

Monitoring Data

Sampling Frequency: Annual

EPA Point: Point 10 - Fifth of 6 Cracking Furnaces (Olefines Plant)

Pollutant	Monitoring date	Units	Licence Limit*	Minimum Value	Maximum Value	Mean Value	Requirement Met	Results Obtained	Results Published	Notes
Nitrogen Oxides	6/05/2013	g/m ³	2	0.20	0.21	0.21	Yes	6/05/2013	29/05/2013	
Total Solid Particulates	6/05/2013	mg/m ³	250	1.75	2.09	1.92	Yes	13/05/2013	29/05/2013	
Nitrogen Oxides	24/02/2014	g/m ³	2	0.18	0.22	0.20	Yes	25/03/2014	8/05/2014	
Total Solid Particulates	24/02/2014	mg/m ³	250	1.32	4.43	2.87	Yes	25/03/2014	8/05/2014	
Nitrogen Oxides	19/05/2015	g/m ³	2	0.201	0.213	0.205	Yes	6/08/2015	13/08/2015	
Total Solid Particulates	19/05/2015	mg/m ³	250	0.1	0.103	0.102	Yes	6/08/2015	13/08/2015	
Nitrogen Oxides	22/11/2016	g/m ³	2	0.203	0.22	0.211	Yes	22/11/2016	28/11/2016	
Total Solid Particulates	22/11/2016	mg/m ³	250	0.145	0.146	0.145	Yes	22/11/2016	28/11/2016	
Nitrogen Oxides	7/07/2017	g/m ³	2	0.148	0.173	0.162	Yes	30/10/2017	2/11/2017	
Total Solid Particulates	7/07/2017	mg/m ³	250	0.167	0.179	0.173	Yes	30/10/2017	2/11/2017	
Nitrogen Oxides	21/08/2018	g/m ³	2	0.156	0.193	0.17	Yes	20/11/2018	21/11/2018	
Total Solid Particulates	21/08/2018	mg/m ³	250	0.173	0.194	0.184	Yes	20/11/2018	21/11/2018	
Nitrogen Oxides	6/08/2019	g/m ³	2	0.15	0.16	0.16	Yes	2/09/2019	11/09/2019	
Total Solid Particulates	6/08/2019	mg/m ³	250	<2	<2	<2	Yes	2/09/2019	11/09/2019	
Nitrogen Oxides	7/05/2020	g/m ³	2	0.13	0.16	0.15	Yes	29/05/2020	21/05/2021	
Total Solid Particulates	7/05/2020	mg/m ³	250	<1	<1	<1	Yes	29/05/2020	21/05/2021	
Nitrogen Oxides	25/06/2021	g/m ³	2	0.17	0.18	0.18	Yes	22/07/2021	23/07/2021	
Total Solid Particulates	25/06/2021	mg/m ³	250	<2	<3	<2	Yes	22/07/2021	23/07/2021	

Sampling Frequency: Annual

EPA Point: Point 12 - Coal Fired Boiler No. 1 (Site Utilities Plant)

Pollutant	Monitoring date	Units	Licence Limit*	Minimum Value	Maximum Value	Mean Value	Requirement Met	Results Obtained	Results Published	Notes
Nitrogen Oxides	8/05/2013	g/m ³	0.5	0.51	0.67	0.64	No	22/10/2013	23/10/2013	See Note 1 below
Sulfuric acid mist and sulfur trioxide (as SO3)	8/05/2013	mg/m ³	100	4.21	5.23	4.72	Yes	22/10/2013	23/10/2013	
Total Solid Particulates	13/06/2013	mg/m ³	100	8.91	13.71	11.00	Yes	22/10/2013	23/10/2013	
Nitrogen Oxides	26/02/2014	g/m ³	0.5	0.36	0.40	0.38	Yes	25/03/2014	8/05/2014	
Sulfuric acid mist and sulfur trioxide (as SO3)	26/02/2014	mg/m ³	100	2.86	3.92	3.39	Yes	25/03/2014	8/05/2014	
Total Solid Particulates	26/02/2014	mg/m ³	100	1.91	2.61	2.26	Yes	25/03/2014	8/05/2014	
Nitrogen Oxides	20/05/2015	g/m ³	0.5	0.36	0.39	0.38	Yes	6/08/2015	13/08/2015	
Sulfuric acid mist and sulfur trioxide (as SO3)	20/05/2015	mg/m ³	100	7.72	9.45	8.59	Yes	6/08/2015	13/08/2015	
Total Solid Particulates	20/05/2015	mg/m ³	100	0.09	0.09	0.09	Yes	6/08/2015	13/08/2015	
Nitrogen Oxides	27/06/2016	g/m ³	0.5	0.30	0.36	0.35	Yes	22/11/2016	28/11/2016	
Sulfuric acid mist and sulfur trioxide (as SO3)	27/06/2016	mg/m ³	100	5.37	9.94	7.66	Yes	22/11/2016	28/11/2016	

Total Solid Particulates	27/06/2016	mg/m ³	100	0.93	--	0.93	Yes	22/11/2016	28/11/2016	
Nitrogen Oxides	5/07/2017	g/m ³	0.5	0.32	0.35	0.33	Yes	30/10/2017	2/11/2017	
Sulfuric acid mist and sulfur trioxide (as SO3)	5/07/2017	mg/m ³	100	8.56	10.97	9.76	Yes	30/10/2017	2/11/2017	
Total Solid Particulates	5/07/2017	mg/m ³	100	37.40	37.7	37.60	Yes	30/10/2017	2/11/2017	
Nitrogen Oxides	18/09/2018	g/m ³	0.5	0.24	0.282	0.26	Yes	20/11/2018	21/11/2018	
Sulfuric acid mist and sulfur trioxide (as SO3)	18/09/2018	mg/m ³	100	5.68	6.67	6.18	Yes	20/11/2018	21/11/2018	
Total Solid Particulates	18/09/2018	mg/m ³	100	1.60	2.1	1.80	Yes	20/11/2018	21/11/2018	
Nitrogen Oxides	15/08/2019	g/m ³	0.5	0.27	0.36	0.31	Yes	2/10/2019	3/10/2019	
Sulfuric acid mist and sulfur trioxide (as SO3)	15/08/2019	mg/m ³	100	8.60	9.6	9.10	Yes	2/10/2019	3/10/2019	
Total Solid Particulates	15/08/2019	mg/m ³	100	47.00	52.00	49.00	Yes	2/10/2019	3/10/2019	
Nitrogen Oxides	6/05/2020	g/m ³	0.5	0.26	0.29	0.28	Yes	28/07/2020	21/05/2021	
Sulfuric acid mist and sulfur trioxide (as SO3)	6/05/2020	mg/m ³	100	2.60	3.0	2.80	Yes	28/07/2020	21/05/2021	
Total Solid Particulates	6/05/2020	mg/m ³	100	19.00	22.00	20.00	Yes	28/07/2020	21/05/2021	
Nitrogen Oxides	23/06/2021	g/m ³	0.5	0.28	0.3	0.29	Yes	22/07/2021	22/07/2021	
Sulfuric acid mist and sulfur trioxide (as SO3)	23/06/2021	mg/m ³	100	0.61	2.2	1.40	Yes	22/07/2021	22/07/2021	
Total Solid Particulates	23/06/2021	mg/m ³	100	<2	<2	<2	Yes	22/07/2021	22/07/2021	

Sampling Frequency: Annual

EPA Point: Point 13 - Coal Fired Boiler No. 2 (Site Utilities Plant)

Pollutant	Monitoring date	Units	Licence Limit*	Minimum Value	Maximum Value	Mean Value	Requirement Met	Results Obtained	Results Published	Notes
Nitrogen Oxides	9/05/2013	g/m ³	0.5	0.64	0.80	0.74	No	22/10/2013	23/10/2013	See Note 1 below
Sulfuric acid mist and sulfur trioxide (as SO3)	9/05/2013	mg/m ³	100	2.76	3.66	3.21	Yes	22/10/2013	23/10/2013	
Total Solid Particulates	9/05/2013	mg/m ³	100	10.20	23.20	16.70	Yes	22/10/2013	23/10/2013	
Nitrogen Oxides	27/02/2014	g/m ³	0.5	0.31	0.44	0.42	Yes	25/03/2014	8/05/2014	
Sulfuric acid mist and sulfur trioxide (as SO3)	27/02/2014	mg/m ³	100	2.53	4.20	3.37	Yes	25/03/2014	8/05/2014	
Total Solid Particulates	27/02/2014	mg/m ³	100	2.73	4.45	3.59	Yes	25/03/2014	8/05/2014	
Nitrogen Oxides	21/05/2015	g/m ³	0.5	0.43	0.48	0.45	Yes	6/08/2015	13/08/2015	
Sulfuric acid mist and sulfur trioxide (as SO3)	21/05/2015	mg/m ³	100	2.80	3.51	3.16	Yes	6/08/2015	13/08/2015	
Total Solid Particulates	21/05/2015	mg/m ³	100	0.07	3.96	1.98	Yes	6/08/2015	13/08/2015	
Nitrogen Oxides	30/05/2016	g/m ³	0.5	0.44	0.48	0.46	Yes	22/11/2016	28/11/2016	
Sulfuric acid mist and sulfur trioxide (as SO3)	30/05/2016	mg/m ³	100	2.31	3.03	2.67	Yes	22/11/2016	28/11/2016	
Total Solid Particulates	30/05/2016	mg/m ³	100	0.47	1.77	1.12	Yes	22/11/2016	28/11/2016	
Nitrogen Oxides	5/07/2017	g/m ³	0.5	0.39	0.42	0.41	Yes	30/10/2017	2/11/2017	
Sulfuric acid mist and sulfur trioxide (as SO3)	5/07/2017	mg/m ³	100	9.90	17.70	13.80	Yes	30/10/2017	2/11/2017	
Total Solid Particulates	5/07/2017	mg/m ³	100	1.15	1.88	1.52	Yes	30/10/2017	2/11/2017	
Nitrogen Oxides	23/08/2018	g/m ³	0.5	0.28	0.39	0.37	Yes	20/11/2018	21/11/2018	
Sulfuric acid mist and sulfur trioxide (as SO3)	23/08/2018	mg/m ³	100	9.60	9.70	9.70	Yes	20/11/2018	21/11/2018	

Total Solid Particulates	23/08/2018	mg/m ³	100	19.80	40.20	30.00	Yes	20/11/2018	21/11/2018	
Nitrogen Oxides	8/08/2019	g/m ³	0.5	0.27	0.30	0.29	Yes	2/10/2019	3/10/2019	
Sulfuric acid mist and sulfur trioxide (as SO3)	8/08/2019	mg/m ³	100	0.66	1.50	1.10	Yes	2/10/2019	3/10/2019	
Total Solid Particulates	8/08/2019	mg/m ³	100	2.00	3.70	2.80	Yes	2/10/2019	3/10/2019	
Nitrogen Oxides	5/05/2020	g/m ³	0.5	0.31	0.35	0.33	Yes	28/07/2020	21/05/2021	
Sulfuric acid mist and sulfur trioxide (as SO3)	5/05/2020	mg/m ³	100	1.30	4.40	2.80	Yes	28/07/2020	21/05/2021	
Total Solid Particulates	5/05/2020	mg/m ³	100	17.00	19.00	18.00	Yes	28/07/2020	21/05/2021	
Nitrogen Oxides	24/06/2021	g/m ³	0.5	0.34	0.36	0.35	Yes	22/07/2021	23/07/2021	
Sulfuric acid mist and sulfur trioxide (as SO3)	24/06/2021	mg/m ³	100	0.37	1.50	0.93	Yes	22/07/2021	23/07/2021	
Total Solid Particulates	24/06/2021	mg/m ³	100	3.80	11.00	7.50	Yes	22/07/2021	23/07/2021	

Sampling Frequency:

Annual

EPA Point:

Point 14 - Gas Fired Boiler (Site Utilities Plant)

Pollutant	Monitoring date	Units	Licence Limit*	Minimum Value	Maximum Value	Mean Value	Requirement Met	Results Obtained	Results Published	Notes
Nitrogen Oxides	7/05/2013	g/m ³	0.35	0.17	0.19	0.18	Yes	22/10/2013	23/10/2013	
Sulfuric acid mist and sulfur trioxide (as SO3)	7/05/2013	mg/m ³	100	1.44	1.47	1.46	Yes	22/10/2013	23/10/2013	
Total Solid Particulates	7/05/2013	mg/m ³	50	0.27	0.72	0.45	Yes	22/10/2013	23/10/2013	
Nitrogen Oxides	25/02/2014	g/m ³	0.35	0.16	0.16	0.16	Yes	25/03/2014	8/05/2014	
Sulfuric acid mist and sulfur trioxide (as SO3)	25/02/2014	mg/m ³	100	1.59	1.60	1.60	Yes	25/03/2014	8/05/2014	
Total Solid Particulates	25/02/2014	mg/m ³	50	4.20	5.48	4.84	Yes	25/03/2014	8/05/2014	
Nitrogen Oxides	26/05/2015	g/m ³	0.35	0.17	0.19	0.18	Yes	6/08/2015	13/08/2015	
Sulfuric acid mist and sulfur trioxide (as SO3)	26/05/2015	mg/m ³	100	1.95	1.95	1.95	Yes	6/08/2015	13/08/2015	
Total Solid Particulates	26/05/2015	mg/m ³	50	0.10	0.10	0.10	Yes	6/08/2015	13/08/2015	
Nitrogen Oxides	27/05/2016	g/m ³	0.35	0.20	0.22	0.22	Yes	22/11/2016	28/11/2016	
Sulfuric acid mist and sulfur trioxide (as SO3)	27/05/2016	mg/m ³	100	1.93	2.01	1.97	Yes	22/11/2016	28/11/2016	
Total Solid Particulates	27/05/2016	mg/m ³	50	2.38	3.40	2.89	Yes	22/11/2016	28/11/2016	
Nitrogen Oxides	6/07/2017	g/m ³	0.35	0.18	0.23	0.20	Yes	30/10/2017	2/11/2017	
Sulfuric acid mist and sulfur trioxide (as SO3)	6/07/2017	mg/m ³	100	0.19	0.19	0.19	Yes	30/10/2017	2/11/2017	
Total Solid Particulates	6/07/2017	mg/m ³	50	0.12	0.12	0.12	Yes	30/10/2017	2/11/2017	
Nitrogen Oxides	22/08/2018	g/m ³	0.35	0.11	0.22	0.20	Yes	20/11/2018	21/11/2018	
Sulfuric acid mist and sulfur trioxide (as SO3)	22/08/2018	mg/m ³	100	0.08	1.53	0.80	Yes	20/11/2018	21/11/2018	
Total Solid Particulates	22/08/2018	mg/m ³	50	4.37	4.91	4.64	Yes	20/11/2018	21/11/2018	
Nitrogen Oxides	7/08/2019	g/m ³	0.35	0.18	0.21	0.20	Yes	2/10/2019	3/10/2019	
Sulfuric acid mist and sulfur trioxide (as SO3)	7/08/2019	mg/m ³	100	0.66	1.50	1.10	Yes	2/10/2019	3/10/2019	
Total Solid Particulates	7/08/2019	mg/m ³	50	2.00	3.70	2.80	Yes	2/10/2019	3/10/2019	
Nitrogen Oxides	5/05/2020	g/m ³	0.35	0.20	0.21	0.21	Yes	28/07/2020	21/05/2021	
Sulfuric acid mist and sulfur trioxide (as SO3)	5/05/2020	mg/m ³	100	0.32	0.90	0.61	Yes	28/07/2020	21/05/2021	

Total Solid Particulates	5/05/2020	mg/m ³	50	<1	<1	<1	Yes	28/07/2020	21/05/2021	
Nitrogen Oxides	22/06/2021	g/m ³	0.35	0.16	0.18	0.17	Yes	22/07/2021	23/07/2021	
Sulfuric acid mist and sulfur trioxide (as SO ₃)	22/06/2021	mg/m ³	100	0.28	0.36	0.32	Yes	22/07/2021	23/07/2021	
Total Solid Particulates	22/06/2021	mg/m ³	50	<2	<2	<2	Yes	22/07/2021	23/07/2021	

Correction Table

Emission Point	Test Parameter	Date Tested	Old Value	New Value	Reason
Point 12	Nitrogen Oxides	8/05/2013	0.64	0.40	Requirement for oxygen correction factor to be applied removed by Licence Conditions L3.4 & L3.5 (Licence Variation 25/11/13)
Point 13	Nitrogen Oxides	9/05/2013	0.74	0.49	

* Statute limit as per Schedule 4 of POEO (Clean Air) Regulation

Note 1: Elevated NO_x concentration an artifact of post testing oxygen concentration correction.

