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Date:
26 May 2022

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LRP01PLA000_0298/20220517

Dear Mr. Sibaya

LETHABO POWER STATION ANNUAL EMISSION REPORT FOR THE 2021/2022 FINANCIAL YEAR

This serves as Lethabo Power Station's Annual Emission Report as required in terms of section 7.7 in the Atmospheric Emission License issued to Lethabo Power Station.

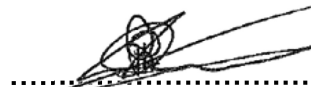
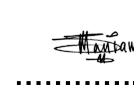
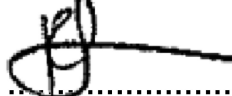
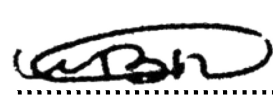
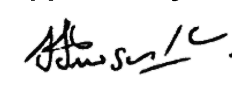
The emissions reported is for Eskom's 2021/2022 financial year which is from 01 April 2021 to 31 March 2022.

For any additional information please do not hesitate to contact us.

Yours sincerely



Karabo Rakgolela
GENERAL MANAGER

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System Engineer**Reviewed by:**
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Environmental Manager**Date:** 2022/05/23
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1 TOTAL EMISSIONS TONNAGES FOR THE 2021/2022 FINANCIAL YEAR

The emissions in the table below are for the 2021/2022 financial year.

Power Station	Coal-fired emissions (tons/annum)	Fuel-oil emissions (tons/annum)	Total (tons/annum)
Lethabo Power Station	PM: 10 957 SO₂: 206 362 NO_x: 103 560	PM: Not Calculated SO₂: 619 NO_x: Not Calculated	PM: 10 957 SO₂: 206 981 NO_x: 103 560

Table 1: Total Emissions for 2021/2022 Financial year

Greenhouse Gases such as CO₂ and N₂O are no longer being reported at station level and is included in the Eskom Greenhouse Gas Emissions Report as per the communication from the National Air Quality Officer (see Annexure A).

Eskom Research Technology & Development (RT&D) calculated figures were used for reporting gaseous emissions. Particulate Matter (PM) are recorded CEMS data.

2 POLLUTION EMISSION TRENDS:

Month	PM (tons)	SO ₂ (tons)	NO _x (tons)
April 2021	953	27260	8590
May 2021	1018	19304	9511
June 2021	883	18324	9854
July 2021	809	21241	9533
August 2021	889	18152	8880
September 2021	881	14805	7708
October 2021	1035	16435	8775
November 2021	867	15483	8252
December 2021	812	15405	8277
January 2022	695	11479	6690
February 2022	1050	13265	8125
March 2022	1065	15210	9366

Table 2: Monthly Emissions Trends 2021/2022 financial year coal fired

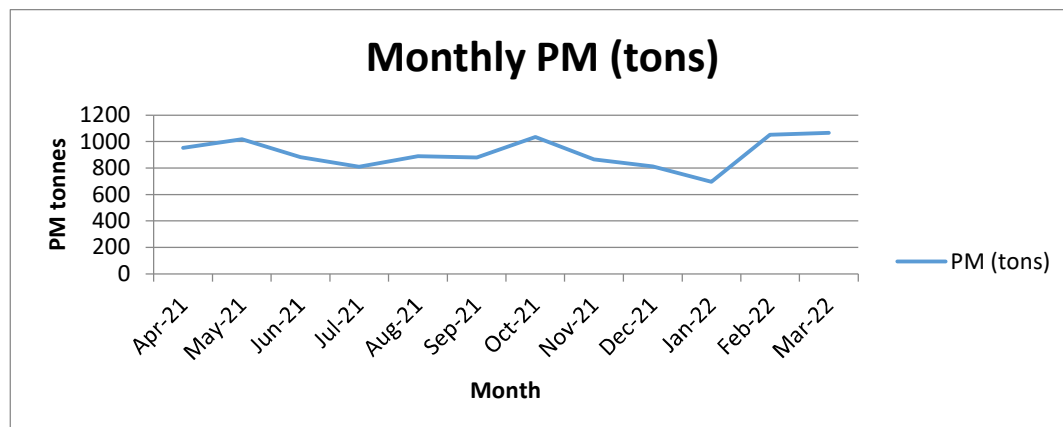


Figure 1: Graphical representation of PM monthly data

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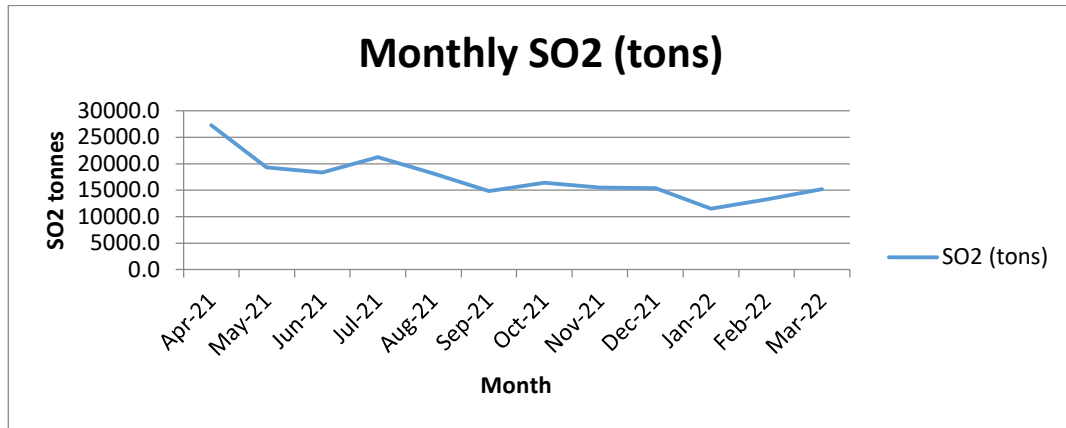


Figure 2: Graphical representation of SO₂ monthly data

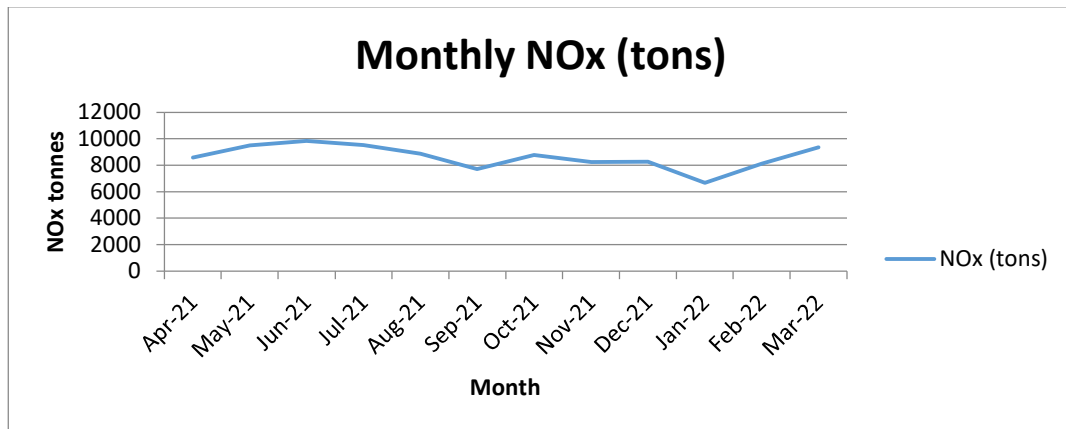


Figure 3: Graphical representation of NO_x monthly data

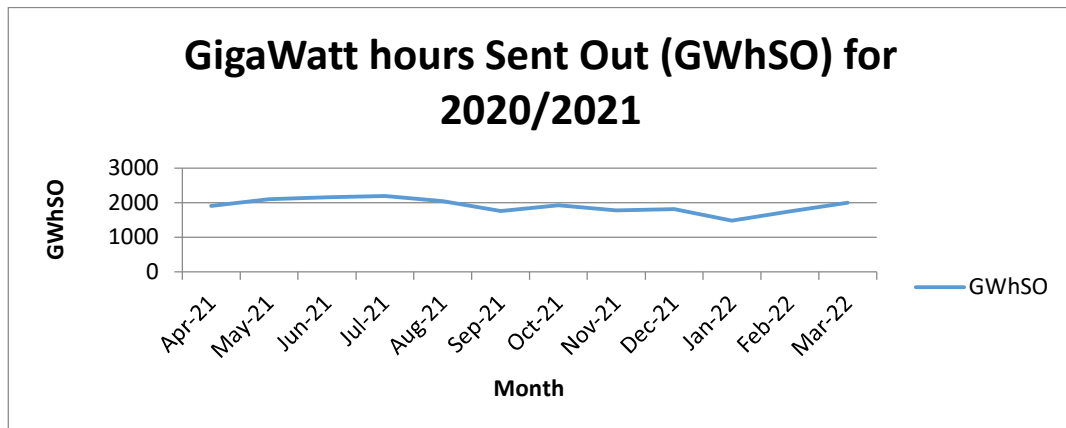


Figure 4: Graphical representation of GigaWatt hours sent out

The emission trends shown in the above table and graphs largely reflect the load of the power station as can be seen in the last graph.

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3 MONITORING DATA AVAILABILITY

Table 2: General oversight of monitoring data availability for Lethabo Power Station 2021/2022 in terms of the number of full hours per annum that result were obtained for the CEMS in question.

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6
PM	8491.2	7164.1	8590.2	8725.0	8696.5	7267.7
SO ₂	8586.0	7214.1	8678.1	8745.8	8729.6	7264.1
NO _x	8598.3	7219.1	8683.1	8748.0	8733.7	7265.1

NOTE: Hours reported for when units were online only

4 LEGAL COMPLIANCE (AUDIT) REPORT/S

Open Legal Notices

Department of Forestry, Fisheries and the Environment (DFFE) issued Lethabo Power Station with a pre-compliance notice (PCN) on 19th May 2020, following a compliance inspection conducted during August 2019. A response was submitted to the department on the 2nd June 2020 to dispute the allegations made in the pre-compliance notice. The station continues to provide quarterly feedback to the Department on the improvement plan submitted during the response to the PCN, the latest feedback was submitted on 28 April 2022.

NEMA S30 Incidents

Thirteen NEMA Section 30 incidents were reported for Particulate Matter (PM) exceedances during the 2021/2022 financial year.

Table 3: NEMA S30 incidents

Incident	Date of Incident	Summary of Event
Unit 1	20 April 2021	Extended start up conditions due to insufficient build-up of heat in the Sulphur inlet pipes due to condensate caused by damaged drain valve plug.
Unit 6	11 May 2021	Extended start up conditions due to turbine trip due to HP Exhaust Shell thermocouple faulty.
Unit 5	18 May 2021	Extended upset conditions due a fire in the SO ₃ plant resulting in plant equipment damage.
Unit 4	31 May 2021	Extended upset conditions due to damaged turbulator outlet pipe resulting in Sulphur leak in the SO ₃ plant
Unit 2	30 August 2021	Extended start up conditions due to damaged SO ₃ air heater gasket causing high air heater leakages resulting in Sulphur build up on the combustion chamber.
Unit 2	14 September 2021	Extended start up conditions due to severe damage of SO ₃ plant air-heaters as well as air blower silencer which were attributed to deferment of Unit 2 outage.
Unit 1	07 October 2021	Extended upset conditions due to poor ESPs casing performance, attributed to defective field

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Incident	Date of Incident	Summary of Event
Unit 3	09 December 2021	Extended upset conditions due to poor ESPs casing performance, attributed to defective fields
Unit 4	11 January 2022	Extended upset conditions due to SO ₃ plant shut down to perform emergency repairs on the turbulator pipe.
Unit 6	08 February 2022	Extended upset conditions due dust handling plant high hopper levels
Unit 5	09 February 2022	Extended upset conditions due dust handling plant high hopper levels
Unit 4	10 February 2022	Extended upset conditions due dust handling plant high hopper levels
Unit 2	21 February 2022	Extended upset conditions due to flooded burner on the SO ₃ plant which was caused by a damaged Sulphur control valve diaphragm.

5 MAJOR UPGRADES OR PROJECTS:

High Frequency Transformer Upgrades

Unit 2 Electrostatic Precipitators (ESP) were retrofitted with High Frequency Transformers (HFT) during the recent General Overhaul (GO) outage and was commissioned in February 2022. Following installation challenges were experienced during the optimisation phase of the project and several opportunity casing outages had to be implemented to ensure the ESP fields are working at full capacity, the process of optimisation is complete, and the service provider is handing over the plant to the station. Unit 5 HFT installation project has commenced in March 2022 and is planned to be commissioned in June 2022.

Pulverised Fuel (PF) Burner Refurbishment

From 2020 to 2022, Lethabo Operating Units had extended outages and extensive refurbishment work was completed on the pulverised fuel (PF) burners, with the intention of improving the combustion process and heat absorption in the furnace. All 36 burners were refurbished where. historically, only partial refurbishments were conducted on the burners during outages.

After thorough investigation, it was determined that the refurbishment of all 36 burners at once caused elevated NO_x to be generated during the combustion process. This was also confirmed by the Original Equipment Manufacturer (OEM). The higher NO_x would mean that any deviation in the monitors or process conditions may ultimately result in NO_x exceedances being experienced, this is due to no abatement technology available for NO_x generation.

The station will continuously optimise combustion process and conduct maintenance on monitors, to keep NO_x generation to a minimum.

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6 GREENHOUSE GAS EMISSIONS:

Greenhouse gas emissions such as CO₂ and N₂O are no longer reported at station level and is included in the Eskom Greenhouse Gas Emissions Report as per the communication in Annexure 1.

7 RESULTS OF SPOT MEASUREMENTS OR CORRELATION TESTS

Table 4: Overview of dates of last conducted CEMS verification tests for PM, SO₂ and NO_x.

Unit	PM	SO₂	NO_x
Unit 1	August 2020	August 2020	August 2020
Unit 2	August 2020	August 2020	August 2020
Unit 3	August 2020	August 2020	August 2020
Unit 4	July 2020	July 2020	July 2020
Unit 5	February 2021	July 2020	July 2020
Unit 6	July 2020	July 2020	July 2020

Lethabo Power Station have conducted the two-yearly spot measurements on the all units, except Unit 5 which is currently on extended outage. The new correlation curves for these units will be implemented as soon as the reports are received.

8 NAEIS REPORTING:

The National Atmospheric Emissions Inventory System (NAEIS) report for 2021 reporting period was submitted in March 2022.

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9 AN EXPLANATION OF ALL INSTANCES WHERE MINIMUM EMISSION STANDARDS WERE EXCEEDED:

All PM exceedances occurred within the 72-hour grace period for start-ups, shutdown, upset and maintenance conditions as stipulated in section 7.3. of the Lethabo Power Station Atmospheric Emission Licence (FDDM-MET-2011-08-P1). Where the 72 hour grace periods were exceeded a NEMA S30 was reported and indicated as such indicated in table 3.

Table 5: Overview of Particulate Matter (PM) daily average limit exceedances for 2021/2022 financial year

Table 5: Particulate Matter Exceedances

NB: Remediation measure and effectiveness – Load losses and Plant repairs were carried out where possible.

Exceedance	Unit	Exceedance Date	Reason for exceedance
1	3	01 April 2021	ESP Poor performance and SO ₃ Plant challenges
2	2	02 April 2021	Unit shut down
3	3	02 April 2021	ESP Poor performance
4	3	03 April 2021	ESP Poor performance and SO ₃ Plant challenges
5	3	05 April 2021	ESP Poor performance
6	2	09 April 2021	SO ₃ Plant challenges due to plant tripped
7	3	09 April 2021	ESP Poor performance
8	4	09 April 2021	Manual Rapping implemented
9	6	09 April 2021	Manual Rapping implemented
10	2	10 April 2021	SO ₃ Plant challenges – plant tripped
11	3	10 April 2021	ESP Casing outages
12	4	10 April 2021	ESP Poor performance
13	3	11 April 2021	ESP Casing outages
14	2	12 April 2021	ESP Poor performance
15	2	16 April 2021	ESP Poor performance and manual rapping implemented
16	3	17 April 2021	SO ₃ plant offload for repairs
17	1	18 April 2021	Unit light up
18	3	18 April 2021	ESP Poor performance and SO ₃ Plant Offline
19	1	19 April 2021	Unit light up

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Exceedance	Unit	Exceedance Date	Reason for exceedance
20	6	19 April 2021	Unit light up
21	1	20 April 2021	Exceedances reported as NEMA Section 30 for extended start up conditions. No SO ₃ plant in service.
22	3	20 April 2021	SO ₃ Plant challenges
23	6	20 April 2021	Unit light up
24	1	21 April 2021	Exceedances reported as NEMA Section 30 for extended start up conditions. No SO ₃ plant in service.
25	1	22 April 2021	Exceedances reported as NEMA Section 30 for extended start up conditions. No SO ₃ plant in service.
26	6	22 April 2021	SO ₃ Plant challenges
27	1	23 April 2021	Unit shut down and SO ₃ Plant Offline for repairs
28	6	23 April 2021	SO ₃ Plant Offline
29	1	24 April 2021	Unit light up and manual rapping implemented
30	3	25 April 2021	ESP Casing outage
31	4	27 April 2021	RHO Casing outage
32	4	01 May 2021	Unit shut down
33	4	06 May 2021	SO ₃ Plant challenges
34	3	08 May 2021	Unit Shut down
35	6	09 May 2021	Unit light up
36	3	11 May 2021	Unit light up
37	4	11 May 2021	ESP Poor performance and Manual Rapping implemented
38	5	11 May 2021	ESP Poor performance
39	5	12 May 2021	ESP Poor performance and Manual Rapping implemented
40	6	12 May 2021	Exceedances reported as NEMA Section 30 for extended start-up conditions. SO ₃ Plant Ramping up.
41	3	13 May 2021	RH Draught Group Tripped
42	5	13 May 2021	ESP Poor performance, Manual rapping implemented and SO ₃ Plant challenges

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Exceedance	Unit	Exceedance Date	Reason for exceedance
43	6	13 May 2021	Exceedances reported as NEMA Section 30 for extended start-up conditions. SO ₃ Plant Ramping up.
44	3	14 May 2021	ESP Poor performance
45	5	15 May 2021	LHO Casing outage and SO ₃ Plant Offline
46	2	16 May 2021	ESP Poor performance
47	5	16 May 2021	LHI Casing outage and SO ₃ Plant Offline
48	1	17 May 2021	Unit light up and ESP Poor performance
49	5	17 May 2021	ESP Poor performance
50	5	18 May 2021	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Ramping up.
51	1	21 May 2021	ESP Poor performance
52	1	22 May 2021	LHI ESP Casing outage
53	3	24 May 2021	ESP Poor performance and Dust Handling Plant Problems
54	4	24 May 2021	ESP Poor performance and SO ₃ Plant challenges
55	4	26 May 2021	ESP Poor performance and Manual Rapping implemented
56	6	26 May 2021	Unit light up
57	2	28 May 2021	ESP Poor performance
58	4	28 May 2021	SO ₃ Plant Offline For Repairs
59	6	28 May 2021	ESP Poor performance
60	1	29 May 2021	LHI ESP Casing outage
61	4	29 May 2021	SO ₃ Plant Offline For Repairs
62	6	29 May 2021	ESP Poor performance and Manual Rapping implemented
63	2	30 May 2021	ESP Poor performance
64	4	30 May 2021	SO ₃ Plant Offline For Repairs
65	2	31 May 2021	ESP Poor performance and Manual Rapping implemented
66	4	31 May 2021	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Ramping up.

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Exceedance	Unit	Exceedance Date	Reason for exceedance
67	4	01 June 2021	ESP Poor performance and SO ₃ Plant challenges
68	1	04 June 2021	ESP Poor performance
69	1	07 June 2021	ESP Poor performance and Manual Rapping implemented
70	1	08 June 2021	ESP Poor performance
71	2	10 June 2021	ESP Poor performance
72	1	12 June 2021	LHO Casing outage
73	2	12 June 2021	SO ₃ Plant challenges
74	1	13 June 2021	LHI Casing outage
75	2	13 June 2021	SO ₃ Plant challenges
76	2	15 June 2021	SO ₃ Plant challenges
77	2	16 June 2021	Unit Shut down
78	2	17 June 2021	Unit light up
79	2	18 June 2021	SO ₃ Plant challenges
80	5	18 June 2021	ESP Poor performance and SO ₃ Plant challenges
81	4	21 June 2021	Unit light up
82	3	23 June 2021	ESP Poor performance, Manual rapping implemented and SO ₃ Plant challenges
83	2	24 June 2021	SO ₃ Plant challenges
84	2	25 June 2021	ESP Poor performance and Manual Rapping implemented
85	3	25 June 2021	SO ₃ Plant challenges
86	3	27 June 2021	RHI Casing outage
87	2	06 July 2021	ESP Poor performance
88	2	07 July 2021	ESP Poor performance
89	3	07 July 2021	ESP Poor performance
90	2	09 July 2021	ESP Poor performance and Manual Rapping implemented
91	2	10 July 2021	ESP Poor performance and Manual Rapping implemented
92	5	13 July 2021	Unit light up

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Exceedance	Unit	Exceedance Date	Reason for exceedance
93	1	14 July 2021	Unit light up
94	2	14 July 2021	ESP Poor performance
95	3	14 July 2021	ESP Poor performance
96	5	14 July 2021	Unit light up and Manual Rapping implemented
97	2	15 July 2021	ESP Poor performance
98	3	15 July 2021	ESP Poor performance and Manual Rapping implemented
99	3	18 July 2021	RHI Casing outage and SO ₃ Plant challenges
100	4	21 July 2021	ESP Poor performance
101	1	22 July 2021	Common sulphur plant challenges
102	2	22 July 2021	Common sulphur plant challenges
103	3	22 July 2021	Common sulphur plant challenges
104	4	22 July 2021	Common sulphur plant challenges
105	5	22 July 2021	Common sulphur plant challenges
106	6	22 July 2021	Common sulphur plant challenges
107	4	29 July 2021	Unit shut down
108	3	06 August 2021	SO ₃ plant challenges
109	2	09 August 2021	SO ₃ Plant challenges
110	2	10 August 2021	SO ₃ Plant offline for repairs
111	4	11 August 2021	SO ₃ plant challenges
112	2	12 August 2021	SO ₃ Plant offline for repairs
113	4	12 August 2021	SO ₃ plant challenges
114	3	13 August 2021	SO ₃ plant and dust handling plant challenges
115	2	16 August 2021	ESP Poor Performance and SO ₃ plant offline for repairs
116	2	17 August 2021	SO ₃ plant offline for repairs and Manual rapping implemented
117	4	18 August 2021	SO ₃ Plant offline for repairs
118	2	19 August 2021	SO ₃ plant challenges

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Exceedance	Unit	Exceedance Date	Reason for exceedance
119	4	19 August 2021	Unit Shut down
120	2	20 August 2021	SO ₃ plant challenges
121	2	22 August 2021	SO ₃ plant and dust handling plant challenges
122	3	22 August 2021	LHO Casing outage
123	4	22 August 2021	Unit light up
124	4	23 August 2021	Unit light up
125	4	24 August 2021	Unit light up and shut down
126	2	25 August 2021	SO ₃ plant challenges
127	3	25 August 2021	ESP Poor performance and dust handling Plantchallenges
128	1	27 August 2021	LHI Casing outage
129	2	27 August 2021	SO ₃ Plant Offline for repairs
130	2	28 August 2021	SO ₃ Plant Offline for repairs
131	4	28 August 2021	Unit light up
132	2	29 August 2021	SO ₃ Plant Offline for repairs
133	4	29 August 2021	Unit light up
134	2	30 August 2021	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
135	3	30 August 2021	ESP Poor performance and Manual Rapping
136	4	30 August 2021	Unit light up
137	2	31 August 2021	Exceedances reported as NEMA Section 30 for extended startup conditions. SO ₃ offline for repairs.
138	2	01 September 2021	Exceedances reported as NEMA Section 30 for extended startup conditions. SO ₃ offline for repairs.
139	3	01 September 2021	ESP Poor performance
140	2	02 September 2021	ESP Poor performance and SO ₃ Plant challenges
141	3	03 September 2021	ESP Poor performance
142	2	04 September 2021	LHO and RHO Casing outage

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Exceedance	Unit	Exceedance Date	Reason for exceedance
143	3	04 September 2021	LHI Casing outage
144	1	05 September 2021	ESP Poor performance
145	2	05 September 2021	LHO and RHO Casing outage
146	1	08 September 2021	ESP Poor performance
147	3	11 September 2021	ESP Poor performance
148	2	12 September 2021	Unit light up and SO ₃ plant offline for repairs
149	4	12 September 2021	ESP Casing outage
150	2	13 September 2021	Unit light up and SO ₃ plant offline for repairs
151	3	13 September 2021	ESP Poor performance
152	2	14 September 2021	Exceedances reported as NEMA Section 30 for extended startup conditions. SO ₃ offline for repairs.
153	2	15 September 2021	ESP Poor performance and SO ₃ Plant challenges
154	2	16 September 2021	ESP Poor performance and SO ₃ Plant challenges
155	1	17 September 2021	ESP Poor performance
156	1	18 September 2021	LHO Casing outage
157	3	19 September 2021	LHO Casing outage
158	2	22 September 2021	ESP Poor performance
159	3	22 September 2021	ESP Poor performance
160	2	25 September 2021	ESP Poor performance and Manual Rapping implemented
161	3	27 September 2021	ESP Poor performance
162	1	28 September 2021	ESP Poor performance and Manual Rapping implemented
163	2	28 September 2021	ESP Poor performance and Manual Rapping implemented
164	3	28 September 2021	ESP Poor performance and Manual Rapping implemented
165	1	01 October 2021	ESP Poor performance and dust handling Plant challenges
166	1	02 October 2021	ESP Poor performance and Manual Rapping implemented
167	3	02 October 2021	LHI Casing outage

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Exceedance	Unit	Exceedance Date	Reason for exceedance
168	1	04 October 2021	ESP Poor performance
169	2	04 October 2021	ESP Poor performance and Manual Rapping implemented
170	5	04 October 2021	ESP Poor performance and Manual Rapping implemented
171	1	05 October 2021	ESP Casing outage
172	3	05 October 2021	ESP Poor performance and Manual Rapping implemented
173	4	05 October 2021	SO ₃ plant challenges
174	1	06 October 2021	ESP Casing outage and Manual Rapping implemented
175	3	06 October 2021	Dust handling Plant challenges
176	1	07 October 2021	Exceedances reported as NEMA Section 30 for extended upset conditions. ESP Poor performance
177	2	07 October 2021	ESP Poor performance and Manual Rapping implemented
178	1	08 October 2021	Dust handling plant challenges
179	3	08 October 2021	ESP Poor performance
180	1	09 October 2021	ESP Casing outage
181	2	09 October 2021	ESP Poor performance
182	1	10 October 2021	Dust handling plant challenges
183	2	10 October 2021	LHI Casing Repairs
184	1	11 October 2021	ESP Poor performance and Dust handling plant challenges
185	3	11 October 2021	ESP Poor performance
186	3	12 October 2021	Dust handling Plant challenges
187	1	13 October 2021	ESP Poor performance and Dust handling plant challenges
188	2	14 October 2021	Dust handling plant challenges
189	3	14 October 2021	Dust handling Plant challenges
190	4	14 October 2021	ESP Poor performance and Manual Rapping implemented
191	1	15 October 2021	ESP Poor performance
192	2	15 October 2021	Dust handling plant challenges

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Exceedance	Unit	Exceedance Date	Reason for exceedance
193	3	15 October 2021	Dust handling Plant challenges
194	4	15 October 2021	SO ₃ Plant offline for repairs
195	1	16 October 2021	RHO Casing outage and SO ₃ plant tripped
196	1	17 October 2021	LHI Casing outage
197	5	20 October 2021	ESP Poor performance and Manual Rapping implemented
198	5	22 October 2021	SO ₃ plant challenges
199	2	23 October 2021	SO ₃ plant challenges
200	5	23 October 2021	Dust handling Plant challenges
201	4	25 October 2021	ESP Poor performance and Manual Rapping implemented
202	1	26 October 2021	Unit Shut down
203	5	29 October 2021	ESP Poor performance and Manual Rapping implemented
204	4	01 November 2021	Unit Shut down
205	3	03 November 2021	SO ₃ plant challenges
206	3	04 November 2021	SO ₃ plant challenges
207	3	05 November 2021	Dust handling Plant challenges
208	5	06 November 2021	ESP Poor performance and Manual Rapping implemented
209	4	07 November 2021	Unit light up
210	5	07 November 2021	ESP Poor performance
211	4	08 November 2021	Unit light up
212	1	10 November 2021	Unit light up
213	2	10 November 2021	Unit light up
214	4	10 November 2021	SO ₃ plant challenges
215	6	10 November 2021	Unit light up
216	1	11 November 2021	Unit light up
217	2	11 November 2021	Unit light up
218	6	11 November 2021	Unit light up

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Exceedance	Unit	Exceedance Date	Reason for exceedance
219	2	12 November 2021	Unit light up
220	3	12 November 2021	ESP Poor performance
221	5	12 November 2021	ESP Poor performance
222	5	13 November 2021	RHO Casing outage
223	6	13 November 2021	SO ₃ plant challenges
224	2	14 November 2021	ESP Poor performance and Manual Rapping implemented
225	3	14 November 2021	ESP Poor performance
226	6	14 November 2021	SO ₃ plant challenges
227	2	15 November 2021	ESP Poor performance
228	3	15 November 2021	ESP Poor performance
229	5	15 November 2021	ESP Poor performance
230	6	15 November 2021	SO ₃ plant challenges and Manual Rapping implemented
231	2	16 November 2021	ESP Poor performance
232	5	16 November 2021	ESP Poor performance and Manual Rapping implemented
233	3	17 November 2021	ESP Poor performance
234	2	19 November 2021	ESP Poor performance
235	5	19 November 2021	ESP poor performance and Dust Handling Plant challenges
236	5	20 November 2021	RHO Casing outage
237	2	24 November 2021	Unit Shut down
238	4	27 November 2021	SO ₃ plant challenges
239	3	28 November 2021	ESP Poor performance and Manual Rapping implemented
240	4	28 November 2021	Unit light up; SO ₃ plant offline for repairs and Manual Rapping implemented
241	3	29 November 2021	ESP Poor performance and Manual Rapping implemented
242	4	29 November 2021	Unit light up and SO ₃ plant repairs
243	1	30 November 2021	ESP Poor performance and Manual Rapping implemented
244	4	30 November 2021	Unit light up

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Exceedance	Unit	Exceedance Date	Reason for exceedance
245	3	01 December 2021	ESP Poor performance
246	4	02 December 2021	LHI Casing outage
247	1	03 December 2021	SO ₃ plant challenges
248	3	03 December 2021	ESP Poor performance and manual rapping implemented
249	1	04 December 2021	RHO Casing outage
250	4	04 December 2021	RHO Casing outage
251	4	05 December 2021	ESP Poor performance
252	1	06 December 2021	ESP Poor performance
253	3	06 December 2021	ESP Poor performance
254	1	07 December 2021	ESP Poor performance
255	3	07 December 2021	ESP Poor performance
256	3	08 December 2021	ESP Poor performance
257	1	09 December 2021	ESP Poor performance and Manual Rapping implemented
258	3	09 December 2021	Exceedances reported as NEMA Section 30 for extended upset conditions. ESP Poor performance
259	3	10 December 2021	ESP poor performance
260	3	11 December 2021	ESP Poor performance
261	3	12 December 2021	RHI Casing outage
262	4	13 December 2021	Unit light up
263	4	14 December 2021	Unit light up
264	3	16 December 2021	ESP Poor performance
265	1	19 December 2021	Unit light up
266	3	19 December 2021	ESP Poor performance
267	4	21 December 2021	SO ₃ plant challenges
268	3	24 December 2021	ESP Poor performance
269	4	25 December 2021	ESP Poor performance

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Exceedance	Unit	Exceedance Date	Reason for exceedance
270	4	26 December 2021	ESP Poor performance
271	3	27 December 2021	Unit Shut down
272	1	04 January 2022	ESP Poor performance
273	1	06 January 2022	ESP Poor performance and Manual Rapping implemented
274	4	06 January 2022	SO ₃ Plant Offline for repairs and ESP poor performance
275	3	07 January 2022	ESP Poor performance
276	1	08 January 2022	LHO Casing outage
277	4	08 January 2022	LHO Casing outage
278	4	09 January 2022	SO ₃ Plant Offline for repairs
279	4	10 January 2022	SO ₃ Plant Offline for repairs
280	3	11 January 2022	Common sulphur plant challenges
281	4	11 January 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
282	1	15 January 2022	SO ₃ plant challenges
283	3	16 January 2022	RHI Casing outage
284	5	18 January 2022	Unit light up
285	3	19 January 2022	ESP Poor performance and Manual Rapping implemented
286	5	19 January 2022	Unit light up
287	6	19 January 2022	ESP Poor performance and Manual Rapping implemented
288	3	20 January 2022	ESP Poor performance and Manual Rapping implemented
289	1	22 January 2022	RHI Casing outage
290	1	25 January 2022	SO ₃ Challenges and manual rapping implemented
291	3	25 January 2022	ESP Poor performance and Manual Rapping implemented
292	3	27 January 2022	ESP Poor performance and Manual Rapping implemented
293	1	29 January 2022	Unit Shut down
294	3	29 January 2022	ESP Poor performance

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Exceedance	Unit	Exceedance Date	Reason for exceedance
295	3	30 January 2022	ESP Poor performance
296	4	30 January 2022	SO ₃ plant challenges
297	1	31 January 2022	ESP Poor performance and Dust handling plant challenges
298	3	31 January 2022	ESP Poor performance and Dust handling plant challenges
299	5	31 January 2022	Dust handling plant challenges
300	1	01 February 2022	Dust handling plant challenges
301	5	01 February 2022	Dust handling plant challenges
302	6	01 February 2022	Dust handling plant challenges
303	1	02 February 2022	Dust handling plant challenges
304	3	02 February 2022	SO ₃ plant challenges
305	6	02 February 2022	Dust handling plant challenges
306	3	03 February 2022	SO ₃ plant challenges
307	6	03 February 2022	Dust handling plant challenges
308	3	04 February 2022	ESP Poor performance and Manual Rapping implemented
309	1	05 February 2022	Dust handling plant challenges
310	6	05 February 2022	ESP Poor performance
311	1	06 February 2022	Dust handling plant challenges
312	3	06 February 2022	SO ₃ plant challenges
313	5	06 February 2022	ESP Poor performance
314	6	06 February 2022	ESP Poor performance
315	1	07 February 2022	Dust handling plant challenges
316	3	07 February 2022	Dust handling plant challenges
317	4	07 February 2022	Dust handling plant challenges
318	5	07 February 2022	ESP Poor performance and Dust handling Plantchallenges
319	6	07 February 2022	Dust handling plant challenges
320	3	08 February 2022	ESP Poor performance

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Exceedance	Unit	Exceedance Date	Reason for exceedance
321	4	08 February 2022	Dust handling plant challenges
322	5	08 February 2022	Dust handling plant challenges
323	6	08 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. Dust handling plant challenges
324	4	09 February 2022	Dust handling plant challenges
325	5	09 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. Dust handling plant challenges
326	3	10 February 2022	ESP Poor performance and Dust handling Plantchallenges
327	4	10 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. Dust handling plant challenges
328	6	10 February 2022	ESP Poor performance
329	3	11 February 2022	ESP poor performance and correlation test
330	6	11 February 2022	ESP Poor performance
331	6	12 February 2022	ESP Poor performance
332	2	14 February 2022	Unit light up
333	3	14 February 2022	ESP poor performance and correlation test
334	2	15 February 2022	Unit light up
335	6	15 February 2022	ESP Poor performance and Manual Rapping implemented
336	2	16 February 2022	Dust handling plant challenges
337	6	16 February 2022	ESP Poor performance
338	3	17 February 2022	ESP poor performance and correlation test
339	2	18 February 2022	SO ₃ plant challenges
340	3	18 February 2022	ESP poor performance and correlation test
341	2	19 February 2022	SO ₃ plant challenges
342	2	20 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
343	3	20 February 2022	ESP Poor performance and Dust handling Plantchallenges

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Exceedance	Unit	Exceedance Date	Reason for exceedance
344	6	20 February 2022	RHO Casing outage
345	1	21 February 2022	Unit light up
346	2	21 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
347	3	21 February 2022	ESP Poor performance
348	6	21 February 2022	ESP Poor performance
349	2	22 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
350	3	22 February 2022	Unit Shut down
351	2	23 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
352	6	23 February 2022	ESP Poor performance
353	1	24 February 2022	SO ₃ plant challenges
354	2	24 February 2022	Exceedances reported as NEMA Section 30 for extended upset conditions. SO ₃ Plant Offline for Repairs
355	6	24 February 2022	ESP Poor performance
356	2	25 February 2022	ESP Poor performance
357	2	27 February 2022	SO ₃ plant challenges
358	3	27 February 2022	ESP Poor performance
359	6	27 February 2022	RHO Casing outage
360	1	28 February 2022	ESP Poor performance
361	2	28 February 2022	SO ₃ plant challenges
362	6	28 February 2022	SO ₃ plant challenges
363	1	01 March 2022	SO ₃ plant challenges
364	5	01 March 2022	SO ₃ plant challenges
365	6	01 March 2022	ESP Poor performance and Manual Rapping implemented
366	1	02 March 2022	Unit light up

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Exceedance	Unit	Exceedance Date	Reason for exceedance
367	1	03 March 2022	Unit light up
368	3	03 March 2022	ESP Poor performance and Dust handling Plant challenges
369	1	04 March 2022	Unit Shut down
370	4	06 March 2022	ESP Casing outage and Dust Handling Plant challenges
371	4	07 March 2022	Dust handling plant challenges
372	4	08 March 2022	Unit Shut down
373	1	09 March 2022	Unit light up
374	3	09 March 2022	ESP Poor performance and Manual Rapping implemented
375	1	10 March 2022	Unit Shut down
376	2	10 March 2022	ESP Poor performance
377	3	10 March 2022	ESP Poor performance and Manual Rapping implemented
378	3	12 March 2022	ESP Poor performance
379	3	14 March 2022	ESP Poor performance
380	2	15 March 2022	ESP Poor performance
381	3	15 March 2022	ESP Poor performance
382	4	15 March 2022	Unit light up
383	1	16 March 2022	Unit light up
384	3	16 March 2022	ESP Poor performance
385	4	16 March 2022	Unit light up
386	1	17 March 2022	Unit light up
387	6	17 March 2022	ESP Poor performance and Dust handling plant challenges
388	2	18 March 2022	ESP poor performance and correlation test
389	4	18 March 2022	SO ₃ plant challenges
390	2	19 March 2022	LHO Casing outage
391	4	19 March 2022	ESP Poor performance and Manual Rapping implemented
392	1	20 March 2022	ESP Poor performance

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Exceedance	Unit	Exceedance Date	Reason for exceedance
393	2	20 March 2022	RHI Casing outage
394	3	20 March 2022	ESP Poor performance
395	1	21 March 2022	ESP Poor performance and Manual Rapping implemented
396	4	21 March 2022	SO ₃ plant offline for repairs
397	2	22 March 2022	ESP Poor performance
398	3	22 March 2022	ESP Poor performance
399	4	22 March 2022	ESP Poor performance
400	1	23 March 2022	ESP Poor performance
401	3	23 March 2022	ESP Poor performance
402	3	24 March 2022	ESP Poor performance and Manual Rapping implemented
403	1	26 March 2022	RHO Casing outage
404	3	26 March 2022	ESP Poor performance
405	5	26 March 2022	Unit Shut down
406	1	27 March 2022	RHI Casing outage
407	1	28 March 2022	Unit light up
408	3	28 March 2022	Dust handling plant challenges
409	3	30 March 2022	Dust handling plant challenges
410	2	31 March 2022	ESP Poor performance and Dust handling plant challenges
411	3	31 March 2022	ESP Poor performance and Manual Rapping implemented

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Table 6: Overview of NO_x daily average limit exceedances for 2021/2022 financial year

Table 6: NO_x Exceedances

NB: Remediation measure and effectiveness – Load losses and Plant repairs were carried out where possible.

Exceedance	Unit	Exceedance Date	Reason for exceedance
1	6	02 April 2021	Refurbishment of all 36 PF burners; No abatement technology available
2	6	26 April 2021	Refurbishment of all 36 PF burners; No abatement technology available
3	4	27 April 2021	Refurbishment of all 36 PF burners; No abatement technology available
4	4	28 April 2021	Refurbishment of all 36 PF burners; No abatement technology available
5	4	29 April 2021	Refurbishment of all 36 PF burners; No abatement technology available
6	4	30 April 2021	Refurbishment of all 36 PF burners; No abatement technology available
7	3	01 May 2021	Refurbishment of all 36 PF burners; No abatement technology available
8	6	05 June 2021	Refurbishment of all 36 PF burners; No abatement technology available
9	6	07 June 2021	Refurbishment of all 36 PF burners; No abatement technology available
10	3	08 June 2021	Refurbishment of all 36 PF burners; No abatement technology available
11	6	08 June 2021	Refurbishment of all 36 PF burners; No abatement technology available
12	3	10 June 2021	Refurbishment of all 36 PF burners; No abatement technology available
13	3	15 July 2021	Refurbishment of all 36 PF burners; No abatement technology available
14	1	16 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
15	1	18 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
16	1	19 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
17	1	23 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
18	1	24 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
19	1	30 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
20	3	30 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
21	1	31 August 2021	Refurbishment of all 36 PF burners; No abatement technology available
22	3	01 September 2021	Refurbishment of all 36 PF burners; No abatement technology available
23	1	08 September 2021	Refurbishment of all 36 PF burners; No abatement technology available
24	1	29 September 2021	Refurbishment of all 36 PF burners; No abatement technology available

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Exceedance	Unit	Exceedance Date	Reason for exceedance
25	1	01 October 2021	Refurbishment of all 36 PF burners; No abatement technology available
26	1	10 October 2021	Refurbishment of all 36 PF burners; No abatement technology available
27	1	16 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
28	1	17 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
29	1	18 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
30	1	19 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
31	6	19 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
32	1	20 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
33	1	30 November 2021	Refurbishment of all 36 PF burners; No abatement technology available
34	1	01 December 2021	Refurbishment of all 36 PF burners; No abatement technology available
35	1	02 December 2021	Refurbishment of all 36 PF burners; No abatement technology available
36	6	12 February 2022	Refurbishment of all 36 PF burners; No abatement technology available
37	6	13 February 2022	Refurbishment of all 36 PF burners; No abatement technology available
38	6	14 February 2022	Refurbishment of all 36 PF burners; No abatement technology available

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10 ABBREVIATIONS

Abbreviation	Description
CEMS	Continuous Emissions Monitoring System
CO ₂	Carbon Dioxide
DFFE	Department of Forestry, Fisheries and the Environment
DHP	Dust Handling Plant
ESP	Electrostatic Precipitator
FD	Forced Draft
FY	Financial Year
GHG	Green House Gases
ID	Induced Draft
LH	Left Hand
LHI	Left Hand Inner
LHO	Left Hand Outer
N ₂ O	Nitrous Oxide (dinitrogen oxide)
NAEIS	Nation Atmospheric Emissions Inventory System
NEMA	National Environmental Management Act
NO _x	Nitrogen Oxides
O ₂	Oxygen
PF	Pulverised Fuel
PLC	Programmable Logic Controller
PM	Particulate Matter
PTW	Permit To Work
RH	Right Hand
RHI	Right Hand Inner
RHO	Right Hand Outer
RT&D	Research, Testing and Development Department
SO ₂	Sulphur Dioxide
SO ₃	Sulphur Trioxide
S30	NEMA Section 30 Incident
SSC	Submerged Scraper Conveyor
VSD	Variable Speed Drive

11 LIST OF ANNEXURES

Annexure A	DEA GHG Reporting and AELs Exclusion of CO ₂ from monthly reports
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Annexure A - DEA GHG Reporting and AELs Exclusion of CO₂ from monthly reports



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Enquiries: Mr Vumile Senene
Tel: (012) 399 9217 Email: VSenene@environment.gov.za

Atmospheric Licensing Authorities
Atmospheric Emission License Holders

Dear All,

RE: Clarity on Greenhouse Gas Emission Reporting – According to the National Environmental Management: Air Quality Act 39 of 2004 (AQA).

This letter serves to inform Atmospheric Emission License (AEL) holders and remind Atmospheric Emission Licensing Authorities (AELA) about the agreement reached on reporting of greenhouse gas emissions for the purpose of meeting AEL reporting requirements and the country's reporting requirements to national climate change obligations.

Section 43 of the AQA stipulates the contents of a provisional atmospheric emission license and an atmospheric emission license. In this regard S43 (1)(l); states that – *A provisional atmospheric emission license and an atmospheric emission license must specify: greenhouse gas emission measurement and reporting requirements.* In the first quarter of the financial year 2017/18 MINTEC and MINMEC management meetings, it was agreed that all AELs shall stipulate the following "Reporting in terms of S43 (1)(l) shall be done in accordance with the National Greenhouse Gas Reporting Regulations".

In light of this, AELs will be reviewed (according to the schedule prepared by the AELAs) to include this same reporting phrase. The reporting phrase will be inserted into existing AELs that are due for renewal during the renewal process. Finally, the AEL application template has been amended to include this phrase.

Yours Sincerely,

Dr Thuli Khumalo
National Air Quality Officer
Date: 15 May 2019

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