STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



VERIFICATION OF CONTINUED ATTAINMENT FOR THE HILLSBOROUGH-POLK COUNTY SULFUR DIOXIDE (SO₂) MAINTENANCE AREA

June 11, 2025

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Background

Effective March 23, 2020, the U.S. Environmental Protection Agency (EPA) approved Florida's redesignation request and maintenance plan for the Hillsborough-Polk sulfur dioxide (SO₂) maintenance area. 85 Fed. Reg. 9,666 (February 20, 2020). The maintenance plan includes a section regarding verification of ongoing attainment, which requires the Florida Department of Environmental Protection (Department) to provide an annual report to EPA on or before July 1 of each year, which certifies whether the area is continuing to attain the 2010 SO₂ national ambient air quality standard (NAAQS). This annual report must include:

- 1) The status of ongoing compliance with the SO₂ emission limits for the Mosaic New Wales and Mosaic Bartow facilities;
- 2) A review of annual emissions data for these two facilities;
- 3) A review of the air dispersion modeling inputs and assumptions identified by EPA in 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 in preparing its annual report.

This annual report addresses the items listed above to demonstrate that the Hillsborough-Polk maintenance area continues to attain the 2010 SO₂ NAAQS.

Status of Ongoing Compliance with the SO₂ Emission Limits

The Department based Florida's attainment modeling demonstration on permitted SO₂ emissions caps of 1,090 pounds per hour (lb/hr) for the five sulfuric acid plants (SAPs) at New Wales and 1,100 lb/hr for the three SAPs at Bartow, calculated on a 24-hour average as determined by continuous emission monitoring systems (CEMS) data. These SO₂ emissions limits have been incorporated into Florida's State Implementation Plan (SIP) to make the limits permanent and federally enforceable.

Except for one instance stemming from a malfunction during start-up on December 27, 2024, at Mosaic Bartow, which coincided with a monitored exceedance at the Department's Sikes Elementary monitor in Polk County (Monitor No. 12-105-6005), Mosaic has been in compliance with the 24-hour block average SAP emissions for each facility since the limits became effective on August 31, 2019. **Appendix A** provides all of the 24-hour averages from January 1, 2024, through December 31, 2024. With the exception of the December 27, 2024, start-up malfunction event at Mosaic Bartow, all 24-hour averages are below the respective limits for each facility, demonstrating that Mosaic continues to comply with the SO₂ emissions limits at both facilities, as required to ensure maintenance of the NAAQS.

Review of Annual Emissions Data

Table 1 shows the 2024 annual emissions from New Wales and Bartow in relation to the potential to emit from each facility. The Department used each facility's potential to emit in Florida's attainment modeling demonstration. Each facility continues to emit considerably less SO₂ than the Department used in Florida's attainment modeling demonstration.

Table 1: 2024 annual SO₂ emissions from New Wales and Bartow compared to the potential to emit.

Facility	2024 Actual Emissions (TPY)	Potential to Emit (TPY)	Percentage of Potential to Emit
New Wales SAPs 1-5	3,163	4,774	66.3%
Bartow SAPs 4-6	2,456	4,818	51.0%

Review of Air Dispersion Modeling Inputs and Assumptions

The Department coordinated with EPA to determine which modeling inputs and assumptions used in the attainment modeling demonstration should be reviewed to determine whether there have been any changes that could result in a modeled violation of the 2010 SO₂ NAAQS.

Source-Specific Modeling Inputs and Assumptions

The stack parameters for each SAP at New Wales and Bartow have not changed since the Department submitted its attainment modeling demonstration. There has not been any construction or new buildings added at New Wales or Bartow that could change building downwash parameters.

Operations of the SAPs at both New Wales and Bartow have not changed and continue to reflect what was modeled in the attainment modeling demonstration. Therefore, no change in the temporal or spatial distribution of SO₂ emissions or concentrations is expected.

Meteorology

The Department analyzed the meteorology and wind rose data for the most recent five years of available data (2020-2024) and compared these data to the meteorology and wind rose data for the five years used in the attainment modeling demonstration (2012-2016). **Figure 1** shows the wind roses for these two periods and shows that the wind pattern is very similar between the two periods.

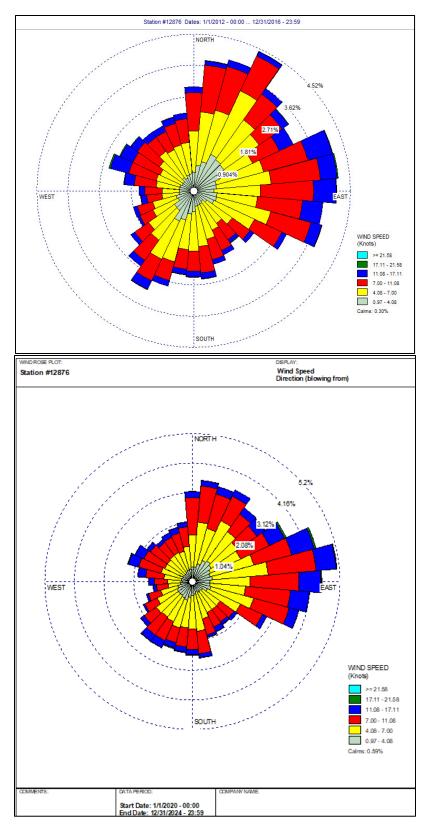


Figure 1. Wind rose data for the KGIF Winter Haven Regional Airport ASOS station for the years 2012-2016 (top) and 2020-2024 (bottom).

The most important wind direction to analyze is when the wind is traveling from Bartow towards New Wales. This wind direction results in the maximum modeled concentrations because it includes impacts from both the New Wales facility and the Bartow facility. Bartow is approximately 45 degrees northeast of New Wales, so the Department assessed times during which the wind direction was in the range of 0 to 90 degrees. This range conservatively covers all potential periods when Bartow emissions could be contributing to modeled SO₂ concentrations near New Wales.

Table 2 compares the percentage of time that winds were from 0-90 degrees in the 2012-2016 meteorology dataset and the 2020-2024 meteorology dataset. There is a slight decrease in the percentage of time that winds blow from Bartow towards New Wales in the 2020-2024 dataset, which would be expected to cause a slight, but probabilistically insignificant, decrease in modeled concentrations.

Table 2. Percentage of time wind direction is from 0 to 90 degrees.

Years	Wind Direction 0-90°
2012-2016	33.51%
2020-2024	33.26%

Land-Use in the Area

Land use in the area, which can affect the meteorological parameters, has not changed since the area attained the NAAQS.

Ambient Background Concentrations

The Department evaluated ambient background concentrations of SO₂ at the Department's Sydney monitoring location (12-057-3002). The Department used 2014-2016 data from the Sydney monitor to calculate background SO₂ concentrations used in the attainment modeling demonstration.

Table 3 shows that the one-hour SO_2 design value at the Sydney monitor has decreased from 13 ppb to 6 ppb since the 2014-2016 period.

Table 3. SO₂ 1-hour design values at the Sydney monitor.

Period	Design
	Value
2014-2016	13 ppb
2015-2017	10 ppb
2016-2018	9 ppb
2017-2019	9 ppb
2018-2020	9 ppb
2019-2021	6 ppb
2020-2022	6 ppb
2021-2023	6 ppb
2022-2024	6 ppb

The Department also recalculated the background SO₂ concentrations averaged by season and hour for the most recent three years of available data (2022-2024). **Table 4** and **Table 5** show the background concentrations for the 2014-2016 period, which the Department used in the attainment modeling demonstration, and the 2022-2024 period, respectively. The maximum background SO₂ value for 2014-2016 is 7.33 ppb. The maximum background SO₂ value for 2022-2024 is 4.65 ppb, a significant decrease.

Table 4. Background SO₂ concentrations (ppb) used in the Department's attainment modeling demonstration (2014-2016).

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

Table 5. Background SO₂ concentrations (ppb) for the most recent three years (2022-2024).

Hour	Winter	Spring	Summer	Fall
0:00	0.97	0.96	0.74	0.54
1:00	1.05	0.78	0.73	0.52
2:00	0.98	0.73	0.63	0.67
3:00	0.82	0.80	0.58	0.53
4:00	0.67	0.81	0.67	0.59
5:00	1.12	0.71	0.76	0.51
6:00	1.47	0.80	0.86	0.56
7:00	1.16	1.19	1.64	0.66
8:00	1.03	2.12	1.94	0.92
9:00	1.48	2.11	2.51	1.50
10:00	2.49	1.83	1.70	1.57
11:00	1.94	2.16	1.65	1.35
12:00	1.72	1.46	1.61	1.03
13:00	1.54	1.67	1.58	0.92
14:00	1.48	1.50	1.46	1.29
15:00	1.80	1.49	1.03	1.09
16:00	2.05	2.09	1.22	1.15
17:00	3.41	2.17	1.42	0.95
18:00	4.65	2.32	2.04	1.77
19:00	4.36	2.62	1.28	1.06
20:00	2.96	2.22	1.00	0.77
21:00	1.37	1.53	0.82	0.65
22:00	1.08	1.05	0.74	0.68
23:00	1.07	0.99	0.75	0.65

Critical Emissions Value

The critical emissions value (CEV) is the emissions level (lb/hr) at which the maximum modeled concentration is equal to the NAAQS. The CEVs calculated in the attainment demonstration modeling for New Wales and Bartow are 1,118 lb/hr and 1,163 lb/hr, respectively. The emissions data submitted with the Department's redesignation request and attainment modeling demonstration from August 31, 2019 (the attainment date), through October 2, 2019, exceeded the CEV 2.8 percent of the time at New Wales, and 1.0 percent of the time at Bartow, while still maintaining the permitted emissions limits.

The Department analyzed the frequency that each facility's emissions exceeded their respective CEVs from January 1, 2024, through December 31, 2024 (see **Appendices A and B**). Emissions from New Wales exceeded the CEV 0.0 percent of the time, and emissions from Bartow exceeded the CEV 0.3 percent of the time, while still maintaining the permitted emissions limits. It is expected

that these occasional spikes above the CEV, which can occur with longer-term limits such as 24-hour average limits, are unlikely to have a significant impact on air quality, as they are unlikely to occur repeatedly at the same time as meteorological conditions conducive to high ambient concentrations of SO₂.

In addition, considering that the ambient background concentrations of SO₂ at the Sydney monitor have decreased since the 2014-2016 period, it is evident that the CEVs of 1,118 lb/hr and 1,163 lb/hr for New Wales and Bartow are conservative. If the CEVs were recalculated with updated modeling, the updated CEVs would be higher, and the frequency that the hourly emissions would exceed the CEVs may be reduced.

Certification of Continued Attainment

The Department certifies that there are no changes in the air dispersion modeling inputs and assumptions that could result in a modeled violation. The Department recommends, therefore, that no additional action or information is necessary to verify continued attainment. The Department expects that the Hillsborough-Polk maintenance area will continue to maintain the 2010 SO₂ NAAQS.

Appendix A New Wales and Bartow Facilities 24-Hour Block Average SAP Emissions



Table 2. CY 2024 SO_2 lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

Date	New Wales	Bartow
Dare	Cap 1,090 PPH	Cap 1,100 PPH
1/1/2024	829	445
1/2/2024	959	239
1/3/2024	728	698
1/4/2024	777	697
1/5/2024	922	660
1/6/2024	905	712
1/7/2024	956	648
1/8/2024	903	716
1/9/2024	937	694
1/10/2024	770	766
1/11/2024	667	722
1/12/2024	586	794
1/13/2024	616	757
1/14/2024	524	743
1/15/2024	464	645
1/16/2024	278	615
1/17/2024	426	625
1/18/2024	547	730
1/19/2024	603	645
1/20/2024	567	223
1/21/2024	460	284
1/22/2024	492	202
1/23/2024	515	627
1/24/2024	649	858
1/25/2024	572	818
1/26/2024	647	790
1/27/2024	646	820
1/28/2024	689	676
1/29/2024	626	753
1/30/2024	648	577
1/31/2024	660	743
2/1/2024	652	480
2/2/2024	669	740
2/3/2024	742	456
2/4/2024	817	783
2/5/2024	732	749
2/6/2024	517	703
2/7/2024	704	703
2/8/2024	740	604
2/9/2024	590	898
2/10/2024	690	945
2/11/2024	789	896
2/12/2024	785	923



Table 2. CY 2024 50₂ lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

202100210711	New Wales	Bartow
Date	Cap 1,090 PPH	Cap 1,100 PPH
2/13/2024	822	876
2/14/2024	806	763
2/15/2024	635	838
2/16/2024	631	881
2/17/2024	608	914
2/18/2024	721	906
2/19/2024	716	897
2/20/2024	754	873
2/21/2024	605	824
2/22/2024	456	923
2/23/2024	483	966
2/24/2024	573	877
2/25/2024	781	885
2/26/2024	764	863
2/27/2024	559	813
2/28/2024	631	695
2/29/2024	560	591
3/1/2024	562	755
3/2/2024	569	725
3/3/2024	651	700
3/4/2024	762	735
3/5/2024	656	580
3/6/2024	667	667
3/7/2024	544	627
3/8/2024	229	640
3/9/2024	314	638
3/10/2024	384	626
3/11/2024	548	640
3/12/2024	550	604
3/13/2024	399	678
3/14/2024	367	614
3/15/2024	367	631
3/16/2024	384	651
3/17/2024	370	641
3/18/2024	394	646
3/19/2024	321	623
3/20/2024	342	577
3/21/2024	411	632
3/22/2024	397	556
3/23/2024	455	633
3/24/2024	505	691
3/25/2024	315	697
3/26/2024	348	711



Table 2. CY 2024 SO_2 lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

202700210711	New Wales	Bartow
Date	Cap 1,090 PPH	Cap 1,100 PPH
3/27/2024	325	447
3/28/2024	460	448
3/29/2024	399	586
3/30/2024	313	539
3/31/2024	262	478
4/1/2024	278	375
4/2/2024	242	358
4/3/2024	395	351
4/4/2024	319	333
4/5/2024	242	355
4/6/2024	295	372
4/7/2024	467	382
4/8/2024	479	386
4/9/2024	503	394
4/10/2024	551	360
4/11/2024	538	348
4/12/2024	612	344
4/13/2024	777	368
4/14/2024	696	380
4/15/2024	798	398
4/16/2024	893	405
4/17/2024	951	413
4/18/2024	925	415
4/19/2024	880	416
4/20/2024	1,003	422
4/21/2024	997	436
4/22/2024	926	426
4/23/2024	852	409
4/24/2024	896	406
4/25/2024	777	419
4/26/2024	997	405
4/27/2024	1,039	259
4/28/2024	1,044	506
4/29/2024	1,019	410
4/30/2024	1,029	421
5/1/2024	1,023	347
5/2/2024	888	442
5/3/2024	954	667
5/4/2024	959	720
5/5/2024	792	730
5/6/2024	835	713
5/7/2024	896	745
5/8/2024	935	669



Table 2. CY 2024 SO_2 lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

Date	New Wales	Bartow
Dare	Cap 1,090 PPH	Cap 1,100 PPH
5/9/2024	806	439
5/10/2024	913	444
5/11/2024	855	357
5/12/2024	829	707
5/13/2024	993	744
5/14/2024	937	776
5/15/2024	894	805
5/16/2024	577	758
5/17/2024	725	693
5/18/2024	891	211
5/19/2024	849	448
5/20/2024	739	440
5/21/2024	856	463
5/22/2024	741	481
5/23/2024	833	493
5/24/2024	847	515
5/25/2024	956	542
5/26/2024	958	512
5/27/2024	1,005	500
5/28/2024	975	496
5/29/2024	904	493
5/30/2024	1,037	501
5/31/2024	973	489
6/1/2024	1,023	518
6/2/2024	989	489
6/3/2024	1,001	291
6/4/2024	765	381
6/5/2024	730	648
6/6/2024	808	704
6/7/2024	897	668
6/8/2024	863	647
6/9/2024	937	495
6/10/2024	931	684
6/11/2024	642	616
6/12/2024	550	546
6/13/2024	630	692
6/14/2024	446	724
6/15/2024	509	741
6/16/2024	588	756
6/17/2024	673	453
6/18/2024	776	476
6/19/2024	920	396
6/20/2024	726	650



Table 2. CY 2024 SO₂ lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

5.	New Wales	Bartow
Date	Cap 1,090 PPH	Cap 1,100 PPH
6/21/2024	799	603
6/22/2024	916	487
6/23/2024	803	467
6/24/2024	879	580
6/25/2024	805	495
6/26/2024	867	598
6/27/2024	939	623
6/28/2024	884	690
6/29/2024	856	667
6/30/2024	823	662
7/1/2024	939	557
7/2/2024	955	278
7/3/2024	898	489
7/4/2024	932	582
7/5/2024	1,018	599
7/6/2024	1,049	594
7/7/2024	993	594
7/8/2024	1,051	579
7/9/2024	956	648
7/10/2024	928	499
7/11/2024	897	463
7/12/2024	966	524
7/13/2024	708	494
7/14/2024	611	316
7/15/2024	616	226
7/16/2024	658	302
7/17/2024	742	279
7/18/2024	762	390
7/19/2024	859	462
7/20/2024	862	334
7/21/2024	928	483
7/22/2024	830	457
7/23/2024	527	243
7/24/2024	399	391
7/25/2024	269	624
7/26/2024	375	553
7/27/2024	448	515
7/28/2024	462	511
7/29/2024	362	512
7/30/2024	355	472
7/31/2024	433	460
8/1/2024	412	484
8/2/2024	437	498



Table 2. CY 2024 SO₂ lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

	New Wales	Bartow
Date	Cap 1,090 PPH	Cap 1,100 PPH
8/3/2024	518	501
8/4/2024	672	500
8/5/2024	523	428
8/6/2024	601	479
8/7/2024	452	692
8/8/2024	296	655
8/9/2024	381	582
8/10/2024	464	636
8/11/2024	380	695
8/12/2024	466	475
8/13/2024	601	708
8/14/2024	447	670
8/15/2024	501	663
8/16/2024	560	672
8/17/2024	697	679
8/18/2024	795	706
8/19/2024	833	627
8/20/2024	1,002	423
8/21/2024	928	527
8/22/2024	873	569
8/23/2024	851	542
8/24/2024	732	545
8/25/2024	625	563
8/26/2024	712	587
8/27/2024	422	399
8/28/2024	648	493
8/29/2024	745	319
8/30/2024	852	428
8/31/2024	868	579
9/1/2024	935	587
9/2/2024	972	599
9/3/2024	863	600
9/4/2024	913	562
9/5/2024	619	433
9/6/2024	673	403
9/7/2024	872	397
9/8/2024	896	416
9/9/2024	862	414
9/10/2024	722	348
9/11/2024	671	459
9/12/2024	584	461
9/13/2024	720	438
9/14/2024	825	394



Table 2. CY 2024 SO₂ lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

	New Wales	Bartow		
Date	Cap 1,090 PPH	Cap 1,100 PPH		
9/15/2024	857	412		
9/16/2024	970	414		
9/17/2024	851	565		
9/18/2024	921	504		
9/19/2024	814	552		
9/20/2024	792	545		
9/21/2024	975	543		
9/22/2024	1,069	542		
9/23/2024	979	539		
9/24/2024	436	534		
9/25/2024	462	526		
9/26/2024	772	542		
9/27/2024	742	489		
9/28/2024	824	512		
9/29/2024	993	520		
9/30/2024	929	489		
10/1/2024	828	528		
10/2/2024	803	496		
10/3/2024	553	536		
10/4/2024	713	496		
10/5/2024	775	510		
10/6/2024	519	485		
10/7/2024	417	492		
10/8/2024	260	512		
10/9/2024	0	0		
10/10/2024	0	0		
10/11/2024	0	0		
10/12/2024	0	0		
10/13/2024	0	90		
10/14/2024	54	167		
10/15/2024	162	332		
10/16/2024	237	374		
10/17/2024	277	397		
10/18/2024	517	416		
10/19/2024	486	609		
10/20/2024	718	586		
10/21/2024	883	661		
10/22/2024	872	515		
10/23/2024	935	583		
10/24/2024	956	694		
10/25/2024	1,001	728		
10/26/2024	1,003	727		
10/27/2024	947	735		



Table 2. CY 2024 SO₂ lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m

Date	New Wales	Bartow		
Dare	Cap 1,090 PPH	Cap 1,100 PPH		
10/28/2024	1,036	685		
10/29/2024	899	692		
10/30/2024	955	669		
10/31/2024	989	619		
11/1/2024	945	650		
11/2/2024	984	715		
11/3/2024	963	720		
11/4/2024	1,048	513		
11/5/2024	995	520		
11/6/2024	887	590		
11/7/2024	864	498		
11/8/2024	762	536		
11/9/2024	821	484		
11/10/2024	1,000	564		
11/11/2024	1,007	623		
11/12/2024	842	726		
11/13/2024	1,012	604		
11/14/2024	1,022	580		
11/15/2024	1,074	643		
11/16/2024	1,066	669		
11/17/2024	1,055	645		
11/18/2024	1,050	603		
11/19/2024	1,023	611		
11/20/2024	1,050	641		
11/21/2024	843	526		
11/22/2024	631	636		
11/23/2024	908	425		
11/24/2024	1,040	335		
11/25/2024	973	366		
11/26/2024	1,014	762		
11/27/2024	1,060	398		
11/28/2024	1,067	407		
11/29/2024	1,019	425		
11/30/2024	1,076	482		
12/1/2024	977	454		
12/2/2024	983	453		
12/3/2024	980	385		
12/4/2024	566	221		
12/5/2024	464	599		
12/6/2024	403	466		
12/7/2024	335	478		
12/8/2024	484	366		
12/9/2024	974	746		



Table 2. CY 2024 SO₂ lb /hour, 24-hour block average (6:00 a.m. to 6:00 a.m.)

Date	New Wales	Bartow
Dare	Cap 1,090 PPH	Cap 1,100 PPH
12/10/2024	877	861
12/11/2024	1,024	691
12/12/2024	793	663
12/13/2024	572	687
12/14/2024	933	699
12/15/2024	1,019	721
12/16/2024	1,035	706
12/17/2024	654	706
12/18/2024	676	731
12/19/2024	629	708
12/20/2024	651	648
12/21/2024	773	667
12/22/2024	674	648
12/23/2024	638	673
12/24/2024	662	704
12/25/2024	662	698
12/26/2024	488	534
12/27/2024	553	1,368
12/28/2024	734	686
12/29/2024	729	668
12/30/2024	726	671
12/31/2024	605	653

Appendix B: New Wales and Bartow Frequency of SO₂ Emissions over the CEV

Table 1. New Wales Sulfuric Acid Plants – Hours Over the Critical Emission Value (CEV)

Month	Hours Over CEV (hr)	Hours over CEV using a 1,000 ppm (hr)	Operating Hours (hr)	Percent Over CEV	Percent over CEV Using a 1,000 PPM
January 2024	0	0	744	0.00%	0.00%
February 2024	0	0	696	0.00%	0.00%
March 2024	0	0	744	0.00%	0.00%
April 2024	2	1	720	0.30%	0.10%
May 2024	0	0	744	0.00%	0.00%
June 2024	4	1	720	0.60%	0.10%
July 2024	17	0	744	2.30%	0.00%
August 2024	2	0	744	0.30%	0.00%
September 2024	1	0	720	0.10%	0.00%
October 2024	17	3	601	2.80%	0.50%
November 2024	35	8	720	4.90%	1.10%
December 2024	38	2	744	5.10%	0.30%
Total	116	15	8641	1.30%	0.17%

Table 2. Bartow Sulfuric Acid Plants – Hours Over the Critical Emission Value (CEV).

Month	Hours Over CEV (hr)	Hours over CEV using a 1,000 ppm(hr)	Operating Hours(hr)	Percent Over CEV	Percent over CEV Using a 1,000 PPM
January 2024	3	2	744	0.4%	0.30%
February 2024	4	4	696	0.60%	0.60%
March 2024	4	4	743	0.50%	0.50%
April 2024	0	0	720	0.00%	0.00%
May 2024	0	0	744	0.00%	0.00%
June 2024	6	6	720	0.8%	0.80%
July 2024	3	3	743	0.40%	0.40%
August 2024	3	3	740	0.40%	0.40%
September 2024	1	1	718	0.10%	0.10%
October 2024	7	7	634	1.10%	1.10%
November 2024	4	4	710	0.60%	0.60%
December 2024	28	28	744	3.8%	3.80%
Total	63	62	8656	0.73%	0.72%

Bartow Sulfuric Plants 1,163 lb SO2/hr 1-hr Critical Emission Value

Table 5. CY 2024 Detailed Summary - Hours Over CEV

Timestamp	#4 SO2 Lbs/Hr Hrly Avg	#5 SO2 Lbs/Hr Hrly Avg	#6 SO2 Lbs/Hr Hrly Avg	Combined SO2 Lbs/Hr Hrly Avg	1,000 PPM Span Exceeded?
1/3/2024 14:00	1,440	207	129	1,775	2º
1/16/2024 21:00	336	736	311	1,383	Yes
1/16/2024 22:00	352	603	282	1,236	Yes
2/8/2024 21:00	182	186	1,455	1,823	Yes
2/8/2024 23:00	194	189	833	1,216	Yes
2/15/2024 3:00	319	515	345	1,180	Yes
2/15/2024 4:00	346	810	333	1,490	Yes
3/1/2024 4:00	240	695	368	1,302	Yes
3/1/2024 5:00	168	690	332	1,190	Yes
3/1/2024 6:00	162	685	318	1,164	Yes
3/28/2024 1:00	122	246	1,024	1,392	Yes
6/5/2024 3:00	164	908	221	1,293	Yes
6/5/2024 4:00	220	975	326	1,522	Yes
6/5/2024 5:00	222	801	321	1,344	Yes
6/20/2024 13:00	172	741	292	1,205	Yes
6/20/2024 14:00	208	863	303	1,375	Yes
6/20/2024 15:00	213	845	298	1,356	Yes
7/12/2024 21:00	902	99	314	1,315	Yes
7/25/2024 11:00	750	116	326	1,191	Yes
7/25/2024 12:00	775	122	328	1,226	Yes
8/9/2024 22:00	187	215	913	1,316	Yes
8/13/2024 9:00	210	157	839	1,207	Yes
8/28/2024 7:00	213	93	878	1,184	Yes
9/17/2024 5:00	154	843	232	1,229	Yes
10/7/2024 19:00	205	95	902	1,202	Yes
10/19/2024 7:00	138	762	264	1,164	Yes
10/19/2024 10:00	146	861	258	1,265	Yes
10/19/2024 11:00	145	782	263	1,190	Yes
10/29/2024 23:00	105	373	1,035	1,513	Yes
10/30/2024 0:00	99	345	768	1,213	Yes
10/30/2024 1:00	100	358	765	1,224	Yes
11/26/2024 3:00	37	1,572	268	1,876	Yes
11/26/2024 7:00	86	919	264	1,269	Yes
11/26/2024 8:00	93	1,040	267	1,401	Yes
11/26/2024 9:00	91	847	277	1,216	Yes
12/9/2024 17:00	275	793	255	1,322	Yes
12/9/2024 18:00	245	757	266	1,268	Yes

Bartow Sulfuric Plants 1,163 lb SO2/hr 1-hr Critical Emission Value

Table 5. CY 2024 Detailed Summary - Hours Over CEV

	#4 SO2 Lbs/Hr	#5 SO2 Lbs/Hr	#6 SO2 Lbs/Hr	Combined SO2 Lbs/Hr	1,000 PPM Span
Timestamp	Hrly Avg	Hrly Avg	Hrly Avg	Hrly Avg	Exceeded?
12/10/2024 2:00	262	776	256	1,293	Yes
12/10/2024 3:00	263	722	248	1,233	Yes
12/10/2024 4:00	275	1,209	249	1,733	Yes
12/10/2024 5:00	266	818	244	1,328	Yes
12/10/2024 6:00	276	755	247	1,278	Yes
12/10/2024 7:00	259	781	250	1,290	Yes
12/10/2024 8:00	286	797	253	1,336	Yes
12/10/2024 9:00	266	823	261	1,350	Yes
12/10/2024 10:00	279	1,050	259	1,588	Yes
12/10/2024 11:00	265	864	269	1,398	Yes
12/10/2024 12:00	280	858	246	1,384	Yes
12/10/2024 13:00	259	793	260	1,313	Yes
12/10/2024 14:00	253	828	251	1,332	Yes
12/10/2024 15:00	235	856	268	1,358	Yes
12/10/2024 16:00	236	822	252	1,310	Yes
12/10/2024 17:00	165	830	239	1,234	Yes
12/11/2024 22:00	207	842	266	1,315	Yes
12/11/2024 23:00	219	820	256	1,295	Yes
12/17/2024 16:00	154	309	1,197	1,660	Yes
12/20/2024 15:00	183	974	238	1,395	Yes
12/20/2024 16:00	180	785	251	1,216	Yes
12/26/2024 16:00	173	854	251	1,278	Yes
12/27/2024 12:00	189	2,492	254	2,936	Yes
12/27/2024 13:00	203	6,850	251	7,304	Yes
12/27/2024 14:00	185	8,468	244	8,897	Yes
12/27/2024 15:00	192	875	260	1,326	Yes



Table 6. CY 2024 Detailed Summary - Hours Over CEV

mestamp	#1 SO2 Lbs/Hr Hrly Avg	#2 SO2 Lbs/Hr Hrly Avg	#3 SO2 Lbs/Hr Hrly Avg	#4 SO2 Lbs/Hr Hrly Avg	#5 SO2 Lbs/Hr Hrly Avg	Combined SO2 Lbs/Hr Hrly Avg	1,000 PPM Span Exceeded?
4/19/2024 0:00	317	190	255	249	177	1,189	Yes
4/23/2024 2:00	305	251	136	271	178	1,141	No
6/1/2024 5:00	197	242	199	231	249	1,118	No
6/3/2024 18:00	207	219	178	204	381	1,190	No
6/7/2024 0:00	353	199	194	173	199	1,118	No
6/29/2024 19:00	254	502	2	134	266	1,158	Yes
7/2/2024 8:00	239	209	288	167	256	1,159	No
7/2/2024 15:00	204	164	343	248	270	1,229	No
7/5/2024 20:00	145	247	309	254	186	1,141	No
7/5/2024 21:00	141	243	356	258	223	1,220	No
7/5/2024 22:00	137	255	343	239	195	1,169	No
7/7/2024 4:00	176	255	329	170	201	1,131	No
7/7/2024 5:00	184	267	316	156	198	1,120	No
7/7/2024 6:00	181	261	331	157	189	1,120	No
7/7/2024 9:00	207	262	336	160	187	1,152	No
7/8/2024 11:00	186	215	359	245	186	1,191	No
7/8/2024 14:00	236	271	262	173	223	1,164	No
7/8/2024 15:00	218	266	275	217	223	1,198	No
7/8/2024 16:00	217	219	254	213	224	1,128	No
7/10/2024 15:00	134	278	267	194	258	1,131	No
7/10/2024 16:00	139	269	258	201	261	1,128	No
7/10/2024 17:00	142	251	276	215	242	1,126	No
7/21/2024 22:00	165	287	333	248	118	1,150	No
8/30/2024 22:00	221	357	283	251	136	1,248	No
8/30/2024 23:00	139	292	335	237	141	1,144	No
9/22/2024 8:00	269	206	350	211	115	1,151	No
10/2/2024 21:00	130	494	308	180	116	1,227	Yes
10/21/2024 16:00	742	273	360	175		1,550	Yes
10/23/2024 0:00	273	155	392	300	-	1,120	Yes
10/24/2024 14:00	219	257	380	283	-	1,139	No
10/27/2024 22:00	314	316	341	173		1,145	No



Table 6. CY 2024 Detailed Summary - Hours Over CEV

imestamp	#1 SO2 Lbs/Hr Hrly Avg	#2 SO2 Lbs/Hr Hrly Avg	#3 SO2 Lbs/Hr Hrly Avg	#4 SO2 Lbs/Hr Hrly Avg	#5 SO2 Lbs/Hr Hrly Avg	Combined SO2 Lbs/Hr Hrly Avg	1,000 PPM Span Exceeded?
10/27/2024 23:00	319	315	340	178		1,153	No
10/28/2024 0:00	310	319	348	180		1,157	No
10/28/2024 1:00	305	331	341	180		1,156	No
10/28/2024 2:00	303	338	343	176		1,161	No
10/28/2024 4:00	300	329	327	173		1,128	No
10/28/2024 5:00	305	316	342	170		1,133	No
10/28/2024 6:00	308	321	332	169		1,130	No
10/28/2024 7:00	311	323	352	170		1,157	No
10/28/2024 8:00	322	320	343	201		1,186	No
10/28/2024 9:00	311	329	344	211		1,195	No
10/28/2024 10:00	318	332	339	173		1,162	No
10/28/2024 19:00	288	343	324	183		1,138	No
11/4/2024 17:00	308	267	374	182		1,132	No
11/4/2024 18:00	312	269	370	182		1,133	No
11/4/2024 22:00	278	274	384	185		1,121	No
11/5/2024 18:00	302	289	346	188		1,125	No
11/10/2024 13:00	261	332	332	215		1,141	No
11/11/2024 21:00	251	327	350	254		1,181	No
11/12/2024 2:00	301	327	363	147		1,139	No
11/12/2024 5:00	293	319	364	180		1,156	No
11/12/2024 6:00	289	325	378	162		1,153	No
11/12/2024 7:00	294	332	408	155		1,189	No
11/12/2024 8:00	287	334	346	163		1,130	No
11/14/2024 18:00	260	346	334	254		1,193	No
11/14/2024 19:00	252	348	344	181		1,124	No
11/15/2024 10:00	289	347	328	159		1,123	No
11/18/2024 9:00	271	336	346	172		1,124	No
11/18/2024 10:00	274	343	354	171		1,141	No
11/21/2024 4:00	228	313	323	278		1,142	No
11/21/2024 6:00	222	311	308	291		1,131	No
11/21/2024 7:00	221	309	326	297		1,153	No



Table 6. CY 2024 Detailed Summary - Hours Over CEV

Timestamp	#1 SO2 Lbs/Hr Hrly Avg	#2 SO2 Lbs/Hr Hrly Avg	#3 SO2 Lbs/Hr Hrly Avg	#4 SO2 Lbs/Hr Hrly Avg	#5 SO2 Lbs/Hr Hrly Avg	Combined SO2 Lbs/Hr Hrly Avg	1,000 PPM Span Exceeded?
11/23/2024 20:00	231	149	317	239	769	1,705	Yes
11/23/2024 21:00		160	295	232	646	1,586	Yes
11/24/2024 6:00	294	160	281	218	214	1,167	No
11/24/2024 7:00	289	159	253	223	402	1,327	Yes
11/27/2024 0:00	305	294	315	215		1,129	No
11/27/2024 3:00	299	292	319	228		1,138	No
11/27/2024 5:00		289	325	233		1,136	Yes
11/27/2024 7:00	296	297	298	231		1,122	No
11/27/2024 16:00	292	265	297	277		1,132	Yes
11/29/2024 20:00	301	277	325	228		1,130	No
11/30/2024 13:00	311	257	319	237	114	1,238	Yes
11/30/2024 14:00	311	263	294	188	464	1,519	Yes
11/30/2024 15:00	324	272	271	208	381	1,455	Yes
11/30/2024 17:00	296	250	318	196	97	1,157	No
11/30/2024 18:00	276	242	297	203	169	1,186	No
11/30/2024 19:00	289	244	320	204	94	1,151	No
12/1/2024 3:00	215	252	273	221	169	1,129	No
12/1/2024 6:00	215	254	288	223	143	1,123	No
12/1/2024 7:00	219	256	302	222	149	1,148	No
12/1/2024 8:00	219	254	293	215	185	1,166	No
12/1/2024 9:00	217	257	257	210	189	1,129	No
12/1/2024 10:00	212	254	221	201	235	1,123	No
12/2/2024 22:00	235	377	312	164	94	1,181	No
12/2/2024 23:00	234	362	296	167	93	1,152	No
12/3/2024 0:00	233	336	300	163	94	1,125	No
12/3/2024 3:00	266	341	276	171	94	1,149	No
12/3/2024 4:00	219	359	293	181	94	1,146	No
12/3/2024 6:00	216	337	289	183	92	1,118	No
12/3/2024 15:00	397	290	337	168	80	1,273	No
12/3/2024 16:00	370	293	290	178	80	1,210	No
12/9/2024 19:00	274	294	580	166	179	1,493	Yes



Table 6. CY 2024 Detailed Summary - Hours Over CEV

	#1 SO2 Lbs/Hr	#2 SO2 Lbs/Hr	#3 SO2 Lbs/Hr	#4 SO2 Lbs/Hr	#5 SO2 Lbs/Hr	Combined SO2 Lbs/Hr	1,000 PPM Span
imestamp	Hrly Avg	Exceeded?					
12/10/2024 0:00	235	308	278	161	153	1,134	Yes
12/10/2024 3:00	245	282	382	166	165	1,240	No
12/11/2024 16:00	257	218	365	175	158	1,174	No
12/11/2024 17:00	256	271	390	176	153	1,246	No
12/11/2024 18:00	260	314	360	179	155	1,267	No
12/11/2024 19:00	260	280	361	183	160	1,245	No
12/11/2024 20:00	264	317	313	186	148	1,228	No
12/11/2024 21:00	256	278	267	185	134	1,120	No
12/15/2024 21:00	240	287	281	169	246	1,223	No
12/16/2024 0:00	256	266	289	168	147	1,127	No
12/16/2024 1:00	255	270	303	171	137	1,136	No
12/16/2024 2:00	253	277	264	175	150	1,119	No
12/16/2024 3:00	259	266	307	171	174	1,177	No
12/16/2024 4:00	256	271	293	169	182	1,171	No
12/16/2024 5:00	247	272	284	173	179	1,155	No
12/16/2024 6:00	259	299	284	175	176	1,192	No
12/16/2024 7:00	246	285	278	178	168	1,156	No
12/16/2024 8:00	252	275	305	179	155	1,166	No
12/16/2024 9:00	257	282	304	179	148	1,171	No
12/16/2024 10:00	291	273	273	182	156	1,175	No
12/16/2024 11:00	263	273	243	179	186	1,145	No
12/16/2024 12:00	269	302	281	180	175	1,206	No
12/16/2024 13:00	284	275	205	177	180	1,121	No