



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

217-782-9540

April 28, 2020

Kurt Thiede, Regional Administrator
Office of the Regional Administrator, R-19J
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Dear Mr. ^{Kurt}Thiede:

On behalf of Governor Pritzker, as provided in Clean Air Act section 107(d)(1)(A), the Illinois Environmental Protection Agency (Illinois EPA) is submitting a sulfur dioxide area designation recommendation for Macon County, Illinois, based upon an analysis of factors including source-specific ambient air monitoring conducted pursuant to the *Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard (NAAQS) (80 FR 51052)*, codified at 40 CFR part 51 subpart BB. The documentation supporting this recommendation is attached.

The federal guidance memorandum, *Area Designations for the 2010 Primary Sulfur Dioxide National Ambient Air Quality Standard – Round 4* (Peter Tsigotis to the Regional Air Division Directors, September 5, 2019), provided a schedule and invitation for “updated recommendations” in the final round of area designations under the revised SO₂ NAAQS. In response to that memorandum, the Illinois EPA is providing a “Round 4” area designation recommendation for that portion of the State of Illinois not previously designated. The Illinois EPA is recommending that this area be classified as attainment/unclassifiable.

If there are questions or comments regarding this matter, please feel free to contact David Bloomberg, Manager, Air Quality Planning Section, at 217-524-4949.

Sincerely,

John J. Kim, Director
Illinois Environmental Protection Agency

Attachment

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**“ROUND 4” PRIMARY SO₂ NAAQS
IMPLEMENTATION – MACON COUNTY
AREA DESIGNATION RECOMMENDATION**

AQPSTR 20-04

**Illinois Environmental Protection Agency
Bureau of Air
1021 North Grand Avenue, East
Springfield, Illinois 62794-9276**

April 28, 2020

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Executive Summary

The U.S. Environmental Protection Agency (“USEPA”) promulgated the Data Requirements Rule (“DRR”)¹ to support the final phases of implementation of the primary 1-hour sulfur dioxide (“SO₂”) National Ambient Air Quality Standard (“NAAQS”). This rulemaking required regulatory authorities to conduct air quality characterizations, through modeling or monitoring, of facilities with annual emissions meeting or exceeding 2,000 tons (based upon the most recent year of available data) or, alternatively, establishing federally enforceable source emission requirements that would limit a facility’s emissions to a level below that threshold. The Illinois Environmental Protection Agency (“Illinois EPA” or “Agency”) conducted dispersion modeling to characterize air quality around seven facilities under “Round 3” of the primary SO₂ NAAQS implementation, and provided area designation recommendations to USEPA based on those assessments.^{2,3} The remaining facilities – Archer Daniels Midland Company (“ADM”) and Tate & Lyle Ingredients Americas LLC (“Tate & Lyle”) – both of which are in Decatur, Illinois, jointly requested approval of source-specific ambient air monitoring to address the DRR air quality characterization requirement. The Illinois EPA, in coordination with USEPA and company representatives, accepted an ambient monitoring plan in which the two facilities would operate three ambient monitors, and the Agency would provide Primary Quality Assurance Organization (“PQAO”) oversight responsibilities. Based upon the DRR ambient air monitoring results for years 2017-2019, and supplementary factor analyses, the Illinois EPA is recommending a 1-hour SO₂ NAAQS “Round 4” designation of attainment/unclassifiable for the areas surrounding the ADM and Tate & Lyle facilities and extending geographically outward to encompass all of Macon County.

1.0 Introduction and Background

The 1-hour SO₂ NAAQS implementation process is on a court-approved schedule⁴ for completion of area designations by USEPA, with the final round (“Round 4”) due by December 31, 2020. USEPA has finalized the area designations for all areas in Illinois affected by prior rounds of the schedule. The final implementation phase links the December 31, 2020, deadline in the March 2, 2015, court order with requirements specified in the DRR. The DRR directed air regulatory authorities to characterize air quality around sources that emitted greater than 2,000 tons per year (“TPY”) in the most recent year for which data was available. At the time, the most recent year of quality-assured data was 2014. Based upon the criteria and conditions set forth in the rule, the Illinois EPA characterized air quality around seven facilities using dispersion modeling – Kincaid Generation

¹ Data Requirements Rule for the 2010 1-Hour Sulfur Dioxide (SO₂) Primary National Ambient Air Quality Standard (NAAQS); Final Rule, Federal Register, Vol. 80, No. 162, August 21, 2015, p. 51052-51088.

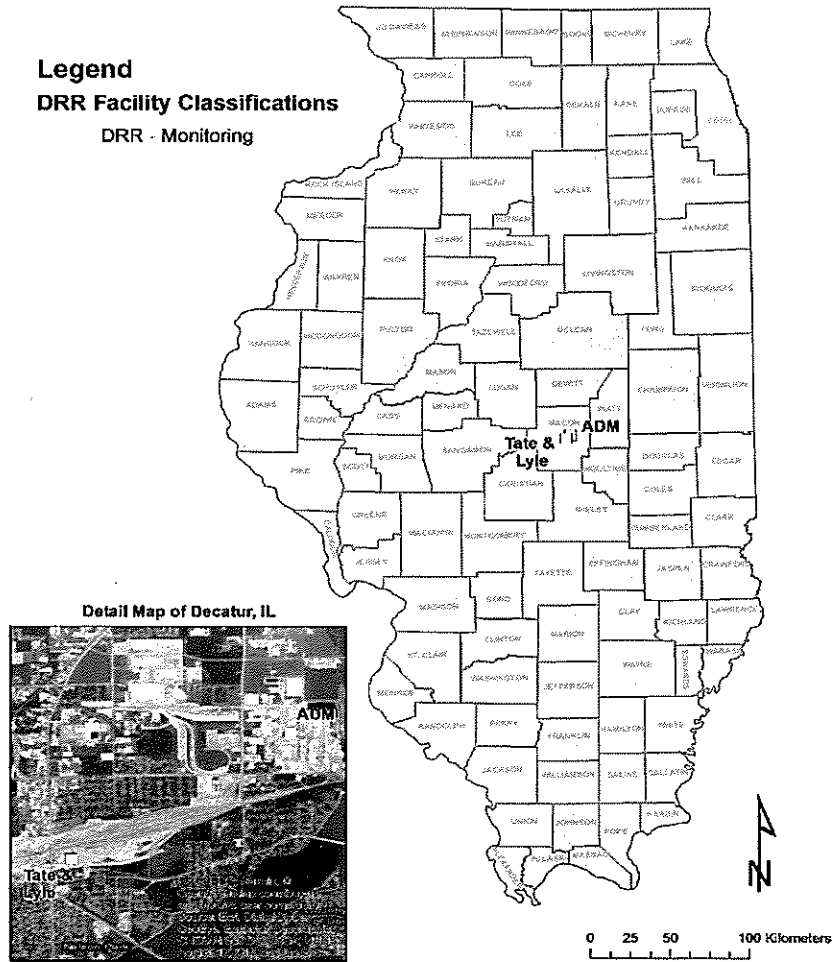
² Data Requirements Rule Air Quality Characterizations and “Round III” SO₂ Area Designation Recommendations, AQPSTR 17-01, Illinois Environmental Protection Agency, Bureau of Air, January 12, 2017.

³ *Addendum* Data Requirements Rule Air Quality Characterizations and “Round III” SO₂ Area Designation Recommendations, AQPSTR 17-01 (Addendum), Illinois Environmental Protection Agency, Bureau of Air, June 29, 2017.

⁴ *Sierra Club v. McCarthy*, No.3-13-cv-3953 (SI) (N.D. Cal. Mar. 2, 2015).

(Kincaid, IL), Rain CII Carbon (Robinson, IL), Midwest Generation (Waukegan, IL), Dynegy Midwest Generation (Baldwin, IL), Prairie State Generating Company (Lively Grove, IL), U.S. Steel Corporation – Granite City Works (“USS-GCW”) (Granite City, IL), and Gateway Energy & Coke Company LLC (“GECC”) (Granite City, IL). The USS-GCW and GECC facilities were regarded as a “single source” under Clean Air Act Title V permitting, and collectively reported emissions that exceeded the 2,000 TPY threshold. Based upon the results of those air quality characterizations, “Round 3” area designations were recommended to and subsequently finalized by USEPA.⁵ For two additional facilities – ADM (Decatur, IL) and Tate & Lyle (Decatur, IL) – air quality was characterized through ambient monitoring that commenced prior to January 1, 2017, and continued, as required, through December 31, 2019. The locations of the ADM and Tate & Lyle facilities are shown in Figure 1.

Figure 1. Statewide Map Showing Locations of “Round 4” DRR Facilities



⁵ *Federal Register*, Vol. 83, No. 6, pp. 1098-1172, January 9, 2018; codified at 40 CFR part 81.

2.0 Factor Analysis

For the purposes of determining area designations and appropriate area boundaries, USEPA has indicated that it will be using a weight-of-evidence approach from available information with particular attention given to information provided for the five factors discussed below.

2.1 Factor 1 – Ambient Air Quality Data

ADM and Tate & Lyle had SO₂ emissions of 9,961 and 4,379 tons, respectively, in calendar year 2014, thus triggering the DRR requirement for modeling or monitoring. Collaboratively, these companies requested that the air quality characterization for their facilities be accomplished through ambient air monitoring. This cooperative arrangement included the development and design of a monitoring plan,^{6,7,8,9} which was preceded by an extensive review of emission inventory databases and the gathering of allied data necessary to support dispersion modeling. The results of dispersion modeling provided the primary means for determining the best possible locations to site monitors. In various instances, the areas of maximum predicted model impacts were either unsuitable based upon federal modeling guidance,¹⁰ were logistically problematic, or were excluded because of the property owner's denial of access. Preceding monitoring plan approval, Illinois EPA had responded to comments received from USEPA on the revised monitoring plan (dated July 22, 2016) in a conference call on September 13, 2016, and forwarded supplementary information requested by USEPA during the call. The plan was ultimately approved by both regulatory agencies. The monitoring network consisted of instrumentation at three locations – one site just north of the ADM – Decatur East complex (Figure 2), and the remaining two sites in proximity (a northwesterly site and a south fenceline site) to Tate & Lyle (Figures 3 and 4). The expansion of the Illinois SO₂ monitoring network to include these additional monitors was identified in the Illinois Ambient Air Monitoring 2017 Network Plan. The companies assumed responsibility for the acquisition, deployment, and operation of the monitors, as well as responsibility for quality assurance/quality control, data processing, and data transmittal functions.

⁶ Preliminary Monitoring Plan – Sulfur Dioxide Monitoring to Determine 1-Hr. NAAQS Attainment Status in the Vicinity of the ADM/T&L Decatur, Illinois Facilities, Environmental Resources Management, Inc., November 6, 2015.

⁷ Modeling Report - SO₂ Dispersion Modeling Analyses to Support an Ambient Air Quality Monitoring Program – Tate & Lyle (Decatur, Illinois Corn Wet Milling Plant), Archer Daniels Midland (Decatur, Illinois Decatur Complex), Environmental Resources Management, Inc., June 20, 2016.

⁸ Modeling Report - SO₂ Dispersion Modeling Analyses to Support an Ambient Air Quality Monitoring Program – Tate & Lyle (Decatur, Illinois Corn Wet Milling Plant), Archer Daniels Midland (Decatur, Illinois Decatur Complex), Environmental Resources Management, Inc., Revised July 22, 2016.

⁹ Decatur SO₂ DRR Ambient Air Quality Monitoring Network Design, Environmental Resources Management, Inc., July, 2016.

¹⁰ SO₂ NAAQS Designations Modeling Technical Assistance Document (draft), February 2016, USEPA (OAR/OAQPS/AQAD), Research Triangle Park, NC.

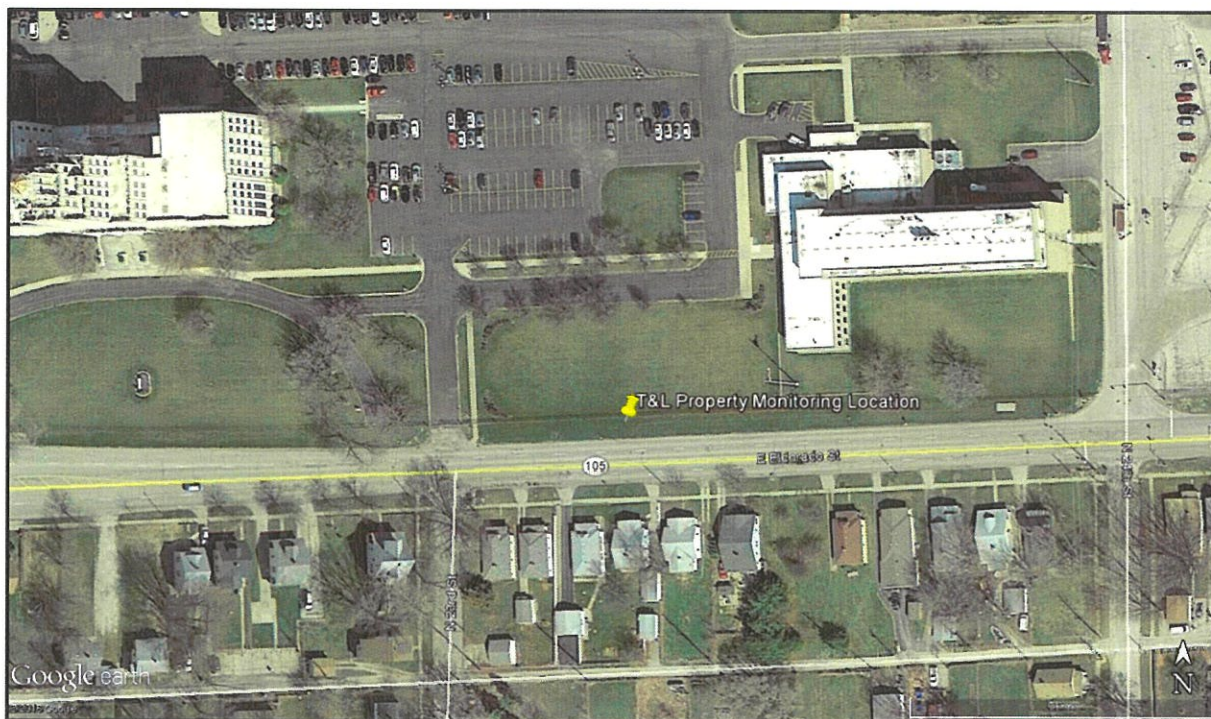
Figure 2. ADM SO₂ and Meteorological Monitoring Location



Figure 3. Tate & Lyle Off-Property Northwest SO₂ Monitoring Location



Figure 4. Tate & Lyle Southeast Fenceline SO₂ Monitoring Location



The Illinois EPA provided PQAQO oversight. The monitoring had commenced by January 1, 2017, and continued through the required data collection period (January 1, 2017 - December 31, 2019). The three years of source-oriented data were recently certified by the environmental consulting firm (ERM, Inc.) overseeing the collection of that data and by the Illinois EPA, with USEPA concurrence. The Illinois EPA operates an SO₂ monitor in Decatur that is north of the Tate & Lyle facility on 22nd Street (Army Recruitment Center). The 2019 data for this monitor was also recently certified, and the highest measured values for this year, together with the highest values from the two previous years of data, were determined for comparison with the ADM and Tate & Lyle monitoring data. Table 1 provides the four highest measured concentrations for years 2017, 2018, and 2019 for each of the source-oriented monitors and for the Illinois EPA monitor. The three-year average of the fourth highest measured concentration from an individual monitor represents the design value. If the design value is less than or equal to 75 ppb, then the 1-hour SO₂ NAAQS is attained at that location. The design values for the ADM and Illinois EPA monitors show a substantial margin of attainment. That margin is less for the two Tate & Lyle monitors, but both record values that attain the 1-hour SO₂ NAAQS. Elevated concentrations that exceeded the NAAQS were recorded at the Tate & Lyle monitors within the first two years. These exceedances led Tate & Lyle to seek a construction permit (see Appendix A) for a wet scrubber to control SO₂ emissions from the specific corn wet milling sources contributing most to the measured exceedances. For these two monitors, sampling is continuing beyond December 31, 2019.

Table 1. Monitored SO₂ Concentrations in Macon County for Years 2017-2019

Monitor	Year	Sulfur Dioxide Concentrations (parts per billion)				2017-2019 Design Value
		1st High	2nd High	3rd High	4th High	
Archer Daniels Midland Co. - North Property Monitor	2017	83.9	31.9	28.3	27.8	22
	2018	22.4	21.8	21.4	20.8	
	2019	19.7	19.4	17.7	17.0	
Tate & Lyle Ingredients Americas LLC - North Monitor	2017	83.1	80.4	78.7	76.6	67
	2018	114.0	104.6	100.0	83.9	
	2019	50.5	47.6	44.8	41.8	
Tate & Lyle Ingredients Americas LLC - South Monitor	2017	89.2	76.0	75.9	74.3	66
	2018	114.6	109.2	93.0	89.0	
	2019	47.4	40.0	39.0	34.2	
Illinois EPA - 22nd Street Monitor	2017	46.6	44.2	43.3	39.6	33
	2018	42.9	41.0	37.7	37.0	
	2019	37.6	26.6	24.6	23.4	

2.2 Factor 2 – Emissions-Related Data

The facility-reported SO₂ emissions from ADM and Tate & Lyle for years 2017-2019 are moderately lower than the 2014 emission levels that resulted in DRR regulation. Within the 2017-2019 period, emissions have steadily declined, but at modest rates. As with many grain milling facilities, the SO₂ emissions are associated primarily with fuel combustion for steam generation and intermediate/final product drying. Both ADM and Tate & Lyle have SO₂ emissions resulting from coal combustion, and these account for approximately 95% and 87% of total facility SO₂ emissions, respectively. Though orders of magnitude less, SO₂ emissions associated with steeping, drying, aspiration, flaring, and other processes and operations can have far greater ambient impacts, because they typically have much lower release heights than that of boiler stacks. In fact, milling and steep house process emissions at Tate & Lyle accounted for over 85% of the predicted impacts at some receptor locations in the modeling results used to evaluate monitor siting.

Based upon emissions data for each of calendar years 2017, 2018, and 2019, the combined SO₂ emissions from ADM and Tate & Lyle are relatively consistent in representing approximately 98% of total SO₂ emissions in Macon County. Table 2 provides a listing of permitted facilities in Macon County and their reported or estimated emissions in those three years. Because such a large percentage of the Macon County emissions are coming from these two geographically close facilities, there would be little likelihood of other facilities in the county potentially causing NAAQS exceedances or violations.

Table 2. Macon County Facility SO₂ Emissions for Calendar Years 2017-2019

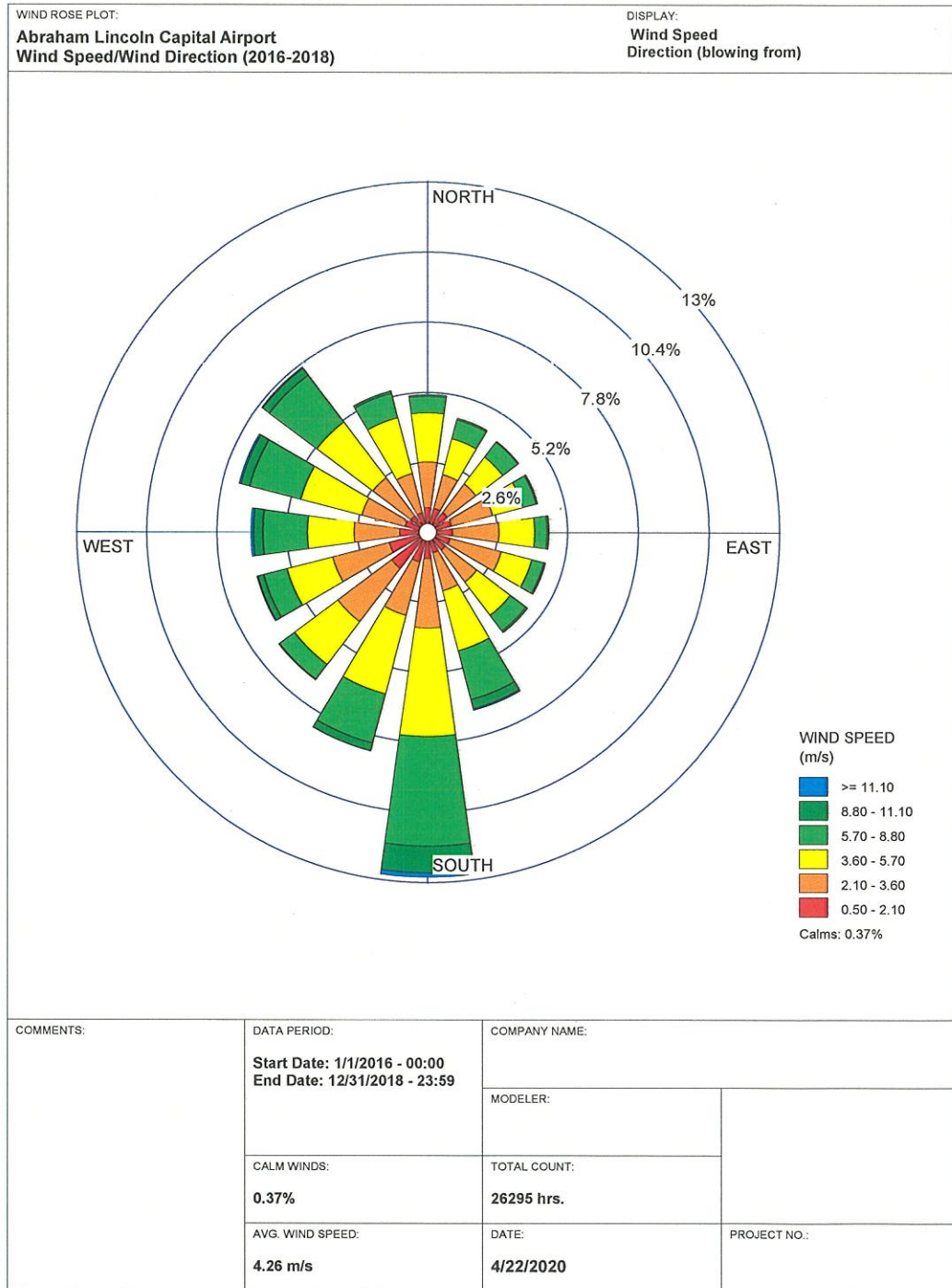
Facility Name	Address	City	Sulfur Dioxide Emissions (tons/year) ¹		
			2017	2018	2019
Archer Daniels Midland Co	3883 Faries Pkwy	Decatur	9,527.3550	9,012.2400	<i>8,983.2500</i>
Tate & Lyle Ingredients Americas LLC	2200 E Eldorado St	Decatur	2,728.5300	2,377.8100	<i>2,287.0200</i>
Fuyao Glass Illinois Inc	2768 E Elwin Rd	Decatur	240.4833	228.0716	<i>197.0200</i>
Dunn Co - Division of Tyrolt Inc	724 N Mercer St	Decatur	2.4300	2.3600	<i>2.0600</i>
Advanced Disposal Services Valley View Landfill Inc	1145 Bear Rd	Decatur	1.5200	1.6400	<i>7.8900</i>
Millikin University Power Plant	1184 W Main St	Decatur	0.1933	0.0217	<i>0.0330</i>
VAE Nortrak North America Inc	690 E Kenwood	Decatur	0.1040	0.1162	<i>0.0940</i>
Mueller Co	1226 E Garfield Ave	Decatur	0.1006	0.1130	<i>0.1380</i>
Decatur Foundry Inc	1745 N Illinois St	Decatur	0.0613	0.0542	<i>0.0620</i>
State Hwy Const Corp Inc	3589 N Rte 121	Decatur	0.0441	0.1100	0.0704
Decatur Memorial Hospital	2300 N Edward St	Decatur	0.0292	0.0495	<i>4.3600</i>
St Marys Hospital	1800 E Lake Shore Dr	Decatur	0.0200		<i>0.0200</i>
ADM Rail Car Repair Facility	2311 N 22nd St	Decatur	0.0080	0.0088	<i>0.0360</i>
Caterpillar Inc	27th St & Pershing Rd	Decatur	0.0060	0.0080	0.0100
Norfolk Southern Railway Co	1735 E Condit St	Decatur	0.0050	0.0060	<i>0.0070</i>
ADM Development Products	3210 Pkwy Dr	Decatur	0.0030	0.0070	<i>0.0001</i>
Crown Cork & Seal Co Inc	970 W North St	Warrensburg	0.0020	0.0027	<i>0.0079</i>
Buckeye Terminals LLC	266 F Shafer	Forsyth	0.0007	0.0019	<i>0.0440</i>
TCCI Manufacturing LLC	2120 N 22nd St	Decatur	0.0005	0.0005	0.0005
Eisenhower High School	1200 S 16th St	Decatur	0.0002	0.0000	0.0000

¹Emissions are facility-reported actual emissions, or estimated emissions (the latter boldfaced and italicized).

2.3 Factor 3 – Meteorology

The selection of representative National Weather Service (“NWS”) meteorological data to evaluate plume transport patterns from the ADM and Tate and Lyle monitors was based on proximity of available NWS stations, similarity of terrain/surface roughness, and climatological consistency. For the present analysis, NWS surface meteorology from Springfield, Illinois (WBAN No. 93822, 41 miles to the west), and coincident upper air observations from Lincoln, Illinois (WBAN No. 04833, 30 miles to the northwest), were considered best representative of meteorological conditions within the Decatur area. A three-year (2016-2018) surface wind rose for Abraham Lincoln Capital Airport in Springfield, Illinois, is depicted in Figure 5. Data currently missing from the 2019 meteorological record necessitated excluding the entire 2019 data set in the creation of the surface wind rose. The

Figure 5. Abraham Lincoln Capital Airport Cumulative Annual Wind Rose 2016-2018



WRPLOT View - Lakes Environmental Software

frequency and magnitude of wind speed and direction are defined in terms of where the wind is blowing from, parsed out in sixteen 22.5-degree wind sectors. The predominant wind direction during the three-year time period represented is from the south, occurring approximately 12.7% of the time. The highest percentage wind speed range, occurring approximately 32% of the time, was in the 3.6 - 5.7 m/s range.

Representative meteorological data of prior years, from the same NWS stations, were used in AERMOD simulations to determine areas of maximum and elevated SO₂ concentrations associated with actual emissions from the ADM and Tate & Lyle facilities. These modeling runs were conducted to determine candidate locations for siting monitors. Maximum concentrations occurred directly north of both facilities. Secondary maxima and/or broader areas of elevated concentrations occurred south of ADM and southeast, southwest, and northwest of the core industrial operations at Tate & Lyle. These pollutant concentration patterns accord with the predominant wind direction and the frequent but less prevalent wind directions evident from the wind rose diagram.

2.4 Factor 4 – Geography and Topography

The area surrounding the ADM and Tate & Lyle facilities is a mix of urban and semi-rural landscapes including residential neighborhoods, commercial corridors, industrial zones, and open-space recreational and natural areas. The terrain is flat to gently rolling, without any prominent natural physical features that might affect the distribution of SO₂ emissions over the area. The structures comprising the built environment of the ADM and Tate & Lyle facilities are the only physical features likely to affect plume distribution.

2.5 Factor 5 – Jurisdictional Boundaries

USEPA has historically applied county-level boundaries as the default jurisdictional boundary in designating attainment, nonattainment, and unclassifiable areas. That practice has relevance to the current analysis. As noted from the air quality data provided for years 2017-2019, the Illinois EPA monitor has consistently yielded much lower concentrations than the Tate & Lyle monitors and slightly higher concentrations than the ADM monitor. The Illinois EPA monitor is located approximately 1.2 miles due north of Tate & Lyle and approximately 1.75 miles directly west of ADM. The significant drop off in SO₂ concentration levels over the short distance separating the Tate & Lyle monitors from the Illinois EPA monitor indicates a strong likelihood of even lower concentrations at distances extending out to the boundaries of Macon County. This strongly supports

assigning the county boundary as the jurisdictional boundary for the “Round 4” ADM/Tate & Lyle SO₂ area designation.

3.0 Conclusions and Recommendations

Although the State of Illinois is not required by Clean Air Act section 107(d) to submit updated area designation recommendations, the DRR “Round 4” phase provides an additional opportunity to offer a technically-based, preferred designation, supplementing those made previously in implementation of the 1-hour SO₂ NAAQS. In keeping with the “Round 4” federal guidance memorandum, which identifies supporting information that may be submitted to USEPA, this document and the accompanying letter provide the necessary background and detail regarding Illinois’ updated recommendation.

The “Round 4” recommendations are based primarily on monitoring data, though other supporting information, including the modeling analysis used to predict areas of maximum concentrations in determining potential monitor sites, were also relied upon. Table 3 provides a summary of the 1-hour SO₂ design value concentrations for each of the source-oriented monitors over the 2017-2019 monitoring period. The design value concentrations for all three monitors are below the 1-hour SO₂ NAAQS.

Table 3. ADM and Tate & Lyle Monitors: 1-Hour SO₂ Design Value Concentrations

Monitor	Data Period	SO ₂ Concentration (ppb)	
		Design Value	NAAQS
ADM	2017 - 2019	22	75
Tate & Lyle - North		67	
Tate & Lyle - South		66	

Because these monitors have demonstrated compliance with the NAAQS, the Illinois EPA recommends an attainment/unclassifiable area designation under “Round 4” for the ADM and Tate & Lyle facilities. As noted previously, these facilities account for a preponderance of SO₂ emissions in Macon County. Based upon reported emissions of other facilities in Macon County, there is little likelihood of SO₂ NAAQS exceedances or violations that could be attributed to these other facilities, either alone or in combination with ADM and Tate & Lyle. Since there is little prospect of potential hotspots, and because there is monitoring and modeling evidence of progressively diminishing SO₂ concentrations away from these facilities, the Illinois EPA recommends that the attainment/unclassifiable area designation include all of Macon County.

Appendix

217/785-1705

CONSTRUCTION PERMIT - REVISED

PERMITTEE

Tate & Lyle, Decatur
Attn: Justin Cunningham
2200 East Eldorado Street
Decatur, Illinois 62521

Application No.: 17120011

I.D. No.: 115015ABX

Applicant's Designation:

Date Received: March 1, 2019

Subject: SO₂ Scrubber for the Corn Wet Mill

Date Issued: April 25, 2019

Location: 2200 East Eldorado Street, Decatur, Macon County

Permit is hereby granted to the above-designated Permittee to CONSTRUCT emission source(s) and/or air pollution control equipment consisting of an SO₂ scrubber for the corn wet mill, as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

1. Introduction

- a. This permit authorizes the construction of a scrubber (the affected scrubber) that would control emissions of sulfur dioxide (SO₂) of the following existing emission units in the Corn Wet Mill (the affected units). The affected scrubber would control emissions that are currently vented to the atmosphere by the individual aspiration systems for the affected units except during incidents of malfunction, breakdown, routine maintenance or repair of equipment. As the Permittee plans to rely upon the affected scrubber for control of SO₂ emissions, proper operation of the scrubber will be required at other times.

Affected Units
Steep Tanks (I.D. 4-01)
System #1 and #2 (I.D. 6-05)
System #3 (I.D. 6-06) *
Merco System (I.D. 6-07)
System #5 (I.D. 6-08)

* all units except MST overflow tank

- b. This permit does not authorize any changes to the affected units that would increase their capacity or emissions.

2. Applicable Emissions Standards

This permit does not revise or relax the applicability of emission standards that apply to the affected units, as addressed in the Clean Air Act Permit Program (CAAPP) permit for the source, Permit 96020099.

3. Nonapplicability Provisions

This permit is issued based on this project not constituting a major modification for purposes of the federal rules for Prevention of Significant Deterioration (PSD), 40 CFR 52.21. This is because there is no increase in emissions with this project.

4. Operational Requirements

- a. Except as provided in Condition 4(c), at all times, the Permittee shall maintain and operate the affected units and the affected scrubber in a manner consistent with good air pollution control practice for minimizing emissions.
- b.
 - i. Except as provided by Condition 4(b)(ii) and (iii) and (c), the Permittee shall operate the affected scrubber to comply with the following Operating Parameter Limits (OPLs). These OPLs shall be established based on the value of these parameters during emission testing conducted pursuant to Condition 6.
 - A. Minimum scrubbant flow rate (hourly average); and
 - B. Minimum scrubbant pH, as measured in scrubbant flow out of the scrubber (hourly average).
 - ii. Until the initial emission testing required by Condition 6 is completed, the Permittee shall operate the affected scrubber in accordance with manufacturer's recommended operating procedures.
 - iii. For the purpose of the evaluation of the affected scrubber and further performance testing that may set new values for the OPL(s) of the affected scrubber, the Permittee may operate the affected scrubber at operating parameter values that are different than those that would be required by Condition 4(b)(i), provided that operation is in accordance with a detailed plan describing the evaluation and testing program that has been submitted to and approved by the Illinois EPA.
- c. Following completion of shakedown of the affected scrubber, the affected scrubber shall be operated at all times while any affected unit is being aspirated except during malfunction, breakdown, routine maintenance or repair of the affected scrubber, which shall not exceed 200 hours per calendar year. For this purpose, a malfunction shall also include periods of time when any affected unit is operating while the affected scrubber is not operating, or any scrubber operating parameter is outside of the target OPL range.

5. Emissions

- a. Following completion of shakedown of the affected scrubber, SO₂ emissions of the affected units, as collected by the aspiration systems on these units shall not exceed the following limits. Compliance with these annual limits shall be determined from a running total of 12 months of data, beginning with the 12th complete month after shakedown of the scrubber is complete.

Mode of Operation	SO ₂ Emission Limits	
	lb/hr	ton/yr
With Scrubber	17.6	-
Without Scrubber	50.5	5.0
	Total	80.3

- b. This permit is issued based on minimal SO₂ emissions from the affected units that are not collected by the aspiration systems on these units, i.e., SO₂ emissions of no more than 1.1 tons/year.

6. Testing Requirements

- a. i. Within 180 days of initial startup of the affected scrubber to control an affected unit, the Permittee shall have performance tests conducted for the scrubber during maximum operating conditions of the affected units. These tests shall be designed to measure the following:
- A. Inlet and outlet SO₂ emissions in ppm.
 - B. Inlet and outlet SO₂ emissions in pounds/hour and the SO₂ control efficiency of the scrubber.
- ii. Following the initial test, the Permittee shall have subsequent testing conducted at least every 5 years.
- iii. Prior to each of these tests, the Permittee shall inspect the aspiration systems for the affected units to confirm that these systems are in good condition and operating properly to collect emissions of the affected units.
- b. i. The following methods shall be used for testing, unless the Illinois EPA approves use of other USEPA Reference methods: Refer to 40 CFR 60 for USEPA methods.

Location of Sample Points	Method 1
Gas Flow and Velocity	Method 2
Flue Gas Weight	Method 3 or 3A
Moisture	Method 4
Sulfur Dioxide	Method 6 or 6C

- c. At least 60 days prior to the actual date of beginning testing, a written

test plan shall be submitted to the Illinois EPA for

review. The Illinois EPA may at the discretion of the Compliance Section Manager (or designee) accept the written test plan less than 60 days prior to testing provided it does not interfere with the Illinois EPA's ability to review and comment on the written test plan and does not deviate from the applicable state or federal statutes. This plan shall describe the specific procedures for testing, including as a minimum:

- i. The name or other identification and location of the emission points to be tested.
 - ii. The testing service that will be performing sampling and analysis and its experience with similar tests.
 - iii. The specific conditions under which testing will be performed, including a discussion of why these conditions will be representative of maximum emissions and the means by which the operating parameters for the emission units and any control equipment will be determined.
 - iv. The specific determinations of emissions and operation that are intended to be made, including sampling and monitoring locations.
 - v. The test method(s) that will be used, with the specific analysis method, if the method can be used with different analysis methods.
 - vi. Any minor changes in standard methodology proposed to accommodate the specific circumstances of testing, with justification.
- d. The Illinois EPA shall be notified prior to the beginning of this testing to enable the Illinois EPA to observe these tests. Notification of the expected date of beginning testing shall be submitted a minimum of 30 days prior to the expected date. Notification of the actual date shall be submitted a minimum of 5 working days prior to the actual date. The Illinois EPA may at its discretion accept notifications with shorter advance notice provided that the Illinois EPA will not accept such notifications if it interferes with the Illinois EPA's ability to observe testing.
- e. Copies of the Final Reports for this testing shall be submitted to the Illinois EPA within 30 days after the test results are compiled and finalized, but no later than 60 days after the test date. The Final Report shall include as a minimum the following information. The Permittee shall maintain a copy of each test report for at least five years after the date that a test was subsequently conducted:
- i. General Information, i.e., date of testing, testing personnel, and observers.
 - ii. A summary of results and conclusions.

- iii. Description of test method(s), including description of sampling points, sampling train, and analysis equipment.
- iv. A discussion of any preparatory actions taken for the aspiration systems and the affected scrubber, i.e., inspections, calibration, maintenance, and repair.
- v. A detailed description of methodology for determination of the operating rate of the affected units during the period of testing, with supporting information.
- vi. Detailed description of operating conditions during emission testing, including:
 - A. Operating information for the affected units; and
 - B. Operating information for the scrubber, i.e., type of scrubbant used, scrubbant flow rate, scrubbant pH, and other relevant operating parameters of the control system.
- vii. The monitored data for scrubbant flow rate and pH during the test and the proposed OPLs for these parameters, with supporting documentation and analysis.
- viii. Data and calculations, including copies of all raw data sheets and records of laboratory analyses, sample calculations, and data on equipment calibration.

7. Monitoring Requirements

- a. The Permittee shall install, calibrate, maintain and operate continuous monitoring systems for the affected scrubber for the following parameters. These monitoring devices shall take measurements at least every minute and record data every minute and hourly average values for the monitored parameters.:
 - i. Scrubbant flow rate, i.e. liquid flow rate into the scrubber (gallons/minute); and
 - ii. Scrubbant pH, as measured in scrubbant flow out of the scrubber.
- b. These monitoring devices shall be installed, calibrated and maintained according to vendor's specifications and instructions.
- c. The Permittee shall maintain records for the monitoring systems including:
 - i. Records of the data collected by the monitoring systems. For this purpose, records shall be manually recorded at least twice per shift if automatic recording device(s) are not in service for more than eight hours.

- ii. Records identifying periods of time other than routine calibration when data was not collected.

8. Recordkeeping Requirements

- a. The Permittee shall maintain a file containing the following information related to operation and emissions of the affected scrubber:
 - i. Written operating procedures for the affected scrubber, which procedures shall include the applicable values for the OPLs and the target values or ranges for normal scrubbant flow rate, minimum pH, maximum pH and other operating parameters of the scrubber.
 - ii. Written inspection and maintenance procedures for the affected scrubber.
- b. The Permittee shall keep operation and maintenance records for the affected scrubber that include the following information:
 - i. Periods when the scrubber was not operating or not operating properly, with date, time, duration, description and explanation;
 - ii. Any deviation from an applicable OPL with date, time, duration, description and explanation; and
 - iii. Maintenance and repair activities conducted for this scrubber, with date, description and explanation.
- c. The Permittee shall maintain records of amount of time the affected scrubber was not operating or not operating properly (hours/month and hours/year), with explanation.
- d. The Permittee shall maintain a file containing the following information related to SO₂ emissions, with supporting documentation and calculations:
 - i. To address compliance with the hourly limits in Condition 5(a), determinations of the maximum overall emissions rates of the affected units (pounds/hour, total) with emissions controlled by the affected scrubber and during periods of time when the scrubber was not operating or not operating properly.
 - ii. A demonstration that each affected unit complies with 35 IAC 214.301, which provides that no person shall cause or allow emission of SO₂ into the atmosphere from any process emission source to exceed 2000 ppm.
- e. To address compliance with the annual limits in Condition 5(a), the Permittee shall maintain the following records:
 - i. Records of the operation of the affected units as needed to reasonably determine the SO₂ emissions of the affected unit.

- ii. Records of the overall emissions of SO₂ of the affected units (tons/month and tons/year, with supporting documentation and calculations).

9. Records Retention

- a. The Permittee shall retain all records required by this permit at the source for at least five years, at a location where the records are readily accessible for inspection by the Illinois EPA.
- b. The Permittee shall make all records required by this permit available for inspection at the source by the Illinois EPA, providing copies of records to Illinois EPA upon request. For this purpose, the Permittee may keep records in a computerized data system, provided that, upon request by Illinois EPA during the source's normal working hours, requested information is retrieved and available prior to inspection completion to the Illinois EPA.

10. Reporting Requirements

- a. The Permittee shall notify the Illinois EPA within 15 days of the following dates;
 - i. The date that the affected scrubber is initially operated to control an affected unit, which notification shall also include the planned schedule for the shakedown of the affected scrubber.
 - ii. The date that shakedown of the affected scrubber is completed.
- b. The Permittee shall notify the Illinois EPA of deviations from the requirements of this permit within 30 days of such occurrence. Reports shall describe the deviation, the probable cause of such deviation, the corrective actions taken, and any preventive measures taken.

11. Addresses for Reports and Notifications

- a. General. A paper copy of all reports and notifications required by this permit shall be submitted to the Illinois EPA at the following address and reference the ID No. for the source (115015ABX):

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

- b. Emission Testing and Continuous Monitoring Systems. Required reports and notifications concerning emission testing and

continuous monitoring systems shall also be submitted to
EPA.BOA.SMU@Illinois.gov using the State of Illinois File
Transfer website: <http://filet.illinois.gov> and reference the ID
No. for the source.

12. Authorization to Operate

The Permittee may operate the affected units with emissions controlled by the affected scrubber under this construction permit until this scrubber is addressed in a revised CAAPP permit for the source. This condition supersedes Standard Condition 6.

Please note that this permit has been revised at the request of the Permittee to increase the permitted emissions of operations in the corn wet mill served by a recently completed SO₂ scrubber installation. This installation will not be serving as a Supplemental Environmental Project for SO₂ emissions as was originally planned.

If you have any questions on this permit, please call Kevin Hecht at 217/782-7088.

Raymond E. Pilapil
Manager, Permit Section
Bureau of Air

REP:KTH:jlp



STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
P. O. BOX 19506
SPRINGFIELD, ILLINOIS 62794-9506

**STANDARD CONDITIONS FOR CONSTRUCTION/DEVELOPMENT PERMITS
ISSUED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY**

July 1, 1985

The Illinois Environmental Protection Act (Illinois Revised Statutes, Chapter 111-1/2, Section 1039) authorizes the Environmental Protection Agency to impose conditions on permits which it issues.

The following conditions are applicable unless superseded by special condition(s).

1. Unless this permit has been extended or it has been voided by a newly issued permit, this permit will expire one year from the date of issuance, unless a continuous program of construction or development on this project has started by such time.
2. The construction or development covered by this permit shall be done in compliance with applicable provisions of the Illinois Environmental Protection Act, and Regulations adopted by the Illinois Pollution Control Board.
3. There shall be no deviations from the approved plans and specifications unless a written request for modification, along with plans and specifications as required, shall have been submitted to the Agency and a supplemental written permit issued.
4. The Permittee shall allow any duly authorized agent of the Agency upon the presentation of credentials, at reasonable times:
 - a. to enter the Permittee's property where actual or potential effluent, emission or noise sources are located or where any activity is to be conducted pursuant to this permit,
 - b. to have access to and copy any records required to be kept under the terms and conditions of this permit,
 - c. to inspect, including during any hours of operation of equipment constructed or operated under this permit, such equipment and any equipment required to be kept, used, operated, calibrated and maintained under this permit,
 - d. to obtain and remove samples of any discharge or emission of pollutants, and
 - e. to enter and utilize any photographic, recording, testing, monitoring or other equipment for the purpose of preserving, testing, monitoring, or recording any activity, discharge, or emission authorized by this permit.
5. The issuance of this permit:
 - a. shall not be considered as in any manner affecting the title of the premises upon which the permitted facilities are to be located,
 - b. does not release the Permittee from any liability for damage to person or property caused by or resulting from the construction, maintenance, or operation of the proposed facilities,
 - c. does not release the Permittee from compliance with the other applicable statutes and regulations of the United States, of the State of Illinois, or with applicable local laws, ordinances and regulations,
 - d. does not take into consideration or attest to the structural stability of any units or parts of the project, and

- e. in no manner implies or suggests that the Agency (or its officers, agents or employees) assumes any liability, directly or indirectly, for any loss due to damage, installation, maintenance, or operation of the proposed equipment or facility.
- 6.
- a. Unless a joint construction/operation permit has been issued, a permit for operation shall be obtained from the Agency before the equipment covered by this permit is placed into operation.
 - b. For purposes of shakedown and testing, unless otherwise specified by a special permit condition, the equipment covered under this permit may be operated for a period not to exceed thirty (30) days.
7. The Agency may file a complaint with the Board for modification, suspension or revocation of a permit:
- a. upon discovery that the permit application contained misrepresentations, misinformation or false statements or that all relevant facts were not disclosed, or
 - b. upon finding that any standard or special conditions have been violated, or
 - c. upon any violations of the Environmental Protection Act or any regulation effective thereunder as a result of the construction or development authorized by this permit.