/27/19 6:00 PM	159	205	158	310	174	1006
9/27/19 7:00 PM	162	203	172	315	175	1028
9/27/19 8:00 PM	161	205	158	315	177	1015
9/27/19 9:00 PM	162	207	170	320	177	1037
9/27/19 10:00 PM	163	209	167	321	177	1036
9/27/19 11:00 PM	164	208	166	319	176	1032
9/28/19 12:00 AM	161	209	169	319	172	1030
9/28/19 1:00 AM	162	208	170	320	175	1035
9/28/19 2:00 AM	162	208	165	320	177	1033
9/28/19 3:00 AM	162	208	172	317	178	1036
9/28/19 4:00 AM	164	207	168	324	178	1042
9/28/19 5:00 AM	161	206	172	321	176	1036

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/28/2019	1037

09/28/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/28/19 6:00 AM	165	207	167	323	178	1041
9/28/19 7:00 AM	162	210	166	317	180	1034
9/28/19 8:00 AM	164	206	163	318	177	1030
9/28/19 9:00 AM	161	211	164	315	177	1028
9/28/19 10:00 AM	162	205	161	314	176	1017
9/28/19 11:00 AM	159	203	158	310	173	1003
9/28/19 12:00 PM	164	201	153	310	173	1002
9/28/19 1:00 PM	160	200	150	311	169	991
9/28/19 2:00 PM	162	201	152	311	175	1001
9/28/19 3:00 PM	163	213	153	309	175	1013
9/28/19 4:00 PM	160	234	164	307	177	1042
9/28/19 5:00 PM	163	235	154	306	174	1033
9/28/19 6:00 PM	161	241	160	311	179	1052
9/28/19 7:00 PM	164	232	160	310	182	1048
9/28/19 8:00 PM	162	238	160	312	178	1050
9/28/19 9:00 PM	166	235	162	317	180	1060
9/28/19 10:00 PM	162	232	157	313	180	1044
9/28/19 11:00 PM	164	232	163	315	182	1056
9/29/19 12:00 AM	165	233	168	312	180	1057
9/29/19 1:00 AM	161	235	160	317	177	1051
9/29/19 2:00 AM	165	231	169	316	177	1057
9/29/19 3:00 AM	162	233	164	316	176	1050
9/29/19 4:00 AM	166	235	168	316	179	1063
9/29/19 5:00 AM	162	233	163	316	179	1053

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/29/2019	1055

09/29/19						
Time	**SAP1**	**SAP2**	**SAP3**	**SAP4**	**SAP5**	**Total**
9/29/19 6:00 AM	166	233	166	321	175	1060
9/29/19 7:00 AM	164	233	169	318	178	1063
9/29/19 8:00 AM	164	233	164	317	178	1058
9/29/19 9:00 AM	165	231	163	314	179	1052
9/29/19 10:00 AM	162	228	162	318	179	1049
9/29/19 11:00 AM	165	230	170	318	181	1063
9/29/19 12:00 PM	161	227	156	314	173	1032
9/29/19 1:00 PM	164	232	154	313	180	1043
9/29/19 2:00 PM	161	224	150	312	180	1027
9/29/19 3:00 PM	164	230	154	310	182	1040
9/29/19 4:00 PM	161	225	154	308	180	1029
9/29/19 5:00 PM	164	229	150	310	182	1034
9/29/19 6:00 PM	163	232	157	314	180	1046
9/29/19 7:00 PM	164	229	154	314	185	1046
9/29/19 8:00 PM	164	228	158	314	185	1049
9/29/19 9:00 PM	163	230	160	312	184	1049
9/29/19 10:00 PM	166	231	164	319	186	1067
9/29/19 11:00 PM	164	232	162	320	185	1064
9/30/19 12:00 AM	165	232	163	317	184	1061
9/30/19 1:00 AM	163	233	164	317	184	1062
9/30/19 2:00 AM	165	233	162	317	183	1060
9/30/19 3:00 AM	164	233	161	320	183	1061
9/30/19 4:00 AM	166	235	164	323	187	1075
9/30/19 5:00 AM	162	232	168	319	185	1067

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/30/2019	960

09/30/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
9/30/19 6:00 AM	166	236	159	322	183	1066
9/30/19 7:00 AM	164	234	166	318	182	1064
9/30/19 8:00 AM	177	268	1	320	180	946
9/30/19 9:00 AM	160	233	0	321	170	884
9/30/19 10:00 AM	164	234	0	314	169	881
9/30/19 11:00 AM	165	234	0	308	172	879
9/30/19 12:00 PM	139	198	0	306	174	817
9/30/19 1:00 PM	134	201	0	306	174	815
9/30/19 2:00 PM	136	206	13	306	171	833
9/30/19 3:00 PM	1	241	75	307	174	798
9/30/19 4:00 PM	0	226	19	306	174	725
9/30/19 5:00 PM	183	231	42	307	177	940
9/30/19 6:00 PM	295	228	58	310	187	1079
9/30/19 7:00 PM	248	233	33	313	184	1010
9/30/19 8:00 PM	253	226	36	309	176	1000
9/30/19 9:00 PM	182	228	120	306	177	1014
9/30/19 10:00 PM	187	233	113	312	176	1020
9/30/19 11:00 PM	172	233	145	311	176	1037
10/1/19 12:00 AM	168	235	144	313	174	1034
10/1/19 1:00 AM	168	233	145	315	176	1037
10/1/19 2:00 AM	165	234	153	314	175	1041
10/1/19 3:00 AM	169	231	147	315	180	1042
10/1/19 4:00 AM	169	233	149	309	174	1034
10/1/19 5:00 AM	171	235	151	310	174	1040

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	10/1/2019	1015

10/01/19						
Time	SAP1	SAP2	SAP3	SAP4	SAP5	Total
10/1/19 6:00 AM	171	232	141	311	174	1028
10/1/19 7:00 AM	170	233	137	315	171	1025
10/1/19 8:00 AM	170	231	132	316	178	1026
10/1/19 9:00 AM	171	230	108	304	174	987
10/1/19 10:00 AM	163	231	0	310	168	871
10/1/19 11:00 AM	163	226	0	315	169	873
10/1/19 12:00 PM	165	245	0	307	174	892
10/1/19 1:00 PM	164	171	0	302	168	806
10/1/19 2:00 PM	142	195	-18	299	173	790
10/1/19 3:00 PM	160	295	161	300	171	1087
10/1/19 4:00 PM	171	190	192	304	176	1033
10/1/19 5:00 PM	150	234	237	307	178	1105
10/1/19 6:00 PM	159	208	170	310	173	1020
10/1/19 7:00 PM	155	220	163	306	170	1014
10/1/19 8:00 PM	165	216	221	301	177	1080
10/1/19 9:00 PM	160	217	249	297	175	1099
10/1/19 10:00 PM	161	217	234	310	166	1089
10/1/19 11:00 PM	159	218	220	308	172	1077
10/2/19 12:00 AM	158	215	220	300	178	1072
10/2/19 1:00 AM	161	218	228	300	172	1080
10/2/19 2:00 AM	158	218	222	304	169	1072
10/2/19 3:00 AM	161	219	230	304	173	1088
10/2/19 4:00 AM	160	218	226	303	174	1080
10/2/19 5:00 AM	163	218	230	304	175	1091

New Wales Sulfuric Plants
1,090 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	10/2/2019	987

10/02/19						
Time	**SAP1**	**SAP2**	**SAP3**	**SAP4**	**SAP5**	**Total**
10/2/19 6:00 AM	166	217	223	294	176	1075
10/2/19 7:00 AM	167	218	216	278	172	1051
10/2/19 8:00 AM	170	220	223	279	171	1063
10/2/19 9:00 AM	172	215	176	286	171	1021
10/2/19 10:00 AM	175	219	144	288	173	999
10/2/19 11:00 AM	168	210	152	287	173	990
10/2/19 12:00 PM	171	212	146	285	174	988
10/2/19 1:00 PM	164	211	1	277	178	830
10/2/19 2:00 PM	167	214	0	282	173	835
10/2/19 3:00 PM	165	215	0	293	171	844
10/2/19 4:00 PM	170	221	0	283	172	847
10/2/19 5:00 PM	165	214	71	283	172	905
10/2/19 6:00 PM	170	217	184	282	185	1037
10/2/19 7:00 PM	169	211	204	272	181	1037
10/2/19 8:00 PM	170	220	198	271	176	1035
10/2/19 9:00 PM	169	219	160	266	179	993
10/2/19 10:00 PM	168	215	173	275	180	1011
10/2/19 11:00 PM	169	218	175	266	188	1015
10/3/19 12:00 AM	170	215	172	272	191	1020
10/3/19 1:00 AM	168	217	176	272	183	1016
10/3/19 2:00 AM	171	218	176	270	183	1017
10/3/19 3:00 AM	167	215	174	271	183	1010
10/3/19 4:00 AM	208	217	177	275	184	1061
10/3/19 5:00 AM	202	217	177	274	187	1057

Bartow SO_2 lb /hour Data

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/1/2019	1078

08/01/19				
Time	SAP4	SAP5	SAP6	Total
8/1/19 6:00 AM	354	404	305	1064
8/1/19 7:00 AM	381	396	308	1086
8/1/19 8:00 AM	363	406	298	1068
8/1/19 9:00 AM	372	411	303	1086
8/1/19 10:00 AM	358	407	304	1069
8/1/19 11:00 AM	377	407	299	1083
8/1/19 12:00 PM	367	407	297	1072
8/1/19 1:00 PM	357	400	303	1059
8/1/19 2:00 PM	374	413	298	1085
8/1/19 3:00 PM	381	410	295	1086
8/1/19 4:00 PM	365	414	298	1078
8/1/19 5:00 PM	390	408	305	1103
8/1/19 6:00 PM	369	408	295	1072
8/1/19 7:00 PM	364	406	298	1068
8/1/19 8:00 PM	368	405	301	1075
8/1/19 9:00 PM	363	420	308	1091
8/1/19 10:00 PM	391	424	309	1124
8/1/19 11:00 PM	365	430	306	1100
8/2/19 12:00 AM	367	423	301	1092
8/2/19 1:00 AM	347	415	304	1066
8/2/19 2:00 AM	371	413	299	1083
8/2/19 3:00 AM	350	401	301	1052
8/2/19 4:00 AM	366	397	289	1051
8/2/19 5:00 AM	358	395	305	1058

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/2/2019	1090

08/02/19				
Time	SAP4	SAP5	SAP6	Total
8/2/19 6:00 AM	371	391	303	1064
8/2/19 7:00 AM	321	389	296	1006
8/2/19 8:00 AM	348	390	309	1047
8/2/19 9:00 AM	313	387	301	1001
8/2/19 10:00 AM	295	387	311	994
8/2/19 11:00 AM	307	395	322	1025
8/2/19 12:00 PM	302	405	340	1047
8/2/19 1:00 PM	308	403	353	1063
8/2/19 2:00 PM	325	401	352	1077
8/2/19 3:00 PM	307	405	357	1069
8/2/19 4:00 PM	347	406	364	1117
8/2/19 5:00 PM	356	407	358	1120
8/2/19 6:00 PM	365	398	390	1154
8/2/19 7:00 PM	353	415	381	1149
8/2/19 8:00 PM	390	411	390	1191
8/2/19 9:00 PM	377	409	384	1170
8/2/19 10:00 PM	366	404	363	1133
8/2/19 11:00 PM	360	404	372	1136
8/3/19 12:00 AM	346	397	351	1094
8/3/19 1:00 AM	341	414	327	1082
8/3/19 2:00 AM	363	423	338	1124
8/3/19 3:00 AM	346	412	339	1096
8/3/19 4:00 AM	366	411	310	1087
8/3/19 5:00 AM	339	416	360	1114

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/3/2019	1084

08/03/19				
Time	SAP4	SAP5	SAP6	Total
8/3/19 6:00 AM	362	416	285	1062
8/3/19 7:00 AM	364	414	292	1070
8/3/19 8:00 AM	378	411	294	1082
8/3/19 9:00 AM	364	402	290	1056
8/3/19 10:00 AM	367	402	296	1064
8/3/19 11:00 AM	349	389	291	1029
8/3/19 12:00 PM	358	392	299	1049
8/3/19 1:00 PM	330	399	299	1027
8/3/19 2:00 PM	363	404	320	1086
8/3/19 3:00 PM	334	403	322	1059
8/3/19 4:00 PM	360	414	334	1108
8/3/19 5:00 PM	341	411	320	1072
8/3/19 6:00 PM	356	414	331	1101
8/3/19 7:00 PM	342	412	336	1090
8/3/19 8:00 PM	344	402	337	1083
8/3/19 9:00 PM	358	422	338	1117
8/3/19 10:00 PM	345	419	342	1107
8/3/19 11:00 PM	363	407	339	1109
8/4/19 12:00 AM	340	413	341	1093
8/4/19 1:00 AM	367	413	343	1123
8/4/19 2:00 AM	348	413	339	1100
8/4/19 3:00 AM	370	414	338	1122
8/4/19 4:00 AM	351	399	316	1066
8/4/19 5:00 AM	366	409	361	1136

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/4/2019	1080

08/04/19				
Time	SAP4	SAP5	SAP6	Total
8/4/19 6:00 AM	363	406	339	1108
8/4/19 7:00 AM	398	406	343	1147
8/4/19 8:00 AM	361	411	336	1108
8/4/19 9:00 AM	362	392	323	1076
8/4/19 10:00 AM	337	400	324	1061
8/4/19 11:00 AM	366	402	303	1071
8/4/19 12:00 PM	345	420	305	1071
8/4/19 1:00 PM	359	417	302	1079
8/4/19 2:00 PM	343	414	301	1058
8/4/19 3:00 PM	358	409	296	1063
8/4/19 4:00 PM	364	409	291	1063
8/4/19 5:00 PM	344	406	298	1047
8/4/19 6:00 PM	364	404	286	1054
8/4/19 7:00 PM	335	410	281	1025
8/4/19 8:00 PM	349	418	350	1116
8/4/19 9:00 PM	349	406	320	1075
8/4/19 10:00 PM	352	412	345	1109
8/4/19 11:00 PM	354	419	329	1102
8/5/19 12:00 AM	368	425	351	1145
8/5/19 1:00 AM	352	404	316	1072
8/5/19 2:00 AM	335	401	326	1062
8/5/19 3:00 AM	349	398	318	1065
8/5/19 4:00 AM	359	419	296	1074
8/5/19 5:00 AM	341	388	347	1076

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/5/2019	986

08/05/19				
Time	SAP4	SAP5	SAP6	Total
8/5/19 6:00 AM	352	415	341	1108
8/5/19 7:00 AM	370	413	334	1117
8/5/19 8:00 AM	335	415	345	1095
8/5/19 9:00 AM	350	416	24	790
8/5/19 10:00 AM	359	405	0	764
8/5/19 11:00 AM	360	408	0	767
8/5/19 12:00 PM	356	390	0	746
8/5/19 1:00 PM	364	406	4	774
8/5/19 2:00 PM	341	391	125	857
8/5/19 3:00 PM	334	400	223	957
8/5/19 4:00 PM	331	411	339	1081
8/5/19 5:00 PM	346	411	310	1068
8/5/19 6:00 PM	363	410	289	1062
8/5/19 7:00 PM	340	411	292	1043
8/5/19 8:00 PM	342	422	280	1043
8/5/19 9:00 PM	346	416	282	1043
8/5/19 10:00 PM	341	422	275	1038
8/5/19 11:00 PM	358	421	276	1054
8/6/19 12:00 AM	349	419	270	1037
8/6/19 1:00 AM	348	413	272	1032
8/6/19 2:00 AM	368	411	275	1054
8/6/19 3:00 AM	346	414	277	1036
8/6/19 4:00 AM	359	403	273	1034
8/6/19 5:00 AM	364	412	280	1056

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/6/2019	811

08/06/19				
Time	SAP4	SAP5	SAP6	Total
8/6/19 6:00 AM	354	142	232	727
8/6/19 7:00 AM	354	0	193	548
8/6/19 8:00 AM	307	0	331	638
8/6/19 9:00 AM	332	0	344	676
8/6/19 10:00 AM	337	0	341	678
8/6/19 11:00 AM	352	0	341	693
8/6/19 12:00 PM	358	0	281	639
8/6/19 1:00 PM	329	0	21	350
8/6/19 2:00 PM	335	0	173	507
8/6/19 3:00 PM	326	0	355	680
8/6/19 4:00 PM	372	0	414	785
8/6/19 5:00 PM	339	0	429	767
8/6/19 6:00 PM	348	0	406	754
8/6/19 7:00 PM	344	0	392	736
8/6/19 8:00 PM	336	0	399	734
8/6/19 9:00 PM	349	147	393	889
8/6/19 10:00 PM	361	236	399	996
8/6/19 11:00 PM	361	137	424	922
8/7/19 12:00 AM	369	220	412	1002
8/7/19 1:00 AM	345	360	405	1110
8/7/19 2:00 AM	361	408	410	1178
8/7/19 3:00 AM	336	413	423	1172
8/7/19 4:00 AM	357	420	417	1194
8/7/19 5:00 AM	346	356	375	1077

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/7/2019	910

08/07/19				
Time	SAP4	SAP5	SAP6	Total
8/7/19 6:00 AM	360	336	372	1068
8/7/19 7:00 AM	344	293	370	1008
8/7/19 8:00 AM	354	278	365	996
8/7/19 9:00 AM	325	271	366	961
8/7/19 10:00 AM	338	271	345	954
8/7/19 11:00 AM	344	275	329	948
8/7/19 12:00 PM	322	268	323	913
8/7/19 1:00 PM	335	267	326	928
8/7/19 2:00 PM	330	267	336	933
8/7/19 3:00 PM	338	266	336	940
8/7/19 4:00 PM	344	253	300	897
8/7/19 5:00 PM	327	248	309	885
8/7/19 6:00 PM	364	254	310	929
8/7/19 7:00 PM	334	259	301	894
8/7/19 8:00 PM	341	260	298	899
8/7/19 9:00 PM	347	272	288	907
8/7/19 10:00 PM	328	262	258	847
8/7/19 11:00 PM	350	247	265	862
8/8/19 12:00 AM	341	243	275	859
8/8/19 1:00 AM	349	237	272	858
8/8/19 2:00 AM	337	222	271	830
8/8/19 3:00 AM	351	218	278	846
8/8/19 4:00 AM	335	215	251	801
8/8/19 5:00 AM	362	235	287	883

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/8/2019	930

08/08/19				
Time	SAP4	SAP5	SAP6	Total
8/8/19 6:00 AM	343	241	286	870
8/8/19 7:00 AM	351	243	288	882
8/8/19 8:00 AM	367	256	289	912
8/8/19 9:00 AM	379	253	284	916
8/8/19 10:00 AM	373	253	265	891
8/8/19 11:00 AM	349	252	246	846
8/8/19 12:00 PM	344	254	294	892
8/8/19 1:00 PM	333	250	300	882
8/8/19 2:00 PM	391	247	296	933
8/8/19 3:00 PM	343	249	297	889
8/8/19 4:00 PM	394	251	300	946
8/8/19 5:00 PM	359	250	300	908
8/8/19 6:00 PM	330	251	290	871
8/8/19 7:00 PM	358	276	306	940
8/8/19 8:00 PM	371	302	322	996
8/8/19 9:00 PM	347	306	314	968
8/8/19 10:00 PM	349	312	329	990
8/8/19 11:00 PM	321	307	294	922
8/9/19 12:00 AM	334	307	301	942
8/9/19 1:00 AM	346	322	313	981
8/9/19 2:00 AM	337	317	305	958
8/9/19 3:00 AM	345	316	305	966
8/9/19 4:00 AM	368	321	307	995
8/9/19 5:00 AM	354	318	339	1010

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/9/2019	1073

08/09/19				
Time	SAP4	SAP5	SAP6	Total
8/9/19 6:00 AM	350	306	316	972
8/9/19 7:00 AM	337	275	319	931
8/9/19 8:00 AM	360	286	343	989
8/9/19 9:00 AM	397	295	359	1051
8/9/19 10:00 AM	367	294	373	1034
8/9/19 11:00 AM	341	317	387	1045
8/9/19 12:00 PM	360	323	391	1075
8/9/19 1:00 PM	392	330	396	1118
8/9/19 2:00 PM	362	333	387	1082
8/9/19 3:00 PM	344	333	398	1075
8/9/19 4:00 PM	403	324	384	1111
8/9/19 5:00 PM	329	332	388	1050
8/9/19 6:00 PM	394	329	394	1117
8/9/19 7:00 PM	383	329	385	1097
8/9/19 8:00 PM	376	329	384	1089
8/9/19 9:00 PM	357	331	397	1085
8/9/19 10:00 PM	409	332	396	1137
8/9/19 11:00 PM	383	334	384	1100
8/10/19 12:00 AM	387	337	393	1117
8/10/19 1:00 AM	380	342	397	1119
8/10/19 2:00 AM	383	343	382	1108
8/10/19 3:00 AM	365	347	397	1110
8/10/19 4:00 AM	381	307	371	1059
8/10/19 5:00 AM	363	312	414	1090

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/10/2019	973

08/10/19				
Time	SAP4	SAP5	SAP6	Total
8/10/19 6:00 AM	385	321	401	1108
8/10/19 7:00 AM	378	320	403	1101
8/10/19 8:00 AM	372	329	384	1085
8/10/19 9:00 AM	382	325	387	1095
8/10/19 10:00 AM	355	321	387	1064
8/10/19 11:00 AM	406	324	385	1115
8/10/19 12:00 PM	407	334	394	1134
8/10/19 1:00 PM	311	338	391	1041
8/10/19 2:00 PM	406	332	381	1119
8/10/19 3:00 PM	324	334	391	1049
8/10/19 4:00 PM	403	322	332	1058
8/10/19 5:00 PM	379	171	39	589
8/10/19 6:00 PM	344	211	53	608
8/10/19 7:00 PM	382	214	65	661
8/10/19 8:00 PM	328	204	80	611
8/10/19 9:00 PM	168	214	75	457
8/10/19 10:00 PM	399	267	201	867
8/10/19 11:00 PM	389	292	367	1049
8/11/19 12:00 AM	387	337	363	1086
8/11/19 1:00 AM	354	341	385	1081
8/11/19 2:00 AM	376	347	381	1105
8/11/19 3:00 AM	353	336	369	1059
8/11/19 4:00 AM	389	342	355	1086
8/11/19 5:00 AM	397	343	385	1125

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/11/2019	1051

08/11/19				
Time	SAP4	SAP5	SAP6	Total
8/11/19 6:00 AM	328	346	377	1051
8/11/19 7:00 AM	403	336	359	1098
8/11/19 8:00 AM	318	342	366	1026
8/11/19 9:00 AM	368	344	356	1067
8/11/19 10:00 AM	412	331	366	1109
8/11/19 11:00 AM	306	317	368	990
8/11/19 12:00 PM	329	344	353	1026
8/11/19 1:00 PM	385	329	332	1047
8/11/19 2:00 PM	368	332	334	1034
8/11/19 3:00 PM	345	330	334	1008
8/11/19 4:00 PM	392	329	352	1074
8/11/19 5:00 PM	404	330	342	1076
8/11/19 6:00 PM	387	326	342	1055
8/11/19 7:00 PM	398	320	340	1059
8/11/19 8:00 PM	378	317	316	1012
8/11/19 9:00 PM	378	338	327	1044
8/11/19 10:00 PM	392	348	337	1077
8/11/19 11:00 PM	370	346	325	1041
8/12/19 12:00 AM	424	341	332	1097
8/12/19 1:00 AM	402	338	335	1075
8/12/19 2:00 AM	357	335	315	1006
8/12/19 3:00 AM	386	337	320	1043
8/12/19 4:00 AM	388	319	298	1005
8/12/19 5:00 AM	413	356	330	1099

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/12/2019	1044

08/12/19				
Time	SAP4	SAP5	SAP6	Total
8/12/19 6:00 AM	376	324	320	1019
8/12/19 7:00 AM	369	295	325	989
8/12/19 8:00 AM	364	290	309	964
8/12/19 9:00 AM	385	273	330	987
8/12/19 10:00 AM	373	234	313	921
8/12/19 11:00 AM	395	250	331	977
8/12/19 12:00 PM	344	299	332	976
8/12/19 1:00 PM	408	326	320	1053
8/12/19 2:00 PM	352	337	352	1040
8/12/19 3:00 PM	394	345	362	1101
8/12/19 4:00 PM	357	346	371	1075
8/12/19 5:00 PM	392	341	354	1087
8/12/19 6:00 PM	373	345	361	1080
8/12/19 7:00 PM	424	340	371	1135
8/12/19 8:00 PM	357	332	364	1054
8/12/19 9:00 PM	362	327	349	1038
8/12/19 10:00 PM	387	326	349	1062
8/12/19 11:00 PM	397	331	361	1089
8/13/19 12:00 AM	375	333	353	1061
8/13/19 1:00 AM	400	339	349	1088
8/13/19 2:00 AM	404	343	356	1103
8/13/19 3:00 AM	341	345	354	1040
8/13/19 4:00 AM	413	302	334	1048
8/13/19 5:00 AM	381	341	356	1077

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/13/2019	1044

08/13/19				
Time	SAP4	SAP5	SAP6	Total
8/13/19 6:00 AM	366	348	354	1068
8/13/19 7:00 AM	372	350	315	1036
8/13/19 8:00 AM	383	344	308	1035
8/13/19 9:00 AM	382	346	317	1045
8/13/19 10:00 AM	382	344	306	1032
8/13/19 11:00 AM	365	339	305	1009
8/13/19 12:00 PM	405	330	314	1049
8/13/19 1:00 PM	356	324	344	1024
8/13/19 2:00 PM	401	321	318	1040
8/13/19 3:00 PM	382	327	319	1028
8/13/19 4:00 PM	397	337	324	1059
8/13/19 5:00 PM	374	341	315	1030
8/13/19 6:00 PM	361	346	309	1016
8/13/19 7:00 PM	395	340	321	1057
8/13/19 8:00 PM	405	342	324	1071
8/13/19 9:00 PM	383	331	324	1038
8/13/19 10:00 PM	381	328	326	1035
8/13/19 11:00 PM	325	327	341	993
8/14/19 12:00 AM	400	335	330	1064
8/14/19 1:00 AM	390	330	329	1049
8/14/19 2:00 AM	430	342	342	1113
8/14/19 3:00 AM	392	342	342	1076
8/14/19 4:00 AM	386	287	311	984
8/14/19 5:00 AM	364	357	373	1094

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/14/2019	1012

08/14/19				
Time	SAP4	SAP5	SAP6	Total
8/14/19 6:00 AM	397	332	320	1049
8/14/19 7:00 AM	389	322	304	1015
8/14/19 8:00 AM	338	317	312	967
8/14/19 9:00 AM	367	311	313	991
8/14/19 10:00 AM	405	311	303	1020
8/14/19 11:00 AM	392	297	300	989
8/14/19 12:00 PM	376	306	306	988
8/14/19 1:00 PM	388	306	319	1013
8/14/19 2:00 PM	375	321	300	996
8/14/19 3:00 PM	380	316	306	1002
8/14/19 4:00 PM	396	328	311	1036
8/14/19 5:00 PM	352	329	292	973
8/14/19 6:00 PM	355	333	289	977
8/14/19 7:00 PM	381	338	306	1024
8/14/19 8:00 PM	407	338	310	1055
8/14/19 9:00 PM	338	328	305	971
8/14/19 10:00 PM	425	330	331	1086
8/14/19 11:00 PM	309	330	322	961
8/15/19 12:00 AM	376	331	327	1034
8/15/19 1:00 AM	412	319	337	1069
8/15/19 2:00 AM	342	323	301	966
8/15/19 3:00 AM	429	314	321	1065
8/15/19 4:00 AM	355	280	303	938
8/15/19 5:00 AM	400	364	342	1105

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/15/2019	980

08/15/19				
Time	SAP4	SAP5	SAP6	Total
8/15/19 6:00 AM	380	317	311	1007
8/15/19 7:00 AM	374	298	296	968
8/15/19 8:00 AM	382	302	278	962
8/15/19 9:00 AM	384	303	287	974
8/15/19 10:00 AM	388	310	274	972
8/15/19 11:00 AM	389	319	276	984
8/15/19 12:00 PM	373	329	285	987
8/15/19 1:00 PM	371	342	271	984
8/15/19 2:00 PM	386	362	290	1037
8/15/19 3:00 PM	168	330	281	778
8/15/19 4:00 PM	226	298	235	758
8/15/19 5:00 PM	297	313	255	866
8/15/19 6:00 PM	319	297	241	857
8/15/19 7:00 PM	325	367	351	1043
8/15/19 8:00 PM	359	342	296	996
8/15/19 9:00 PM	414	356	306	1075
8/15/19 10:00 PM	391	363	306	1060
8/15/19 11:00 PM	346	361	323	1029
8/16/19 12:00 AM	396	359	326	1082
8/16/19 1:00 AM	356	356	323	1035
8/16/19 2:00 AM	407	355	311	1073
8/16/19 3:00 AM	364	360	283	1007
8/16/19 4:00 AM	404	350	266	1021
8/16/19 5:00 AM	339	309	315	964

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/16/2019	1033

08/16/19				
Time	SAP4	SAP5	SAP6	Total
8/16/19 6:00 AM	405	332	298	1036
8/16/19 7:00 AM	402	331	308	1040
8/16/19 8:00 AM	351	328	295	975
8/16/19 9:00 AM	404	321	302	1028
8/16/19 10:00 AM	372	315	137	825
8/16/19 11:00 AM	411	332	121	864
8/16/19 12:00 PM	363	321	147	831
8/16/19 1:00 PM	397	360	361	1118
8/16/19 2:00 PM	402	369	371	1142
8/16/19 3:00 PM	365	369	375	1109
8/16/19 4:00 PM	405	373	365	1142
8/16/19 5:00 PM	408	367	373	1149
8/16/19 6:00 PM	351	356	342	1049
8/16/19 7:00 PM	400	363	359	1123
8/16/19 8:00 PM	354	368	359	1081
8/16/19 9:00 PM	361	370	350	1081
8/16/19 10:00 PM	410	370	353	1133
8/16/19 11:00 PM	362	369	348	1079
8/17/19 12:00 AM	320	356	353	1029
8/17/19 1:00 AM	397	355	343	1095
8/17/19 2:00 AM	329	339	269	937
8/17/19 3:00 AM	381	333	273	987
8/17/19 4:00 AM	388	298	242	928
8/17/19 5:00 AM	359	346	296	1001

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/17/2019	980

08/17/19				
Time	SAP4	SAP5	SAP6	Total
8/17/19 6:00 AM	376	344	278	998
8/17/19 7:00 AM	396	336	266	998
8/17/19 8:00 AM	367	339	307	1012
8/17/19 9:00 AM	385	309	306	1001
8/17/19 10:00 AM	418	303	299	1020
8/17/19 11:00 AM	385	298	341	1024
8/17/19 12:00 PM	349	275	333	957
8/17/19 1:00 PM	369	267	316	952
8/17/19 2:00 PM	399	267	321	988
8/17/19 3:00 PM	405	273	312	991
8/17/19 4:00 PM	116	336	327	779
8/17/19 5:00 PM	0	347	344	691
8/17/19 6:00 PM	25	351	346	722
8/17/19 7:00 PM	216	352	351	918
8/17/19 8:00 PM	338	345	337	1020
8/17/19 9:00 PM	352	345	358	1055
8/17/19 10:00 PM	350	333	345	1028
8/17/19 11:00 PM	334	329	348	1012
8/18/19 12:00 AM	440	331	359	1129
8/18/19 1:00 AM	320	332	351	1003
8/18/19 2:00 AM	424	335	358	1117
8/18/19 3:00 AM	327	340	352	1019
8/18/19 4:00 AM	364	320	321	1005
8/18/19 5:00 AM	351	346	373	1069

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/18/2019	1058

08/18/19				
Time	SAP4	SAP5	SAP6	Total
8/18/19 6:00 AM	394	345	311	1050
8/18/19 7:00 AM	412	345	305	1062
8/18/19 8:00 AM	369	343	316	1027
8/18/19 9:00 AM	398	340	306	1045
8/18/19 10:00 AM	362	329	303	994
8/18/19 11:00 AM	375	332	346	1052
8/18/19 12:00 PM	408	309	338	1055
8/18/19 1:00 PM	391	309	347	1047
8/18/19 2:00 PM	389	337	345	1071
8/18/19 3:00 PM	367	339	336	1042
8/18/19 4:00 PM	415	339	357	1111
8/18/19 5:00 PM	350	322	349	1022
8/18/19 6:00 PM	383	319	361	1063
8/18/19 7:00 PM	379	316	353	1048
8/18/19 8:00 PM	370	311	350	1030
8/18/19 9:00 PM	395	316	368	1079
8/18/19 10:00 PM	301	319	388	1007
8/18/19 11:00 PM	385	315	389	1089
8/19/19 12:00 AM	353	327	397	1078
8/19/19 1:00 AM	382	335	385	1102
8/19/19 2:00 AM	393	347	395	1135
8/19/19 3:00 AM	386	331	396	1113
8/19/19 4:00 AM	323	290	369	983
8/19/19 5:00 AM	343	336	415	1094

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/19/2019	1062

08/19/19				
Time	SAP4	SAP5	SAP6	Total
8/19/19 6:00 AM	406	330	388	1125
8/19/19 7:00 AM	352	331	394	1077
8/19/19 8:00 AM	347	331	400	1079
8/19/19 9:00 AM	376	295	383	1054
8/19/19 10:00 AM	386	280	392	1057
8/19/19 11:00 AM	389	278	391	1058
8/19/19 12:00 PM	416	276	373	1065
8/19/19 1:00 PM	394	308	385	1086
8/19/19 2:00 PM	397	361	383	1142
8/19/19 3:00 PM	383	370	369	1123
8/19/19 4:00 PM	370	374	385	1128
8/19/19 5:00 PM	385	368	363	1115
8/19/19 6:00 PM	384	342	364	1090
8/19/19 7:00 PM	386	328	375	1088
8/19/19 8:00 PM	384	320	353	1057
8/19/19 9:00 PM	380	314	358	1052
8/19/19 10:00 PM	378	304	364	1046
8/19/19 11:00 PM	377	306	334	1017
8/20/19 12:00 AM	375	307	343	1024
8/20/19 1:00 AM	375	308	321	1005
8/20/19 2:00 AM	376	308	314	999
8/20/19 3:00 AM	377	313	324	1014
8/20/19 4:00 AM	379	301	292	972
8/20/19 5:00 AM	375	317	326	1017

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/20/2019	1046

08/20/19				
Time	SAP4	SAP5	SAP6	Total
8/20/19 6:00 AM	383	365	331	1079
8/20/19 7:00 AM	348	388	322	1058
8/20/19 8:00 AM	373	389	367	1129
8/20/19 9:00 AM	384	354	357	1095
8/20/19 10:00 AM	385	291	356	1032
8/20/19 11:00 AM	377	289	361	1027
8/20/19 12:00 PM	375	301	352	1028
8/20/19 1:00 PM	368	300	172	840
8/20/19 2:00 PM	379	320	263	962
8/20/19 3:00 PM	379	326	363	1068
8/20/19 4:00 PM	368	337	367	1072
8/20/19 5:00 PM	370	336	347	1053
8/20/19 6:00 PM	370	337	330	1037
8/20/19 7:00 PM	370	329	336	1036
8/20/19 8:00 PM	374	328	352	1054
8/20/19 9:00 PM	381	320	359	1061
8/20/19 10:00 PM	381	317	347	1045
8/20/19 11:00 PM	370	331	357	1058
8/21/19 12:00 AM	366	333	359	1059
8/21/19 1:00 AM	365	342	362	1069
8/21/19 2:00 AM	375	329	368	1072
8/21/19 3:00 AM	372	316	388	1075
8/21/19 4:00 AM	371	285	396	1054
8/21/19 5:00 AM	372	340	319	1031

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/21/2019	1073

08/21/19				
Time	SAP4	SAP5	SAP6	Total
8/21/19 6:00 AM	366	342	355	1063
8/21/19 7:00 AM	370	339	342	1051
8/21/19 8:00 AM	390	377	364	1131
8/21/19 9:00 AM	356	369	391	1116
8/21/19 10:00 AM	387	369	381	1137
8/21/19 11:00 AM	368	351	386	1105
8/21/19 12:00 PM	380	356	358	1095
8/21/19 1:00 PM	381	344	382	1107
8/21/19 2:00 PM	358	357	350	1065
8/21/19 3:00 PM	371	368	293	1032
8/21/19 4:00 PM	379	378	321	1078
8/21/19 5:00 PM	358	382	292	1031
8/21/19 6:00 PM	371	379	305	1055
8/21/19 7:00 PM	389	379	300	1068
8/21/19 8:00 PM	351	378	302	1032
8/21/19 9:00 PM	393	379	310	1082
8/21/19 10:00 PM	384	362	302	1048
8/21/19 11:00 PM	390	370	310	1070
8/22/19 12:00 AM	370	375	300	1045
8/22/19 1:00 AM	383	374	314	1071
8/22/19 2:00 AM	357	372	302	1030
8/22/19 3:00 AM	383	380	308	1072
8/22/19 4:00 AM	387	394	259	1041
8/22/19 5:00 AM	378	380	363	1120

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/22/2019	1020

08/22/19				
Time	SAP4	SAP5	SAP6	Total
8/22/19 6:00 AM	382	391	321	1094
8/22/19 7:00 AM	396	389	313	1098
8/22/19 8:00 AM	375	387	298	1061
8/22/19 9:00 AM	360	384	274	1018
8/22/19 10:00 AM	377	377	269	1023
8/22/19 11:00 AM	371	380	276	1026
8/22/19 12:00 PM	383	375	273	1030
8/22/19 1:00 PM	385	378	272	1035
8/22/19 2:00 PM	373	364	273	1009
8/22/19 3:00 PM	369	367	267	1003
8/22/19 4:00 PM	371	367	268	1006
8/22/19 5:00 PM	375	367	258	1000
8/22/19 6:00 PM	399	365	261	1025
8/22/19 7:00 PM	363	366	264	992
8/22/19 8:00 PM	363	354	259	975
8/22/19 9:00 PM	367	354	268	988
8/22/19 10:00 PM	392	355	261	1008
8/22/19 11:00 PM	388	357	267	1012
8/23/19 12:00 AM	367	363	266	996
8/23/19 1:00 AM	389	367	263	1019
8/23/19 2:00 AM	388	369	276	1032
8/23/19 3:00 AM	392	362	264	1018
8/23/19 4:00 AM	379	342	248	968
8/23/19 5:00 AM	391	363	295	1048

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/23/2019	1002

08/23/19				
Time	SAP4	SAP5	SAP6	Total
8/23/19 6:00 AM	392	365	272	1029
8/23/19 7:00 AM	382	348	273	1003
8/23/19 8:00 AM	374	342	274	989
8/23/19 9:00 AM	375	327	273	975
8/23/19 10:00 AM	365	317	272	953
8/23/19 11:00 AM	367	354	287	1008
8/23/19 12:00 PM	384	351	258	993
8/23/19 1:00 PM	374	360	142	876
8/23/19 2:00 PM	369	384	0	754
8/23/19 3:00 PM	433	373	30	836
8/23/19 4:00 PM	333	346	248	927
8/23/19 5:00 PM	409	346	242	997
8/23/19 6:00 PM	359	351	236	946
8/23/19 7:00 PM	398	348	259	1005
8/23/19 8:00 PM	368	346	275	989
8/23/19 9:00 PM	379	349	278	1005
8/23/19 10:00 PM	377	345	320	1042
8/23/19 11:00 PM	382	337	404	1124
8/24/19 12:00 AM	383	346	385	1114
8/24/19 1:00 AM	380	353	388	1121
8/24/19 2:00 AM	381	351	385	1117
8/24/19 3:00 AM	378	354	375	1107
8/24/19 4:00 AM	379	350	385	1114
8/24/19 5:00 AM	379	347	310	1036

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/24/2019	959

08/24/19				
Time	SAP4	SAP5	SAP6	Total
8/24/19 6:00 AM	365	364	285	1013
8/24/19 7:00 AM	371	351	288	1010
8/24/19 8:00 AM	374	346	289	1010
8/24/19 9:00 AM	368	341	280	990
8/24/19 10:00 AM	369	343	281	993
8/24/19 11:00 AM	380	341	280	1002
8/24/19 12:00 PM	372	348	285	1005
8/24/19 1:00 PM	388	350	287	1026
8/24/19 2:00 PM	380	353	257	990
8/24/19 3:00 PM	366	360	243	969
8/24/19 4:00 PM	375	360	240	975
8/24/19 5:00 PM	372	343	222	937
8/24/19 6:00 PM	372	342	217	931
8/24/19 7:00 PM	372	332	207	911
8/24/19 8:00 PM	382	329	198	909
8/24/19 9:00 PM	376	339	197	911
8/24/19 10:00 PM	373	346	198	917
8/24/19 11:00 PM	379	349	193	920
8/25/19 12:00 AM	376	358	198	932
8/25/19 1:00 AM	379	350	193	921
8/25/19 2:00 AM	378	350	197	925
8/25/19 3:00 AM	374	348	205	926
8/25/19 4:00 AM	383	378	185	946
8/25/19 5:00 AM	377	333	235	945

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/25/2019	973

08/25/19				
Time	SAP4	SAP5	SAP6	Total
8/25/19 6:00 AM	369	324	192	884
8/25/19 7:00 AM	372	354	184	910
8/25/19 8:00 AM	373	356	168	897
8/25/19 9:00 AM	378	355	159	892
8/25/19 10:00 AM	376	364	165	905
8/25/19 11:00 AM	376	356	182	914
8/25/19 12:00 PM	382	349	206	937
8/25/19 1:00 PM	380	343	196	919
8/25/19 2:00 PM	380	339	200	920
8/25/19 3:00 PM	413	341	203	957
8/25/19 4:00 PM	394	342	240	977
8/25/19 5:00 PM	340	344	272	955
8/25/19 6:00 PM	383	343	285	1010
8/25/19 7:00 PM	364	344	295	1004
8/25/19 8:00 PM	388	358	289	1034
8/25/19 9:00 PM	383	351	316	1051
8/25/19 10:00 PM	382	361	300	1042
8/25/19 11:00 PM	372	348	302	1022
8/26/19 12:00 AM	372	346	314	1032
8/26/19 1:00 AM	381	347	294	1022
8/26/19 2:00 AM	383	349	309	1041
8/26/19 3:00 AM	386	349	272	1007
8/26/19 4:00 AM	396	344	252	992
8/26/19 5:00 AM	375	352	305	1032

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/26/2019	995

08/26/19				
Time	SAP4	SAP5	SAP6	Total
8/26/19 6:00 AM	392	360	264	1016
8/26/19 7:00 AM	376	370	264	1011
8/26/19 8:00 AM	398	394	286	1077
8/26/19 9:00 AM	379	393	312	1083
8/26/19 10:00 AM	385	379	287	1052
8/26/19 11:00 AM	375	379	296	1049
8/26/19 12:00 PM	372	374	293	1040
8/26/19 1:00 PM	384	375	302	1061
8/26/19 2:00 PM	389	379	306	1075
8/26/19 3:00 PM	387	380	305	1072
8/26/19 4:00 PM	384	394	311	1089
8/26/19 5:00 PM	353	402	308	1064
8/26/19 6:00 PM	174	386	302	862
8/26/19 7:00 PM	295	366	279	940
8/26/19 8:00 PM	173	373	248	794
8/26/19 9:00 PM	233	378	261	872
8/26/19 10:00 PM	344	382	227	952
8/26/19 11:00 PM	361	388	198	947
8/27/19 12:00 AM	382	402	183	967
8/27/19 1:00 AM	367	400	188	955
8/27/19 2:00 AM	393	402	185	980
8/27/19 3:00 AM	378	397	189	965
8/27/19 4:00 AM	374	383	174	931
8/27/19 5:00 AM	381	386	268	1036

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/27/2019	1066

08/27/19				
Time	SAP4	SAP5	SAP6	Total
8/27/19 6:00 AM	382	397	259	1038
8/27/19 7:00 AM	387	391	274	1053
8/27/19 8:00 AM	368	441	269	1078
8/27/19 9:00 AM	391	390	238	1019
8/27/19 10:00 AM	385	383	242	1010
8/27/19 11:00 AM	365	371	249	985
8/27/19 12:00 PM	383	370	269	1021
8/27/19 1:00 PM	355	371	296	1022
8/27/19 2:00 PM	349	386	373	1108
8/27/19 3:00 PM	371	389	370	1130
8/27/19 4:00 PM	393	386	357	1136
8/27/19 5:00 PM	383	392	319	1094
8/27/19 6:00 PM	388	400	296	1085
8/27/19 7:00 PM	380	405	306	1090
8/27/19 8:00 PM	388	396	308	1093
8/27/19 9:00 PM	375	400	297	1072
8/27/19 10:00 PM	383	400	300	1083
8/27/19 11:00 PM	380	398	297	1076
8/28/19 12:00 AM	373	400	309	1082
8/28/19 1:00 AM	365	408	303	1076
8/28/19 2:00 AM	377	421	309	1107
8/28/19 3:00 AM	380	416	258	1054
8/28/19 4:00 AM	382	409	229	1021
8/28/19 5:00 AM	381	399	280	1060

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/28/2019	952

08/28/19				
Time	SAP4	SAP5	SAP6	Total
8/28/19 6:00 AM	384	414	257	1054
8/28/19 7:00 AM	376	418	250	1043
8/28/19 8:00 AM	382	419	261	1061
8/28/19 9:00 AM	387	408	257	1052
8/28/19 10:00 AM	383	390	262	1034
8/28/19 11:00 AM	382	391	263	1036
8/28/19 12:00 PM	365	403	281	1049
8/28/19 1:00 PM	374	404	269	1047
8/28/19 2:00 PM	387	390	264	1041
8/28/19 3:00 PM	411	397	261	1069
8/28/19 4:00 PM	345	403	263	1012
8/28/19 5:00 PM	349	77	222	648
8/28/19 6:00 PM	356	0	259	615
8/28/19 7:00 PM	340	0	265	605
8/28/19 8:00 PM	343	1	272	616
8/28/19 9:00 PM	350	298	333	981
8/28/19 10:00 PM	340	377	432	1149
8/28/19 11:00 PM	349	374	251	974
8/29/19 12:00 AM	345	400	161	906
8/29/19 1:00 AM	355	402	173	929
8/29/19 2:00 AM	354	405	169	928
8/29/19 3:00 AM	351	413	195	958
8/29/19 4:00 AM	358	413	260	1031
8/29/19 5:00 AM	346	395	258	999

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/29/2019	874

08/29/19				
Time	SAP4	SAP5	SAP6	Total
8/29/19 6:00 AM	361	368	267	996
8/29/19 7:00 AM	350	365	269	985
8/29/19 8:00 AM	70	382	271	723
8/29/19 9:00 AM	338	372	269	979
8/29/19 10:00 AM	365	272	219	855
8/29/19 11:00 AM	365	270	228	863
8/29/19 12:00 PM	320	269	238	827
8/29/19 1:00 PM	342	306	227	875
8/29/19 2:00 PM	341	315	231	888
8/29/19 3:00 PM	361	323	221	906
8/29/19 4:00 PM	340	321	207	869
8/29/19 5:00 PM	363	326	222	911
8/29/19 6:00 PM	345	325	212	882
8/29/19 7:00 PM	367	301	216	884
8/29/19 8:00 PM	343	306	220	869
8/29/19 9:00 PM	349	307	210	866
8/29/19 10:00 PM	355	285	219	859
8/29/19 11:00 PM	345	281	210	836
8/30/19 12:00 AM	344	279	207	830
8/30/19 1:00 AM	348	289	215	852
8/30/19 2:00 AM	355	295	204	854
8/30/19 3:00 AM	349	313	209	871
8/30/19 4:00 AM	348	290	197	835
8/30/19 5:00 AM	348	303	214	865

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/30/2019	870

08/30/19				
Time	SAP4	SAP5	SAP6	Total
8/30/19 6:00 AM	366	299	208	873
8/30/19 7:00 AM	328	293	203	824
8/30/19 8:00 AM	348	298	199	844
8/30/19 9:00 AM	337	294	202	833
8/30/19 10:00 AM	354	289	193	835
8/30/19 11:00 AM	354	262	199	814
8/30/19 12:00 PM	344	299	204	847
8/30/19 1:00 PM	338	297	193	828
8/30/19 2:00 PM	336	333	202	871
8/30/19 3:00 PM	340	341	204	885
8/30/19 4:00 PM	352	352	201	904
8/30/19 5:00 PM	335	325	216	875
8/30/19 6:00 PM	337	338	226	900
8/30/19 7:00 PM	348	340	224	911
8/30/19 8:00 PM	353	326	216	896
8/30/19 9:00 PM	356	329	208	893
8/30/19 10:00 PM	345	328	211	884
8/30/19 11:00 PM	346	322	208	876
8/31/19 12:00 AM	352	324	205	880
8/31/19 1:00 AM	341	326	213	880
8/31/19 2:00 AM	341	326	205	871
8/31/19 3:00 AM	341	324	209	873
8/31/19 4:00 AM	338	266	227	832
8/31/19 5:00 AM	335	384	233	952

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	8/31/2019	843

08/31/19				
Time	SAP4	SAP5	SAP6	Total
8/31/19 6:00 AM	378	254	210	843
8/31/19 7:00 AM	327	295	205	828
8/31/19 8:00 AM	345	283	200	829
8/31/19 9:00 AM	342	266	204	812
8/31/19 10:00 AM	350	272	199	821
8/31/19 11:00 AM	354	276	202	832
8/31/19 12:00 PM	343	271	195	810
8/31/19 1:00 PM	339	280	207	826
8/31/19 2:00 PM	349	305	206	860
8/31/19 3:00 PM	368	292	203	863
8/31/19 4:00 PM	340	291	204	835
8/31/19 5:00 PM	345	303	195	843
8/31/19 6:00 PM	339	311	200	850
8/31/19 7:00 PM	327	315	201	843
8/31/19 8:00 PM	347	314	197	857
8/31/19 9:00 PM	338	313	210	862
8/31/19 10:00 PM	326	305	199	829
8/31/19 11:00 PM	332	310	203	846
9/1/19 12:00 AM	346	314	207	866
9/1/19 1:00 AM	341	310	198	849
9/1/19 2:00 AM	340	313	206	859
9/1/19 3:00 AM	335	317	200	852
9/1/19 4:00 AM	341	300	198	839
9/1/19 5:00 AM	340	321	215	876

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/1/2019	917

09/01/19				
Time	SAP4	SAP5	SAP6	Total
9/1/19 6:00 AM	350	320	203	873
9/1/19 7:00 AM	339	318	209	866
9/1/19 8:00 AM	330	332	200	861
9/1/19 9:00 AM	290	334	204	828
9/1/19 10:00 AM	320	342	205	867
9/1/19 11:00 AM	335	363	198	896
9/1/19 12:00 PM	350	354	217	921
9/1/19 1:00 PM	340	355	208	903
9/1/19 2:00 PM	333	383	210	926
9/1/19 3:00 PM	345	368	211	923
9/1/19 4:00 PM	339	368	208	916
9/1/19 5:00 PM	339	375	218	932
9/1/19 6:00 PM	339	398	206	943
9/1/19 7:00 PM	337	403	216	956
9/1/19 8:00 PM	329	408	210	947
9/1/19 9:00 PM	327	402	213	942
9/1/19 10:00 PM	326	404	217	947
9/1/19 11:00 PM	340	411	211	962
9/2/19 12:00 AM	333	413	223	969
9/2/19 1:00 AM	337	381	206	925
9/2/19 2:00 AM	351	381	216	948
9/2/19 3:00 AM	332	373	214	918
9/2/19 4:00 AM	329	357	210	896
9/2/19 5:00 AM	328	386	222	936

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/2/2019	963

09/02/19				
Time	SAP4	SAP5	SAP6	Total
9/2/19 6:00 AM	347	382	212	940
9/2/19 7:00 AM	339	364	219	922
9/2/19 8:00 AM	335	353	217	905
9/2/19 9:00 AM	342	301	215	858
9/2/19 10:00 AM	340	316	218	875
9/2/19 11:00 AM	331	329	210	870
9/2/19 12:00 PM	341	331	216	888
9/2/19 1:00 PM	338	345	235	918
9/2/19 2:00 PM	338	358	290	986
9/2/19 3:00 PM	328	327	278	933
9/2/19 4:00 PM	334	361	276	970
9/2/19 5:00 PM	319	388	279	987
9/2/19 6:00 PM	337	377	269	983
9/2/19 7:00 PM	335	358	271	965
9/2/19 8:00 PM	330	411	274	1015
9/2/19 9:00 PM	326	421	272	1019
9/2/19 10:00 PM	315	417	280	1012
9/2/19 11:00 PM	330	403	271	1004
9/3/19 12:00 AM	325	398	286	1008
9/3/19 1:00 AM	329	402	275	1006
9/3/19 2:00 AM	333	399	282	1013
9/3/19 3:00 AM	332	406	272	1009
9/3/19 4:00 AM	337	423	257	1016
9/3/19 5:00 AM	335	361	321	1017

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/3/2019	964

09/03/19				
Time	SAP4	SAP5	SAP6	Total
9/3/19 6:00 AM	343	395	277	1016
9/3/19 7:00 AM	336	356	288	980
9/3/19 8:00 AM	343	389	285	1017
9/3/19 9:00 AM	330	396	215	942
9/3/19 10:00 AM	315	406	175	896
9/3/19 11:00 AM	302	396	169	867
9/3/19 12:00 PM	313	414	176	903
9/3/19 1:00 PM	299	420	179	899
9/3/19 2:00 PM	299	408	175	882
9/3/19 3:00 PM	309	416	172	897
9/3/19 4:00 PM	303	406	172	881
9/3/19 5:00 PM	302	405	181	888
9/3/19 6:00 PM	324	398	178	900
9/3/19 7:00 PM	337	410	214	961
9/3/19 8:00 PM	333	409	232	974
9/3/19 9:00 PM	363	402	242	1007
9/3/19 10:00 PM	298	418	294	1010
9/3/19 11:00 PM	331	421	310	1062
9/4/19 12:00 AM	337	381	336	1054
9/4/19 1:00 AM	329	366	290	984
9/4/19 2:00 AM	326	379	291	996
9/4/19 3:00 AM	329	394	285	1008
9/4/19 4:00 AM	330	417	292	1038
9/4/19 5:00 AM	331	436	311	1078

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/4/2019	900

09/04/19				
Time	SAP4	SAP5	SAP6	Total
9/4/19 6:00 AM	320	410	249	978
9/4/19 7:00 AM	317	350	262	929
9/4/19 8:00 AM	325	338	248	911
9/4/19 9:00 AM	322	334	254	910
9/4/19 10:00 AM	330	322	204	856
9/4/19 11:00 AM	309	320	195	824
9/4/19 12:00 PM	320	334	204	858
9/4/19 1:00 PM	318	334	199	851
9/4/19 2:00 PM	319	338	209	865
9/4/19 3:00 PM	323	342	208	873
9/4/19 4:00 PM	312	345	201	859
9/4/19 5:00 PM	337	361	230	928
9/4/19 6:00 PM	347	372	218	938
9/4/19 7:00 PM	313	367	224	903
9/4/19 8:00 PM	331	356	213	900
9/4/19 9:00 PM	333	362	211	906
9/4/19 10:00 PM	332	391	217	939
9/4/19 11:00 PM	336	407	203	945
9/5/19 12:00 AM	341	408	214	962
9/5/19 1:00 AM	331	401	208	941
9/5/19 2:00 AM	331	367	210	908
9/5/19 3:00 AM	334	359	211	905
9/5/19 4:00 AM	331	301	189	822
9/5/19 5:00 AM	338	348	213	899

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/5/2019	791

09/05/19				
Time	SAP4	SAP5	SAP6	Total
9/5/19 6:00 AM	112	334	197	643
9/5/19 7:00 AM	0	379	216	595
9/5/19 8:00 AM	0	392	212	604
9/5/19 9:00 AM	0	401	225	627
9/5/19 10:00 AM	0	402	231	634
9/5/19 11:00 AM	0	408	234	642
9/5/19 12:00 PM	0	319	227	630
9/5/19 1:00 PM	0	403 *	218	622
9/5/19 2:00 PM	0	403 *	229	632
9/5/19 3:00 PM	0	413 *	224	637
9/5/19 4:00 PM	0	413 *	235	648
9/5/19 5:00 PM	0	395 *	206	601
9/5/19 6:00 PM	0	395 *	231	625
9/5/19 7:00 PM	0	369 *	228	597
9/5/19 8:00 PM	0	369 *	231	600
9/5/19 9:00 PM	380	381 *	274	1035
9/5/19 10:00 PM	679	381 *	300	1359
9/5/19 11:00 PM	762	363 *	256	1382
9/6/19 12:00 AM	340	363 *	247	950
9/6/19 1:00 AM	330	362 *	269	961
9/6/19 2:00 AM	319	362 *	259	940
9/6/19 3:00 AM	315	381 *	300	996
9/6/19 4:00 AM	316	381 *	268	965
9/6/19 5:00 AM	355	414 *	294	1063

*PI communication lost. Calculated using direct reading from Operator Log

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/6/2019	936

09/06/19				
Time	SAP4	SAP5	SAP6	Total
9/6/19 6:00 AM	312	415 *	258	985
9/6/19 7:00 AM	317	413 *	268	998
9/6/19 8:00 AM	73	422	268	745
9/6/19 9:00 AM	0	430	279	709
9/6/19 10:00 AM	0	370	279	650
9/6/19 11:00 AM	0	365	268	638
9/6/19 12:00 PM	0	364 *	283	647
9/6/19 1:00 PM	261	382	292	939
9/6/19 2:00 PM	240	389	286	916
9/6/19 3:00 PM	262	386	272	920
9/6/19 4:00 PM	312	393	274	979
9/6/19 5:00 PM	337	392	257	986
9/6/19 6:00 PM	341	410	266	1017
9/6/19 7:00 PM	326	400	268	994
9/6/19 8:00 PM	357	412	269	1038
9/6/19 9:00 PM	327	403	280	1010
9/6/19 10:00 PM	373	405	273	1051
9/6/19 11:00 PM	346	412	288	1045
9/7/19 12:00 AM	341	409	275	1025
9/7/19 1:00 AM	354	405	291	1051
9/7/19 2:00 AM	355	423	278	1055
9/7/19 3:00 AM	338	425	280	1043
9/7/19 4:00 AM	357	350	238	945
9/7/19 5:00 AM	344	416	319	1079

*PI communication lost. Calculated using direct reading from Operator Log

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/7/2019	978

09/07/19				
Time	SAP4	SAP5	SAP6	Total
9/7/19 6:00 AM	352	393	283	1028
9/7/19 7:00 AM	349	386	271	1006
9/7/19 8:00 AM	347	391	312	1051
9/7/19 9:00 AM	343	351	266	960
9/7/19 10:00 AM	329	354	285	968
9/7/19 11:00 AM	314	353	295	961
9/7/19 12:00 PM	368	303	280	950
9/7/19 1:00 PM	320	304	300	924
9/7/19 2:00 PM	360	316	286	962
9/7/19 3:00 PM	345	353	301	999
9/7/19 4:00 PM	341	354	291	986
9/7/19 5:00 PM	350	319	291	960
9/7/19 6:00 PM	362	327	287	975
9/7/19 7:00 PM	346	336	293	974
9/7/19 8:00 PM	319	339	286	944
9/7/19 9:00 PM	333	329	287	950
9/7/19 10:00 PM	344	321	266	931
9/7/19 11:00 PM	367	321	289	977
9/8/19 12:00 AM	360	332	278	971
9/8/19 1:00 AM	350	373	290	1013
9/8/19 2:00 AM	357	393	282	1032
9/8/19 3:00 AM	361	392	280	1033
9/8/19 4:00 AM	353	308	236	897
9/8/19 5:00 AM	362	344	317	1023

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/8/2019	943

09/08/19				
Time	SAP4	SAP5	SAP6	Total
9/8/19 6:00 AM	296	295	278	870
9/8/19 7:00 AM	300	295	272	867
9/8/19 8:00 AM	302	291	286	879
9/8/19 9:00 AM	355	289	275	919
9/8/19 10:00 AM	252	286	278	816
9/8/19 11:00 AM	331	291	269	891
9/8/19 12:00 PM	351	299	277	927
9/8/19 1:00 PM	367	302	271	940
9/8/19 2:00 PM	298	304	278	880
9/8/19 3:00 PM	311	391	273	976
9/8/19 4:00 PM	348	400	276	1024
9/8/19 5:00 PM	312	425	269	1006
9/8/19 6:00 PM	370	421	270	1061
9/8/19 7:00 PM	360	395	272	1027
9/8/19 8:00 PM	336	382	265	983
9/8/19 9:00 PM	339	378	272	988
9/8/19 10:00 PM	350	376	267	993
9/8/19 11:00 PM	329	397	278	1003
9/9/19 12:00 AM	324	372	265	960
9/9/19 1:00 AM	336	347	275	958
9/9/19 2:00 AM	329	354	262	945
9/9/19 3:00 AM	327	353	276	955
9/9/19 4:00 AM	328	235	213	776
9/9/19 5:00 AM	337	323	318	978

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/9/2019	946

09/09/19				
Time	SAP4	SAP5	SAP6	Total
9/9/19 6:00 AM	320	274	219	812
9/9/19 7:00 AM	314	325	215	853
9/9/19 8:00 AM	357	340	186	883
9/9/19 9:00 AM	350	352	185	887
9/9/19 10:00 AM	345	342	180	866
9/9/19 11:00 AM	343	331	179	853
9/9/19 12:00 PM	358	357	180	896
9/9/19 1:00 PM	343	374	185	902
9/9/19 2:00 PM	353	405	178	936
9/9/19 3:00 PM	348	410	187	946
9/9/19 4:00 PM	350	398	179	927
9/9/19 5:00 PM	356	417	209	983
9/9/19 6:00 PM	355	406	209	970
9/9/19 7:00 PM	358	411	221	990
9/9/19 8:00 PM	360	396	205	961
9/9/19 9:00 PM	372	348	222	941
9/9/19 10:00 PM	397	364	224	985
9/9/19 11:00 PM	312	361	261	933
9/10/19 12:00 AM	353	353	253	959
9/10/19 1:00 AM	364	362	271	997
9/10/19 2:00 AM	365	370	322	1057
9/10/19 3:00 AM	364	380	352	1096
9/10/19 4:00 AM	371	316	352	1039
9/10/19 5:00 AM	372	349	316	1037

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/10/2019	927

09/10/19				
Time	SAP4	SAP5	SAP6	Total
9/10/19 6:00 AM	354	357	325	1036
9/10/19 7:00 AM	352	362	282	997
9/10/19 8:00 AM	359	356	280	995
9/10/19 9:00 AM	365	336	289	990
9/10/19 10:00 AM	356	314	257	927
9/10/19 11:00 AM	354	308	268	930
9/10/19 12:00 PM	353	319	263	936
9/10/19 1:00 PM	354	312	252	918
9/10/19 2:00 PM	355	337	242	934
9/10/19 3:00 PM	359	368	219	946
9/10/19 4:00 PM	360	378	229	967
9/10/19 5:00 PM	347	367	201	915
9/10/19 6:00 PM	348	361	202	911
9/10/19 7:00 PM	358	357	200	915
9/10/19 8:00 PM	355	354	204	912
9/10/19 9:00 PM	358	346	203	907
9/10/19 10:00 PM	361	296	198	855
9/10/19 11:00 PM	361	324	199	884
9/11/19 12:00 AM	360	334	206	901
9/11/19 1:00 AM	360	336	207	903
9/11/19 2:00 AM	362	342	196	899
9/11/19 3:00 AM	364	309	263	936
9/11/19 4:00 AM	364	246	243	853
9/11/19 5:00 AM	363	293	228	883

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/11/2019	953

09/11/19				
Time	SAP4	SAP5	SAP6	Total
9/11/19 6:00 AM	360	315	204	879
9/11/19 7:00 AM	397	300	176	873
9/11/19 8:00 AM	341	339	180	860
9/11/19 9:00 AM	350	338	187	874
9/11/19 10:00 AM	362	321	176	859
9/11/19 11:00 AM	362	313	187	861
9/11/19 12:00 PM	360	308	180	848
9/11/19 1:00 PM	360	327	176	863
9/11/19 2:00 PM	360	364	189	913
9/11/19 3:00 PM	361	380	185	925
9/11/19 4:00 PM	359	402	181	942
9/11/19 5:00 PM	359	417	239	1015
9/11/19 6:00 PM	348	419	291	1057
9/11/19 7:00 PM	347	379	308	1034
9/11/19 8:00 PM	347	374	317	1038
9/11/19 9:00 PM	354	375	321	1049
9/11/19 10:00 PM	361	369	297	1028
9/11/19 11:00 PM	349	367	311	1028
9/12/19 12:00 AM	354	403	340	1097
9/12/19 1:00 AM	351	405	226	982
9/12/19 2:00 AM	361	411	242	1013
9/12/19 3:00 AM	361	415	216	993
9/12/19 4:00 AM	353	356	202	912
9/12/19 5:00 AM	351	347	238	936

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/12/2019	929

09/12/19				
Time	SAP4	SAP5	SAP6	Total
9/12/19 6:00 AM	362	361	200	922
9/12/19 7:00 AM	360	348	190	897
9/12/19 8:00 AM	353	349	197	899
9/12/19 9:00 AM	358	329	186	872
9/12/19 10:00 AM	358	322	185	866
9/12/19 11:00 AM	362	333	191	885
9/12/19 12:00 PM	367	342	182	890
9/12/19 1:00 PM	364	362	187	914
9/12/19 2:00 PM	351	386	189	927
9/12/19 3:00 PM	357	410	184	952
9/12/19 4:00 PM	356	407	191	954
9/12/19 5:00 PM	359	388	186	933
9/12/19 6:00 PM	364	385	188	936
9/12/19 7:00 PM	359	376	246	981
9/12/19 8:00 PM	352	374	245	971
9/12/19 9:00 PM	362	362	240	965
9/12/19 10:00 PM	354	321	235	910
9/12/19 11:00 PM	363	323	283	969
9/13/19 12:00 AM	367	326	303	995
9/13/19 1:00 AM	363	326	230	919
9/13/19 2:00 AM	360	302	245	908
9/13/19 3:00 AM	368	296	268	931
9/13/19 4:00 AM	366	268	249	883
9/13/19 5:00 AM	368	355	291	1013

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/13/2019	985

09/13/19				
Time	SAP4	SAP5	SAP6	Total
9/13/19 6:00 AM	363	355	186	903
9/13/19 7:00 AM	366	359	194	919
9/13/19 8:00 AM	369	375	197	941
9/13/19 9:00 AM	358	377	195	930
9/13/19 10:00 AM	351	371	197	920
9/13/19 11:00 AM	367	377	192	936
9/13/19 12:00 PM	358	371	200	928
9/13/19 1:00 PM	357	365	196	918
9/13/19 2:00 PM	367	363	231	961
9/13/19 3:00 PM	367	368	258	993
9/13/19 4:00 PM	365	369	282	1015
9/13/19 5:00 PM	375	377	303	1055
9/13/19 6:00 PM	358	383	303	1044
9/13/19 7:00 PM	369	381	317	1066
9/13/19 8:00 PM	376	362	424	1162
9/13/19 9:00 PM	375	332	421	1128
9/13/19 10:00 PM	365	311	399	1075
9/13/19 11:00 PM	359	319	329	1007
9/14/19 12:00 AM	364	315	327	1006
9/14/19 1:00 AM	372	320	313	1005
9/14/19 2:00 AM	366	324	272	962
9/14/19 3:00 AM	353	333	255	941
9/14/19 4:00 AM	360	297	187	844
9/14/19 5:00 AM	367	341	280	988

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/14/2019	952

09/14/19				
Time	SAP4	SAP5	SAP6	Total
9/14/19 6:00 AM	363	333	276	972
9/14/19 7:00 AM	371	346	249	966
9/14/19 8:00 AM	374	347	262	983
9/14/19 9:00 AM	375	341	259	975
9/14/19 10:00 AM	357	329	240	926
9/14/19 11:00 AM	368	331	251	949
9/14/19 12:00 PM	377	328	255	960
9/14/19 1:00 PM	367	324	245	937
9/14/19 2:00 PM	372	346	249	966
9/14/19 3:00 PM	366	376	262	1003
9/14/19 4:00 PM	371	373	253	998
9/14/19 5:00 PM	363	375	247	985
9/14/19 6:00 PM	372	345	251	967
9/14/19 7:00 PM	373	323	257	953
9/14/19 8:00 PM	371	333	243	946
9/14/19 9:00 PM	366	335	254	955
9/14/19 10:00 PM	364	337	253	954
9/14/19 11:00 PM	371	329	246	945
9/15/19 12:00 AM	365	330	257	952
9/15/19 1:00 AM	363	313	249	925
9/15/19 2:00 AM	366	299	254	919
9/15/19 3:00 AM	362	290	258	910
9/15/19 4:00 AM	372	237	228	837
9/15/19 5:00 AM	369	309	278	956

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/15/2019	971

09/15/19				
Time	SAP4	SAP5	SAP6	Total
9/15/19 6:00 AM	358	308	255	921
9/15/19 7:00 AM	373	311	252	935
9/15/19 8:00 AM	366	312	260	938
9/15/19 9:00 AM	364	340	248	952
9/15/19 10:00 AM	368	331	259	958
9/15/19 11:00 AM	367	334	252	953
9/15/19 12:00 PM	361	352	253	966
9/15/19 1:00 PM	366	370	261	997
9/15/19 2:00 PM	362	377	245	984
9/15/19 3:00 PM	366	380	260	1005
9/15/19 4:00 PM	376	377	254	1007
9/15/19 5:00 PM	362	353	255	969
9/15/19 6:00 PM	362	341	263	965
9/15/19 7:00 PM	376	343	248	967
9/15/19 8:00 PM	372	337	264	973
9/15/19 9:00 PM	367	344	258	969
9/15/19 10:00 PM	366	346	257	970
9/15/19 11:00 PM	301	346	263	909
9/16/19 12:00 AM	321	353	254	928
9/16/19 1:00 AM	351	356	313	1019
9/16/19 2:00 AM	338	365	318	1022
9/16/19 3:00 AM	363	361	305	1028
9/16/19 4:00 AM	352	312	312	976
9/16/19 5:00 AM	349	323	319	991

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/16/2019	986

09/16/19				
Time	SAP4	SAP5	SAP6	Total
9/16/19 6:00 AM	349	381	305	1035
9/16/19 7:00 AM	362	391	321	1074
9/16/19 8:00 AM	359	360	304	1023
9/16/19 9:00 AM	350	347	311	1007
9/16/19 10:00 AM	351	328	314	993
9/16/19 11:00 AM	355	346	302	1003
9/16/19 12:00 PM	361	335	314	1010
9/16/19 1:00 PM	350	306	289	946
9/16/19 2:00 PM	367	315	326	1007
9/16/19 3:00 PM	333	351	92	777
9/16/19 4:00 PM	335	349	186	870
9/16/19 5:00 PM	321	404	265	990
9/16/19 6:00 PM	347	400	227	975
9/16/19 7:00 PM	383	422	234	1039
9/16/19 8:00 PM	344	413	232	988
9/16/19 9:00 PM	328	429	232	988
9/16/19 10:00 PM	358	417	235	1010
9/16/19 11:00 PM	337	397	221	955
9/17/19 12:00 AM	358	415	225	998
9/17/19 1:00 AM	336	419	235	990
9/17/19 2:00 AM	354	412	256	1023
9/17/19 3:00 AM	310	373	218	901
9/17/19 4:00 AM	369	443	241	1053
9/17/19 5:00 AM	385	362	250	998

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/17/2019	869

09/17/19				
Time	SAP4	SAP5	SAP6	Total
9/17/19 6:00 AM	244	403	248	895
9/17/19 7:00 AM	0	383	283	666
9/17/19 8:00 AM	0	385	297	681
9/17/19 9:00 AM	0	387	313	700
9/17/19 10:00 AM	0	384	302	686
9/17/19 11:00 AM	0	375	317	692
9/17/19 12:00 PM	0	374	299	674
9/17/19 1:00 PM	0	371	290	660
9/17/19 2:00 PM	0	392	278	670
9/17/19 3:00 PM	0	412	291	702
9/17/19 4:00 PM	191	410	274	875
9/17/19 5:00 PM	375	407	270	1053
9/17/19 6:00 PM	219	427	259	905
9/17/19 7:00 PM	241	419	267	926
9/17/19 8:00 PM	296	395	268	958
9/17/19 9:00 PM	333	404	275	1012
9/17/19 10:00 PM	298	393	269	960
9/17/19 11:00 PM	358	378	282	1018
9/18/19 12:00 AM	355	369	271	995
9/18/19 1:00 AM	350	397	269	1016
9/18/19 2:00 AM	359	405	261	1025
9/18/19 3:00 AM	345	413	272	1029
9/18/19 4:00 AM	351	379	235	965
9/18/19 5:00 AM	364	444	300	1108

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/18/2019	851

09/18/19				
Time	SAP4	SAP5	SAP6	Total
9/18/19 6:00 AM	353	415	259	1028
9/18/19 7:00 AM	363	422	240	1025
9/18/19 8:00 AM	352	348	275	975
9/18/19 9:00 AM	0	325	234	559
9/18/19 10:00 AM	0	274	212	486
9/18/19 11:00 AM	0	260	213	473
9/18/19 12:00 PM	89	267	217	573
9/18/19 1:00 PM	297	269	218	784
9/18/19 2:00 PM	318	271	204	794
9/18/19 3:00 PM	339	269	205	813
9/18/19 4:00 PM	342	326	193	861
9/18/19 5:00 PM	347	365	232	944
9/18/19 6:00 PM	359	357	238	953
9/18/19 7:00 PM	342	357	239	937
9/18/19 8:00 PM	339	354	237	931
9/18/19 9:00 PM	363	352	238	952
9/18/19 10:00 PM	358	347	241	946
9/18/19 11:00 PM	354	320	240	914
9/19/19 12:00 AM	355	317	244	916
9/19/19 1:00 AM	367	322	235	924
9/19/19 2:00 AM	371	305	252	927
9/19/19 3:00 AM	363	318	236	916
9/19/19 4:00 AM	364	243	230	838
9/19/19 5:00 AM	357	340	252	949

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/19/2019	826

09/19/19				
Time	**SAP4**	**SAP5**	**SAP6**	**Total**
9/19/19 6:00 AM	357	269	246	873
9/19/19 7:00 AM	361	273	239	873
9/19/19 8:00 AM	357	276	293	927
9/19/19 9:00 AM	353	273	248	875
9/19/19 10:00 AM	351	273	246	871
9/19/19 11:00 AM	334	258	249	841
9/19/19 12:00 PM	346	296	244	887
9/19/19 1:00 PM	356	306	258	921
9/19/19 2:00 PM	349	369	238	956
9/19/19 3:00 PM	244	364	251	858
9/19/19 4:00 PM	4	329	237	571
9/19/19 5:00 PM	33	327	266	626
9/19/19 6:00 PM	7	326	270	602
9/19/19 7:00 PM	119	327	291	736
9/19/19 8:00 PM	0	321	276	597
9/19/19 9:00 PM	232	309	275	816
9/19/19 10:00 PM	39	315	292	647
9/19/19 11:00 PM	240	324	259	824
9/20/19 12:00 AM	347	324	234	905
9/20/19 1:00 AM	426	327	256	1009
9/20/19 2:00 AM	332	332	239	903
9/20/19 3:00 AM	342	299	257	898
9/20/19 4:00 AM	360	255	240	855
9/20/19 5:00 AM	376	313	272	960

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/20/2019	1003

09/20/19				
Time	SAP4	SAP5	SAP6	Total
9/20/19 6:00 AM	375	337	254	966
9/20/19 7:00 AM	376	314	264	954
9/20/19 8:00 AM	369	313	299	982
9/20/19 9:00 AM	368	295	267	930
9/20/19 10:00 AM	366	287	255	908
9/20/19 11:00 AM	358	282	264	904
9/20/19 12:00 PM	349	289	259	897
9/20/19 1:00 PM	355	293	272	920
9/20/19 2:00 PM	346	301	257	904
9/20/19 3:00 PM	352	316	275	942
9/20/19 4:00 PM	350	343	272	964
9/20/19 5:00 PM	352	337	290	979
9/20/19 6:00 PM	371	353	304	1028
9/20/19 7:00 PM	373	388	326	1087
9/20/19 8:00 PM	368	381	342	1091
9/20/19 9:00 PM	379	356	339	1074
9/20/19 10:00 PM	374	336	362	1072
9/20/19 11:00 PM	371	330	357	1057
9/21/19 12:00 AM	375	353	343	1070
9/21/19 1:00 AM	376	387	330	1093
9/21/19 2:00 AM	377	399	342	1118
9/21/19 3:00 AM	381	376	341	1099
9/21/19 4:00 AM	372	316	286	974
9/21/19 5:00 AM	376	344	338	1058

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/21/2019	993

09/21/19				
Time	SAP4	SAP5	SAP6	Total
9/21/19 6:00 AM	370	348	325	1043
9/21/19 7:00 AM	360	344	331	1035
9/21/19 8:00 AM	366	326	363	1054
9/21/19 9:00 AM	358	324	309	991
9/21/19 10:00 AM	362	299	325	986
9/21/19 11:00 AM	369	299	327	995
9/21/19 12:00 PM	363	296	325	983
9/21/19 1:00 PM	368	300	297	966
9/21/19 2:00 PM	372	305	305	982
9/21/19 3:00 PM	376	303	304	983
9/21/19 4:00 PM	360	305	294	958
9/21/19 5:00 PM	355	305	306	966
9/21/19 6:00 PM	370	300	313	983
9/21/19 7:00 PM	368	284	304	957
9/21/19 8:00 PM	371	273	316	960
9/21/19 9:00 PM	381	276	320	977
9/21/19 10:00 PM	374	299	315	989
9/21/19 11:00 PM	368	318	309	995
9/22/19 12:00 AM	384	331	321	1036
9/22/19 1:00 AM	380	314	323	1017
9/22/19 2:00 AM	375	283	317	975
9/22/19 3:00 AM	377	284	316	977
9/22/19 4:00 AM	383	279	307	970
9/22/19 5:00 AM	372	322	352	1045

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/22/2019	1070

09/22/19				
Time	SAP4	SAP5	SAP6	Total
9/22/19 6:00 AM	380	318	319	1018
9/22/19 7:00 AM	384	313	332	1029
9/22/19 8:00 AM	372	312	369	1054
9/22/19 9:00 AM	384	306	324	1014
9/22/19 10:00 AM	377	305	326	1007
9/22/19 11:00 AM	387	317	334	1038
9/22/19 12:00 PM	377	329	329	1034
9/22/19 1:00 PM	378	351	318	1047
9/22/19 2:00 PM	385	353	333	1071
9/22/19 3:00 PM	378	358	337	1072
9/22/19 4:00 PM	381	349	313	1044
9/22/19 5:00 PM	375	346	388	1110
9/22/19 6:00 PM	364	350	402	1116
9/22/19 7:00 PM	369	384	363	1115
9/22/19 8:00 PM	381	408	394	1182
9/22/19 9:00 PM	367	414	366	1147
9/22/19 10:00 PM	369	410	332	1111
9/22/19 11:00 PM	386	414	318	1119
9/23/19 12:00 AM	373	384	348	1106
9/23/19 1:00 AM	370	340	342	1052
9/23/19 2:00 AM	369	318	338	1026
9/23/19 3:00 AM	381	318	356	1055
9/23/19 4:00 AM	376	318	338	1033
9/23/19 5:00 AM	373	337	361	1072

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/23/2019	1070

09/23/19				
Time	SAP4	SAP5	SAP6	Total
9/23/19 6:00 AM	381	337	362	1080
9/23/19 7:00 AM	378	346	366	1089
9/23/19 8:00 AM	376	375	365	1116
9/23/19 9:00 AM	377	375	346	1098
9/23/19 10:00 AM	382	377	357	1116
9/23/19 11:00 AM	382	374	359	1115
9/23/19 12:00 PM	381	375	340	1096
9/23/19 1:00 PM	371	368	351	1090
9/23/19 2:00 PM	387	365	356	1108
9/23/19 3:00 PM	383	364	373	1120
9/23/19 4:00 PM	375	344	319	1037
9/23/19 5:00 PM	378	339	340	1057
9/23/19 6:00 PM	376	359	347	1082
9/23/19 7:00 PM	364	348	318	1030
9/23/19 8:00 PM	375	335	319	1029
9/23/19 9:00 PM	379	315	331	1025
9/23/19 10:00 PM	366	297	323	986
9/23/19 11:00 PM	380	297	322	999
9/24/19 12:00 AM	382	324	327	1033
9/24/19 1:00 AM	365	383	319	1068
9/24/19 2:00 AM	381	405	305	1091
9/24/19 3:00 AM	384	426	326	1136
9/24/19 4:00 AM	370	406	301	1077
9/24/19 5:00 AM	278	394	322	994

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/24/2019	1071

09/24/19				
Time	SAP4	SAP5	SAP6	Total
9/24/19 6:00 AM	148	342	275	766
9/24/19 7:00 AM	296	339	306	941
9/24/19 8:00 AM	382	341	289	1012
9/24/19 9:00 AM	335	346	339	1020
9/24/19 10:00 AM	336	330	270	936
9/24/19 11:00 AM	387	333	298	1018
9/24/19 12:00 PM	376	339	319	1034
9/24/19 1:00 PM	366	366	296	1028
9/24/19 2:00 PM	370	366	299	1034
9/24/19 3:00 PM	374	406	352	1132
9/24/19 4:00 PM	376	416	325	1116
9/24/19 5:00 PM	377	406	316	1098
9/24/19 6:00 PM	350	389	315	1054
9/24/19 7:00 PM	374	395	322	1091
9/24/19 8:00 PM	363	392	312	1066
9/24/19 9:00 PM	410	388	328	1126
9/24/19 10:00 PM	354	386	370	1110
9/24/19 11:00 PM	343	385	428	1155
9/25/19 12:00 AM	365	383	402	1150
9/25/19 1:00 AM	376	394	391	1161
9/25/19 2:00 AM	366	405	410	1181
9/25/19 3:00 AM	343	404	387	1134
9/25/19 4:00 AM	388	397	387	1171
9/25/19 5:00 AM	369	406	393	1168

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/25/2019	1053

09/25/19				
Time	**SAP4**	**SAP5**	**SAP6**	**Total**
9/25/19 6:00 AM	376	401	396	1173
9/25/19 7:00 AM	359	399	382	1140
9/25/19 8:00 AM	406	406	357	1168
9/25/19 9:00 AM	368	401	351	1120
9/25/19 10:00 AM	361	391	357	1109
9/25/19 11:00 AM	372	396	348	1116
9/25/19 12:00 PM	375	393	323	1091
9/25/19 1:00 PM	376	396	318	1090
9/25/19 2:00 PM	366	399	323	1089
9/25/19 3:00 PM	373	406	328	1108
9/25/19 4:00 PM	362	405	292	1059
9/25/19 5:00 PM	373	406	305	1084
9/25/19 6:00 PM	366	393	320	1078
9/25/19 7:00 PM	365	387	322	1074
9/25/19 8:00 PM	366	376	307	1050
9/25/19 9:00 PM	295	357	305	957
9/25/19 10:00 PM	307	371	315	993
9/25/19 11:00 PM	329	351	317	997
9/26/19 12:00 AM	343	320	315	979
9/26/19 1:00 AM	327	308	314	950
9/26/19 2:00 AM	340	301	310	951
9/26/19 3:00 AM	358	303	309	970
9/26/19 4:00 AM	355	258	327	939
9/26/19 5:00 AM	348	338	293	979

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/26/2019	1048

09/26/19				
Time	SAP4	SAP5	SAP6	Total
9/26/19 6:00 AM	358	329	310	997
9/26/19 7:00 AM	374	333	321	1027
9/26/19 8:00 AM	376	332	338	1045
9/26/19 9:00 AM	360	335	338	1034
9/26/19 10:00 AM	369	336	331	1036
9/26/19 11:00 AM	372	332	335	1039
9/26/19 12:00 PM	380	329	331	1040
9/26/19 1:00 PM	362	334	333	1029
9/26/19 2:00 PM	367	339	333	1040
9/26/19 3:00 PM	373	339	330	1043
9/26/19 4:00 PM	373	334	351	1058
9/26/19 5:00 PM	379	342	351	1073
9/26/19 6:00 PM	374	343	352	1069
9/26/19 7:00 PM	347	350	387	1084
9/26/19 8:00 PM	369	350	381	1100
9/26/19 9:00 PM	382	349	384	1114
9/26/19 10:00 PM	361	340	381	1082
9/26/19 11:00 PM	374	336	381	1091
9/27/19 12:00 AM	384	329	381	1094
9/27/19 1:00 AM	367	312	357	1036
9/27/19 2:00 AM	361	295	348	1004
9/27/19 3:00 AM	366	291	349	1006
9/27/19 4:00 AM	369	311	280	960
9/27/19 5:00 AM	374	312	360	1046

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/27/2019	1043

09/27/19				
Time	SAP4	SAP5	SAP6	Total
9/27/19 6:00 AM	373	364	321	1058
9/27/19 7:00 AM	364	328	289	981
9/27/19 8:00 AM	380	340	299	1018
9/27/19 9:00 AM	378	380	294	1053
9/27/19 10:00 AM	365	412	279	1056
9/27/19 11:00 AM	369	404	273	1046
9/27/19 12:00 PM	374	410	277	1061
9/27/19 1:00 PM	366	412	279	1057
9/27/19 2:00 PM	370	426	279	1075
9/27/19 3:00 PM	365	423	284	1072
9/27/19 4:00 PM	360	424	285	1069
9/27/19 5:00 PM	368	428	284	1079
9/27/19 6:00 PM	376	412	281	1068
9/27/19 7:00 PM	357	414	281	1052
9/27/19 8:00 PM	371	401	278	1051
9/27/19 9:00 PM	376	399	278	1053
9/27/19 10:00 PM	373	399	276	1049
9/27/19 11:00 PM	357	406	278	1041
9/28/19 12:00 AM	374	404	293	1071
9/28/19 1:00 AM	376	407	292	1075
9/28/19 2:00 AM	383	369	291	1043
9/28/19 3:00 AM	372	319	313	1003
9/28/19 4:00 AM	372	268	270	910
9/28/19 5:00 AM	368	320	298	986

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/28/2019	985

09/28/19				
Time	SAP4	SAP5	SAP6	Total
9/28/19 6:00 AM	377	335	289	1000
9/28/19 7:00 AM	368	382	289	1039
9/28/19 8:00 AM	371	368	289	1028
9/28/19 9:00 AM	370	353	282	1005
9/28/19 10:00 AM	365	368	275	1009
9/28/19 11:00 AM	379	362	279	1020
9/28/19 12:00 PM	374	381	276	1031
9/28/19 1:00 PM	356	399	277	1032
9/28/19 2:00 PM	363	411	286	1060
9/28/19 3:00 PM	377	420	290	1086
9/28/19 4:00 PM	365	416	310	1092
9/28/19 5:00 PM	342	424	310	1076
9/28/19 6:00 PM	393	420	306	1119
9/28/19 7:00 PM	363	357	304	1024
9/28/19 8:00 PM	369	323	306	997
9/28/19 9:00 PM	381	340	302	1023
9/28/19 10:00 PM	384	348	305	1037
9/28/19 11:00 PM	351	382	32	765
9/29/19 12:00 AM	347	385	0	732
9/29/19 1:00 AM	271	387	0	657
9/29/19 2:00 AM	206	385	34	625
9/29/19 3:00 AM	389	404	245	1038
9/29/19 4:00 AM	352	427	304	1083
9/29/19 5:00 AM	376	419	266	1060

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/29/2019	1057

09/29/19				
Time	SAP4	SAP5	SAP6	Total
9/29/19 6:00 AM	385	414	274	1074
9/29/19 7:00 AM	365	391	287	1043
9/29/19 8:00 AM	376	405	293	1074
9/29/19 9:00 AM	364	407	289	1060
9/29/19 10:00 AM	375	420	299	1094
9/29/19 11:00 AM	367	415	297	1079
9/29/19 12:00 PM	382	426	326	1134
9/29/19 1:00 PM	368	420	358	1145
9/29/19 2:00 PM	365	418	360	1142
9/29/19 3:00 PM	358	418	355	1131
9/29/19 4:00 PM	367	410	365	1142
9/29/19 5:00 PM	354	402	368	1124
9/29/19 6:00 PM	360	353	314	1026
9/29/19 7:00 PM	368	342	293	1003
9/29/19 8:00 PM	360	352	294	1006
9/29/19 9:00 PM	370	363	302	1035
9/29/19 10:00 PM	364	358	298	1019
9/29/19 11:00 PM	360	352	292	1005
9/30/19 12:00 AM	369	347	287	1003
9/30/19 1:00 AM	364	344	292	1001
9/30/19 2:00 AM	366	344	294	1004
9/30/19 3:00 AM	365	351	284	1000
9/30/19 4:00 AM	372	360	254	987
9/30/19 5:00 AM	370	357	304	1030

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	9/30/2019	849

09/30/19				
Time	SAP4	SAP5	SAP6	Total
9/30/19 6:00 AM	354	368	274	995
9/30/19 7:00 AM	352	362	275	990
9/30/19 8:00 AM	363	357	242	963
9/30/19 9:00 AM	369	352	228	949
9/30/19 10:00 AM	369	352	236	957
9/30/19 11:00 AM	367	364	236	967
9/30/19 12:00 PM	379	391	239	1009
9/30/19 1:00 PM	376	402	239	1017
9/30/19 2:00 PM	369	414	238	1022
9/30/19 3:00 PM	372	402	240	1014
9/30/19 4:00 PM	231	407	238	875
9/30/19 5:00 PM	0	409	215	624
9/30/19 6:00 PM	0	407	202	609
9/30/19 7:00 PM	0	404	210	614
9/30/19 8:00 PM	0	397	220	617
9/30/19 9:00 PM	0	385	209	594
9/30/19 10:00 PM	0	385	217	602
9/30/19 11:00 PM	0	348	222	570
10/1/19 12:00 AM	1	343	224	568
10/1/19 1:00 AM	333	337	227	896
10/1/19 2:00 AM	482	361	237	1080
10/1/19 3:00 AM	312	367	232	910
10/1/19 4:00 AM	366	335	253	954
10/1/19 5:00 AM	377	365	245	987

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	10/1/2019	975

10/01/19				
Time	SAP4	SAP5	SAP6	Total
10/1/19 6:00 AM	385	368	226	979
10/1/19 7:00 AM	335	355	231	921
10/1/19 8:00 AM	326	367	233	926
10/1/19 9:00 AM	330	370	232	932
10/1/19 10:00 AM	250	356	236	842
10/1/19 11:00 AM	308	352	235	895
10/1/19 12:00 PM	314	336	230	880
10/1/19 1:00 PM	313	334	236	883
10/1/19 2:00 PM	350	330	228	908
10/1/19 3:00 PM	356	330	233	918
10/1/19 4:00 PM	361	321	224	906
10/1/19 5:00 PM	368	360	229	956
10/1/19 6:00 PM	354	382	232	969
10/1/19 7:00 PM	358	413	251	1022
10/1/19 8:00 PM	370	408	263	1041
10/1/19 9:00 PM	357	402	260	1019
10/1/19 10:00 PM	367	413	269	1049
10/1/19 11:00 PM	367	411	270	1048
10/2/19 12:00 AM	360	415	271	1045
10/2/19 1:00 AM	369	421	268	1059
10/2/19 2:00 AM	356	421	267	1043
10/2/19 3:00 AM	361	426	275	1062
10/2/19 4:00 AM	373	422	262	1057
10/2/19 5:00 AM	358	414	280	1052

Bartow Sulfuric Plants
1,100 lb SO2/hr 24-hr Block Average Cap

SO2 PPH 24-hr Block Avg (6am-6am)	10/2/2019	995

10/02/19				
Time	**SAP4**	**SAP5**	**SAP6**	**Total**
10/2/19 6:00 AM	366	420	246	1033
10/2/19 7:00 AM	378	424	251	1054
10/2/19 8:00 AM	348	392	246	986
10/2/19 9:00 AM	346	400	253	999
10/2/19 10:00 AM	351	390	242	984
10/2/19 11:00 AM	349	388	246	982
10/2/19 12:00 PM	357	386	250	994
10/2/19 1:00 PM	360	361	241	962
10/2/19 2:00 PM	362	363	265	990
10/2/19 3:00 PM	365	362	245	971
10/2/19 4:00 PM	357	365	259	981
10/2/19 5:00 PM	340	368	251	959
10/2/19 6:00 PM	381	375	259	1015
10/2/19 7:00 PM	351	376	270	997
10/2/19 8:00 PM	368	364	288	1020
10/2/19 9:00 PM	370	341	296	1007
10/2/19 10:00 PM	362	311	306	979
10/2/19 11:00 PM	357	299	304	961
10/3/19 12:00 AM	356	308	296	960
10/3/19 1:00 AM	364	312	298	974
10/3/19 2:00 AM	364	322	299	985
10/3/19 3:00 AM	356	344	298	999
10/3/19 4:00 AM	361	384	272	1016
10/3/19 5:00 AM	363	411	299	1072