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TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 11, 2020

Mr. Ken McQueen
Regional Administrator
U.S. Environmental Protection Agency, Region 6
1201 Elm Street, Suite 500
Dallas, TX 75270-210

Subject: Supplemental Information Regarding SO₂ Round 4 Designations for Orange County, Texas

Dear Mr. McQueen:

The Texas Commission on Environmental Quality (TCEQ) is providing supplemental information for consideration by the United States Environmental Protection Agency (EPA) in designating Orange County, Texas unclassifiable/attainment for the 2010 primary sulfur dioxide (SO₂) National Ambient Air Quality Standard (NAAQS) in Round 4 designations. We are also requesting the EPA consider the 2018 data for the Orange County SO₂ source-oriented monitor (48-361-1083) adequate for design value calculation.

The Orange County SO₂ monitor is monitoring attainment of the 2010 SO₂ NAAQS but experienced a brief outage in 2018 that caused its data to fall just below the regulatory data availability requirement.¹ However, pursuant to 40 Code of Federal Regulations (CFR) Part 50, Appendix T, *Interpretation of the Primary National Ambient Air Quality Standards for Oxides of Sulfur (Sulfur Dioxide)*, incomplete air monitoring datasets may still be validated if the EPA Administrator deems the data adequate for design value calculation.

Appendix T to 40 CFR Part 50 allows the Administrator to consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the valid concentration measurements that are available, and nearby concentrations in determining whether to use data that do not meet the completeness criteria. A high-level summary of each of the regulatory factors and their applicability to the Orange monitoring data is provided below and detailed in the enclosed paper, *Data Summary for Orange County Texas under Round 4 of the 2010 Sulfur Dioxide National Ambient Air Quality Standard*.

- Monitoring site closures/moves
 - The Orange County SO₂ monitor experienced an outage from December 31, 2017, 11:00 PM to January 24, 2018, 12:00 pm due to equipment failure caused by a faulty power board in the SO₂ analyzer that required replacement.
- Monitoring diligence
 - Between January 8 through January 23, 2018, TCEQ staff worked expeditiously to identify the issues, acquire the necessary replacement parts, and replace and calibrate the relevant equipment that caused the outage.
- Consistency and levels of the valid concentration measurements that are available

¹ The first quarter of calendar year 2018 has a 72.2% data completion rate, which is slightly below the 75% data completeness requirement.

Page 2
Mr. Ken McQueen
May 11, 2020

- The data from the Orange County SO₂ monitor support a showing of attainment of the one-hour SO₂ NAAQS of 75 parts per billion (ppb) with a 75 ppb design value (defined as the 99th percentile of the daily maximum hourly SO₂ concentration, averaged over three years). Most significantly, concentrations recorded since June 2019, when SO₂ emissions were reduced at the nearby Orion facility, show consistently lower concentrations than were recorded prior to June 2019. All recorded concentrations since that time are lower than 75 ppb.
- Nearby concentrations
 - Concentrations from nearby monitors similarly show attaining values. Five monitors within 50 kilometers of the Orange County SO₂ monitor have been recording SO₂ concentrations for the period 2017 through 2019. Three of the monitors are in Jefferson County, Texas and two are in Calcasieu Parish, Louisiana.

Given the consistency of the data collected, the decreasing concentration trend attributable to emissions reductions at a nearby facility, and the prompt replacement of the monitor, the Orange dataset is eligible for validation by the EPA Administrator for use in the design value calculation. Consideration of the design value based on this monitor data supports designating Orange County as unclassifiable/attainment for the 2010 SO₂ NAAQS, consistent with Governor Greg Abbott's updated state designations submitted on September 18, 2015.

Thank you for your consideration of this supplemental information. If you have any questions or need additional information, please feel free to contact Donna F. Huff, Air Quality Division Director, at 512-239-6628 or by email at donna.huff@tceq.texas.gov.

Sincerely,



Toby Baker
Executive Director

Enclosure

Data Summary for Orange County Texas under Round 4 of the 2010 Sulfur Dioxide National Ambient Air Quality Standard

Under Appendix T to 40 Code of Federal Regulations (CFR) Part 50, “A 1-hour primary standard design value based on data that do not meet the completeness criteria stated in 3(b) and also do not satisfy section 3(c), may also be considered valid with the approval of, or at the initiative of, the Administrator, who may consider factors such as monitoring site closures/moves, monitoring diligence, the consistency and levels of the valid concentration measurements that are available, and nearby concentrations in determining whether to use such data.”

TCEQ submits the following information related to the factors that the Administrator may consider in determining the validity of the data for design value:

Monitoring Diligence

Due to a faulty power board in the SO₂ monitor, the Orange, Texas SO₂ monitor was not operational between December 31, 2017 and January 24, 2018. The monitor was replaced and tested for calibration expeditiously. Details of the timeline include:

- January 8 to 12: Technicians determine the monitor’s power board is faulty. Quality control activities identify a recurring problem necessitating replacement of the full SO₂ monitor. A replacement monitor is requested.
- January 15 to 19: The replacement monitor is prepared for deployment and shipped.
- January 23: The replacement monitor is installed and calibrated.

Data are also missing for February 12 due to normal maintenance and calibration activities.

As a result of this situation, the first quarter of calendar year 2018 has a 72.2% data completion rate, which is slightly below the 75% data completeness requirement.

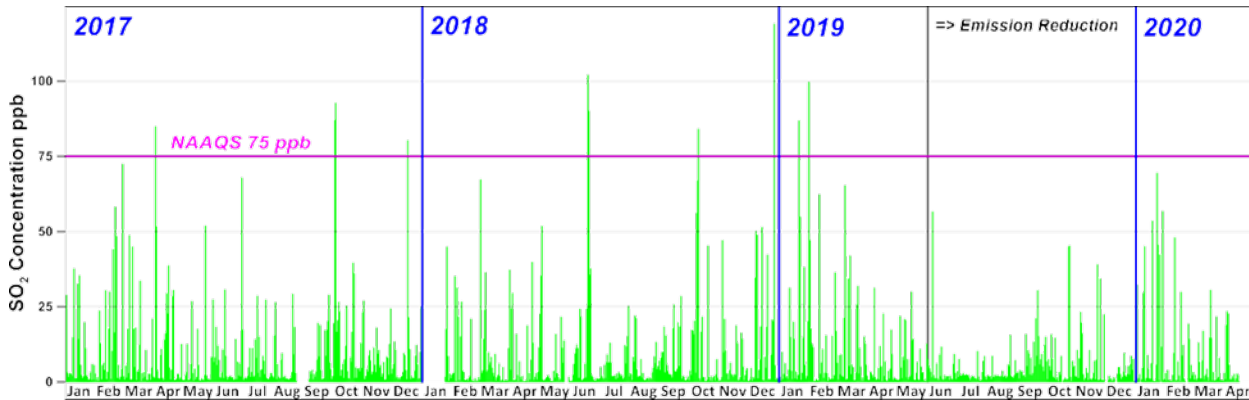
Orion Carbon Black Plant Permit Changes and Levels of Valid Measurements

On March 19, 2019, the TCEQ issued a Pollution Control Standard Permit, Permit Registration Number 155882, to Orion’s Orange County Carbon Black Plant. This standard permit authorizes emissions associated with the installation of an incinerator equipped with selective catalytic reduction technology. The operational change associated with this standard permit is expected to result in a reduction of approximately 1,940 tons per year of SO₂ emissions from the waste gas combustion cap. An EPA consent decree also requires decreased feedstock sulfur content (to 2.0 weight percent) at this plant.

Based on the available data the design value (the three-year average of 2017 - 2019, 99th percentile values, or 80.2 ppb, 84.0 ppb and 62.2 ppb, respectively) for the Orange County monitor is 75 parts per billion (ppb), which demonstrates that the federally enforceable emission reductions at Orion have been effective in improving air quality.

Further, since the installation of the incinerator at the Orion Orange County Carbon Black Plant the daily maximum hourly SO₂ concentrations at the Orange County monitor have not exceeded 75 ppb. While the 2020 and late 2019 values have not been certified, the trend is clear.

Data Summary for Orange County Texas under Round 4 of the 2010 Sulfur Dioxide National Ambient Air Quality Standard



Nearby Concentrations

The 2017-2019 readings from five monitors near Orange County are shown below, using values reported from <https://www.epa.gov/outdoor-air-quality-data/monitor-values-report>. These monitors show attainment of the standard in the areas near Orange County.

Site ID	City	County	State	Design Value	99th percentile (ppb)		
					2017	2018	2019
482450009	Beaumont	Jefferson	TX	19	14	16	28
482450011	Port Arthur	Jefferson	TX	46	52	48	37
482451071	Port Arthur	Jefferson	TX	58	86	61	28
220190008	Westlake	Calcasieu	LA	22	23	29	14
220190011	Lake Charles	Calcasieu	LA	26	21	31	26