

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
AMENDMENTS TO) R18-20
35 ILL. ADM. CODE 225.233) (Rulemaking – Air)
MULTI-POLLUTANT STANDARDS)
(MPS))

NOTICE OF FILING

PLEASE TAKE NOTICE that I have filed with the Illinois Pollution Control Board the Additional Pre-Filed Questions of the Illinois Attorney General's Office for Dynegey's Witnesses, a copy of which is hereby served upon you.

Respectfully submitted,

PEOPLE OF THE STATE OF ILLINOIS,

BY: LISA MADIGAN,
Attorney General of the State of Illinois

BY: /s/ James P. Gignac
JAMES P. GIGNAC
Environmental and Energy Counsel
Illinois Attorney General's Office
69 W. Washington St., 18th Floor
Chicago, IL 60602
(312) 814-0660
jgignac@atg.state.il.us

Dated: March 2, 2018

SERVICE LIST

Don Brown, Assistant Clerk
Mark Powell, Hearing Officer
Marie Tipsord, Hearing Officer
Illinois Pollution Control Board
100 W. Randolph Street, Suite 11-500
Chicago, IL 60601
don.brown@illinois.gov
Mark.Powell@Illinois.Gov
Marie.Tipsord@Illinois.Gov

Amy C. Antonioli
Joshua R. More
Ryan Granholm
Caitlin Ajax
Schiff Hardin LLP
233 S. Wacker Drive, Suite 6600
Chicago, IL 60606
312-258-5769
aantonioli@schiffhardin.com
jmore@schiffhardin.com
rgranholm@schiffhardin.com
cajax@schiffhardin.com

Greg Wannier
Sierra Club Environmental Law Program
2101 Webster Street, Suite 1300
Oakland, CA 94612
greg.wannier@sierraclub.org

Gina Roccaforte
Dana Vetterhoffer
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276
gina.roccaforte@illinois.gov
dana.vetterhoffer@illinois.gov

Eric Lohrenz
Office of General Counsel
Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702-1271
217-782-1809
Eric.lohrenz@illinois.gov

Katherine D. Hodge
HeplerBroom LLC
4340 Acer Grove Drive
Springfield, IL 62794-9276
khodge@heplerbroom.com

Justin Vickers
Jean-Luc Kreitner
Environmental Law & Policy Center
35 E. Wacker Dr., Suite 1600
Chicago, IL 60601
jvickers@elpc.org
jkreitner@elpc.org

Faith E. Bugel
1004 Mohawk
Wilmette, IL
fbugel@gmail.com

Katy Khayyat
Dept. of Commerce and Economic Opportunity
Small Business Office
500 East Monroe Street
Springfield, IL 62701
Katy.Khayyat@illinois.gov

CERTIFICATE OF SERVICE

I, JAMES P. GIGNAC, an attorney, do certify that on March 2, 2018, I caused the Additional Pre-Filed Questions of the Illinois Attorney General's Office for Dynegy's Witnesses and the Notice of Filing to be served upon the persons listed in the attached Service List by email for those who have consented to email service and by U.S. Mail for all others.

/s/ James P. Gignac
JAMES P. GIGNAC

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
AMENDMENTS TO 35 ILL. ADM.) R18-20
) (Rulemaking-Air)
CODE 225.233, MULTI-POLLUTANT)
STANDARDS)

**ADDITIONAL PRE-FILED QUESTIONS OF THE ILLINOIS
ATTORNEY GENERAL'S OFFICE FOR DYNEGY'S WITNESSES**

The Illinois Attorney General's Office, on behalf of the People of the State of Illinois ("People"), hereby files its additional pre-filed questions for Dynegy's witnesses in this matter, as provided by the Hearing Officer Order issued on January 29, 2018. The People submit the following questions:

1. With respect to coal ash (referred to by Dynegy as "coal combustion residuals") discussed at page 2 and Exhibit A of Dynegy's Response to Questions dated February 16, 2018, does Dynegy receive payments from entities that use coal ash from Dynegy's plants? If coal ash is not sold to someone else or used by Dynegy in some way, does Dynegy incur costs for storing or disposing of the ash?
2. With respect to the plants that Dynegy says allow public access in Exhibit A, does Dynegy own the property on which the cooling ponds and lakes occur?
3. On page 2 of its responses, Dynegy states that certain units were selected by Dynegy to "bid into MISO as 'must-run' units." For clarification, these units were not being bid because MISO had designated operation of them as being necessary to maintain reliability, correct?
4. Likewise, the bar chart provided in Exhibit B states that the units were "Dispatched as Must-Run," but that refers to Dynegy's need for the plants to run to offset the operations of less-controlled plants, not to MISO's need for the units to operate for purposes of grid reliability, correct?
5. The bar chart in Exhibit B refers to the number of hours that Dynegy bid the plants into the market at an amount below their marginal cost of operation, not to the number of hours that Dynegy received a payment for a megawatt-hour at or below its marginal cost of operation, correct? In other words, Dynegy could bid in a unit at a loss but end up being paid in amounts above the marginal cost of operation due to clearing prices in the market, correct?

6. Related to the above question, could Dynegy please explain for the Board why the bar chart in Exhibit B states that Coffeen Unit 2 was bid by Dynegy below cost 90% of the time in 2017, yet the table says that it operated below cost 33 out of 365 days in 2017 (9%)?

7. If a unit operated at a loss for just 1 hour out of a 24-hour period, did Dynegy include that among the number of days the unit operated at a loss in the table in Exhibit B?

8. Why is the bar chart in Exhibit B expressed in hours but the table is in days?

9. Does calculation of a unit's "marginal cost" include a category of profit to Dynegy?

10. In the January 12, 2018, responses of Rick Diericx to the Illinois Pollution Control Board's pre-filed questions, he testified as follows (page 1):

While our coal contracts for the MPS units currently are for low sulfur coal and we currently plan to continue to burn low sulfur coal, Dynegy would oppose a requirement to burn low sulfur coal at all MPS units. Such a requirement would unnecessarily restrain operational flexibility and is unnecessary for air quality compliance purposes.

Attached as Attachment 1 is a letter received by the Illinois Attorney General's Office. Did Dynegy send this letter to the Illinois Attorney General's Office? Is it an accurate description of Dynegy's "unknowingly" burning higher sulfur coal at the Baldwin plant? Is it correct that, when Dynegy "unknowingly" burned higher sulfur coal at the Baldwin plant, that action very quickly caused the plant's emission rate to approach the emission limit for SO₂ required by the Consent Decree referenced in the letter?

Dated: March 2, 2018

Respectfully submitted,

PEOPLE OF THE STATE OF ILLINOIS,
by LISA MADIGAN,
Attorney General of the State of Illinois,

MATTHEW J. DUNN, Chief
Environmental Enforcement/
Asbestos Litigation Division

By: /s/ James P. Gignac
JAMES P. GIGNAC
Environmental and Energy Counsel
Illinois Attorney General's Office
69 W. Washington St., Suite 1800
Chicago, Illinois 60602
(312) 814-0660
jgignac@atg.state.il.us

Of counsel:

ANDREW ARMSTRONG
Chief, Environmental Bureau/Springfield
(217) 782-7968
aarmstrong@atg.state.il.us

STEPHEN J. SYLVESTER
Senior Assistant Attorney General
(312) 814-2087
ssylvester@atg.state.il.us

Attachment 1



DYNEGY MIDWEST GENERATION, LLC
1500 Eastport Plaza Drive
Collinsville, IL 62234
618.343.7837

VIA UPS

December 6, 2017

TO: Consent Decree Distribution List

RE: Notice of Force Majeure Event Concerning Baldwin Unit 1
United States, et al. v. Illinois Power Company, No. 3:99-cv-833-MJR
Consent Decree

Dear Plaintiffs:

In accordance with Paragraph 138 of the Consent Decree, Dynegy Midwest Generation, LLC (DMG) hereby provides notice that Baldwin Unit 1 experienced Force Majeure Events, including Malfunctions, that led to a reportable SO₂ emissions rate value above the SO₂ 30-Day Rolling Average Emission Rate limit of 0.100 lb/mmBtu required by Consent Decree Paragraph 66. The reportable SO₂ 30-day Rolling Average Emissions Rate value¹ in excess of the 0.100 lb/mmBtu limit occurred on November 16, 2017. The reportable SO₂ 30-day Rolling Average Emission Rate was back below the 0.100 lb/mmBtu limit on November 17, 2017. In accordance with Consent Decree Paragraph 4.a's definition of "30-Day Rolling Average Emission Rate," emissions and BTU inputs that occur during a period of Malfunction shall be excluded from the calculation of the 30-Day Rolling Average Emission Rate if DMG provides notice of the Malfunction to EPA and the State in accordance with Consent Decree Paragraph 138. As identified below, with the exclusion of the emissions and BTU inputs that occurred during the Malfunctions of the boiler feed pumps during startup of the Baldwin Unit 1 spray dryer absorber on November 16, Baldwin Unit 1 met the 30-day Rolling Average Emission Rate limit for SO₂.

Consent Decree Requirements

Paragraph 137 of the Consent Decree defines a "Force Majeure Event" to mean "an event that has been or will be caused by circumstances beyond the control of DMG, its contractors, or any entity controlled by DMG that delays compliance with any provision of this Consent Decree . . . despite DMG's best efforts to fulfill the obligation." Paragraph 138 of the Consent Decree further requires DMG to "notify the Plaintiffs in writing as soon as practicable, but in no event later than fourteen (14) business days following the date DMG first knew, or by the exercise of due diligence should have known" that a particular event caused a violation. DMG's notice is required to contain a description of: (i) the cause(s) of the violation and how long DMG expects it to last, (ii) the measures taken and to be taken by DMG to minimize the violation and when those measures were taken (or will be taken), and (iii) DMG's rationale for attributing the delay to a Force Majeure Event. *Id.* DMG is also required to adopt all reasonable measures to avoid or minimize the violation. Paragraph 144 of the Consent Decree identifies

¹ SO₂ emissions are measured with continuous emission monitors (CEM) in accordance with the requirements of the Acid Rain Program, 40 CFR Part 75. See Consent Decree ¶82. As explained *infra*, for purpose of reporting, the Part 75 regulations require the substitution of measured values when primary measured data is missing or if the Full Scale Range (FSR) of the analyzer is exceeded. Substitution often results in reported values that are much greater than the actual measured value.

"Malfunction of a Unit or emission control device" as a potential Force Majeure Event, and Consent Decree Paragraph 25 defines "Malfunction" to mean any "sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not Malfunctions." Finally, the Consent Decree (¶142) assigns to DMG the burden of showing that it has given timely notice and that the delay is a result of the Force Majeure Event.

DMG sets forth below the information to demonstrate that Baldwin Unit 1's reportable SO₂ 30-Day Rolling Average Emission Rate value slightly above the 0.100 lb/mmBtu limit was caused by Force Majeure Events. The date on which DMG first knew, or by the exercise of due diligence should have known, that the Force Majeure Events caused the exceedance was November 16, 2017. Accordingly, the deadline for submitting this notice (i.e., 14 business days) would be December 7, 2017, and this notice is submitted timely (see ¶168).

(i) The Causes and Length of the Violation

Two related force majeure events caused Baldwin Unit 1's reportable SO₂ 30-day Rolling Average Emissions Rate value to exceed the 0.100 lb/mmBtu limit on November 16, 2017 (i.e., on November 16, the reportable SO₂ 30-Day Rolling Average Emission Rate reached 0.101 lb/mmBtu). The reportable SO₂ 30-day Rolling Average Emission Rate returned to below the 0.100 lb/mmBtu limit on November 17, 2017. See Attachment A. Thus, the duration of the violation was one 30-day rolling period (i.e., October 12, 2017 to November 16, 2017).

The first force majeure event concerned two related circumstances beyond DMG's control that, taken together, delayed the delivery of low sulfur Powder River Basin (PRB) coal to the station and, in turn, resulted in DMG's unknowing use in Baldwin Unit 1 of residual, historic high sulfur coal present in the station's coal pile. Specifically, a culvert under railroad tracks used to deliver coal by train to the station failed and railroad delivery schedules prevented rescheduling of PRB shipments to the station. Due to the occurrence of these related circumstances, the station's coal pile was reduced by 164,000 tons during the relevant period, the equivalent of about ten trains of coal, which resulted in a severely depleted coal inventory. More specifically, on October 25, DMG discovered a failed culvert under the railroad tracks and, as safety precaution, removed the railroad tracks from service. The culvert had never failed previously. An independent inspection from the Canadian National track inspector confirmed that the tracks were unsafe and that the culvert needed repair. The culvert was repaired and the railroad tracks were returned to service on October 28. Although several deliveries of PRB coal arrived once the culvert was replaced, a previously scheduled maintenance outage of the train coal dumper prevented the delivery of PRB coal from November 6th thru November 9th. DMG realized that the station's supply of PRB coal was low and attempted to delay the planned train car dumper maintenance and schedule additional PRB deliveries; however, because the railroad had already diverted the trains based on the scheduled dumper maintenance outage, it was impossible to redirect the trains with PRB coal to Baldwin quickly. Thus, DMG performed the planned train dumper maintenance as had been scheduled. After completion of the train coal dumper maintenance outage on November 9, several trains of PRB coal were delivered before November 16.

Due to the low inventory of PRB coal, the station needed to take coal from its coal pile. On November 10, 2017, DMG unknowingly tapped residual, high sulfur Illinois coal remaining in the coal pile base, which was fed into Baldwin Unit 1's coal bunker.² The first indication of the presence of high sulfur coal

² Illinois high sulfur coal has not been delivered to the station since circa year 2000.

occurred at 2:00 pm on November 10, 2017 when the SO₂ CEMS indicated an increase in SO₂ concentration at the stack. In an effort to avoid exceeding the SO₂ 30-day rolling average limit, DMG shut down Baldwin Unit 1 on November 11, 2017 at 6:56 pm. The Unit remained off-line until low sulfur PRB coal could be delivered to the station by train and loaded directly to the Unit 1 coal bunkers, i.e., new train deliveries of PRB coal were the only way to ensure that only PRB coal would be loaded to the coal bunkers. Because it was apparent that higher sulfur coal was present in the coal bunker (and because there is no reasonable means to remove coal from the bunker other than through the normal method of combusting the coal) and using its best efforts to prevent exceedance of the SO₂ 30-Day Rolling Average Emission Rate limit upon restart of the Unit, DMG installed a supplemental SO₂ control system, i.e., temporary Dry Sorbent Injection (DSI), before resuming Unit 1 operation. The temporary DSI system was intended to lower the SO₂ concentration entering the SDA upon startup. DMG delayed startup of Unit 1 several days until the DSI system was installed and operational.

DMG took coal from areas of the station's coal pile that were believed to contain PRB coal. During the train car dumper maintenance outage, the SO₂ emissions were in the normal operating range. The higher SO₂ ppm readings began on November 10, one day after the completion of the dumper outage. When elevated SO₂ readings persisted into the next day (November 11), DMG shut down Unit 1 and the Unit remained out of service until enough newly delivered PRB coal was available at the station and the temporary DSI system was installed and operational.

The second force majeure event involved equipment Malfunctions that delayed timely start-up of the SDA system when Unit 1 returned to service on November 16. These Malfunctions prevented the boiler from timely reaching the proper temperature for SDA operation. Specifically, the turbine 1A and 1B Boiler Feed Pumps (BFP) failed to start during startup of the SDA. More specifically, an attempt to start the 1A BFP failed at 8:47 am and an attempt to start the 1B BFP failed at 8:59 am. Repairs to the 1A BFP relay delayed the SDA start by 82 minutes and repairs to the 1B BFP governor valves and the relay resulted in a further delay of SDA startup by 23 minutes.

The failure of the BFPs to operate in their normal or usual manner was sudden, infrequent and not reasonably preventable; the failure was not caused by poor maintenance or careless operation. A BFP Malfunction is a rare occurrence and none has occurred at Baldwin in the last few years. DMG has included BFP maintenance in recent maintenance outages at Baldwin (the BFPs are refurbished on a regular cycle to ensure reliable operation; the 1B and 1A BFPs were most recently refurbished in 2014) and the BFPs are also otherwise routinely maintained to ensure reliable operations. The total delay of the SDA startup due to the BFP Malfunctions was 105 minutes. The SDA was brought into service at 1:00 pm when the appropriate load and temperature was attained. Because these BFP Malfunctions delayed the SDA startup by 105 minutes, SO₂ emissions during the 105 minutes were higher than they would have been during a normal SDA start-up (despite operation of the temporary DSI system during these 105 minutes).

It should be emphasized that Unit 1's actual SO₂ emissions rate (versus the reported SO₂ emissions rate) did not exceed the Consent Decree 0.100 lb/mmBtu 30-Day Rolling Average Emission Rate limit. The reported value exceeded the limit because of data substitution required by the Acid Rain Program Part 75 regulations. Specifically, Part 75 requires that any value recorded over the Full Scale Range (FSR)³ must be replaced with a value 200% of the FSR value. This substitution significantly increased

³ The assignment of a FSR to an analyzer is required in Appendix A of 40 CFR Part 75. It does not reflect the physical ability of the analyzer to measure a value above the FSR. Most modern analyzers have a large range of linear measurement abilities, which often exceeds the regulatory assignment of a FSR. For example, the

the calculated amount of SO₂ that was included in Unit 1's reportable 30-day SO₂ rolling average. If actual values are used to calculate the 30-day rolling average, then the Consent Decree SO₂ limit is not exceeded. See Attachment A. The table below summarizes the results of this comparison of the actual recorded data and the reported data.

Baldwin Unit 1 (as at Nov. 16, 2017)	Heat Input 30- day (mmBtu)	SO ₂ lbs 30-day	SO ₂ Emissions Rate 30-day Rolling Average (lb/mmBtu)
Reported data calculated with substitution per 40 CFR Part 75	3,212,856	324,490	0.101
Actual recorded CEM data (no substitution)	3,212,856	307,173	0.096

The difference between the Part 75 substituted and reported SO₂ lbs and the actual recorded CEM SO₂ lbs emitted is 17,317 lbs. These extra 17,317 lbs were not released to the environment; rather, these extra SO₂ lbs included in the reportable 30-day rolling average emissions rate only reflect how 40 CFR Part 75, Appendix A section 2.1.1.5(b)(1)⁴ requires calculation of the hourly average. Because of this Part 75 requirement, the reportable SO₂ 30-day rolling average value for Baldwin Unit 1 was higher than the actual SO₂ value recorded by the CEM. Specifically, during the period when high sulfur coal was burned, 304 minutes of SO₂ values were replaced with 200% of the FSR. See Attachment B. The FSR of the SO₂ analyzer is 360 ppm. Thus, the value used in the calculations for those 304 minutes was 720 ppm. There were 10 hours during the period when high sulfur coal was burned that used the substituted value of 720 ppm in the hourly average.⁵ See Attachment C. That substitution results in the extra 17,317 pounds of SO₂ included in the calculation of the 30-day rolling average.

In addition, due to the BFP malfunctions, SO₂ emissions during the 105 minute delay in SDA startup were higher than they would have been during a normal SDA start-up. Specifically, during the hours 11:00 am and 12:00 pm on November 16, the FSR was exceeded during 28 minutes. If the startup of the SDA had proceeded normally, the SO₂ emissions would have been controlled below the FSR, avoiding the required substitution of the high values. Without the required substitution, the 30-day rolling average SO₂ value would be below the Consent Decree limit.⁶ The SO₂ 30-day rolling average with the two hours prior (i.e., 11:00 am and 12:00 pm) to the SDA startup excluded from the calculation is 0.099 lb/mmBtu. See Attachment D. Thus, but for the Malfunctions of the BFPs that occurred during startup of the SDA on November 16, Unit 1's 30-Day Rolling Average Emission Rate for SO₂ would not have exceeded the 0.100 lb/mmBtu limit.

(ii) Measures Taken by DMG to Prevent and Minimize the Violation

regulation may require an FSR of 100 ppm but the analyzer is actually capable of measuring up to 3000 ppm with excellent curve correlation coefficients.

⁴ The Clean Air Markets Division's Part 75 Emission Monitoring Policy Manual (2013) question 9.21 explains how to calculate the hourly average when the FSR is exceeded in accordance with Appendix A section 2.1.1.5.

⁵ Hourly average is calculated from the valid one minute data using 720 ppm (twice the FSR of 360 ppm) for those minutes that exceed the FSR.

⁶ The actual recorded data (prior to substitution) calculate a value below the 30-day rolling average limit. See Attachment A.

DMG used its best efforts to avoid the possibility of an exceedance and to minimize the exceedance. As explained above, in an effort to avoid exceeding the SO₂ 30-Day Rolling Average Emissions limit, DMG shut down Unit 1 on November 11, 2017. The Unit remained off-line until low sulfur PRB coal could be delivered to the station by train and loaded directly to the Unit 1 coal bunkers. Furthermore, before restarting the Unit, DMG acquired and installed a temporary DSI system and operated the DSI system during the Unit 1 restart in an effort to keep the SO₂ 30-Day Rolling Average Emission Rate value below the 0.100 lb/mmBtu limit. See Attachment E. The cost of installing and operating the DSI system was more than \$142,000, not including labor installation costs. In short, DMG used its best efforts to avoid the violation and to minimize the extent of the violation.

In addition, to avoid the potential for future recurrence of excess SO₂ emissions due to use of residual, historic high sulfur coal in the station's coal pile, DMG performed a detailed sampling survey of the coal pile base to determine the extent and location of any remaining areas of high sulfur coal. The mapping will be used to avoid those areas during future coal usage and aid in the removal of the high sulfur coal in a controlled fashion by blending low volumes with the PRB coal supply.

(iii) Rationale for Attributing the Violation to a Force Majeure Event

Failure of the railroad culvert was a sudden, infrequent and not reasonably preventable failure of equipment to operate in normal or usual manner and, together with inability to reschedule PRB rail deliveries, caused low coal inventory that was beyond the control of DMG. In addition, the failure of BFPs to start during restart of the Baldwin Unit 1 SDA on November 16, 2017 were sudden, infrequent, and not reasonably preventable failures of equipment to operate in a normal or usual manner. The Malfunctions were not caused, in whole or in part, by poor maintenance or careless operation. DMG also used its best efforts (e.g., shutting down the Unit, installing a temporary DSI system, making prompt repairs), to avoid the violation and to minimize the violation.

The events constitute Force Majeure Events caused by circumstances beyond the control of DMG. Taken together, and the Malfunctions of the BFPs during the November 16 startup of the Unit 1 SDA by itself, prevented DMG from complying with the Baldwin Unit 1 30-Day Rolling Average Emission Rate for SO₂ for the 30-day period ending on November 16, 2017.

* * * * *

December 6, 2017

Page 6 of 7

If you have any questions or need further data regarding this notification, please contact Rick Dierick, Managing Director, Environmental Compliance, at 618-343-7761.

This information was prepared either by me or under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my evaluation, or the direction and my inquiry of the person(s) who manage the system, or the person(s) directly responsible for gathering the information, I hereby certify under penalty of law that, to the best of my knowledge and belief, this information is true, accurate, and complete. I understand that there are significant penalties for submitting false, inaccurate, or incomplete information to the United States.

Sincerely,



James R. Kipp
Vice President and General Manager Plant Operations MISO
Dynergy Midwest Generation, LLC

Enclosures

cc: Executive Vice President, General Counsel & Chief Compliance Officer
Dynergy Inc.
601 Travis Street, Suite 1400
Houston, Texas 77002

December 6, 2017
Page 7 of 7

Distribution List:

Director, Air Enforcement Division
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
Ariel Rios South Building [2242A]
1200 Pennsylvania Avenue, N.W., Suite 1119
Washington, DC 20460

Regional Administrator
U.S. EPA- Region 5
77 W. Jackson St.
Chicago, IL 60604

Sam Borries, Acting Chief, OECA
U.S. EPA- Region 5
77 W. Jackson St. - AE-17J
Chicago, IL 60604

Bureau Chief
Bureau of Air
Illinois Environmental Protection Agency
1021 North Grand Avenue East, P.O. Box 19276
Springfield, Illinois 62794 9276

Bureau Chief
Environmental Bureau
Illinois Attorney General's Office
500 South Second Street
Springfield, Illinois 62706

Executive Director
Environmental Law and Policy Center of the Midwest
35 East Wacker Dr. Suite 1300
Chicago, Illinois 60601-2110

Attachment A

Day	Heat Input (mmBtu)	Part 75		Actual SO2 lbs	Actual SO2 30Day lb/mmBtu
		Reported SO2 Lbs/day	Reported SO2 30Day Lb/mmBtu		
10/12/2017	127545	9609	0.077	9609	
10/13/2017	125704	9545	0.077	9545	
10/14/2017	135973	10026	0.077	10026	
10/15/2017	123475	9583	0.077	9583	
10/16/2017	129530	9791	0.077	9791	
10/17/2017	118232	8567	0.077	8567	
10/18/2017	121255	8648	0.077	8648	
10/19/2017	131018	13937	0.078	13937	
10/20/2017	1409	461	0.078	461	
10/22/2017	2428	499	0.078	499	
10/23/2017	115232	15702	0.080	15702	
10/24/2017	122619	9508	0.080	9508	
10/25/2017	137545	10593	0.081	10593	
10/26/2017	129120	12554	0.081	12554	
10/27/2017	2730	971	0.082	971	
10/29/2017	17555	6039	0.083	6039	
10/30/2017	129708	13881	0.085	13881	
10/31/2017	125432	8696	0.084	8696	
11/1/2017	132531	8718	0.084	8718	
11/2/2017	135589	8965	0.084	8965	
11/3/2017	131389	8683	0.083	8683	
11/4/2017	133362	8282	0.083	8282	
11/5/2017	101113	6406	0.082	6406	
11/6/2017	119509	6934	0.082	6934	
11/7/2017	133893	7458	0.079	7458	
11/8/2017	132160	7040	0.078	7040	
11/9/2017	122223	6369	0.077	6369	
11/10/2017	118552	37691	0.086	30859	
11/11/2017	76226	34104	0.095	29043	
11/16/2017	79803	25234	0.101	19810	0.096
11/17/2017	137192	1159	0.098	1159	

Attachment B

Count	Date and Time	SO2 PPM
1	Nov 10 2017 3:22PM	720
2	Nov 10 2017 3:23PM	720
3	Nov 10 2017 3:24PM	720
4	Nov 10 2017 3:25PM	720
5	Nov 10 2017 3:26PM	720
6	Nov 10 2017 3:27PM	720
7	Nov 10 2017 3:28PM	720
8	Nov 10 2017 3:29PM	720
9	Nov 10 2017 3:30PM	720
10	Nov 10 2017 3:31PM	720
11	Nov 10 2017 3:32PM	720
12	Nov 10 2017 3:33PM	720
13	Nov 10 2017 3:34PM	720
14	Nov 10 2017 3:35PM	720
15	Nov 10 2017 3:36PM	720
16	Nov 10 2017 3:37PM	720
17	Nov 10 2017 3:38PM	720
18	Nov 10 2017 3:39PM	720
19	Nov 10 2017 3:40PM	720
20	Nov 10 2017 3:41PM	720
21	Nov 10 2017 3:42PM	720
22	Nov 10 2017 3:43PM	720
23	Nov 10 2017 3:44PM	720
24	Nov 10 2017 3:45PM	720
25	Nov 10 2017 3:46PM	720
26	Nov 10 2017 3:47PM	720
27	Nov 10 2017 3:48PM	720
28	Nov 10 2017 3:49PM	720
29	Nov 10 2017 3:50PM	720
30	Nov 10 2017 3:55PM	720
31	Nov 10 2017 3:56PM	720
32	Nov 10 2017 3:57PM	720
33	Nov 10 2017 3:58PM	720
34	Nov 10 2017 3:59PM	720
35	Nov 10 2017 4:00PM	720
36	Nov 10 2017 4:01PM	720
37	Nov 10 2017 4:02PM	720
38	Nov 10 2017 4:03PM	720
39	Nov 10 2017 4:04PM	720
40	Nov 10 2017 4:05PM	720
41	Nov 10 2017 4:06PM	720
42	Nov 10 2017 4:07PM	720
43	Nov 10 2017 4:08PM	720
44	Nov 10 2017 4:09PM	720
45	Nov 10 2017 4:10PM	720
46	Nov 10 2017 4:11PM	720

Electronic Filing: Received, Clerk's Office 3/2/2018

47	Nov 10 2017 4:12PM	720
48	Nov 10 2017 4:13PM	720
49	Nov 10 2017 4:14PM	720
50	Nov 10 2017 4:15PM	720
51	Nov 10 2017 4:16PM	720
52	Nov 10 2017 4:17PM	720
53	Nov 10 2017 4:18PM	720
54	Nov 10 2017 4:19PM	720
55	Nov 10 2017 4:20PM	720
56	Nov 10 2017 4:21PM	720
57	Nov 10 2017 4:22PM	720
58	Nov 10 2017 4:23PM	720
59	Nov 10 2017 4:24PM	720
60	Nov 10 2017 4:25PM	720
61	Nov 10 2017 4:26PM	720
62	Nov 10 2017 4:27PM	720
63	Nov 10 2017 4:28PM	720
64	Nov 10 2017 4:29PM	720
65	Nov 10 2017 4:30PM	720
66	Nov 10 2017 4:31PM	720
67	Nov 10 2017 4:32PM	720
68	Nov 10 2017 4:33PM	720
69	Nov 10 2017 4:34PM	720
70	Nov 10 2017 4:35PM	720
71	Nov 10 2017 4:36PM	720
72	Nov 10 2017 4:37PM	720
73	Nov 10 2017 4:38PM	720
74	Nov 10 2017 4:39PM	720
75	Nov 10 2017 4:40PM	720
76	Nov 10 2017 4:41PM	720
77	Nov 10 2017 4:42PM	720
78	Nov 10 2017 4:43PM	720
79	Nov 10 2017 4:44PM	720
80	Nov 10 2017 4:45PM	720
81	Nov 10 2017 4:46PM	720
82	Nov 10 2017 4:47PM	720
83	Nov 10 2017 4:55PM	720
84	Nov 10 2017 4:56PM	720
85	Nov 10 2017 4:57PM	720
86	Nov 10 2017 4:58PM	720
87	Nov 10 2017 4:59PM	720
88	Nov 10 2017 5:00PM	720
89	Nov 10 2017 5:12PM	720
90	Nov 10 2017 5:13PM	720
91	Nov 10 2017 5:14PM	720
92	Nov 10 2017 5:15PM	720
93	Nov 10 2017 5:16PM	720

Electronic Filing: Received, Clerk's Office 3/2/2018

94	Nov 11 2017 2:55PM	720
95	Nov 11 2017 2:56PM	720
96	Nov 11 2017 3:01PM	720
97	Nov 11 2017 3:02PM	720
98	Nov 11 2017 3:03PM	720
99	Nov 11 2017 3:04PM	720
100	Nov 11 2017 3:05PM	720
101	Nov 11 2017 3:06PM	720
102	Nov 11 2017 3:07PM	720
103	Nov 11 2017 3:08PM	720
104	Nov 11 2017 3:09PM	720
105	Nov 11 2017 3:10PM	720
106	Nov 11 2017 3:11PM	720
107	Nov 11 2017 3:12PM	720
108	Nov 11 2017 3:13PM	720
109	Nov 11 2017 3:14PM	720
110	Nov 11 2017 3:15PM	720
111	Nov 11 2017 3:16PM	720
112	Nov 11 2017 3:17PM	720
113	Nov 11 2017 3:18PM	720
114	Nov 11 2017 3:19PM	720
115	Nov 11 2017 3:20PM	720
116	Nov 11 2017 3:21PM	720
117	Nov 11 2017 3:22PM	720
118	Nov 11 2017 3:23PM	720
119	Nov 11 2017 3:24PM	720
120	Nov 11 2017 3:25PM	720
121	Nov 11 2017 3:26PM	720
122	Nov 11 2017 3:27PM	720
123	Nov 11 2017 3:28PM	720
124	Nov 11 2017 3:29PM	720
125	Nov 11 2017 3:30PM	720
126	Nov 11 2017 3:31PM	720
127	Nov 11 2017 3:32PM	720
128	Nov 11 2017 3:33PM	720
129	Nov 11 2017 3:34PM	720
130	Nov 11 2017 3:35PM	720
131	Nov 11 2017 3:36PM	720
132	Nov 11 2017 3:37PM	720
133	Nov 11 2017 3:38PM	720
134	Nov 11 2017 3:39PM	720
135	Nov 11 2017 3:40PM	720
136	Nov 11 2017 3:41PM	720
137	Nov 11 2017 4:24PM	720
138	Nov 11 2017 4:25PM	720
139	Nov 11 2017 4:26PM	720
140	Nov 11 2017 4:27PM	720

Electronic Filing: Received, Clerk's Office 3/2/2018

141	Nov 11 2017 4:28PM	720
142	Nov 11 2017 4:29PM	720
143	Nov 11 2017 4:30PM	720
144	Nov 11 2017 4:31PM	720
145	Nov 11 2017 4:32PM	720
146	Nov 11 2017 4:33PM	720
147	Nov 11 2017 4:35PM	720
148	Nov 11 2017 4:36PM	720
149	Nov 11 2017 4:37PM	720
150	Nov 11 2017 4:38PM	720
151	Nov 11 2017 4:39PM	720
152	Nov 11 2017 4:40PM	720
153	Nov 11 2017 4:41PM	720
154	Nov 11 2017 4:42PM	720
155	Nov 11 2017 4:43PM	720
156	Nov 11 2017 4:44PM	720
157	Nov 11 2017 4:45PM	720
158	Nov 11 2017 4:46PM	720
159	Nov 11 2017 4:47PM	720
160	Nov 11 2017 4:48PM	720
161	Nov 11 2017 4:49PM	720
162	Nov 11 2017 4:50PM	720
163	Nov 11 2017 4:55PM	720
164	Nov 11 2017 4:56PM	720
165	Nov 11 2017 4:57PM	720
166	Nov 11 2017 4:58PM	720
167	Nov 11 2017 4:59PM	720
168	Nov 11 2017 5:00PM	720
169	Nov 11 2017 5:01PM	720
170	Nov 11 2017 5:02PM	720
171	Nov 11 2017 5:03PM	720
172	Nov 11 2017 5:04PM	720
173	Nov 11 2017 5:05PM	720
174	Nov 11 2017 5:06PM	720
175	Nov 11 2017 5:07PM	720
176	Nov 11 2017 5:08PM	720
177	Nov 11 2017 5:09PM	720
178	Nov 11 2017 5:10PM	720
179	Nov 11 2017 5:11PM	720
180	Nov 11 2017 5:12PM	720
181	Nov 11 2017 5:13PM	720
182	Nov 11 2017 5:14PM	720
183	Nov 11 2017 5:15PM	720
184	Nov 11 2017 5:16PM	720
185	Nov 11 2017 5:17PM	720
186	Nov 11 2017 5:18PM	720
187	Nov 11 2017 5:19PM	720

Electronic Filing: Received, Clerk's Office 3/2/2018

188	Nov 11 2017 5:20PM	720
189	Nov 11 2017 5:21PM	720
190	Nov 11 2017 5:22PM	720
191	Nov 11 2017 5:23PM	720
192	Nov 11 2017 5:24PM	720
193	Nov 11 2017 5:25PM	720
194	Nov 11 2017 5:26PM	720
195	Nov 11 2017 5:27PM	720
196	Nov 11 2017 5:28PM	720
197	Nov 11 2017 5:29PM	720
198	Nov 11 2017 5:30PM	720
199	Nov 11 2017 5:31PM	720
200	Nov 11 2017 5:32PM	720
201	Nov 11 2017 5:33PM	720
202	Nov 11 2017 5:34PM	720
203	Nov 11 2017 5:35PM	720
204	Nov 11 2017 5:36PM	720
205	Nov 11 2017 5:37PM	720
206	Nov 11 2017 5:38PM	720
207	Nov 11 2017 5:39PM	720
208	Nov 11 2017 5:40PM	720
209	Nov 11 2017 5:41PM	720
210	Nov 11 2017 5:42PM	720
211	Nov 11 2017 5:43PM	720
212	Nov 11 2017 5:44PM	720
213	Nov 11 2017 5:45PM	720
214	Nov 11 2017 5:46PM	720
215	Nov 11 2017 5:47PM	720
216	Nov 11 2017 5:48PM	720
217	Nov 11 2017 5:49PM	720
218	Nov 11 2017 5:50PM	720
219	Nov 11 2017 5:55PM	720
220	Nov 11 2017 5:56PM	720
221	Nov 11 2017 5:57PM	720
222	Nov 11 2017 5:58PM	720
223	Nov 11 2017 5:59PM	720
224	Nov 11 2017 6:00PM	720
225	Nov 11 2017 6:01PM	720
226	Nov 11 2017 6:02PM	720
227	Nov 11 2017 6:03PM	720
228	Nov 11 2017 6:04PM	720
229	Nov 11 2017 6:05PM	720
230	Nov 11 2017 6:06PM	720
231	Nov 11 2017 6:07PM	720
232	Nov 11 2017 6:08PM	720
233	Nov 11 2017 6:09PM	720
234	Nov 11 2017 6:10PM	720

Electronic Filing: Received, Clerk's Office 3/2/2018

235	Nov 11 2017 6:11PM	720
236	Nov 11 2017 6:12PM	720
237	Nov 11 2017 6:13PM	720
238	Nov 11 2017 6:14PM	720
239	Nov 11 2017 6:15PM	720
240	Nov 11 2017 6:16PM	720
241	Nov 11 2017 6:17PM	720
242	Nov 11 2017 6:18PM	720
243	Nov 11 2017 6:19PM	720
244	Nov 11 2017 6:20PM	720
245	Nov 11 2017 6:21PM	720
246	Nov 11 2017 6:22PM	720
247	Nov 11 2017 6:23PM	720
248	Nov 11 2017 6:24PM	720
249	Nov 11 2017 6:25PM	720
250	Nov 11 2017 6:26PM	720
251	Nov 11 2017 6:27PM	720
252	Nov 11 2017 6:28PM	720
253	Nov 11 2017 6:29PM	720
254	Nov 11 2017 6:30PM	720
255	Nov 11 2017 6:31PM	720
256	Nov 11 2017 6:32PM	720
257	Nov 11 2017 6:33PM	720
258	Nov 11 2017 6:34PM	720
259	Nov 11 2017 6:35PM	720
260	Nov 11 2017 6:36PM	720
261	Nov 11 2017 6:37PM	720
262	Nov 11 2017 6:38PM	720
263	Nov 11 2017 6:39PM	720
264	Nov 11 2017 6:40PM	720
265	Nov 11 2017 6:41PM	720
266	Nov 11 2017 6:42PM	720
267	Nov 11 2017 6:43PM	720
268	Nov 11 2017 6:44PM	720
269	Nov 11 2017 6:45PM	720
270	Nov 11 2017 6:46PM	720
271	Nov 11 2017 6:47PM	720
272	Nov 11 2017 6:48PM	720
273	Nov 11 2017 6:49PM	720
274	Nov 11 2017 6:50PM	720
275	Nov 11 2017 6:55PM	720
276	Nov 11 2017 6:56PM	720
277	Nov 16 2017 11:55AM	720
278	Nov 16 2017 12:16PM	720
279	Nov 16 2017 12:17PM	720
280	Nov 16 2017 12:23PM	720
281	Nov 16 2017 12:24PM	720

Electronic Filing: Received, Clerk's Office 3/2/2018

282	Nov 16 2017 12:25PM	720
283	Nov 16 2017 12:26PM	720
284	Nov 16 2017 12:27PM	720
285	Nov 16 2017 12:28PM	720
286	Nov 16 2017 12:29PM	720
287	Nov 16 2017 12:30PM	720
288	Nov 16 2017 12:31PM	720
289	Nov 16 2017 12:32PM	720
290	Nov 16 2017 12:33PM	720
291	Nov 16 2017 12:34PM	720
292	Nov 16 2017 12:35PM	720
293	Nov 16 2017 12:36PM	720
294	Nov 16 2017 12:37PM	720
295	Nov 16 2017 12:38PM	720
296	Nov 16 2017 12:39PM	720
297	Nov 16 2017 12:40PM	720
298	Nov 16 2017 12:44PM	720
299	Nov 16 2017 12:45PM	720
300	Nov 16 2017 12:46PM	720
301	Nov 16 2017 12:47PM	720
302	Nov 16 2017 12:55PM	720
303	Nov 16 2017 12:56PM	720
304	Nov 16 2017 12:57PM	720

Attachment C

<u>Date and Time</u>	<u>SO2 ppm</u>
Nov 10 2017 3:00PM	551.6
Nov 10 2017 4:00PM	700.5
Nov 10 2017 5:00PM	353.1
Nov 11 2017 2:00PM	144.9
Nov 11 2017 3:00PM	596.5
Nov 11 2017 4:00PM	511.7
Nov 11 2017 5:00PM	720
Nov 11 2017 6:00PM	720
Nov 16 2017 11:00AM	223.1
Nov 16 2017 12:00PM	518.5

Attachment D

	Heat Input (mmBtu)	Hourly SO2 lbs	Heat Input (mmBtu - malfunction excluded)	Hourly SO2 lbs (malfunction excluded)
Nov 16 2017 12:00AM	224	119	224	119
Nov 16 2017 1:00AM	415	123	415	123
Nov 16 2017 2:00AM	564	51	564	51
Nov 16 2017 3:00AM	719	347	719	347
Nov 16 2017 4:00AM	846	272	846	272
Nov 16 2017 5:00AM	886	226	886	226
Nov 16 2017 6:00AM	1629	667	1629	667
Nov 16 2017 7:00AM	2045	985	2045	985
Nov 16 2017 8:00AM	2203	1967	2203	1967
Nov 16 2017 9:00AM	2258	2085	2258	2085
Nov 16 2017 10:00AM	2409	1210	2409	1210
Nov 16 2017 11:00AM	3181	2306	0	0
Nov 16 2017 12:00PM	3634	5872	0	0
Nov 16 2017 1:00PM	3920	2664	3920	2664
Nov 16 2017 2:00PM	4567	2163	4567	2163
Nov 16 2017 3:00PM	5261	2309	5261	2309
Nov 16 2017 4:00PM	5377	413	5377	413
Nov 16 2017 5:00PM	5440	77	5440	77
Nov 16 2017 6:00PM	5622	122	5622	122
Nov 16 2017 7:00PM	5741	158	5741	158
Nov 16 2017 8:00PM	5724	437	5724	437
Nov 16 2017 9:00PM	5721	566	5721	566
Nov 16 2017 10:00PM	5722	52	5722	52
Nov 16 2017 11:00PM	5697	46	5697	46
Daily Sum	79,803	25,234	72,988	17,056
30-Day SO2 Lbs	324,490		316,312	
30-Day Heat Input	3,212,856		3,206,041	
30-Day Rolling Avg.	0.101		0.099	



425 Apollo Drive, Lino Lakes, MN 55014
Phone: 651-780-8600 Fax: 651-780-4400

SERVICE TRIP REPORT

Nol-Tec Service Technician fills out this report and submits to Customer and Executive Administrator.

Nol-Tec Contract No. 6046 Customer PO No. _____

Customer Name: Dynegy Baldwin

Service Location: Baldwin IL

On-Site Customer Contact: Chris Moorman

Phone: 618-785-3348 Fax: _____ Email: Chris.Moorman@dynegy.com

Dates of Service: 11.15-1117.2017

Service Technician: John Draper, Ashley Richter

Equipment Serviced

Nol-Tec Unit 13 Test system

Reason for Service Call

Emergency Injection of Hydrated Lime for startup of the Unit!

Explanation of Services Performed

Emergency Injection of Hydrated Lime for startup of the Unit!

The system was tied into the ACI system and conveyed into the top of the duct. From two 4" convey lines to four 3" injection points.

Arrived on site early evening and met with the management team and operations personnel to discuss requirements and timeline.

Inspected convey line installed by the customer to ensure best routing of hoses.

Noted the convey line had 18 bends in the system which causes a higher back pressure.

Found issues with the analogue inputs for the blower pressure and line pressure, briefly troubleshot and decided we would use truck gauges instead.

Demonstrated the operation of conveying from the truck to the current operators on shift.

Found the convey line connection had a rubber boot which came apart under pressure, site welded the two metal fittings together to remove this weak point in the system.

The equipment was run by site personnel with Guidance from Nol-Tec personnel.

We tried to maintain a convey line pressure of 8-12 PSI, with a head pressure on the tank of 2 Psi above convey line pressure.

I believe the startup time was just after midnight on the 16th and ran until midafternoon, It is assumed the truck holds 48000lbs.

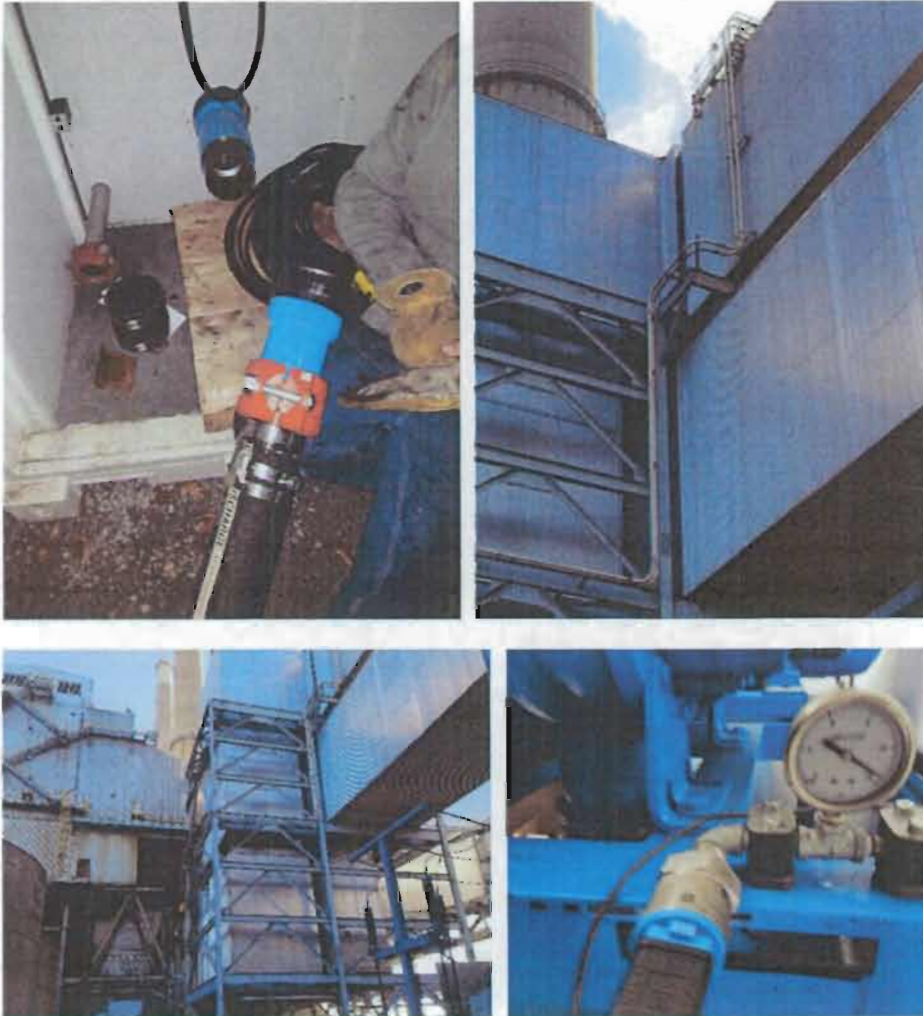
The second truck started up by 4.30ish and ran until 2.45pm Friday. Again I assume 48000lbs of product.

Average for the first truck was 3000lbs per/hr.

The second truck average was just over 2000lbs per/hr, however we found that not much was used overnight and we raised the conveying amount on Friday to probably 3500-4000lbs per hour to purge the truck.

The third truck was not used.

See attached pics.



Current Status of Equipment

On site ready for other testing for viability study to make improvements or additions to the existing systems in place.

Notes for Accounting