

Enclosure 2

Tate & Lyle – South

Revised 2010 – 2014 Annual Emission

Statements and Supporting

Documentation

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TATE & LYLE

TATE & LYLE
30 East Delaware Street
Indianapolis, IN 46204
USA
Tel: (317) 424-4611
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www.tateandlyle.com

December 22, 2015

Via Email: mderf@idem.IN.gov

Mr. Mark Derf
Section Chief – Technical Support and Modeling
Indiana Department of Environmental Management
Office of Air Quality
100 North Senate Avenue
Indianapolis, Indiana 46206-2251

Re: Rationale for the Recalculation of SO₂ Emissions Reported in AERs
Tate & Lyle Ingredients Americas
Lafayette, Indiana

Dear Mark:

Tate & Lyle's corn wet milling plant located in Lafayette, Indiana ("Lafayette South") utilizes a stoker-type coal boiler ("Riley Coal Boiler") to provide steam to plant operations. Additionally, up until early December 2015, the boiler exhaust was routed to an electrostatic precipitator ("ESP") for particulate matter control. A portion of the exhaust from the ESP was routed to two co-product dryers (Gluten Dryer and Fiber Dryer) where the heat in the exhaust gas was used to dry co-products (gluten and fiber). The portion of the exhaust that was not routed to the boilers was discharged directly to atmosphere. Both dryers are equipped with pH-controlled scrubbers, so any SO₂ in the boiler exhaust was controlled in these scrubbers. Beginning in early December 2015, utilizing a portion of the boiler exhaust to dry co-products was discontinued. This was because of a change in the configuration of the co-product drying systems at the plant. The exhaust from all of the plant's co-product dryers are now routed to three new regenerative thermal oxidizers ("RTO") for VOC and CO emissions control. The use of boiler exhaust was discontinued because of the detrimental impact on the RTOs of the boiler exhaust. To offset the loss of boiler exhaust SO₂ control provided by the dryers' scrubbers, a pH-controlled scrubber was installed at the outlet of the ESP. In the current configuration, all SO₂ emissions in the boiler exhaust are controlled utilizing the new scrubber. Figure 1 provides a block flow diagram of the pre-December 2015 boiler/dryer configuration.

In conjunction with the RTO project and the "inclusion" criteria for the new 1-hour SO₂ NAAQS, Tate and Lyle reviewed the methodology used to calculate SO₂ emissions associated with the

Riley Coal Boiler and subsequently reported in the plant's Annual Emissions Reports ("AER"). The following are the results of that review.

The AER calculation methodology used the following assumptions (the same assumptions that have been used since the initial AER submitted in 1999). They were as follows.

1. All boiler exhaust is routed to the two co-product dryers.
2. The SO₂ removal efficiency of the dryers' scrubbers is 50%.
3. The 50% control was chosen since all exhaust is not routed to the dryers (i.e., when the dryers are not operational, while the actual removal efficiency of the scrubbers is between 85% and 90%).

Review of these assumptions indicates that the more accurate assumptions would be:

1. Historically, 85% of the boiler exhaust is routed to the co-product dryers. This is based on damper position and plenum chamber temperature data.
2. The SO₂ removal efficiency of the dryers' scrubbers is 85%.

This is still a conservative approach to calculating emissions from coal combustion, since SO₂ emissions are also reported from the co-product dryers (there is SO₂ present in the dryer exhaust attributed to the process). So, in essence, some SO₂ emissions are being double counted.

Using these assumptions, the SO₂ emissions from the boiler for the period 2010 through 2014 were recalculated. The following are the results.

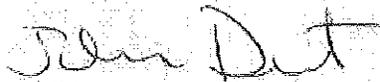
Year	Historical		Recalculated	
	Total Site SO ₂ Emissions (tons)	Coal Boiler SO ₂ Emissions (tons)	Total Site SO ₂ Emissions (tons)	Coal Boiler SO ₂ Emissions (tons)
2010	2135.04	1761.24	1351.28	977.49
2011	2296.50	1924.83	1369.90	998.23
2012	2056.23	1679.96	1308.64	932.38
2013	2089.92	1723.30	1323.05	956.43
2014	2614.30	2253.39	1611.54	1250.63

The plant has revised and recertified the 2010 through 2014 AERs to reflect the recalculated SO₂ emissions.

Page 3

Please contact me if you have any questions regarding this information. My email is john.dent@talcaandlyle.com and my telephone number is 217-421-2655.

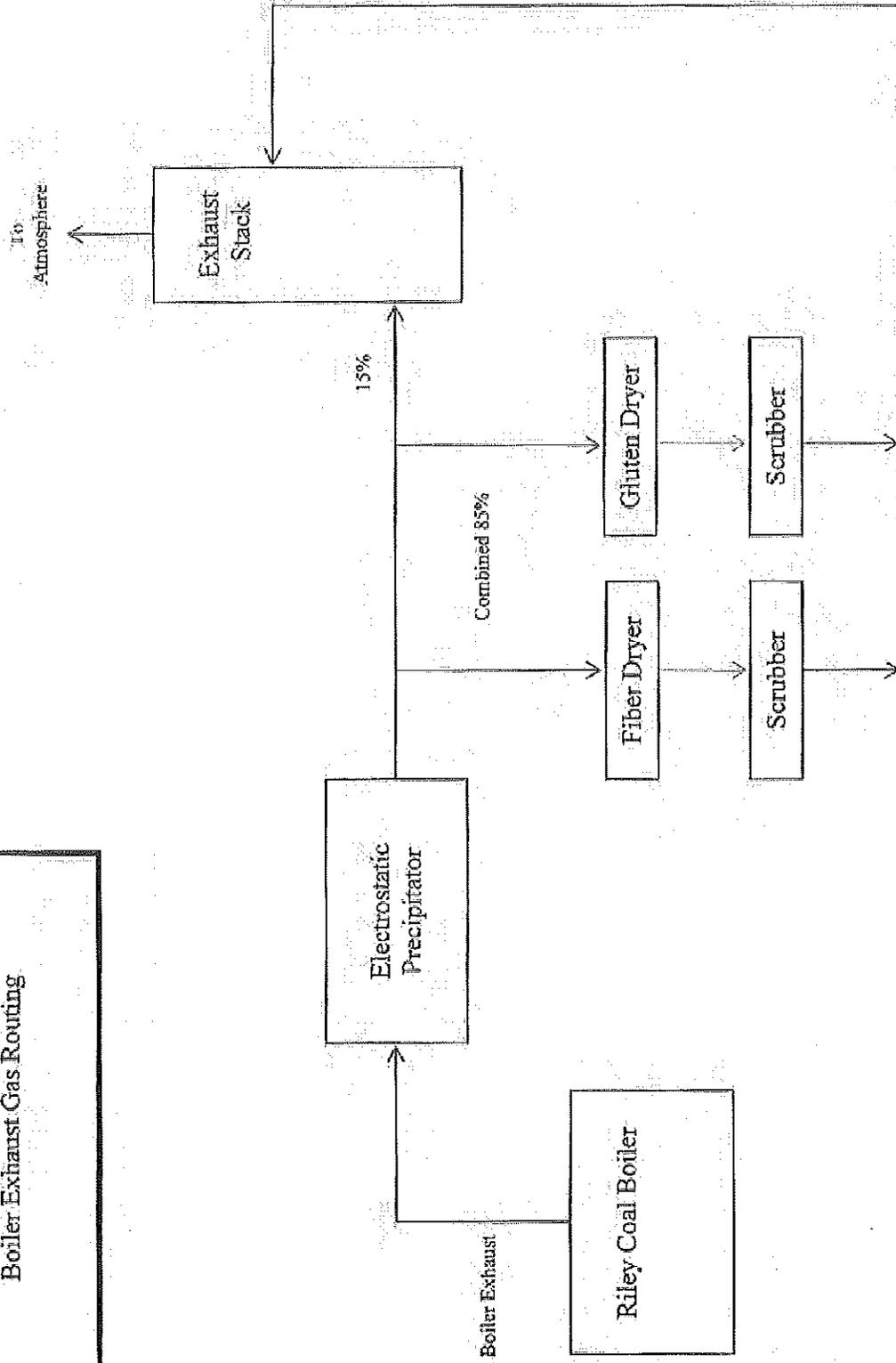
Respectfully,

A handwritten signature in cursive script that reads "John Dent".

John Dent
Sr. Environmental Engineer

c: Brant Hamby – Lafayette South

Figure 1
Boiler Exhaust Gas Routing





AES-01

AIR EMISSION STATEMENT CERTIFICATION

State Form 52052 (3-05)



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Instructions:

- This is a required form for each air emission statement as well as any modifications.
- The certification supplied with a source's permit may be used in lieu of this form
- "Responsible Official" has the same meaning as defined in 326 IAC (34), and is usually designated in the General Information section of the permit.

IDEM - Office of Air Quality
 Technical Support and Modeling Section - Mail Code 61-51
 100 N. Senate Avenue
 Indianapolis, IN 46204-2251
 Telephone: (317) 233-0178 or
 Toll Free: 1-800-451-6027 x30178 (within Indiana)
<http://www.emissions.IN.gov/>

Part A: Contact Information

Part A is intended to provide basic information about the company submitting an Air Emission Statement and information on the Air Emission Statement preparer in case there is a question about the report.

1. Company Name: Tate & Lyle Ingredients Americas LLC So		2. Source ID: 1815700033	
3. Mailing Address:			
City:	State:	ZIP Code:	
4. Name of Emission Statement Preparer: Brant		Hamby	
5. Title of Emission Statement Preparer (optional): Envionmental Mgr.			
6. Telephone Number: (765)-477-5319		7. Facsimile Number: (optional):	
8. Electronic Mail Address (optional): brant.hamby@tateandlyle.com			

Part B: Emissions Summary

Part B is intended to aid in the review of data and to collect information about billable hazardous air pollutants

Emissions Statement Pollutants (Plant Wide)

Emissions Statement Pollutants (Plant Wide)	Tons Emitted
Ammonia(NH3)	2.9970
Carbon Monoxide (CO)	258.3750
Lead (PB)	0.0205
Nitrogen Dioxide (NO2)	508.1100
Particulate Matter <10 Microns (PM10)	453.9510
Particulate Matter 2.5(PM25-PRI)	93.1840
Sulfur Dioxide (SO2)	1351.3100
Volatile Organic Compounds (VOC)	931.3400



Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)

Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)	Tons Emitted
Hydrochloric Acid (CAS# 7647010)	1.9231
Hydrofluoric Acid (CAS# 7664393)	4.6900
Mercury and Mercury Compounds (CAS#7439976 and TRI ID N458)	0.0022

Part C: Signature of Responsible Official

I hereby certify that the information in this emission statement is accurate based on reasonable estimates using data available to the preparer and on a reasonable inquiry into records and persons responsible for the operation of the source, and is true, accurate, and complete.

Daniel M. Kirk
 Name of Responsible Official (typed or printed)

[Signature]
 Signature of Responsible Official

Plant Manager
 Title of Responsible Official

12/21/2015
 Date (month, day, year)

Report for 2010



AES-01

AIR EMISSION STATEMENT-CERTIFICATION

State Form 52052 (3-05)



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5. Title of Emission Statement Preparer (optional): Environmental Mgr.			
6. Telephone Number: (765)-477-5319		7. Facsimile Number (optional):	
8. Electronic Mail Address (optional): brant.hamby@tateandlyle.com			

Part B: Emissions Summary

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Emissions Statement Pollutants (Plant Wide)

	Tons Emitted
Ammonia (NH3)	2.7380
Carbon Monoxide (CO)	248.9140
Lead (PB)	0.0155
Nitrogen Dioxide (NO2)	491.2900
Particulate Matter <10 Microns (PM10)	452.9730
Particulate Matter 2.5 (PM2.5-PRI)	92.7500
Sulfur Dioxide (SO2)	1369.9200
Volatile Organic Compounds (VOC)	906.1100



Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)

	Tons Emitted
Hydrochloric Acid (CAS# 7647010)	1.8998
Hydrofluoric Acid (CAS# 7664393)	4.6200
Mercury and Mercury Compounds (CAS#7439976 and TRI ID N458)	0.0024

Part C: Signature of Responsible Official

I hereby certify that the information in this emission statement is accurate based on reasonable estimates using data available to the preparer and on a reasonable inquiry into records and persons responsible for the operation of the source, and is true, accurate, and complete.

Daniel M. Kirk
 Name of Responsible Official (typed or printed)

[Signature]
 Signature of Responsible Official

Plant Manager
 Title of Responsible Official

12/21/2015
 Date (month, day, year)

Report for 2011



AES-01

AIR EMISSION STATEMENT CERTIFICATION



State Form 52052 (3-05)

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

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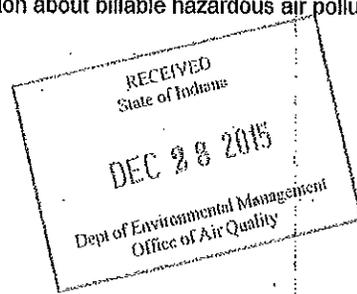
1. Company Name: Tate & Lyle Ingredients Americas LLC So		2. Source ID: 1815700033	
3. Mailing Address:			
City:	State:	ZIP Code:	
4. Name of Emission Statement Preparer: Brant		Hamby	
5. Title of Emission Statement Preparer (optional): Environmental Mgr.			
6. Telephone Number: (765)-477-5319		7. Facsimile Number (optional):	
8. Electronic Mail Address (optional): brant.hamby@tateandlyle.com			

Part B: Emissions Summary

Part B is intended to aid in the review of data and to collect information about billable hazardous air pollutants

Emissions Statement Pollutants (Plant Wide)

	Tons Emitted
Ammonia (NH3)	2.9520
Carbon Monoxide (CO)	261.6910
Lead (PB)	0.0205
Nitrogen Dioxide (NO2)	515.0800
Particulate Matter <10 Microns (PM10)	454.5050
Particulate Matter 2.5 (PM2.5-PRI)	269.2170
Sulfur Dioxide (SO2)	1308.6600
Volatile Organic Compounds (VOC)	806.2200



Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)

	Tons Emitted
Hydrochloric Acid (CAS# 7647010)	1.7414
Hydrofluoric Acid (CAS# 7664393)	3.7000
Mercury and Mercury Compounds (CAS#7439976 and TRI ID N458)	0.0022

Part C: Signature of Responsible Official

I hereby certify that the information in this emission statement is accurate based on reasonable estimates using data available to the preparer and on a reasonable inquiry into records and persons responsible for the operation of the source, and is true, accurate, and complete.

Daniel M. Kirk

Name of Responsible Official (typed or printed)

Plant Manager

Title of Responsible Official

[Signature]
Signature of Responsible Official

12/21/2015
Date (month, day, year)

Report for 2012

2012



AES-01

AIR EMISSION STATEMENT CERTIFICATION

State Form 52052 (3-05)



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Instructions:

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ZIP Code:	
4. Name of Emission Statement Preparer: Brant	Hamby
5. Title of Emission Statement Preparer (optional): Envionmental Mgr.	
6. Telephone Number: (765)-477-5319	7. Facsimile Number: (optional):
8. Electronic Mail Address (optional): brant.hamby@tateandlyle.com	

Part B: Emissions Summary

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Emissions Statement Pollutants (Plant Wide)

	Tons Emitted
Ammonia(NH3)	2.9270
Carbon Monoxide (CO)	256.0850
Lead (PB)	0.0205
Nitrogen Dioxide (NO2)	507.5500
Particulate Matter <10 Microns (PM10)	453.9410
Particulate Matter 2.5(PM25-PRI)	268.6810
Sulfur Dioxide (SO2)	1323.0700
Volatile Organic Compounds (VOC)	786.4500



Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)

	Tons Emitted
Hydrochloric Acid (CAS# 7647010)	1.6909
Hydrofluoric Acid (CAS# 7664393)	3.6000
Mercury and Mercury Compounds (CAS#7439976 and TRI ID N458)	0.0022

Part C: Signature of Responsible Official

I hereby certify that the information in this emission statement is accurate based on reasonable estimates using data available to the preparer and on a reasonable inquiry into records and persons responsible for the operation of the source, and is true, accurate, and complete.

Daniel M. Kirk
Name of Responsible Official (typed or printed)

Plant Manager
Title of Responsible Official

[Signature]
Signature of Responsible Official

12/21/2015
Date (month, day, year)

Report for 2013



AES-01
AIR EMISSION STATEMENT CERTIFICATION
 State Form 52052 (3-05)
 INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IDEM - Office of Air Quality
 Technical Support and Modeling Section - Mail Code 61-81
 100 N. Senate Avenue
 Indianapolis, IN 46204-2251
 Telephone: (317) 233-0178 or
 Toll Free: 1-800-451-6027 x30178 (within Indiana)
<http://www.emissions.IN.gov/>

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Part A: Contact Information

Part A is intended to provide basic information about the company submitting an Air Emission Statement and information on the Air Emission Statement preparer in case there is a question about the report.

1. Company Name: ESSROC Cement Corp	2. Source ID: 1801700005
3. Mailing Address:	
City:	State:
ZIP Code:	
4. Name of Emission Statement Preparer: Kimberly Cottrell	
5. Title of Emission Statement Preparer (optional): Senior Consultant	
6. Telephone Number: (317)-451-8100	7. Facsimile Number (optional):
8. Electronic Mail Address (optional): kcottrell@trinityconsultants.com	

Part B: Emissions Summary

Part B is intended to aid in the review of data and to collect information about billable hazardous air pollutants.

Emissions Statement Pollutants (Plant Wide)	Tons Emitted
Carbon Monoxide (CO)	114.7790
Lead (Pb)	0.0081
Nitrogen Dioxide (NO2)	537.8800
Primary PM Condensable Only (All Less Than 1 Micron)(PM-CON)	247.8451
Primary PM10, Filterable Portion Only(PM10-FIL)	169.2634
Primary PM2.5, Filterable Portion Only(PM25-FIL)	137.6313
Sulfur Dioxide (SO2)	269.8900
Volatile Organic Compounds (VOC)	20.6150
Part 70 Permit Billable Hazardous Air Pollutants (Plant Wide)	
Hydrochloric Acid (CAS# 7647010)	38.2154
Mercury and Mercury Compounds (CAS#7439976 and TRI ID N458)	0.0007
Methyl Chloroform or 1,1,1-Trichloroethane (CAS# 71556)	0.0040
Methylene Chloride or Dichloromethane (CAS# 75092)	0.0384
Tetrachloroethylene (Perc) (CAS#127184)	0.0096

RECEIVED
 State of Indiana
 NOV 24 2015
 Dept of Environmental Management
 Office of Air Quality

Part C: Signature of Responsible Official

I hereby certify that the information in this emission statement is accurate based on reasonable estimates using data available to the preparer and on a reasonable inquiry into records and persons responsible for the operation of the source, and is true, accurate, and complete.

Tracy Crowther
 Name of Responsible Official (typed or printed)
Tracy Crowther
 Signature of Responsible Official

Plant Director
 Title of Responsible Official
11/20/2015
 Date (month, day, year)

2014

