ENCLOSURE 1

1-Hour SO_2 Background Determination

U.S. EPA revised the SO_2 National Ambient Air Quality Standard (NAAQS) by instituting a 1-hour primary standard of 75 parts per billion (ppb). Therefore, an analysis was necessary to determine ambient 1-hour SO_2 background concentrations representative for all regions in the state. This determination is needed in order to make attainment designations, attainment demonstrations and perform New Source Review (NSR) and Prevention of Significant Deteoriation (PSD) modeling. Indiana has reviewed the 1-hour SO_2 monitoring and meteorological data from 2012 through 2014 to calculate representative ambient 1-hour SO_2 background concentrations. U.S. EPA's "SO_2 NAAQS Designations Modeling Technical Assistance Document, December 2013" was followed to calculate the background concentrations in order to eliminate overly conservative cumulative impacts from nearby major SO_2 emission sources when performing air quality dispersion modeling.

Overview

Indiana has 21 SO_2 monitors located throughout the state. Table 1 shows the 99th percentile for the years 2012, 2013, 2014, and 2015 and the 2012-2014 and 2013-2015 1-hour SO_2 design values for the 7 SO_2 monitors that the attainment designation are based on.

Table 1 - 1-Hour SO_2 Design Values for SO_2 Monitors (ppb) in Indiana

County	Monitor ID	99th Percentile				2012-2014 Design Value	2013-2015 Design Value
		2012	2013	2014	2015		
Floyd	18-043-1004	32.0	20.5	43.8	26.0	32	30
Fountain	18-045-0001	30.0	34.0	22.0	19.0	29	25
Jasper	18-073-0002	33.0	40.0	18.0	10.0	30	23
Lake	18-089-0022	47.0	43.2	53.1	35.0	48	44
Porter	18-127-0011	36.0	36.0	27.0	39.0	33	34
Vanderburgh	18-163-0021	16.5	18.6	32.3	18.0	22	23
Vigo	18-167-0018	72.5	79.1	85.0	71.0	79	78

Data Retrieval

Monitoring data for the SO_2 monitors near the DRR sources were retrieved from U.S. EPA's AirData database. The concentration data were supplied for each hour and day of every month from 2012 through 2014. Meteorological data was collected in order to correlate the wind

directions and concentrations for each hour of each day of every month. Meteorological data was either collected at a monitor near the monitoring site or the nearest National Weather Service (NWS) station or Automated Surface Observation Stations (ASOS). This data was collected and distributed by the Midwest Regional Climate Center (mrcc.isws.illinois.edu). The nearest meteorological data to each of the SO_2 monitors is summarized below.

Table 2 - Locations of SO_2 Monitors and Meteorological Stations for Background Analysis

County/Site	Monitor ID	Monitor Location	Meteorological Station	Station Location
Floyd Co. / New Albany	18-043-1004	38.31° N 85.83° W	Charlestown State Park meteorological station	38.39° N 85.66° W
Fountain Co. / North of S.R. 234	18-045-0001	39.96° N 87.42° W	Indianapolis NWS station	39.79° N 86.18° W
Jasper Co. / Wheatfield	18-073-0002	41.19° N 87.05° W	South Bend NWS station	41.69° N 86.25° W
Lake Co. / Gary - IITRI	18-089-0022	41.72° N 86.91° W	Gary IITRI meteorological station	41.61° N 87.30° W
Porter Co. / Dunes Acres	18-127-0011	41.63° N 87.10° W	Gary IITRI meteorological station	41.61° N 87.30° W
Vanderburgh Co. / Buena Vista	18-063-0021	38.01° N 87.58° W	Evansville NWS station	38.05° N 87.52° W
Vigo Co. / Lafayette Ave	18-167-0018	39.49° N 87.40° W	Indianapolis NWS station	39.79° N 86.18° W

Methodology for Determining Ambient SO_2 Background Concentrations

Each set of SO_2 data was paired with the corresponding meteorological conditions for every hour of the year in order to determine the wind direction for each hour that SO_2 concentrations were recorded. Data was processed in chronological order with daily and seasonal trends analyzed.

The initial analysis created pollution roses to determine the wind directions from which the highest SO_2 concentrations were coming. This analysis helped to identify the nearest upwind SO_2 emission sources impacting the SO_2 monitor. With those wind directions identified, SO_2 concentrations (10 ppb and above) resulting from SO_2 emission sources from those wind directions were removed from the analysis, in order to calculate a representative ambient SO_2 background concentration for each SO_2 monitor. This analysis helps to prevent double-counting SO_2 emission source impacts in an air quality modeling analysis. Once data for the SO_2 monitors were processed, the data was re-formatted in order to calculate the hourly-seasonal 99th percentile averages over a 3-year period, as detailed in U.S. EPA's "SO_2 NAAQS Designations

Modeling Technical Assistance Document, December 2013 Section 8 – Background Concentrations". The 99th percentile concentrations, based on each hour of the day and each of the four seasons of the year, were calculated for each SO_2 monitor.

In order to calculate the seasonal hourly 99th percentile average, the data was grouped by the seasonal months. Spring was represented by concentrations recorded in March, April and May; summer represented by June, July and August; fall represented by September, October and November and winter represented by December, January and February. Once this data was grouped by seasons, the 99th percentile was calculated for each hour of the day, making 24 separate 99th percentiles for each SO_2 monitoring site per season. The average of these 99th percentiles over the three-year period represents the hourly-seasonal 1-hour SO_2 background.

Summary

For purposes of the modeling analysis related to the DRR, adjusted 1-hour SO_2 background values were used for the Posey, Floyd, Sullivan, Vermillion, Jasper, Lake and Porter counties DRR sources. Calculations to determine adjusted 1-hour SO_2 background concentrations were made according to U.S. EPA's "SO_2 NAAQS Designations Modeling Technical Assistance Document, February 2016 Section 8 – Background Concentrations". This approach calls for the removal of SO_2 concentrations emitted from large SO_2 emission sources located directly upwind of a SO_2 monitor. This allows for more representative ambient background values to be determined, not overly conservative values that could possibly double-count direct SO_2 source impacts and 1-hour SO_2 background concentrations when modeling inventory sources.

This page left intentionally blank.

Enclosure 2
Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
1	AMUSA	7	Sinter Plant East Windbox	463341	4612705	48.768	383.15	25.146	3.6576	355.17	CEM
2	AMUSA	26	4SP HMD South	464015	4613844	7.9248	314.26	22.443439	2.2555	3.89	CEM
3	AMUSA	27	4SP HMD North	464049	4613882	5.7912	314.26	22.23516	2.4384	3.89	CEM
4	AMUSA	37	4SP Secondary Vent	464129	4613916	6.096	299.82	15.23492	4.8646	0.95	CEM
5	AMUSA	38	4SP Steelmaking Off Gas	464111	4613786	45.72	338.71	22.9616	3.9624	27.3	CEM
6	AMUSA	101	101	464125	4612000	38.4048	519.26	18.81	1.676	4.71E-04	CEM
7	AMUSA	102	102	464115	4611990	38.4	519.26	18.81	1.676	4.71E-04	CEM
8	AMUSA	107	107	464100	4612030	67.06	672.04	7.596	3.3528	0.001052852	CEM
9	AMUSA	108	108	464090	4611930	67.06	672.04	7.596	3.353	0.001035227	CEM
10	AMUSA	134	5 BH 501-503	464897	4614738	68.58	407.04	14.1224	5.1816	338.15	CEM
11	AMUSA	141	EAF Melting	461960	4610940	43.5864	377.04	2.86512	10.2443	85.93	CEM
12	AMUSA	143	EAF LMF	461859	4610982	13.8684	340.37	18.39976	1.143	13.94	CEM
13	AMUSA	147	2SP 10 Furnace Off Gas	463272	4612185	77.724	1922.04	13.49758	1.8288	28.02	CEM
14	AMUSA	148	2SP 20 Furnace Off Gas	463383	4612297	73.152	1922.04	13.49758	1.8288	28.01	CEM
15	AMUSA	149	2SP Secondary Vent	463461	4612335	64.008	302.04	8.712199	3.6576	11.2	CEM
16	AMUSA	152	2SP HMD	463393	4612307	4.572	316.48	12.79144	3.81	0	
17	AMUSA	154	2SP LMF	463202	4612155	18.288	339.82	10.24128	1.8288	20.01	CEM
18	AMUSA	166	IH7 Casthouse Baghouse 2 (W)	464670	4614630	4.572	310.93	33.67531	2.987	203.9	CEM
19	AMUSA	167	IH7 Casthouse Baghouse 1 (E)	464870	4614500	46.9392	327.59	16.03756	3.3528	203.9	CEM
20	AMUSA	170	IH7 Stoves	464800	4614500	70.104	533.15	14.1732	5.1816	398.77	CEM
21	AMUSA	195	IH7 BFG Flare	464870	4614490	55.7784	922.04	2	2.6518	136.9	CEM

Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
22	Cokenergy	201	Cokenergy	465354	4614325	89.9	422.04	20.33016	5.4864	5236	CEM
23	IHCC	220	Boiler 504	464920	4614849	96.012	404.97	16.1544	3.048	236.25	CEM
24	AMUSA	45A	No. 1 Lime Kiln Bghse Stack A	463894	4613596	21.3055	477.59	18.5674	0.9662	5.55	CEM
25	AMUSA	45B	No. 1 Lime Kiln Bghse Stack B	463897	4613600	21.3055	477.59	18.5674	0.9662	5.55	CEM
26	AMUSA	45C	No. 2 Lime Kiln Bghse Stack A	463883	4613607	21.3055	477.59	18.5674	0.9662	5.55	CEM
27	AMUSA	45D	No. 2 Lime Kiln Bghse Stack B	463887	4613610	21.3055	477.59	18.5674	0.9662	5.55	CEM
28	IHCC	IHCCCH1	Charging-Battery A/B	465174	4614512	18.2911	394.26	17.61134	2.7402	2.385	3-yr ave annual
29	IHCC	IHCCCH2	Charging-Battery C/D	465150	4614134	18.2911	394.26	17.61134	2.7402	2.385	3-yr ave annual
30	IHCC	IHCCPS	Pushing	465154	4614232	7.7602	394.26	25.99944	0.8595	6.2	3-yr ave annual
31	IHCC	IHCCQ1	Quenching A/B	465264	4614353	18.3002	373.15	3.191256	11.9786	1.95	3-yr ave annual
32	IHCC	IHCCQ2	Quenching C/D	465258	4614315	18.3002	373.15	3.191256	11.9786	1.95	3-yr ave annual
33	IHCC	IHCCVS	IHCC Vent Stacks	465166	4614224.5	25.3	983.15	18.37944	2.3896	2419.7	CEM
34		IHCC102		465199.13	4614569.39	25.2984	983	12.246864	2.3866	0	
35		IHCC103		465178.47	4614116.45	25.2984	983	12.246864	2.3866	0	
36		IHCC104		465174.04	4614010.86	25.2984	983	12.246864	2.3866	0	
37		IHCC105		465202.47	4614661.37	25.2984	983	12.246864	2.3866	0	
38		IHCC106		465179.9	4614182.35	25.2984	983	12.246864	2.3866	0	
39		IHCC107		465192.44	4614485.78	25.2984	983	12.246864	2.3866	0	
40		IHCC108		465189.1	4614403.84	25.2984	983	12.246864	2.3866	0	
41		IHCC109		465127.22	4614295.14	25.2984	983	12.246864	2.3866	0	
42		IHCC110		465126.54	4614212.11	25.2984	983	12.246864	2.3866	0	
43		IHCC111		465123.81	4614104.15	25.2984	983	12.246864	2.3866	0	

Enclosure 2
Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
44		IHCC112		465114.24	4614024.89	25.2984	983	12.246864	2.3866	0	
45		IHCC113		465150.63	4614659.69	25.2984	983	12.246864	2.3866	0	
46		IHCC114		465143.95	4614574.41	25.2984	983	12.246864	2.3866	0	
47		IHCC115		465138.93	4614495.81	25.2984	983	12.246864	2.3866	0	
48		IHCC116		465133.91	4614407.18	25.2984	983	12.246864	2.3866	0	
49	AMIH	S1A	IH3 Stoves	462621	4612774	65.2272	533.15	9.99744	3.2918	105.45	CEM
50	AMIH	S1B	IH4 Casthouse Baghouse	462629	4612930	22.7076	339.26	8.966201	3.6881	117.03	CEM
51	AMIH	S1C	IH4 Stoves	462629	4612787	62.1792	533.15	9.99744	3.9929	244.3	CEM
52	AMIH	S1D	IH4 Bleeder	462645	4612785	31.0896	922.04	5.916168	1.7242	138.7	CEM
53	AMIH	S1E	IH3 Bleeder	462624	4612765	31.0896	922.04	3.837432	1.7242	81.7	CEM
54	AMIH	S301	IH7 Granulator - Lafarge	464750	4614550	99.44	336	5.479999	3.96	28.5	CEM
55	AMIH	S3B	3SP HMD Baghouse	462734	4613566	8.8087	304.82	8.102599	1.204	54.65	CEM
56	AMIH	S4A	HSM Reheat Furnace 1	462645	4614319	65.2272	977.59	8.74776	4.572	0	
57	AMIH	S4B	HSM Reheat Furnace 2	462668	4614311	65.2272	977.59	8.74776	4.572	0	
58	AMIH	S4C	HSM Reheat Furnace 3	462691	4614305	65.2272	977.59	8.74776	4.572	0	
59	AMIH	S8E	No. 6 Boiler	462286	4612566	46.9392	683.15	26.79192	3.048	180.5	CEM
60	AMIH	S8G	No. 8 Boiler	462273	4612540	46.9392	688.71	17.31264	3.5052	356.7	CEM
61	Ironside	S8H	No. 9 Boiler	462269	4612577	46.9392	683.15	26.79192	3.048	204.3	CEM
84	US Steel	94011	Sinter Plant Windbox	473218	4607057	56.388	385.93	20.23872	3.4442	534.9	3-yr ave annual
85	US Steel	940541	TBBH Boiler 1	472661	4607149	45.72	572.04	14.478	3.6576	72.18	3-yr ave annual
86	US Steel	940542	TBBH Boiler 2	472661	4607136	45.72	572.04	14.478	3.6576	124.14	3-yr ave annual

Enclosure 2
Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
87	US Steel	940543	TBBH Boiler 3	472661	4607123	45.72	572.04	14.478	3.6576	126.2	3-yr ave annual
88	US Steel	940545	TBBH Boiler 5	472661	4607096	45.72	572.04	14.478	3.6576	63	3-yr ave annual
89	US Steel	94053	TBBH Boiler 6	472655	4607079	45.72	499.82	12.16152	3.6576	72.3	3-yr ave annual
90	US Steel	94017	84 inch Hot Strip Mill Reheat Furnaces	468755	4608468	49.6824	701.48	50.81016	2.4689	107.8	Seasonal Varying
91	US Steel	940121	No. 4 BH Boiler 1	472592	4607817	35.3568	460.93	18.83664	2.8956	153.3	Seasonal Varying
92	US Steel	940122	No. 4 BH Boiler 2	472592	4607792	35.3568	460.93	18.83664	2.8956	168.81	Seasonal Varying
93	US Steel	940123	No. 4 BH Boiler 3	472592	4607767	35.3568	460.93	18.83664	2.8956	110.92	Seasonal Varying
94	US Steel	940401	CPBH Boiler 8	474393	4606802	94.1832	535.93	5.66928	3.048	23.6	Seasonal Varying
95	US Steel	940402	CPBH Boiler 9	474436	4606850	60.96	535.93	5.66928	2.8042	23.6	Seasonal Varying
96	US Steel	940403	CPBH Boiler 10	474436	4606866	60.96	535.93	5.66928	2.8042	23.6	Seasonal Varying
97	US Steel	94070	Tail Gas Incinerator	474470	4606815	97.536	894.26	22.86	0.5791	1.2	3-yr ave annual
98	US Steel	94026	No. 2 Underfiring	473903	4606522	106.68	368.71	3.2004	6.096	67.3	3-yr ave annual
99	US Steel	94038	CPBH Boiler 6	474362	4606775	40.5384	535.93	5.334	2.5908	23.6	Seasonal Varying
100	US Steel	94037	CPBH Boilers 4 an 5	474337	4606775	40.5384	535.93	5.334	2.5908	23.6	Seasonal Varying
101	US Steel	94066	No. 14 BF Casthouse	472643	4607841	50.292	329.82	20.4216	3.9624	719.9	Seasonal Varying
102	US Steel	94039	Coke Plant Boiler No. 7	474370	4606803	32.004	535.93	5.12064	2.5908	23.6	3-yr ave annual
103	US Steel	94036	Coke Plant Boiler No. 3	474315	4606782	39.3192	535.93	9.26592	1.8898	23.6	3-yr ave annual
104	US Steel	94021	No. 4 BF Stoves	472694	4606861	68.58	314.82	3.47472	3.9014	53.9	Seasonal Varying
105	US Steel	94022	No. 6 BF Stoves	472697	4607006	68.58	319.82	8.13816	3.9014	92.2	Seasonal Varying
106	US Steel	94023	No. 8 BF Stoves	472701	4607166	76.2	313.71	5.88264	3.9014	59.4	Seasonal Varying
107	US Steel	94013BFSTOVE	#13 BF Stoves	472696	4607680	76.2	325.37	6.21792	15.5143	101.7	Seasonal Varying

Enclosure 2
Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
108	US Steel	94041	No. 1 BOP Desulf Caster	472325	4606631	24.384	299.82	22.82952	3.109	41.6	3-yr ave annual
109	US Steel	94007	Sinter Cooler	473194	4607100	30.48	455.37	18.8976	5.4864	86.3	3-yr ave annual
110	US Steel	USPRECA	Precarbon #2 (by Coke Battery #2) includes CASP C	473933	4606552	49.9872	499.98	9.99744	2.0117	3	3-yr ave annual
111	US Steel	USBFGFL	BFG Flare Stacks (closer to BF #4)	472724	4606895	200.0098	922.04	9.99744	4.9987	90.3	3-yr ave annual
112	US Steel	94045QBOP2	No 2 QBOP Desulf Caster	472524	4607641	16.764	331.48	16.3068	1.1582	0	
113	US Steel	940CB5	Coke Battery #5 Underfire	473200	4606400	76.2	499.82	4.38912	3.048	23.8	3-yr ave annual
114	US Steel	940CB7	Coke Battery #7 Underfire	473200	4606600	76.2	533.15	5.6388	3.048	33.1	3-yr ave annual
115	US Steel	COGBYPROD	Coke Oven Gas Recovery	473200	4606600	30.48	366.48	2.98704	1.0058	0	
116	US Steel	940CASPC	CASP C	474393	4606802	16.764	366.48	3.048	2.0117	10.36	3-yr ave annual
117	US Steel	USCOGFLARE	COG stack Desulf	473534.18	4606500.83	45.72	922.04	3.048	5.7912	69.6	3-yr ave annual
118	US Steel	US1BOPCAST		472477	4607429	24.4145	394.26	20.20824	2.4384	0	
132	BP AMOCO	BP1	3SPS Boiler 1	459991.4	4613228.4	18.3948	508.36	7.7852016	0.8083	15.91	3-yr ave annual
133	BP AMOCO	BP2	3SPS Boiler 2	459991.4	4613237.1	18.3948	508.36	7.7852016	0.8083	15.76	3-yr ave annual
134	BP AMOCO	BP3	3SPS Boiler 3	459973.9	4613228.4	18.3948	508.36	7.7852016	0.8083	15.51	3-yr ave annual
135	BP AMOCO	BP4	3SPS Boiler 4	459973.9	4613237.1	18.3948	508.36	7.7852016	0.8083	16.68	3-yr ave annual
136	BP AMOCO	BP5	3SPS Boiler 6	459955.8	4613231.5	18.3948	508.36	7.7852016	0.8083	17.45	3-yr ave annual
137	BP AMOCO	BP6	FCU 500 CAT	460103	4612576	23.2258	567	10.451592	0.8361	25.1	3-yr ave annual
138	BP AMOCO	BP7	11 PS - H-1X	459829.8	4613338.8	18.4877	496.94	2.3783544	0.8826	6.06	3-yr ave annual
139	BP AMOCO	BP9	11 PS - H-3	459861.8	4613314.7	15.329	607.12	3.5396424	0.3995	1.25	3-yr ave annual
140	BP AMOCO	BP10	11 PS - H-200	459792.5	4613422.1	18.209	536.13	3.0751272	0.9104	7.38	3-yr ave annual
141	BP AMOCO	BP11	11 PS- H-300	459792.5	4613443.9	18.209	536.13	2.4990552	0.8268	4.75	3-yr ave annual

Enclosure 2
Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
142	BP AMOCO	BP12	#1 CRU/ ARU PROCESS HEATER	459703	4612854	16.258	514.53	0.4273296	1.1241	2.13	3-yr ave annual
143	BP AMOCO	BP13	#2 CRU/ ARU PROCESS HEATER	459666	4612852	15.6077	631.81	3.0470856	0.4831	1.1	3-yr ave annual
144	BP AMOCO	BP14	FCU 600 CAT	459945	4612578	14.8645	605.58	6.1222128	0.7432	16.25	3-yr ave annual
145	BP AMOCO	BP15	ALKY	460095	4612741.85	18.1161	962.68	6.094476	0.3066	1.55	3-yr ave annual
146	BP AMOCO	BP16	DDU or South ? 800-04	459855.11	4613618.24	18.5806	962.68	6.094476	0.3809	90.97	3-yr ave annual
147	BP AMOCO	BP17	FCU	459721.53	4612637.23	18.5806	962.68	6.094476	0.3716	1.25	3-yr ave annual
148	BP AMOCO	BP18	4UF	459550	4612830	18.5806	962.68	6.094476	0.6039	13.75	3-yr ave annual
149	BP AMOCO	BP19	UIU	459751.57	4612755.58	19.9742	962.68	6.094476	0.4274	7.4	3-yr ave annual
150	BP AMOCO	BP20	VRU	460280	4612423.82	18.1161	962.68	6.094476	0.1951	2.39	3-yr ave annual
151	BP AMOCO	BP21	ARU - F200A, F-200B	459993	4613060	18.5806	474.41	1.161288	1.0684	8.22	3-yr ave annual
152	BP AMOCO	BP22	4UF - F-1, F-8A, F-8B	459707	4613011	15.9793	554.66	2.5270968	1.1241	4.64	3-yr ave annual
153	BP AMOCO	BP23	4UF - F-2	459635	4613011	19.7883	548.79	1.9510248	1.0684	3.86	3-yr ave annual
154	BP AMOCO	BP24	4UF - F-3	459645	4613011	18.3948	560.52	2.1646896	0.9755	4.14	3-yr ave annual
155	BP AMOCO	BP25	4UF - F-4, F-5, F-6	459665	4613011	17.1871	505.27	1.8022824	1.0684	4.31	3-yr ave annual
156	BP AMOCO	BP27	New 12 PS Atmospheric Heater H-101A	460629	4612809.3	18.3019	505.27	2.4804624	0.9941	21.4	3-yr ave annual
157	BP AMOCO	BP28	New 12 PS Vacuum Heater H-102	460619.9	4612706.6	18.3948	496.01	2.3411688	0.9941	7.78	3-yr ave annual
158	BP AMOCO	BP30	New Coker Heater	460567	4612560	18.4877	506.81	2.1089112	0.6968	6.31	3-yr ave annual
159	BP AMOCO	BP31	New Coker Heater	460566	4612515	18.4877	506.81	2.1089112	0.6968	6.54	3-yr ave annual
160	BP AMOCO	BP32	New Coker Heater	460566	4612477	18.4877	506.81	2.1089112	0.6968	6	3-yr ave annual
161	BP AMOCO	BP33	New Hydrogen Plant	461343	4612750	9.2903	505.27	4.645152	1.0498	0	
162	BP AMOCO	BP34	New Hydrogen Plant	461401	4612695	9.2903	505.27	4.645152	1.0498	0	

Enclosure 2
Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
163	BP AMOCO	BP35	COT1 and COT2	460224	4612806	11.6129	573.17	6.670548	0.576	52.52	3-yr ave annual
164	BP AMOCO	BP36	New GOHT Heater	459477.4	4613541.6	13.0064	628.73	4.3665648	0.3345	0	
165	BP AMOCO	BP37	New 12 PS Atmospheric Heater H-101B	460629	4612839.8	18.3019	505.27	2.4804624	0.9941	0	
166	BP AMOCO	BP39	ISOM - H-1	459822	4612853	11.6129	517.62	2.6849832	0.7618	4.69	3-yr ave annual
167	BP AMOCO	BP42	DDU - WB-301 and WB-301	459443	4613297	13.1922	644.16	5.9457336	0.3623	4.92	3-yr ave annual
168	BP AMOCO	BP43	HU - B-501	459586	4613330	23.2258	505.27	5.8527696	0.641	2.23	3-yr ave annual
169	Carmeuse	KILN1A	Carmeuse 1	466117.95	4610027.09	24.3596	477.59	3.048	1.9812	8.76	SO2 Limit
170	Carmeuse	KILN1B		466119.57	4610029.22	24.3596	477.59	3.048	1.9812	8.76	SO2 Limit
171	Carmeuse	KILN1C		466121.19	4610031.35	24.3596	477.59	3.048	1.9812	8.76	SO2 Limit
172	Carmeuse	KILN1D		466122.81	4610033.47	24.3596	477.59	3.048	1.9812	8.76	SO2 Limit
173	Carmeuse	KILN1E		466124.43	4610035.6	24.3596	477.59	3.048	1.9812	8.76	SO2 Limit
174	Carmeuse	KILN1F		466126.05	4610037.73	24.3596	477.59	3.048	1.9812	8.76	SO2 Limit
175	Carmeuse	KILN2A	Carmeuse 2	466108.24	4610034.44	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
176	Carmeuse	KILN2B		466109.85	4610036.58	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
177	Carmeuse	KILN2C		466111.47	4610038.72	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
178	Carmeuse	KILN2D		466113.09	4610040.86	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
180	Carmeuse	KILN2F		466116.32	4610045.14	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
181	Carmeuse	KILN3A	Carmeuse 3	466096.38	4610042.8	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
182	Carmeuse	KILN3B		466097.99	4610044.93	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
183	Carmeuse	KILN3C		466099.6	4610047.07	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
184	Carmeuse	KILN3D		466101.22	4610049.2	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit

Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
185	Carmeuse	KILN3E		466102.83	4610051.34	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
186	Carmeuse	KILN3F		466104.44	4610053.47	26.4932	477.59	3.048	1.9812	8.76	SO2 Limit
187	Carmeuse	KILN4A	Carmeuse 4	466086.05	4610050.06	28.956	477.59	3.048	1.9812	8.76	SO2 Limit
188	Carmeuse	KILN4B		466087.66	4610052.19	28.956	477.59	3.048	1.9812	8.76	SO2 Limit
189	Carmeuse	KILN4C		466089.27	4610054.33	28.956	477.59	3.048	1.9812	8.76	SO2 Limit
190	Carmeuse	KILN4D		466090.88	4610056.46	28.956	477.59	3.048	1.9812	8.76	SO2 Limit
191	Carmeuse	KILN4E		466092.49	4610058.6	28.956	477.59	3.048	1.9812	8.76	SO2 Limit
192	Carmeuse	KILN4F		466094.1	4610060.73	28.956	477.59	3.048	1.9812	8.76	SO2 Limit
193	Carmeuse	KILN5A	Carmeuse 5	466076.28	4610057.34	26.8224	477.59	3.048	1.9812	8.76	SO2 Limit
194	Carmeuse	KILN5B		466077.89	4610059.47	26.8224	477.59	3.048	1.9812	8.76	SO2 Limit
195	Carmeuse	KILN5C		466079.51	4610061.61	26.8224	477.59	3.048	1.9812	8.76	SO2 Limit
196	Carmeuse	KILN5D		466081.13	4610063.75	26.8224	477.59	3.048	1.9812	8.76	SO2 Limit
197	Carmeuse	KILN5E		466082.74	4610065.88	26.8224	477.59	3.048	1.9812	8.76	SO2 Limit
198	Carmeuse	KILN5F		466084.36	4610068.02	26.8224	477.59	3.048	1.9812	8.76	SO2 Limit
199	Koppers	KOPPER24		437771.4	4630123.7	25.908	508.1	22.06752	1.524	569.8	3-yr ave annual
200	Koppers	KOPPER77		437763	4630123.6	25.908	508.1	22.06752	1.524	569.8	3-yr ave annual
201	Koppers	KOPPER53		437576.5	4630111.5	23.4696	794.2	14.23	0.76	333.6	3-yr ave annual
202	Koppers	KOPPER76		437577.2	4630093.9	23.4696	777.6	9.31	0.76	312.5	3-yr ave annual
203	AMBH	AMSRC12	Battery 2 Pushing Stack	488266.6	4609400.9	64.008	1088.71	41.57472	1.524	0	
204	AMBH	AM57	BOF Hot Metal Desulf 1 Baghouse Stack	488498.4	4609914.4	25.9111	305.37	12.94892	2.0513	0	
205	AMBH	AM59	BOF Hot Metal Desulf 2 Baghouse Stack	488512	4609940.1	25.9111	305.37	5.887721	3.0389	0	
206	AMBH	AM60	BOF Hot Metal Desulf 3 Baghouse Stack	488514.6	4609952.1	12.192	319.26	12.94892	2.664	0	

Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
207	AMBH	P6	AMBurns PwrStn Blr 8-12	488403	4609297	67.9704	505.37	13.939519	3.5113	4312.5	Seasonal Varying
208	NIPSCO	PU78FGD	NIPSCO Bailly	489738	4610321	146.304	327.59	26.634989	6.2484	1368.7	CEM
211	LaFarge	LAFAR1		465166	4614224.5	25.3	983.15	18.37944	2.39	98.45	3-yr ave annual
212	Safety Kleen	SK4		460158.59	4610790.08	30.48	1080.37	6.767	1.3716	34.9	3-yr ave annual
213	Safety Kleen	SK7		460162.05	4610772.05	30.48	1019.26	4.572	0.9693	21.36	3-yr ave annual
214	Safety Kleen	SK8		460153.73	4610772.75	30.48	1055.37	7.132	0.8534	6	3-yr ave annual
215	Eco Service	00242_2		460128.5	4606396.7	10.668	810.93	15.651	1.3716	3.76	3-yr ave annual
216	Eco Service	00242_3		460053.5	4606385.4	91.44	334.26	12.89304	1.8288	251.29	3-yr ave annual
225	AMUSA	AMUSA166	2SP BOF Charge Aisle	463400	4612140	4.572	316.48	33.6804	2.987	6.48	3-yr ave annual
226	AMBH	P7001	110 Plate Mill #1 & 2 Stack	489029.6	4608811	54.5592	838.71	2.1336	4.4409	0.4	3-yr ave annual
227	AMBH	P6503	160 Plate Mill #1 Slab Reheat Furnace	489014	4609043	54.2544	672.04	4.368802	3.1029	15.2	3-yr ave annual
228	AMBH	P6504	160 Plate Mill #2 Slab Reheat Furnace	489035	4609043	54.2544	672.04	4.08432	3.2095	16.6	3-yr ave annual
229	AMBH	P6509	160 PM #5 IN/OUT REHEAT FURNACE	489053.9	4609039	39.9288	783.15	12.476479	1.9507	0	
230	AMBH	P6502	160 PM #7 IN/OUT REHEAT FURNACE	489042.2	4608914	32.9184	783.15	9.987281	2.2372	0	
231	AMBH	P6505	160 PM #8 BATCH FURNACE	489042.2	4608894	50.9016	672.04	2.98704	1.7374	0	
232	AMBH	P3018	BATTERY #1 PECS	488053.3	4608389	30.48	360.93	25.26585	2.4384	53.61	3-yr ave annual
233	AMBH	P3026	#1 Underfire Coke Oven	487967.9	4608346	76.8096	560.93	9.144	3.7795	1759.97	Seasonal Varying
234	AMBH	P3024	BATTERY #2 PECS	488059.1	4608115	26.8224	360.93	25.26585	2.4384	60.7	3-yr ave annual
235	AMBH	P3027	#2 Underfire Coke Oven	487958.6	4608191	75.8952	560.93	9.144	4.0447	2261.91	Seasonal Varying
236	AMBH	P3547	C Furnace Stoves/Stacks (4 stoves)	488244.3	4609339	61.2648	533.15	15.8496	3.4839	864.44	Seasonal Varying
237	AMBH	P3560	D Furnace Stoves/Stacks (4 stoves)	488229.2	4609496	61.2648	533.15	14.894558	3.5936	1629.1	Seasonal Varying
238	AMBH	P90A	HOT STRIP MILL #1 WALKING BEAM FCE E	489029.2	4609235	96.012	810.93	7.061201	3.2004	21.8	3-yr ave annual

Lake County DRR Source Modeling Inventory
Point Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Stack Height	Stack Temperature	Exit Velocity	Stack Diameter	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(K)	(m/s)	(m)	(tpy)	
239	AMBH	P90B	HOT STRIP MILL #1 WALKING BEAM FCE W	489009	4609235	96.012	810.93	7.061201	3.2004	21.8	3-yr ave annual
240	AMBH	P91A	HOT STRIP MILL #2 WALKING BEAM FCE E	489051.1	4609236	96.012	810.93	7.02564	3.2004	11.3	3-yr ave annual
241	AMBH	P91B	HOT STRIP MILL #2 WALKING BEAM FCE W	489030.1	4609235	96.012	810.93	7.02564	3.2004	11.3	3-yr ave annual
242	AMBH	P92A	HOT STRIP MILL #3 REHEAT FURNACE STACK E	489069	4609236	41.4528	810.93	8.8392	3.9624	27.2	3-yr ave annual
243	AMBH	P92B	HOT STRIP MILL #3 REHEAT FURNACE STACK W	489053.1	4609236	41.4528	810.93	8.8392	3.9624	27.2	3-yr ave annual
254	AMBH	P2501	Power Station Boiler #7	488405.1	4609255	67.9704	505.37	14.43228	3.2004	879.84	Seasonal Varying
255	AMBH	P3513	SINTER PLANT WINDBOX SCRUBBER STACK	488038.3	4609329	24.0792	322.04	13.9446	5.1816	702.78	Seasonal Varying
256	AMBH	P4002	STEELMAKING HMD STATION #1	488512.1	4609936	25.9111	305.37	12.948919	2.0513	10.7	3-yr ave annual
257	AMBH	P59	STEELMAKING HMD STATION #2	488512	4609940	25.9111	305.37	5.887721	3.0389	10.7	3-yr ave annual
260	AMBH	P4008	STEELMAKING HMD STATION #3	488514.6	4609952	12.192	319.26	12.948919	2.664	9.6	3-yr ave annual
261	AMBH	P3091	Coke Oven Export Gas Flare	487988	4608372	30.48	1922.04	9.397999	0.9144	1.8	3-yr ave annual
262	AMBH	P3540	C Furnace BFG Flare (2 flareheads)	488274.8	4609359	64.008	1088.71	41.57472	1.524	18.6	3-yr ave annual
263	AMBH	P3553	D Furnace BFG Flare (2 flareheads)	488278.3	4609495	64.008	1088.71	41.57472	1.524	18.64	3-yr ave annual

AMUSA		- ArcelorMittal - USA
Cokenergy	- Cokenergy, Inc	
AMIH		- ArcelorMittal - Indiana Harbor
Ironside		- Ironside Energy, Inc
US Steel		- U.S. Steel - Gary Works
BP AMOCO		- BP Products - North America Inc.
Carmeuse		- Carmeuse Lime, Inc
Koppers		- Koppers Inc - Illinois
AMBH		- ArcelorMittal - Burns Harbor
NIPSCO		- NIPSCO Bailly Generating Station
LaFarge		- ISPAT Inland LaFarge North America
Safety Kleen	- Safety Kleen	
Eco Service		- Eco Services Corp (formerly Rhodia, Solvay)

Lake County DRR Source Modeling Inventory
Volume Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Release Height	Initial Horizontal Dimension	Initial Vertical Dimension	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(m)	(m)	(tpy)	
62	AMIH	V3B1	3SP HMD Fugitives	462672	4613541	16.15	2.23	7.51	0.278	3-yr ave annual
63	AMIH	V3B2	3SP HMD Fugitives	462734	4613566	16.15	2.23	7.51	0.278	3-yr ave annual
64	AMIH	V3B3	3SP HMD Fugitives	462717	4613529	16.15	2.23	7.51	0.278	3-yr ave annual
65	AMIH	V3B4	3SP HMD Fugitives	462738	4613525	16.15	2.23	7.51	0.278	3-yr ave annual
66	AMIH	V1A1	IH3 Casthouse	462562	4612734	23.8	0.85	11.1	1.41	3-yr ave annual
67	AMIH	V1A2	IH3 Casthouse	462561	4612733	23.8	0.85	11.1	1.41	3-yr ave annual
68	AMIH	V1A3	IH3 Casthouse	462560	4612731	23.8	0.85	11.1	1.41	3-yr ave annual
69	AMIH	V1A4	IH3 Casthouse	462559	4612730	23.8	0.85	11.1	1.41	3-yr ave annual
70	AMIH	V1A5	IH3 Casthouse	462558	4612728	23.8	0.85	11.1	1.41	3-yr ave annual
71	AMIH	V1A6	IH3 Casthouse	462556	4612727	23.8	0.85	11.1	1.41	3-yr ave annual
72	AMIH	V1A7	IH3 Casthouse	462555	4612725	23.8	0.85	11.1	1.41	3-yr ave annual
73	AMIH	V1A8	IH3 Casthouse	462554	4612724	23.8	0.85	11.1	1.41	3-yr ave annual
74	AMIH	V1A9	IH3 Casthouse	462553	4612722	23.8	0.85	11.1	1.41	3-yr ave annual
75	AMIH	V1A10	IH3 Casthouse	462552	4612721	23.8	0.85	11.1	1.41	3-yr ave annual
76	AMIH	V1B1	IH4 Casthouse	462697	4612866	31.1	0.99	14.5	3.27	3-yr ave annual
77	AMIH	V1B2	IH4 Casthouse	462696	4612864	31.1	0.99	14.5	3.27	3-yr ave annual
78	AMIH	V1B3	IH4 Casthouse	462695	4612863	31.1	0.99	14.5	3.27	3-yr ave annual
79	AMIH	V1B4	IH4 Casthouse	462693	4612861	31.1	0.99	14.5	3.27	3-yr ave annual
80	AMIH	V1B5	IH4 Casthouse	462692	4612860	31.1	0.99	14.5	3.27	3-yr ave annual
81	AMIH	V1B6	IH4 Casthouse	462690	4612858	31.1	0.99	14.5	3.27	3-yr ave annual
82	AMIH	V1B7	IH4 Casthouse	462689	4612856	31.1	0.99	14.5	3.27	3-yr ave annual

Lake County DRR Source Modeling Inventory
Volume Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Release Height	Initial Horizontal Dimension	Initial Vertical Dimension	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(m)	(m)	(tpy)	
83	AMIH	V1B8	IH4 Casthouse	462688	4612855	31.1	0.99	14.5	3.27	3-yr ave annual
119	US Steel	221	CB2UNDERFUG	473900	4606300	19.9949	9.9974	9.9974	10.8	
120	US Steel	222	CB5UNDERFUG	473913	4606438	19.9949	9.9974	9.9974	1	
121	US Steel	447110	#4 BF Casthouse Roof M	472679.5	4606687.4	18.1051	4.2977	8.7996	6.32	Emission Factor
122	US Steel	447210	#4 BF Casthouse Roof M	472685.4	4606667.7	18.1051	4.2977	8.7996	6.32	Emission Factor
123	US Steel	447310	#4 BF Casthouse Roof M	472691.3	4606648	18.1051	4.2977	8.7996	6.32	Emission Factor
124	US Steel	447410	#6 BF Casthouse Roof M	472683	4606848	17.4986	4.2977	8.7996	6.34	Emission Factor
125	US Steel	447510	#6 BF Casthouse Roof M	472688.9	4606828.3	17.4986	4.2977	8.7996	6.34	Emission Factor
126	US Steel	447610	#6 BF Casthouse Roof M	472694.7	4606808.5	17.4986	4.2977	8.7996	6.34	Emission Factor
127	US Steel	447710	#8 BF Casthouse Roof M	472686.7	4606991.9	17.1999	4.2977	8.3972	5.9	Emission Factor
128	US Steel	447810	#8 BF Casthouse Roof M	472692.5	4606972.2	17.1999	4.2977	8.3972	5.9	Emission Factor
129	US Steel	447910	#8 BF Casthouse Roof M	472698.4	4606952.4	17.1999	4.2977	8.3972	5.9	Emission Factor
130	US Steel	448110	#13 BF Casthouse RM	472710.6	4607478.3	34.3997	6.3978	15.999	12.75	Emission Factor
131	US Steel	448210	#13 BF Casthouse RM	472713.1	4607461.2	34.3997	6.3978	15.999	12.75	Emission Factor
209	AMBH	P133		488222	4609449	50	16	3.6576	0	
210	AMBH	P134		488220	4609591	50	16	3.6576	0	
217	AMIH	AMIH142		461896	4610979	47.5488	4.9378	21.97	0	
218	AMIH	AMIH165		464750	4614615	21.9456	7.4981	1.4204	0	
219		F1C		462531	4612706	49.9994	15.999	12	37.5	3-yr ave annual
220		F1D		462726	4612870	49.9872	15.999	12	69.5	3-yr ave annual
221	AMUSA	171A	IH7 Casthouse Fugitives	464721	4614598	21.9456	7.6352	19.56	0	
222	AMUSA	171B	IH7 Casthouse Fugitives	464731	4614598	21.9456	7.6352	19.56	0	

Lake County DRR Source Modeling Inventory
Volume Sources

	Company	Source ID	Source Description	East (X)	North (Y)	Release Height	Initial Horizontal Dimension	Initial Vertical Dimension	SO2 Emissions	Emission Determination CEM/Varying/Annual
				(m)	(m)	(m)	(m)	(m)	(tpy)	
223	AMUSA	171C	IH7 Casthouse Fugitives	464741	4614598	21.9456	7.6352	19.559	0	
224	AMUSA	171D	IH7 Casthouse Fugitives	464751	4614598	21.9456	7.6352	19.559	0	
244	AMBH	PFE101		488022.5	4608137.9	16.43	13.6	7.65	0.465817359	3-yr ave annual
245	AMBH	PFE102		488023.4	4608163.5	16.43	13.6	7.65	0.465817359	3-yr ave annual
246	AMBH	PFE103		488022.8	4608185.1	16.43	13.6	7.65	0.465817359	3-yr ave annual
247	AMBH	PFE104		488023.1	4608208.7	16.43	13.6	7.65	0.465817359	3-yr ave annual
248	AMBH	PFE105		488024.3	4608231.3	16.43	13.6	7.65	0.465817359	3-yr ave annual
249	AMBH	PFE201		488012.9	4608305.6	16.43	13.6	7.65	0.465817359	3-yr ave annual
250	AMBH	PFE202		488013.2	4608327.3	16.43	13.6	7.65	0.465817359	3-yr ave annual
251	AMBH	PFE203		488012.7	4608349.1	16.43	13.6	7.65	0.465817359	3-yr ave annual
252	AMBH	PFE204		488013.1	4608375.5	16.43	13.6	7.65	0.465817359	3-yr ave annual
253	AMBH	PFE205		488013.9	4608397.5	16.43	13.6	7.65	0.465817359	3-yr ave annual
258	AMBH	BFDCHFUG		488240	4609560	24.7	21.4	3.5	14.53072061	3-yr ave annual
259	AMBH	BFCCHFUG		488242	4609426	24.7	21.4	3.5	14.53072061	3-yr ave annual

This page left intentionally blank.

ENCLOSURE 3

Carmeuse Commissioner's Order

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Michael R. Pence, *Governor*
Carol S. Comer, *Commissioner*

STATE OF INDIANA)
COUNTY OF MARION) SS:
BEFORE THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IN THE MATTER OF:
ORDER OF THE COMMISSIONER
PURSUANT TO IC 13-14-2-1
FOR CARMEUSE LIME INC.

NOTICE AND ORDER OF THE COMMISSIONER OF THE DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

This Notice and Order of the Commissioner of the Department of Environmental Management ("Order") is issued pursuant to Indiana Code ("IC") 13-14-1-9, IC 13-14-2-1, and IC 13-14-2-7. During the Commissioner's review, it was determined that the Petition should be granted according to the terms specified below:

PETITION

Petitioner is Carmeuse Lime, Inc. ("Carmeuse" or "Petitioner"), a stationary lime manufacturing plant with Source I.D. Number 089-00112, located at 1 North Carmeuse Drive in Gary, Lake County, Indiana, and permitted under the Part 70 air operating permit program.

The United States Environmental Protection Agency (U.S. EPA) published the final Data Requirements Rule (DRR) for the 2010 1-hour SO_2 Primary National Ambient Air Quality Standard (NAAQS), in the *Federal Register* on August 21, 2015 (80 FR 51052). The DRR was promulgated in order to establish minimum requirements for air agencies to characterize 1-hour SO_2 air quality concentrations across the country, with an emphasis on doing so in the vicinity of sources that have the largest annual SO_2 emissions to aid in the implementation of the 2010 primary 1-hour SO_2 standard. Implementation of the new 1-hour SO_2 standard began in 2013 when U.S. EPA established nonattainment areas based on monitoring data. On March 2, 2015, U.S. EPA entered into a federal Consent Decree with the Sierra Club and Natural Resources Defense Council (NRDC) that established a timeline for the completion of air quality characterizations and designations in all remaining areas of the country. The Consent Decree required U.S. EPA to complete the designations in three additional rounds: Round 2 by July 2, 2016, Round 3 by December 31, 2017, and Round 4 by December 31, 2020.

On January 7, 2016, Indiana submitted to U.S. EPA a list of 11 stationary sources for air quality characterization pursuant to the DRR requirements as part of the Round 3 designation process. The DRR considers air dispersion modeling and ambient air monitoring appropriate ways to assess local SO_2 concentrations and the DRR also provides states with a third option to establish a permanent and federally enforceable facility-wide limit on SO_2 emissions from a

listed source to below 2,000 tons per year. A source that limits its SO_2 emissions under the third option is not subject to the requirements for air quality characterization. Though the Petitioner is not one of the 11 stationary sources listed by IDEM and its SO_2 emissions are less than 2,000 tons per year, it has been identified by IDEM as a source that could impact overall SO_2 air quality in the area surrounding it.

On November 16, 2016, the Petitioner submitted a request to the Commissioner to impose permanent and enforceable SO_2 requirements on the Petitioner in order to ensure continued attainment of the 2010 1-hour SO_2 NAAQS in the area surrounding Carmeuse.

By January 13, 2017, the Indiana Department of Environmental Management ("IDEM") intends to recommend that Lake County be designated as attainment for the 2010 1-hour SO_2 NAAQS. The recommendation will be based on modeling that includes, among other requirements, permanent and enforceable SO_2 requirements at Carmeuse.

The Petitioner proposed that it be required to comply with emission rates for Rotary Kilns EU-1, EU-2, EU-3, EU-4, and EU-5 that would provide for modeled attainment of the 2010 1-hour SO_2 NAAQS.

FINDINGS

Pursuant to IC 13-14-2-1(b) and IC 13-14-2-7(1), the Commissioner may issue Orders to secure compliance with Indiana's environmental statutes and rules, and to impose emission limitations or other restrictions to demonstrate attainment of the ambient air quality standards, including the ambient air quality standard for SO_2 at 326 Indiana Administrative Code ("IAC") 1-3-4(b)(1)(A).

Petitioner's proposal and this Order are intended to support IDEM's intended recommendation that Lake County be designated as attainment for the 2010 1-hour SO_2 NAAQS.

Based on the foregoing information, IDEM finds the following:

1. Permanent and enforceable SO_2 emission requirements for Carmeuse are required in order to model continued attainment of the 2010 1-hour SO_2 NAAQS in areas surrounding the Petitioner.

2. Adding SO_2 emission requirements to the Petitioner's Part 70 Operating Permit is not adequately permanent to assure continued attainment of the 2010 1-hour SO_2 NAAQS. An Order of the Commissioner of IDEM is required to ensure SO_2 emission requirements remain permanent and enforceable, as required by 42 U.S.C. § 7407(d)(3)(E)(iii).

3. Approval by U.S. EPA of the Commissioner's Order into the Indiana State Implementation Plan ("SIP") is required to make the Order requirements federally enforceable. Upon approval into the Indiana SIP, the Order requirements become applicable requirements as defined in 326 IAC 2-7-1(6).

4. Based on modeling conducted by IDEM, the SO_2 emission rates in Order paragraph 2 are adequate to assure continued attainment of the 2010 1-hour SO_2 NAAQS.

ORDER

1. This Order approves the Petition submitted by the Petitioner according to the terms specified below. This Order imposes on Petitioner the SO_2 emission requirements described below.

2. Requirements:

   a. The SO_2 emissions from Rotary Kilns EU-1, EU-2, EU-3, EU-4, and EU-5 shall not exceed nine and forty-eight hundredths (9.48) pounds per hour, each, calculated as a rolling seven hundred and twenty (720) operating hour average, per kiln.

3. The Petitioner shall comply with the requirements in Order paragraph 2, beginning seven (7) calendar days from the issuance of the permit modification required to allow the use of natural gas within the affected kilns, but no earlier than January 31, 2017.

4. As required by 326 IAC 2-7-2(d)(1) and 326 IAC 2-7-5, the Petitioner shall apply to incorporate these Order requirements as set for forth in Order paragraphs 2 and 5 into its Part 70 Operating Permit within thirty (30) days of the effective date of U.S. EPA's approval of the requirements contained within this Commissioner's Order into the State Implementation Plan.

5. The Petitioner shall comply with the reporting, stack testing, compliance determination and recordkeeping requirements specified in this paragraph beginning seven (7) calendar days from the issuance of the permit modification required to allow the use of natural gas within the affected kilns, but no earlier than January 31, 2017.

   a. Reporting: The Petitioner shall submit to IDEM, on a quarterly basis, a report of the SO_2 emissions in pounds per hour from each of Rotary Kilns #1 through #5 (EU-1 through EU-5) on a rolling seven hundred and twenty (720) operating hour average calculated for each kiln. Each report will be submitted not later than thirty (30) days after the end of the calendar quarter being reported.
   b. Stack Testing: The Petitioner shall perform SO_2 testing of Rotary Kilns #1 through #5 (EU-1 through EU-5) utilizing methods approved by the Commissioner at least once every thirty (30) months from the date of the most recent valid stack test. The testing is required in order to develop the SO_2 scrubbing factors used to demonstrate compliance with the SO_2 emission rates in Order paragraph 2. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Permit Condition C.8, Performance Testing, in Title V Permit No. T089-34191-00112 contains Petitioner's obligation with regard to the performance testing required herein. Representative sampling of the as-fed limestone, coal, engineered fuel (EF), and glycerin shall be conducted during each stack test run and the sulfur content analysis of the collected samples shall be included in the stack test report for development of the SO_2 scrubbing factor. Material sampling (as-fed during test) and analysis methods shall be included in the test protocol submitted to OAQ. Stack testing shall be conducted with limestone representative of the material processed in the kiln (dolomitic limestone or high calcium limestone). Testing shall be conducted for both dolomitic limestone and high calcium limestone if the kiln is used or is anticipated to be used to process both. The initial SO_2 stack test for each kiln shall occur no later than 180 days from the effective date as determined in Order paragraph 3. For kilns that process both dolomitic limestone and high calcium

limestone, the stack test for the second product processed in the kiln shall occur by the later of 180 days from the effective date as determined in Order paragraph 3 or 90 days after the second product is first processed, whichever occurs last.

c. Compliance determination: Petitioner shall demonstrate compliance with the SO_2 emission rates in Order paragraph 2 above as follows:

Sampling, Analysis and Calculations:

(i) Sampling: Each shipment of limestone, glycerin, engineered fuel (EF), and coal is sampled and analyzed by an independent laboratory, utilizing American Society for Testing and Materials (ASTM) standards for sampling and chemical analysis. The certified analyses that accompany each shipment shall be the source of the data of the sulfur content in both the limestone and coal calculation of the hourly SO_2 emissions for reporting. Either a certificate of analysis or certification that the EF complies with Carmeuse's specifications will be the source of the data of the sulfur content in the EF for calculation of the hourly SO_2 emissions for reporting. Information concerning the sulfur content of pipeline quality natural gas shall be the source of the data of the sulfur content in the natural gas. Pursuant to 326 IAC 7-4.1-2(c), the current sampling and analysis protocol to be used in lieu of certified analyses, certificates of analysis, or certification of compliance with Carmeuse's specifications for limestone, coal, glycerin, and/or EF is as follows:

(a) The sample acquisition points shall be at locations where representative samples of the respective material shipments may be obtained.

(b) Minimum sample size shall be in accordance with ASTM specifications for representative samples in the size fraction and quantity delivered.

(c) Samples shall be composited and analyzed in accordance with ASTM specifications.

(1) For limestone, a sample shall be taken for each boat/barge load received and analyzed.

(2) For glycerin, a sample shall be taken for each truck load received and analyzed.

(3) For EF, analysis of a composite sample consisting of each truck load received per month.

(4) For coal, a sample shall be taken for each rail load received and analyzed.

(d) Preparation of the sample and sulfur content analysis, where applicable, shall be determined pursuant to 326 IAC 3-7-2(c), (d), and (e).

(ii) For each kiln, the Petitioner shall calculate the SO_2 scrubbing factor for each product type as follows:

Scrubbing Factor (SF) $_{Kiln(i)\ /\ Product(i)}$ = 1- [$SO_{2,\ stack\ test(i)}$ / ($S_{input\ STest(i)}$ *2 * 2000)]

Where, for purposes of this paragraph 5.c.(ii), $S_{input\ STest(i)}$ =
[(%$S_{limestone\ STest(i)}$ x Usage $_{limestone\ STest(i)}$) / 100] +
[(%$S_{coal\ STest(i)}$ x Usage $_{coal\ STest(i)}$) / 100]+
[(%$S_{glycerin\ STest(i)}$ x Usage $_{glycerin\ STest(i)}$) / 100]+
[(%$S_{EF\ STest(i)}$ x Usage $_{EF\ STest(i)}$) / 100] +
[($S_{natural\ gas\ STest(i)}$ x Usage $_{natural\ gas\ STest(i)}$) / (7000 x 2000)]

%$S_{STest(i)}$ = weight percent sulfur in limestone, coal, glycerin or EF inputs, as applicable, as determined by sampling and analysis for the respective material input during the most recent valid stack test for Kiln(i) for the applicable product type (Product(i)).

$S_{natural\ gas\ STest(i)}$= sulfur content of natural gas (grains/dscf) during the most recent valid stack test for Kiln(i) for the applicable product type (Product(i)).

Usage $_{STest(i)}$ = average limestone, coal, glycerin, EF or natural gas input to the kiln during the most recent valid stack test for Kiln(i) for the applicable product type (Product(i)) in tons/hr or dscf/hr as applicable.

The Petitioner shall recalculate the scrubbing factor within thirty (30) days after receiving the results of the most recent valid stack test for SO_2 for Kiln(i) for the applicable product type (Product(i)).

(iii) The Petitioner shall calculate hourly SO_2 emissions (lb/hr) for each of Rotary Kilns #1 through #5 (EU-1 through EU-5) by the following calculations using the input values determined in Order paragraphs 5.c.(i) and 5.c.(ii) above:

$$SO_2\ Emissions_{Kiln\ (i)}\ (lb/hr) = (1 - SF_{Kiln(i)/Product(i)})\ x\ S_{Input}\ x\ 2\ x\ 2000$$

Where

$SF_{Kiln(i)/Product(i)}$ = Scrubbing Factor value determined in Order paragraph 5.c.(ii) from most recent valid stack test for Kiln(i) for the applicable product type (Product(i)) for which the total sulfur input during the test was the same as or greater than the total sulfur input for the hour. If the total sulfur input for the hour is greater than the total sulfur input during the most recent valid stack test for Kiln(i) for the applicable product type (Product(i)), then the Scrubbing Factor value used shall be the value determined based on the results of the most recent prior valid stack test for Kiln(i) for the applicable product type (Product(i)) for which the total sulfur input during the test was the same as or greater than the total sulfur input for the hour.

Hour of operation is defined as any hour that fuel is being combusted within the affected kiln(s).

For the time period beginning seven (7) calendar days from the issuance of the permit modification required to allow the use of natural gas within the affected kilns, but no earlier than January 31, 2017 and the completion of the initial stack testing discussed in Order paragraph 5.b for each kiln and product type, Petitioner shall continue to use the existing scrubbing factors to calculate SO_2 emissions. However, following the development of new scrubbing factors based on the results of the initial stack tests for each kiln and product type, Petitioner shall recalculate the SO_2 emissions for the period beginning seven (7) calendar days from the issuance of the permit modification required to allow the use of natural gas within the affected kilns, but no earlier than January 31, 2017 to the date the new scrubbing factors were determined using the new scrubbing factors. If Petitioner has filed reports as required by Order paragraph 5.a based on the existing scrubbing factors, Petitioner shall submit revised reports based on the use of the new scrubbing factors.

When limestone or product is NOT present in a kiln, the SF shall be equal to zero (0).

For purposes of this paragraph 5.c.(iii), S_{input} = [(%$S_{limestone}$ x Hourly Input $_{limestone}$) / 100] +
[(%S_{coal} x Hourly Input $_{coal}$) / 100]+
[(%$S_{glycerin}$ x Hourly Input $_{glycerin}$) / 100]+
[(%S_{EF} x Hourly Input $_{EF}$) / 100] +
[($S_{natural\ gas}$ x Hourly Input $_{natural\ gas}$) / (7000 x 2000)]

%S = weight percent sulfur in limestone, coal, glycerin or EF inputs, as applicable, as determined by the most recent vendor analysis or sampling, in accordance with 5.c.(i) - Sampling above.

$S_{natural\ gas}$ = sulfur content of natural gas (grains/dscf).

Hourly Input = limestone, coal, glycerin, EF or natural gas input to the kiln in tons/hr or dscf/hr as applicable.

(iv) The Petitioner shall calculate the rolling seven hundred and twenty (720) operating hour average SO_2 emissions (lbs/hr) for each Rotary Kiln #1 through #5 (EU-1 through EU-5) by adding the hourly SO_2 emissions calculated in Order paragraph 5.c.(iii) for each Rotary Kiln to the preceding seven hundred and nineteen (719) hours of operation for each rotary kiln, then divide by seven hundred and twenty (720) to derive the rolling average emissions per kiln per averaging period.

d. Recordkeeping: The Petitioner shall maintain records of the sampling and analysis of raw material and fuels, certifications, other documentation, and the equations used to demonstrate compliance with the emission requirements in Order paragraph 2. These records shall be retained for a period of at least five (5) calendar years.

This Order shall apply to and be binding upon the Petitioner, its successors and assigns. No change in ownership, corporate, or partnership status of the Petitioner shall in any way alter its status or responsibilities under this Order.

Nothing in this Order shall prohibit future revisions to the emission rates in Order paragraph 2, including increases in such emission rates, provided such future revisions demonstrate continued attainment of the 1-hour SO_2 NAAQS, satisfy the requirements in Section 110(l) of the Clean Air Act (42 U.S.C. §7410(l)), and any necessary revisions to the applicable regulations and SIP are obtained.

EFFECTIVE DATE OF ORDER

Pursuant to IC 13-14-2-1(d), IC 4-21.5-3-1, IC 4-21.5-3-5(a)(6), and 40 CFR 51.102, IDEM will give notice of this Order to each entity to whom the Order is directed and affected neighbors by mailing and to the general public by publication.

Pursuant to IC 4-21.5-3-7(a)(3), IC 4-21.5-3-2(e), and IC 4-21.5-3-5, this Order may be appealed by a Petition for review within eighteen (18) days after the date affected persons were given notice of the Order by U.S. mail. Information on petitions for review of this Order can be found at IC 4-21.5-3-7 and 315 IAC 1-3-2.

Pursuant to IC 4-21.5-3-5(f) and IC 4-21.5-3-2(e), this Order is effective eighteen (18) days from mailing of the notice unless a Petition for review has been filed before or on the eighteenth (18^{th}) day. However, the compliance date for the SO_2 emission requirements in Order paragraph 2 begins seven (7) calendar days from the issuance of the permit modification required to allow the use of natural gas within the affected kilns, but no earlier than January 31, 2017.

Pursuant to 40 CFR 51.103, IDEM will submit this Order to U.S. EPA as a revision to the Indiana SIP. Upon approval by the U.S. EPA, this Order will be part of the Indiana SIP.

Persons seeking judicial review of this Order may do so in accordance with IC 4-21.5-5.

If you have procedural or scheduling questions regarding your request for review, you may contact the Office of Environmental Adjudication at (317) 232-8591. If you have questions regarding this Order, please contact Betsy Zlatos, Office of Legal Counsel, by telephone at (317)233-5645 or email at bzlatos@idem.IN.gov.

Dated at Indianapolis, Indiana this 16th day of November, 2016.

Carol S. Comer
Commissioner
Indiana Department of Environmental Management

ENCLOSURE 4

SABIC Commissioner's Order

Indiana Department of Environmental Management
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov
Michael R. Pence, *Governor*
Carol S. Comer, *Commissioner*

STATE OF INDIANA COUNTY OF MARION	SS:	BEFORE THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

IN THE MATTER OF:
ORDER OF THE COMMISSIONER
PURSUANT TO IC 13-14-2-1
FOR SABIC INNOVATIVE PLASTICS
MT. VERNON, LLC

NOTICE AND ORDER OF THE COMMISSIONER OF THE INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

On September 9, 2016, SABIC Innovative Plastics Mt. Vernon, LLC (SABIC) submitted a Petition to the Commissioner of the Indiana Department of Environmental Management (IDEM) that requested that the Commissioner limit the emissions of Sulfur Dioxide (SO_2) from SABIC's Mt. Vernon plant. The purpose of the petition request was to allow SABIC to limit its SO_2 emissions below the applicability threshold of the federal SO_2 Data Requirements Rule at 40 CFR 51 Subpart BB and concurrently ensure compliance with the 2010 1-hour SO_2 National Ambient Air Quality Standard (NAAQS). The Commissioner has determined that the Petition should be granted according to the terms specified below:

LEGAL BACKGROUND

SABIC Innovative Plastics Mt. Vernon, LLC owns a stationary integrated plastics and engineering resin manufacturing facility with Source I.D. Number 129-00002, located at 1 Lexan Lane in Mount Vernon, Posey County, Indiana, and permitted under the Part 70 air operating permit program.

The United States Environmental Protection Agency (U.S. EPA) published the final Data Requirements Rule (DRR) for the 2010 1-hour SO_2 Primary National Ambient Air Quality Standard (NAAQS), in the *Federal Register* on August 21, 2015 (80 FR 51052). The DRR was promulgated in order to establish minimum requirements for air agencies to characterize 1-hour SO_2 air quality concentrations across the country, with an emphasis on doing so in the vicinity of sources that have the largest annual SO_2 emissions to aid in the implementation of the 2010 primary 1-hour SO_2 standard. Implementation of the new 1-hour SO_2 standard began in 2013 when U.S. EPA established nonattainment areas based on monitoring data. On March 2, 2015, U.S. EPA entered into a federal Consent Decree with the Sierra Club and Natural Resources Defense Council (NRDC) that established a timeline for the completion of air quality characterizations and designations in all remaining areas of the country. The Consent Decree required U.S. EPA to complete the designations in three additional rounds: Round 2 by July 2, 2016, Round 3 by December 31, 2017, and Round 4 by December 31, 2020.

On January 7, 2016, Indiana submitted to U.S. EPA a list of 11 stationary sources, including SABIC, for air quality characterization pursuant to the DRR requirements as part of the Round 3 designation process. The DRR considers air dispersion modeling and ambient air monitoring appropriate ways to assess local SO_2 concentrations and the DRR also provides states with a third option to establish a permanent and federally enforceable facility-wide limit on SO_2 emissions from a listed source to below 2,000 tons per year. A source that limits its SO_2 emissions under the third option is not subject to the requirements for air quality characterization.

Indiana informed U.S. EPA on June 30, 2016 that SABIC had selected the DRR modeling option to characterize the ambient air quality in the area. Subsequently, Indiana has learned that modifications made at the SABIC facility due to a Co-Gen project that was permitted as PSD/Significant Source Modification No.: 129-33998-00002 and issued on November 20, 2014 have resulted in the reduction of potential SO_2 emissions at the facility.

On September 9, 2016, SABIC submitted a request to the Commissioner to impose permanent and federally enforceable SO_2 emission limitations and emission rates on SABIC in order to ensure continued attainment of the SO_2 NAAQS in the area surrounding SABIC. SABIC proposed SO_2 emission limitations, applicable to specific emissions units and source-wide, as follows:

a. Limitation on source-wide SO_2 emissions of 2,000 tons per year;

b. Limitation on SO_2 emissions from 08-706 COS Vent Oxidizer and 08-708 COS Flare;

c. Limitation on sulfur content of diesel fuel used in diesel-powered engines; and

d. Limitation requiring coal-fired boilers (01-001 BW1-BOILER, 01-001 BW2-BOILER and 09-002 E-BOILER) at the facility to permanently cease operation prior to January 13, 2017.

Pursuant to IC 13-14-2-1(b) and IC 13-14-2-7(1), the Commissioner may issue Orders to secure compliance with Indiana's environmental statutes and rules, including the ambient air quality standard for SO_2 at 326 Indiana Administrative Code ("IAC") 1-3-4(b)(1)(A).

FINDINGS

Based on the foregoing information, IDEM, through its Commissioner, finds the following:

1. Permanent and enforceable SO_2 emission limitations and emission rates for SABIC are required that limit SO_2 emissions in order to provide assurance of attainment of the 2010 1-hour SO_2 NAAQS in the area surrounding SABIC's facility without continued assessment of the SO_2 concentrations through air dispersion modeling or ambient air monitoring.

2. Adding SO_2 emission limitations and emission rates to SABIC's Part 70 Operating Permit, while federally enforceable, is not permanent and, therefore, is not adequate to assure continued attainment of the SO_2 NAAQS. An Order of the Commissioner of IDEM (Order) is

required to ensure SO_2 emission limitations and emission rates remain permanent and enforceable, as required by 42 U.S.C. § 7407(d)(3)(E)(iii).

3. In addition, the approval by U.S. EPA of the Order into the Indiana State Implementation Plan ("SIP") is required to make the Order requirements permanent and federally enforceable. Upon approval into the Indiana SIP, the Order requirements become applicable requirements as defined in 326 IAC 2-7-1(6).

4. Based on modeling conducted by IDEM, the SO_2 emission limitations and emission rates proposed by SABIC were clarified and adjusted in order to assure continued attainment of the 1-hour SO_2 NAAQS. The annual source-wide SO_2 limitation of 2,000 tons was not necessary in order to demonstrate compliance with the DRR.

This Notice and Order of the Commissioner of the Indiana Department of Environmental Management (Order) is issued pursuant to Indiana Code (IC) 13-14-1-9, IC 13-14-2-1, and IC 13-14-2-7.

ORDER

1. SO_2 emission limitations and emission rates are set forth below for the following emission units: 01-101 NE BOILER, 01-014 BW GAS, 08-706 COS Vent Oxidizer, 08-707 COS Flare, 12-701 H-790, 03-007 H-520, 03-008 H-530A, 03-008 H-530B, 12-169 H-390, 13-049 H-900, 13-321 H-900B, 13-155 SC-1/2, 04-063 H-7090, 04-050 H-6060, 08-001 F-972, 19-001 COGEN, 19-002 AUX BOILER, 19-003 AUX2 BOILER, 19-004 CG1 BOILER, 09-106 R BOILER.

2. The COS Vent Oxidizer and the COS Flare shall not exceed the following SO_2 emission rates:

   a. 415 lb/hr, one (1) hour average; and

   b. 269.21 lb/hr, twenty-four (24) hour rolling average, based on daily coke usage and daily sulfur input.

3. The NE BOILER (01-101) shall not exceed an SO_2 emission rate of 0.15 lb/hr, one (1) hour average.

4. The BW GAS (01-014) shall not exceed an SO_2 emission rate of 0.15 lb/hr, one (1) hour average.

5. The H-790 (12-701) shall not exceed an SO_2 emission rate of 0.02 lb/hr, one (1) hour average.

6. The H-520 (03-007) shall not exceed an SO_2 emission rate of 0.0045 lb/hr, one (1) hour average.

7. The H-530A (03-008) shall not exceed an SO_2 emission rate of 27.8 lb/hr, one (1) hour average.

8. The H-530B (03-008) shall not exceed an SO_2 emission rate of 27.8 lb/hr, one (1) hour average.

9. The H-390 (12-169) shall not exceed an SO_2 emission rate of 0.0102 lb/hr, one (1) hour average.

10. The H-900 (13-049) shall not exceed an SO_2 emission rate of 1.86 lb/hr, one (1) hour average.

11. The H-900B (13-321) shall not exceed an SO_2 emission rate of 0.0188 lb/hr, one (1) hour average.

12. The SC 1/2 (13-155) shall not exceed an SO_2 emission rate of 0.0008 lb/hr, one (1) hour average.

13. The H-7090 (04-063) shall not exceed an SO_2 emission rate of 0.00235 lb/hr, one (1) hour average.

14. The H-6060 (04-050) shall not exceed an SO_2 emission rate of 0.00153 lb/hr, one (1) hour average.

15. The F-972 (08-001) shall not exceed an SO_2 emission rate of 0.518 lb/hr, one (1) hour average.

16. The COGEN (19-001) shall not exceed an SO_2 emission rate of 1.17 lb/hr, one (1) hour average.

17. The AUX BOILER (19-002) shall not exceed an SO_2 emission rate of 0.15 lb/hr, one (1) hour average.

18. The AUX2 BOILER (19-003) shall not exceed an SO_2 emission rate of 0.15 lb/hr, one (1) hour average.

19. The CG1 BOILER (19-004), if constructed, shall not exceed an SO_2 emission rate of 0.15 lb/hr, one (1) hour average.

20. The R BOILER (09-106) shall not exceed an SO_2 emission rate of 0.11 lb/hr, one (1) hour average.

21. To achieve the SO_2 emission rate and emission limitation in Paragraph 2.a, daily sulfur input to the carbon monoxide generators, identified as COG1, COG2, COG3, COG4, COG5, COG6, COG7, COG8, COG9, COG10, COG11, COG12, COG13, COG14, COG15, and COG16, shall be limited to no more than 2.49 tons per day.

22. All site emergency generators and pumps, standby energy curtailment diesel generators and mobile diesel units, temporary and portable emergency generators shall operate on No. 2 diesel fuel containing 15 parts per million (ppm) by weight or less of sulfur.

23. SABIC shall comply with the SO_2 emission limitations and emission rates, and the No. 2 diesel fuel sulfur content limit, beginning January 13, 2017.

24. As required by 326 IAC 2-7-2(d)(1) and 326 IAC 2-7-5, SABIC shall apply to incorporate Order requirements, including reporting and recordkeeping requirements and methods to determine compliance, into its Part 70 Operating Permit within ninety (90) days of U.S. EPA approval of the Commissioner's Order into the Indiana SIP.

25. From January 13, 2017 until IDEM issues a Permit incorporating Order requirements, SABIC shall comply with the reporting and recordkeeping requirements and methods to determine compliance specified in this paragraph.

a. Reporting: SABIC shall submit to IDEM, on a quarterly basis, a report of the daily coke input and corresponding sulfur content for the COS Vent Oxidizer and COS Flare.

b. Recordkeeping: SABIC shall maintain records of daily coke input and corresponding sulfur content, and sulfur content of No. 2 diesel fuel.

c. Method to determine compliance: Compliance shall be determined on a daily basis, based on 326 IAC 3-5.

i. Daily sulfur input for the group of carbon monoxide generators (COG1-16), calculated by taking the daily coke usage and multiplying by the percent weight of corresponding sulfur content.

ii. The sulfur content of the coke used in the carbon monoxide generators shall be analyzed daily as received (vendor delivery analysis may be used, approved by IDEM on 08/01/2005) for each day the carbon monoxide generators operate.

iii. Actual fuel usage for natural gas, diesel and fuel oil and liquid waste fuel-fired emission units or, in the alternative, the maximum design fuel usage.

26. This Order shall apply to and be binding upon SABIC, its successors and assigns. No change in ownership, corporate, or partnership status of SABIC shall in any way alter its status or responsibilities under this Order.

27. The requirements of this Order supersede any less stringent requirements applicable to SABIC.

EFFECTIVE DATE OF ORDER

Pursuant to IC 13-14-2-1(d), IC 4-21.5-3-1, IC 4-21.5-3-5(a)(6), and 40 Code of Federal Regulations ("CFR") 51.102, IDEM will give notice of this Order to each entity to whom the Order is directed and affected neighbors by mailing and to the general public by web publication.

Pursuant to IC 4-21.5-3-7(a)(3), IC 4-21.5-3-2(e), and IC 4-21.5-3-5, this Order may be appealed by filing a Petition for review within eighteen (18) days after the date affected persons were given notice of the Order by U.S. mail. Information on petitions for review of this Order can be found at IC 4-21.5-3-7.

Pursuant to IC 4-21.5-3-5(f) and IC 4-21.5-3-2(e), the Order is effective eighteen (18) days from mailing of notice unless a Petition for review has been filed before or on the eighteenth (18th) day. However, the compliance date for the emission limitations in this Order is January 13, 2017.

Pursuant to 40 CFR 51.103, IDEM will submit this Order to U.S. EPA as a revision to the Indiana SIP. Upon approval by the U.S. EPA, this Order will be part of the Indiana SIP.

Persons seeking judicial review of this Order may do so in accordance with IC 4-21.5-5.

If you have procedural or scheduling questions regarding your request for review, you may contact the Office of Environmental Adjudication at (317) 232-8591. If you have questions regarding this Order, please contact Mark Derf, Office of Air Quality, by telephone at (317) 233-5682 or email at MDERF@idem.IN.gov.

Dated at Indianapolis, Indiana this 20th day of October, 2016.

Carol S. Comer
Commissioner
Indiana Department of Environmental Management