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Enquiries:

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Dear Phumudzo

MEDUPI POWER STATION ANNUAL EMISSIONS REPORT

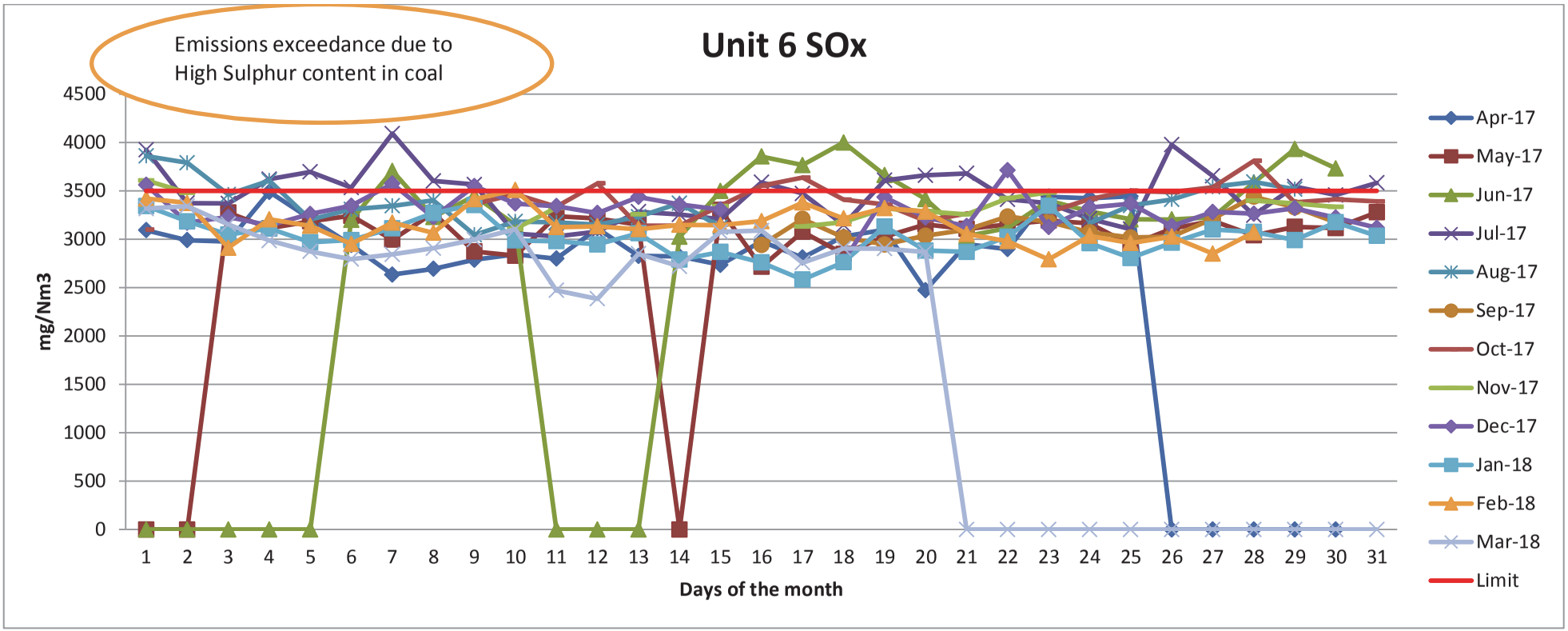
This serves as the Annual report required in terms of Section 7.7.3 of Medupi Power Station Provisional Atmospheric Emission License. Verified emissions are for particulates (PM_{10}), SO_2 and NO_x (as NO_2) from April 2017 to March 2018. Calculated figures for CO and CO_2 are provided in this report. Medupi Power Station Unit 5 and 6 in-stack CO_2 monitor is was not reading correctly during the reporting period and the Original Equipment Manufacturer must recommission the equipment.

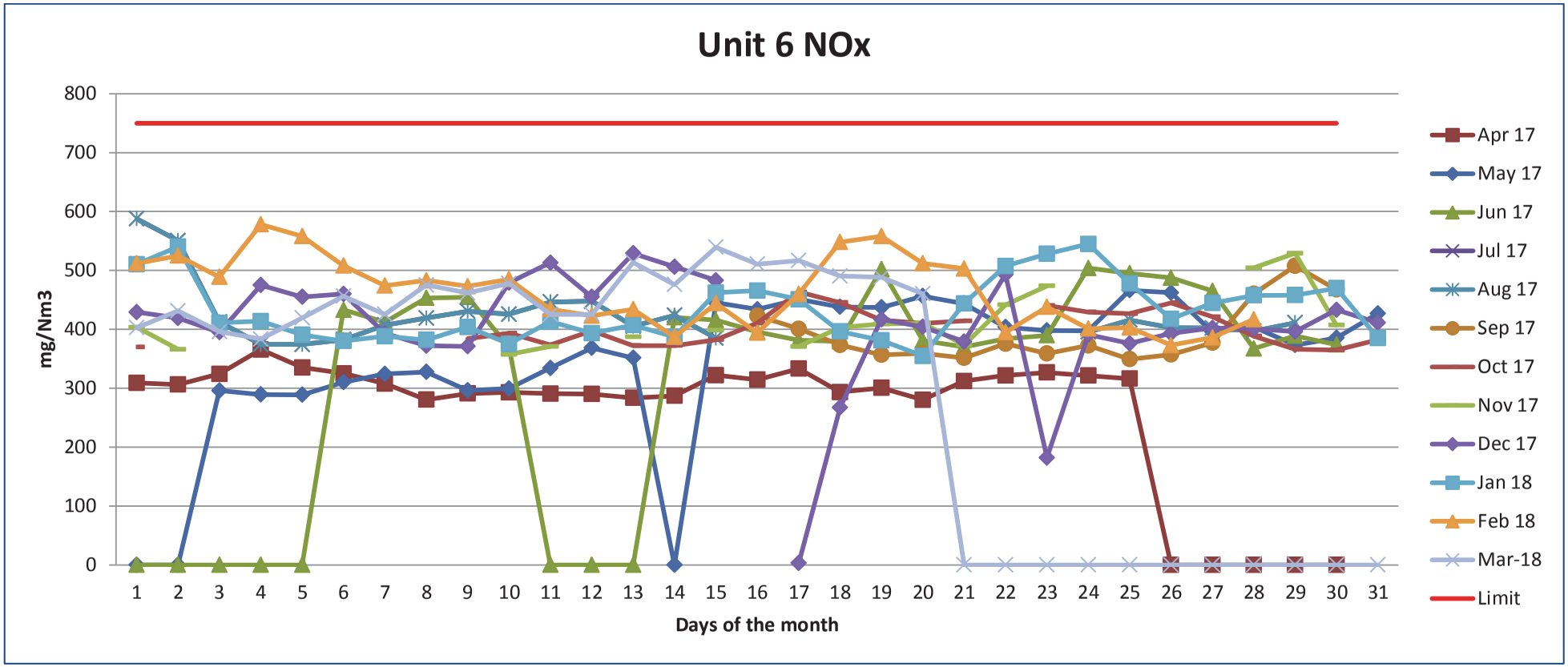
1. The emissions in the table below are from April 2017 to March 2018.

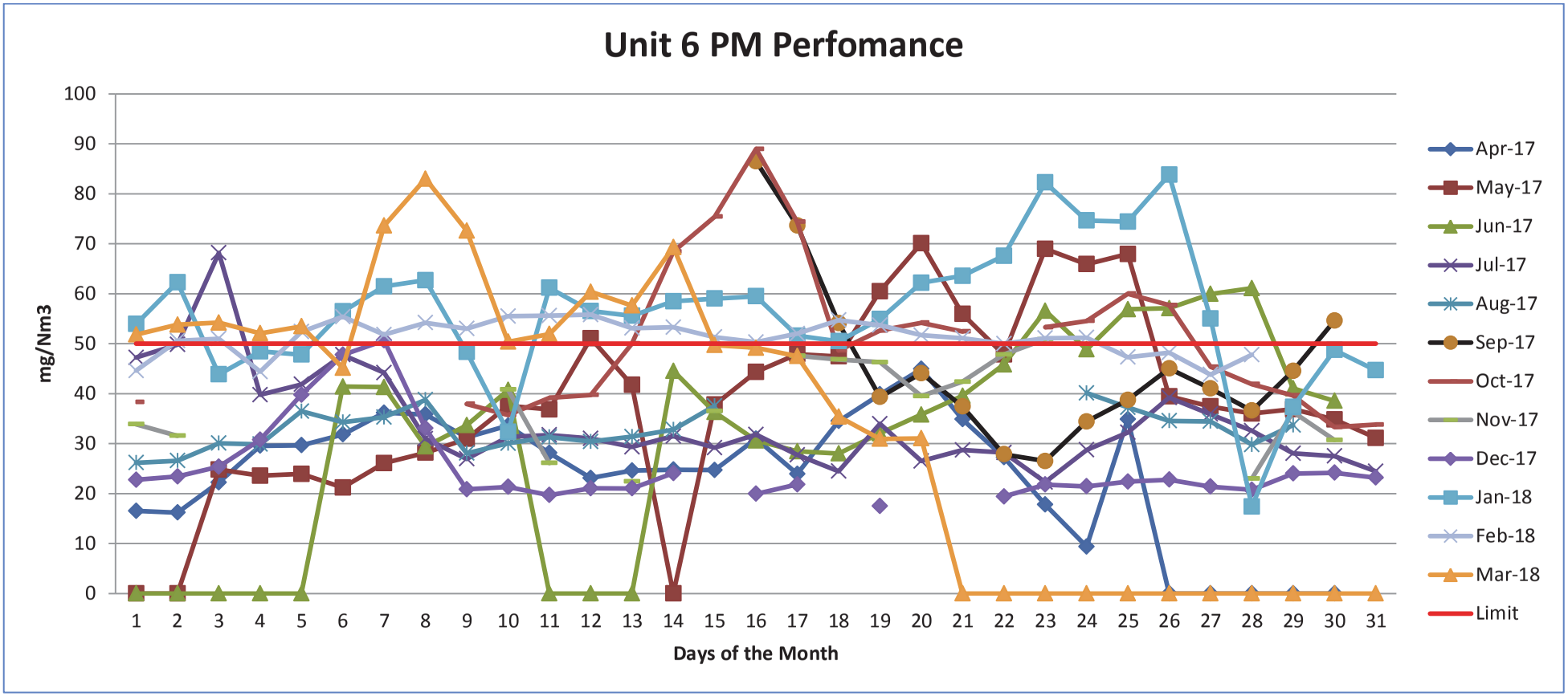
Table 1: Tonnages

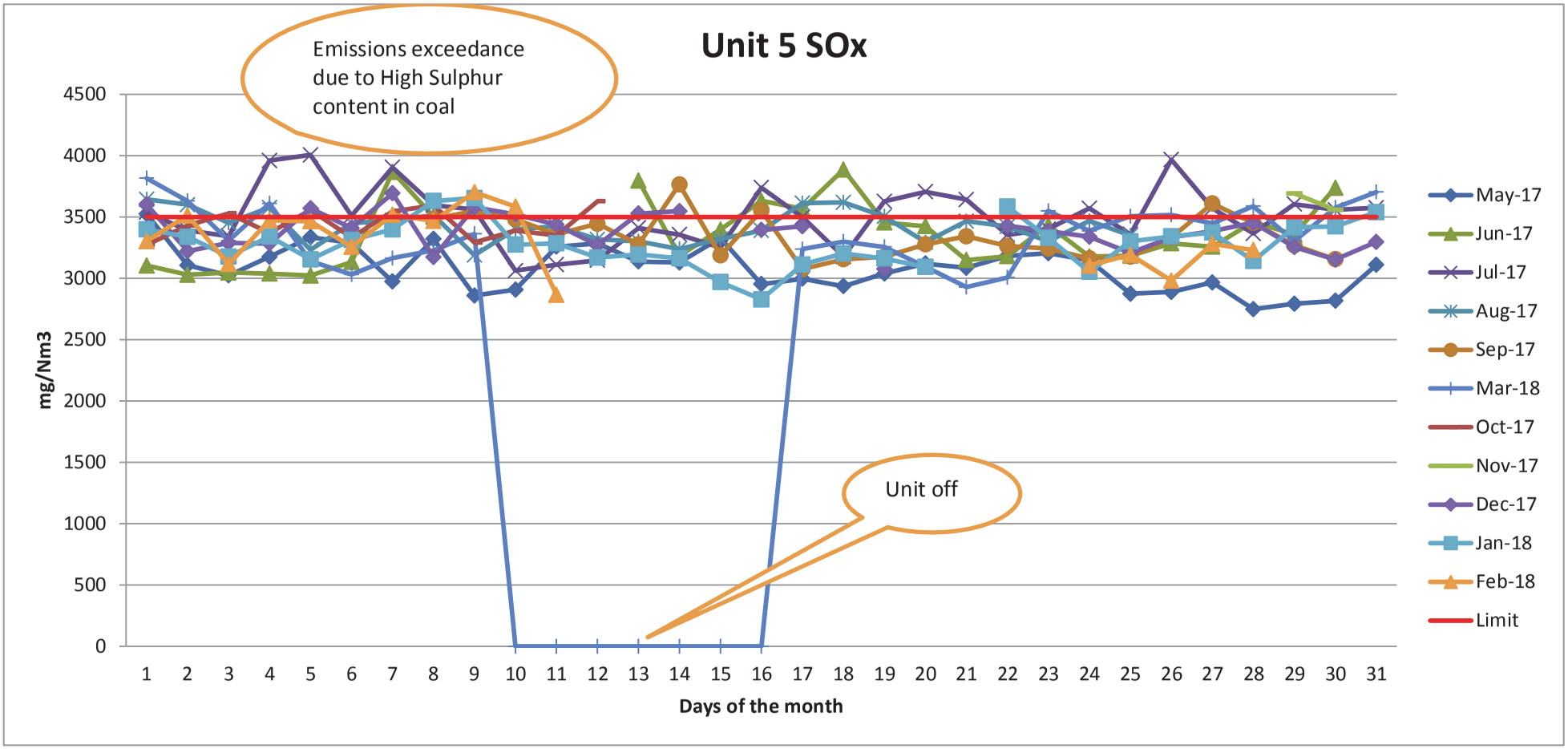
Date (Month)	PM, SO2, NOx, CO (tons)							
	Unit 5				Unit 6			
	PM	SO_2	NO_2	CO	PM	SO_2	NO_2	CO
April 2017	-	-	-	-	31.6	4 593	859	52
May 2017	38.6	10 834	1 355	43	87.4	8 113	994	54
June 2017	26.0	8 967	1 195	10	109.3	6 693	817	20
July 2017	33.3	12 818	1 558	18	148.0	10 700	1 287	87
August 2017	10.7	8 985	1 137	26	87.3	6 521	822	136
September 2017	17.9	8 763	1 095	82	88.5	4 590	573	13
October 2017	17.3	4 997	678	35	147.8	7 408	874	24
November 2017	3.2	800	98	6	53.6	3 726	464	10
December 2017	66.6	9022	1157	63	163.7	8416	1087	22
January 2018	149.6	9130	1248	49	209.5	8184	1181	23
February 2018	44.0	3 506	457	18	139.1	8 513	1 254	27
March 2018	91.5	6146	763	14	108.6	5777	906	17

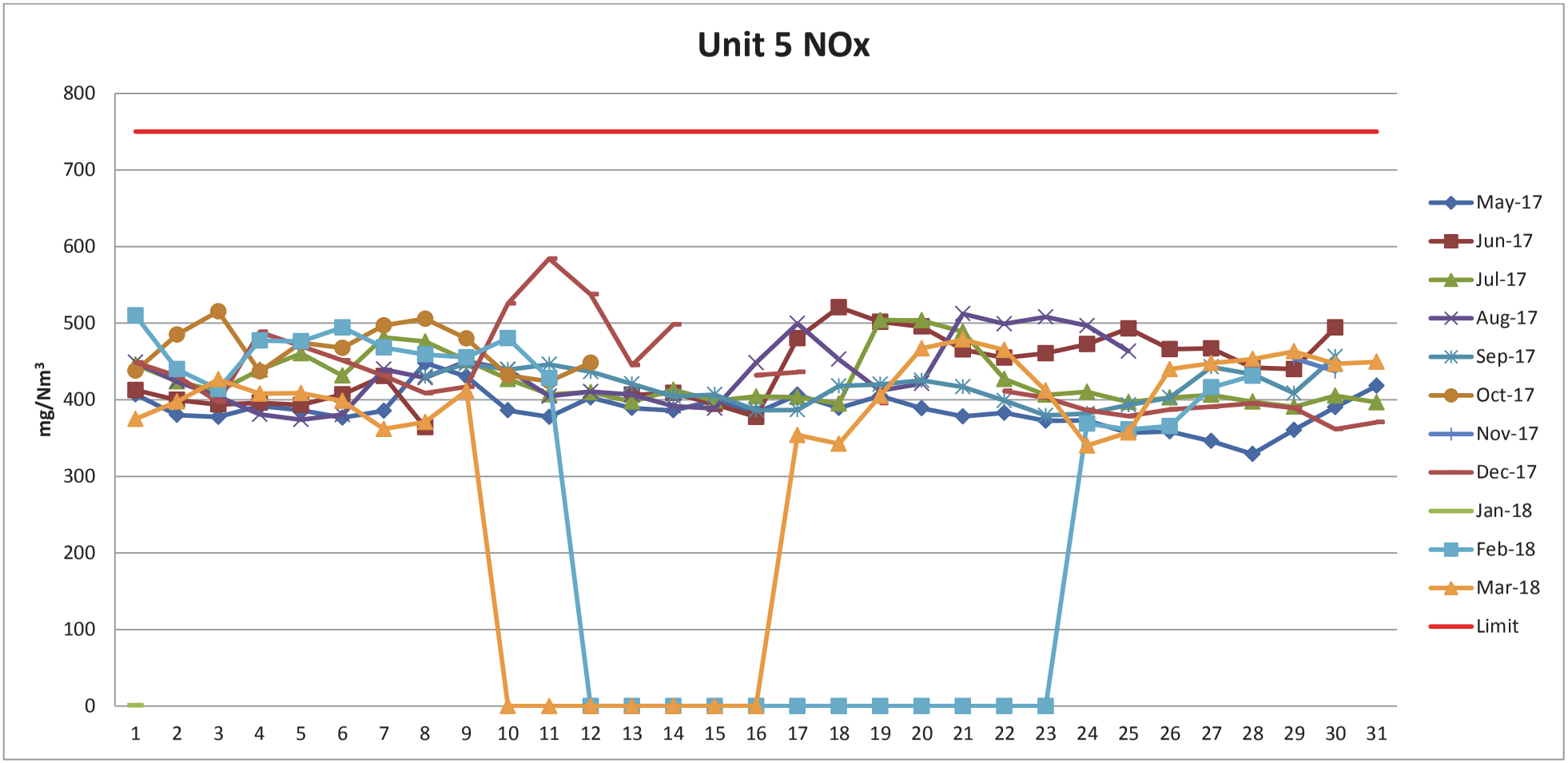
2. Medupi Power Station Emissions Trends

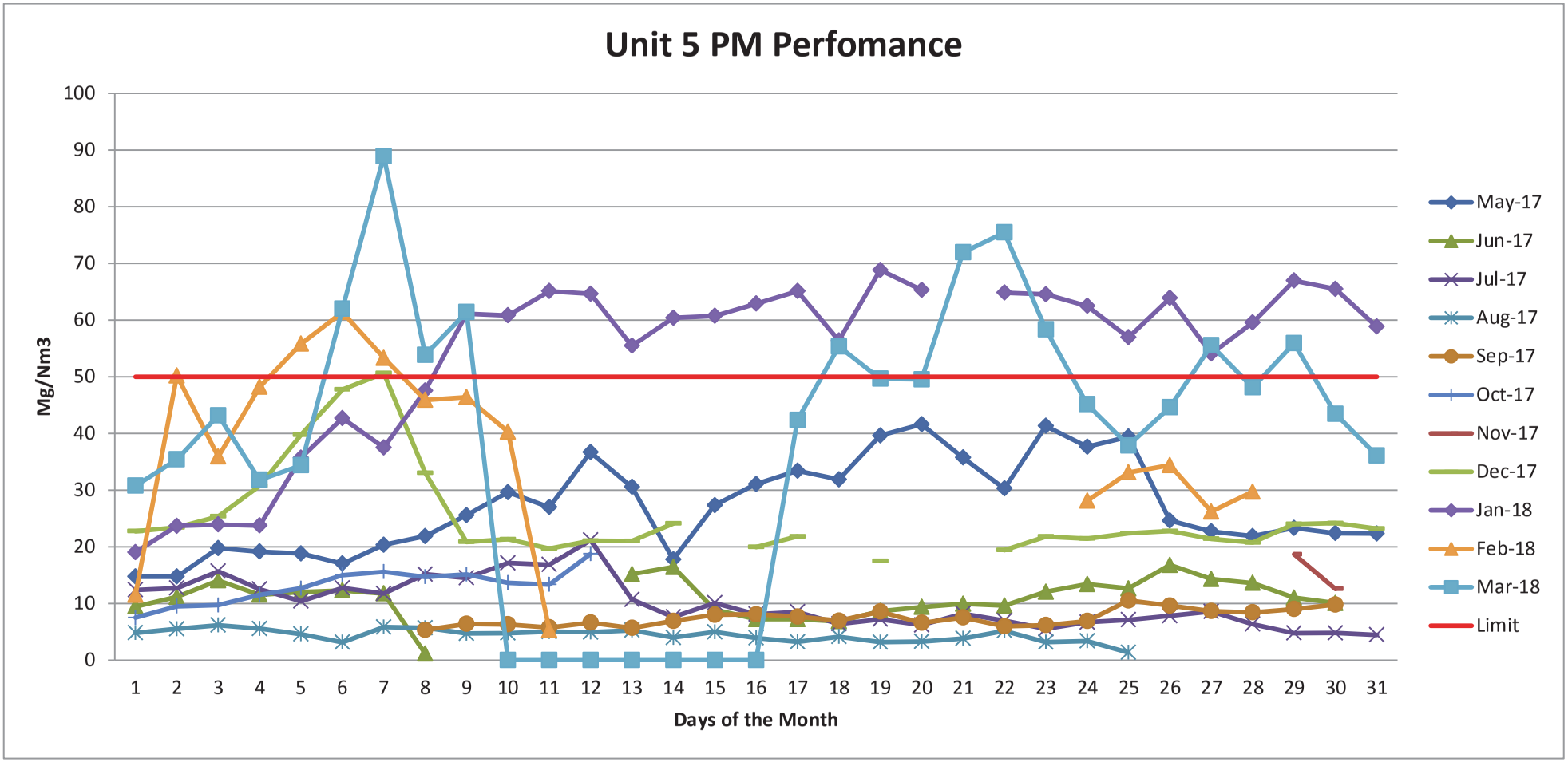








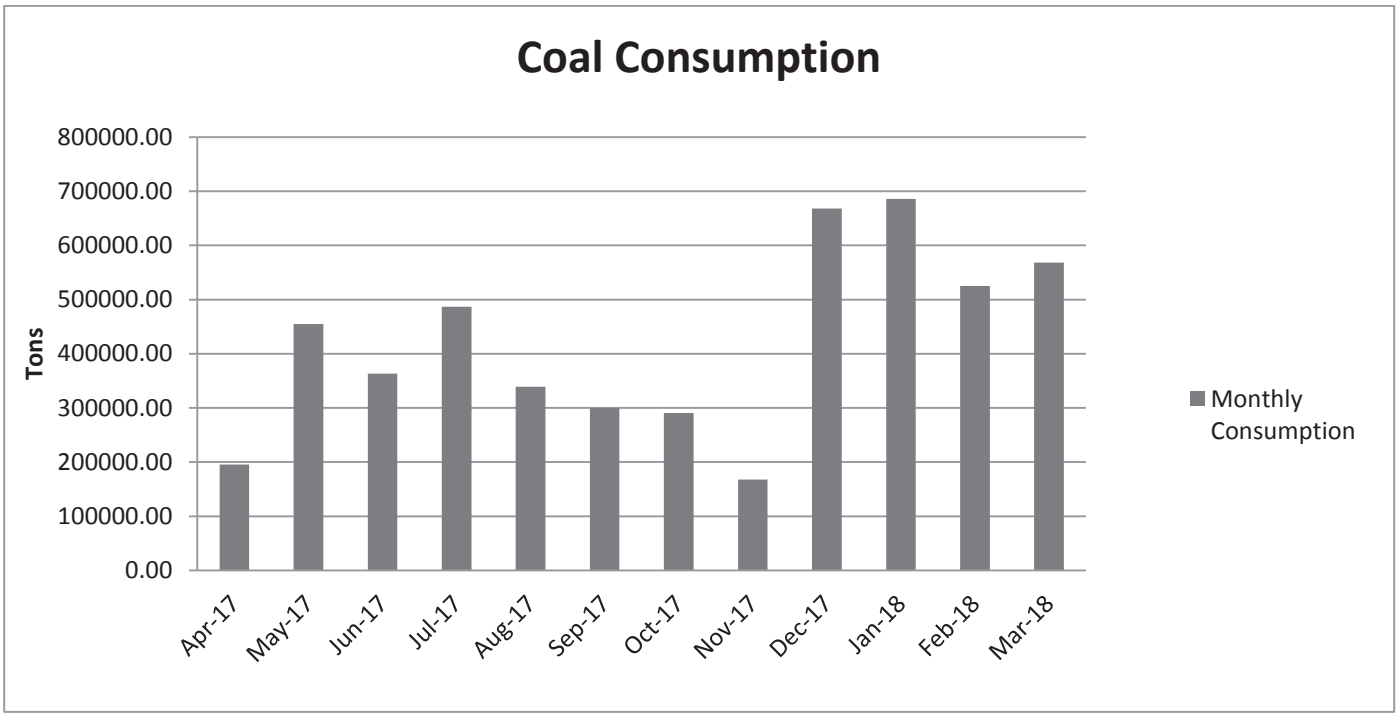




3. Fuel Consumption Rate and Production Rate

The AEL limits the consumption of raw materials such as coal and fuel oil to a maximum of 1 875 000 and 40 000 tons per month respectively. The maximum allowable production capacity is limited to 4 800 MW.

Figure 1: Medupi Power Station monthly coal consumption rate



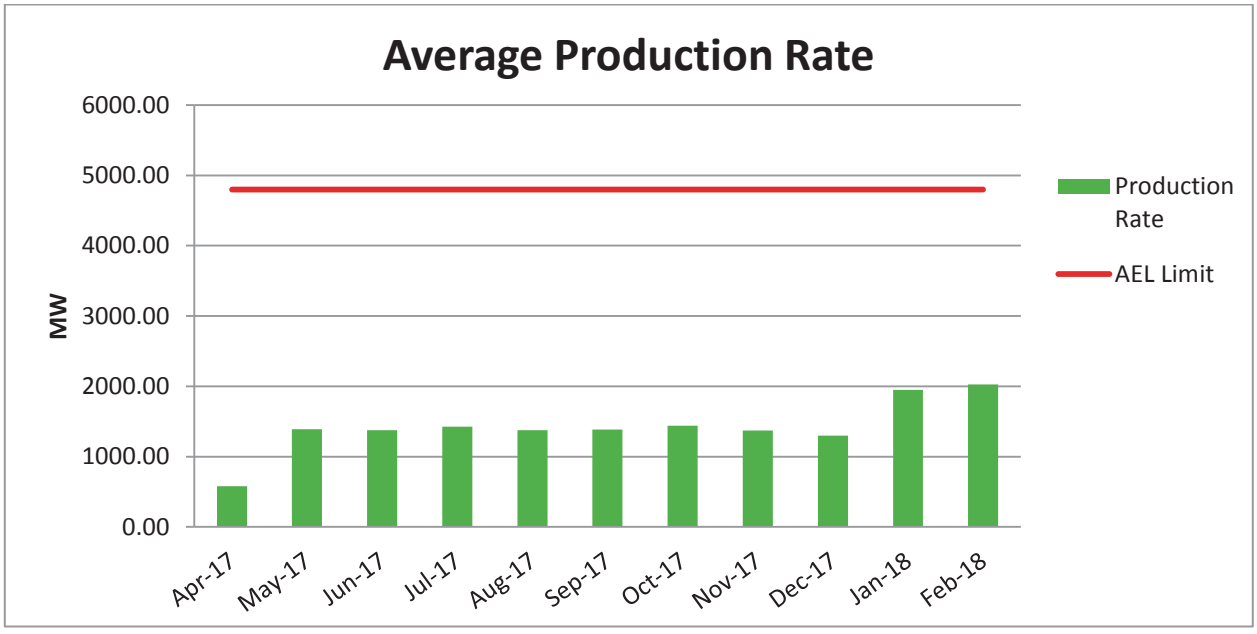
Medupi Power Station coal consumption rate was well within the limit as prescribed by the provisional Atmospheric Emissions Licence.

Table 2: Fuel Oil Consumption against the pAEL of 40 000 tons/month

Month	Consumption (tonnages)
Apr 2017	182.70
May 2017	619.50
Jun 2017	839.24
Jul 2017	284.55
Aug 2017	433.31
Sep 2017	391.12
Oct 2017	539.01
Nov 2017	8564.98
Dec 2017	996.00
Jan 2018	765.40
Feb 2018	894.33
Mar 2018	701.13

Medupi Power Station uses fuel oil during unit light up, the maximum allowable tons of fuel oil to be used by Medupi Power Station is 40 000 tons per month. Medupi Power Station monitors the monthly usage and report to LEDET on a monthly basis, table 2 above indicates that the power station is in compliance to the requirements of the provisional Atmospheric Emissions Licence limit of 40 000 tons per month.

Figure 2: Average monthly production rate



4. Operation hours of the emission unit during the reporting period

Month	Unit	Days operating under normal operation (DD:HH:MM)	Days operating in grace period (DD:HH:MM)	Days operating under NEMA s30 (DD:HH:MM)	Days unit off load (DD:HH:MM)
April 2017	6	24:23:40	00:00:00	00:00:00	05:00:20
	5	-	-	-	-
May 2017	6	24:16:20	04:00:00	01:00:00	01:07:40
	5	30:17:50	00:00:00	00:00:00	00:06:10
June 2017	6	18:06:55	02:00:00	02:02:00	07:15:05
	5	25:06:00	00:00:00	00:00:00	04:18:00
July 2017	6	31:00:00	00:00:00	00:00:00	00:00:00
	5	31:00:00	00:00:00	00:00:00	00:00:00
Aug 2017	6	20:19:55	00:00:00	00:00:00	10:04:05
	5	23:18:15	00:00:00	00:00:00	07:05:45
Sep 2017	6	12:13:35	03:00:00	00:00:00	14:10:25
	5	24:06:45	00:00:00	00:00:00	05:17:15
Oct 2017	6	12:18:35	05:19:00	05:04:50	07:05:35
	5	12:00:00	00:00:00	00:00:00	19:00:00
Nov 2017	6	18:12:25	00:00:00	00:00:00	11:11:35
	5	02:19:50	00:00:00	00:00:00	27:04:10
Dec 2017	6	25:15:10	01:23:00	00:23:00	02:10:50
	5	27:10:25	00:00:00	00:00:00	03:13:35
Jan 2018	6	26:28:40	03:16:00	00:00:00	00:01:20
	5	28:09:20	02:00:00	00:00:00	00:14:40
Feb 2018	6	13:20:25	02:00:00	00:00:00	12:03:35
	5	21:24:00	06:00:00	00:00:00	00:00:00
Mar 2018	6	18:07:00	02:00:00	00:00:00	10:17:00
	5	19:18:15	04:00:00	00:00:00	07:05:45

Medupi Power Station Unit 6 operated outside the ambit of the pAEL due bag failures on the Pulse Jet Fabric Filter Plant, the incidents happened in May, June, October and December 2017. All incidents were reported to the Licensing Authority in terms of NEMA section 30 with the exclusion of May incident which was realized after back-fitting the data. The emissions exceedances for unit 5 and 6 as noted in January, February and March 2018 fall outside the Ambit of NEMA section 30. LEDET was notified of the challenges facing Medupi Power Station in terms of particulates emissions in a meeting held on 10 January 2018.

5. Ambient Air Quality and Dust Fall-out Monitoring

Table 3: Number of exceedances of the National Ambient Air Quality Limits for reporting period

	SO_2 hourly	SO_2 daily	SO_2 10-minute	NO_2 hourly	PM_{10} daily	$PM_{2.5}$ daily	O_3 8-hourly
January	1	0	3	0	0	1	3
February	1	0	8	0	0	0	0
March	2	0	6	0	0	2	0
April	3	0	6	0	0	0	0
May	1	0	0	0	0	0	ND
June	4	0	8	0	0	0	ND
July	3	0	10	ND	0	0	ND
August	2	0	3	0	0	0	ND
September	1	0	3	0	1	0	ND
October	5	0	21	0	0	0	1
November	7	1	27	0	1	0	28
December	7	2	18	0	1	1	6
Total	**37**	**3**	**113**	**0**	**3**	**4**	**38**
Allowed number of exceedances	88	4	526	0	4	4	11

Number of exceedances of the O_3 8-hour moving average is above the allowed number of exceedances per year and therefore in non-compliance with the national ambient standard. Though there were exceedances recorded from January to December 2016 for the other parameters monitored at Medupi monitoring site, their total number of exceedances are well below their respective allowed number of exceedances per year. There were no exceedances of the NO_2 hourly limit recorded from January 2017 to December 2017.

Monitoring report for ambient air quality is submitted to Limpopo Economic Development, Environment and Tourism on a monthly basis. The reports contain data for all parameters monitored at the Medupi Ambient monitoring station.

Note: Annual exceedance allowable is measured in a calendar year and as such this report shall contain the results for January 2017 to December 2017.

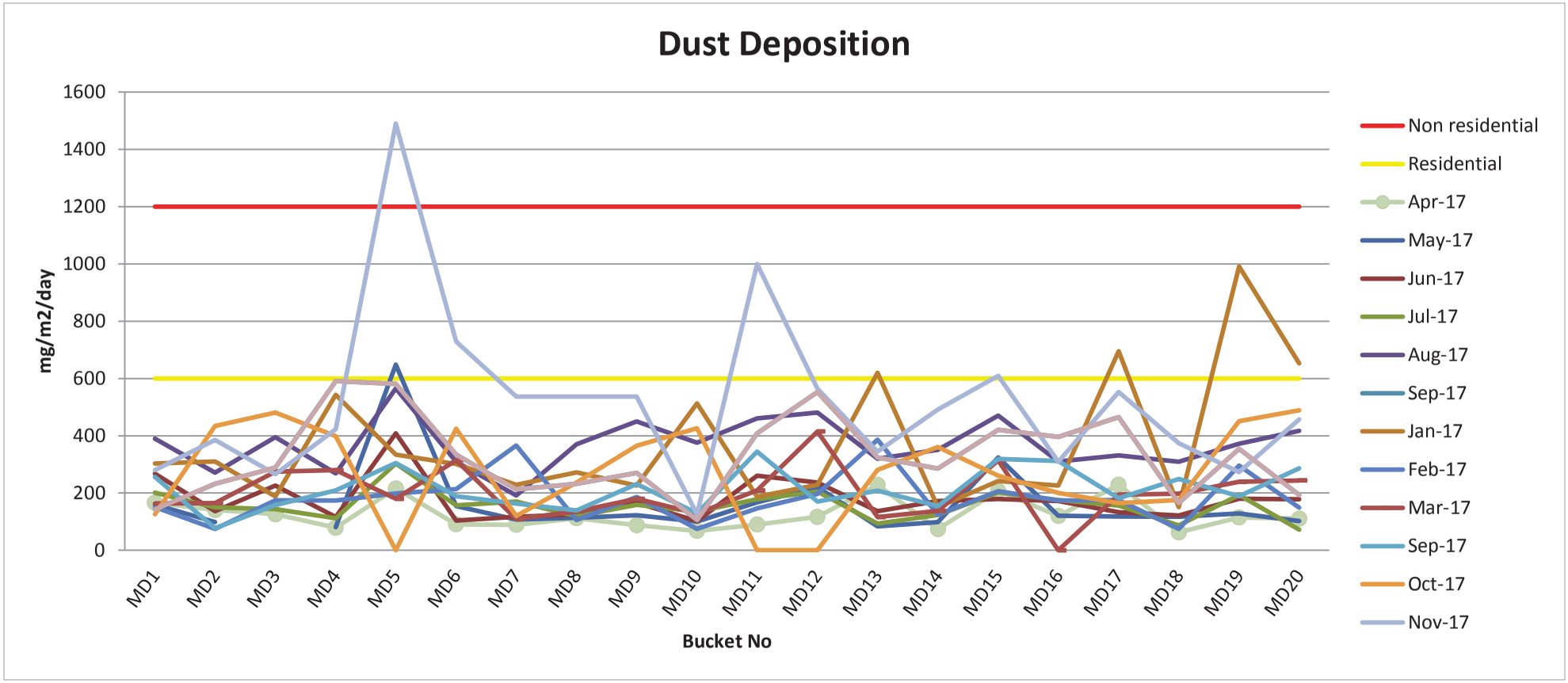
Table 4: Ambient Air Quality Data

Parameter measured	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ave
$PM_{2.5}$ (µg/m³)	13.1	10.5	16..6	12.3	13.9	17.5	15.6	13.6	14	11.5	10.2	14.7	13.3
PM_{10} (µg/m³)	18.1	20.4	27.2	22.2	25.5	30.4	37.5	33.2	36.7	27.2	27.5	30.1	28
CO (ppm)	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
NO_2 (ppb)	3.4	2.5	4.5	3.2	3.7	4.5	ND	6.6	3.5	4.1	3.9	3.4	3.9
O_3 (ppb)	26.8	19.8	22.7	23.2	22.5	ND	ND	ND	ND	39.2	40.2	32.5	28.3
SO_2 (ppb)	7.4	6.1	8.9	7.9	7.8	9.9	8.5	11.7	10.9	12.7	17	15.4	10.3

ND = no data

Annual concentrations of all parameters monitored at Medupi monitoring station are well below their respective annual limits. Therefore, the monitoring station is in compliance with the yearly ambient standards for 2017.

Figure 3: Dust fall-out monitoring



Medupi Power Station dust monitoring network consists of 20 buckets which are collected and analysed within 30 +- 3 days. The results for the reporting period January to December 2017 is depicted in figure 7 and it evident that that the dust management practices within the power station is acceptable. One (1) exceedance of Non-residential National Dust-fallout Regulation Limit (1200 mg/m2/days) was measured during November 2017.

6. Compliance Audit Report

There was no compliance audit conducted during the reporting period. Medupi Power Station monitors compliance to the PAEL conditions on a daily and if a possible non-conformance identified, relevant personnel within the power station are notified to prevent the non-conformance.

7. Major upgrades project

There were no major upgrades in the reporting period.

8. Deviation from licence conditions and actions to resolve the problem

Medupi Power Station Unit 5 and 6 performed well within the ambit of the AEL most of the months in the reporting period. Exceedances where observed for particulates emissions in the months of May, June, October and December 2017 (refer to Fig.1 to 6), investigation revealed the root cause to be leaking bag from the Pulse Jet Fabric Filter Plant. Action plan to address the issue was developed and implemented. Qualifying exceedances were reported to the National Department of Environmental Affairs (DEA) as NEMA Section 30 incident. Furthermore, a letter detailing emissions particulates challenges, action taken to address the current challenge and future preventative measures was drafted and forwarded to LEDET on 19 April 2018.

Both unit 5 and 6 SOx emissions exceeded the average daily limit of 3500 mg/Nm^3 on a number of occasions, the cause for this incident was identified as the presence of high Sulphur content in the coal. The power station uses the coal reclaimer to blend the coal before it is conveyed to the units.

SO_2 daily emissions exceedances are reported to the Limpopo Economic Development, Environment and Tourism on a monthly basis. Medupi Power station submitted an application for postponement of Minimum Emissions Standards to LEDET and DEA, the power station also held a meeting with the two departments on 15 February 2018. There was no decision taken regarding the postponement application, however DEA gave Eskom six months to implement measures to reduce SOx emissions.

Medupi Power Station coal stockyard height exceeded the limit of 12 m above ground as set in the atmospheric licence. This incident was reported to LEDET, a formal variation request for Medupi's provisional Atmospheric Emission Licence was also submitted on 2017/12/12 (request to increase the height to 16.5 m above ground) to Licensing Authority for consideration on 05 April 2017.

9. Spot/verification/correlation/parallel test results

Particulate emission verification tests were conducted in February 2018.

10. Conclusion

In general, Medupi power Station is in compliance with most of the requirement of the Atmospheric Emission License issued in terms of Section 40(1) (a) of the National Environmental Management: Air Quality Act, 2004, in respect of listed activity No. 1.1, 2.4 and 5.1.

Medupi power station have identified areas that needs improvement in order for the station to avoid legal contraventions, action plans have been developed to mitigate and prevent environmental impact that may result from emissions and related activities.

There were no recommendations received from the authorities regarding any non-compliance or potential non-compliance.

Hoping the above will meet your requirements.

Yours sincerely

MEDUPI POWER STATION: GENERAL MANAGER