Eskom

Ms. Mpho Nembilwi
Air Quality Officer
Nkangala District Municipality
PO Box 437
Middelburg
1050

Date:
10 June 2024

Enquiries:
Lufuno Tshidzumba
Tel +27 14 762 6857

Ref: *Matla Annual 2024/01*

Dear Ms. Nembilwi

MATLA POWER STATION'S ANNUAL EMISSIONS REPORT FOR FINANCIAL YEAR 2023/24

This serves as an Annual report required in terms of Section 7.6 in Matla Power Station's Atmospheric Emission License (Ref No: 17/4/AEL/MP312/11/14), as well as in terms of the reporting requirements listed in the Minimum Emission Standards (section 17 and 18). The emissions are for Eskom Matla Power Station 2023/24 financial year which is from 01 April 2023 to 31 March 2024. Verified emissions of particulate matter, SO_2 and NO_2 as calculated, are also included.

Name, description, and reference number of plant as specified in the AEL: (Ref No: 17/4/AEL/MP312/11/14),

Name of facility	Eskom Holdings SOC limited- Matla Power Station
Description of facility	Power Generation, Electricity generation, Matla Power station, Delmas Road, Kriel, Mpumalanga
Reference number of plant	2002\015527\06

Generation Division
Matla Power Station
Kriel, Delmas Road, Mpumalanga
Private Bag X5012, Kriel, 2271, SA
Tel +27 17 612 9111 Fax +27 13 690 0423 www.eskom.co.za

1. Pollution Emission Trends

Particulate emissions are measured at all power stations with opacity monitors, which are correlated to obtain emission concentrations. Gaseous emissions (SO_2 and NO_x) are calculated from mass balance for SO_2, from station-specific emission factors for NOx. Continuous emission monitors are installed for all stacks/units.

The emissions in the table below are that of the 2023/24FY (April 2023 -March 2024).

Table 1. Total emissions at Matla Power Station 2023/2024 FY (April 2023 -March 2024)

Power Station	Coal-fired emissions (tons/annual)
Eskom Matla Power Station	**PM:** 35855.79 **SO_2:** 185746.56 **NO_2:** 56726.41

Table 2: Pollutant Emission Trends for 2023/24 FY

Month	PM (tons)	SO_2 (tons)	NO_2 (tons)
Apr-2023	1525.59	14010.36	4232.09
May-2023	6799.12	18205.69	5081.60
June-2023	7722.00	16051.40	4584.77
July-2023	5503.15	16078.84	4560.10
August -2023	4630.43	17240.86	4950.62
September-2023	1426.06	13494.60	3811.98
October -2023	1094.07	15981.47	5150.19
November -2023	1569.91	16454.24	5426.00
December-2023	1744.16	15821.30	4865.97
January -2024	1444.60	14133.83	4460.49
February-2024	1552.70	14233.38	4842.80
March-2024	844.00	14040.60	4759.80
Total	35855.79	185746.56	56726.41

Particulate matter (PM), gaseous (NOx and SOx)

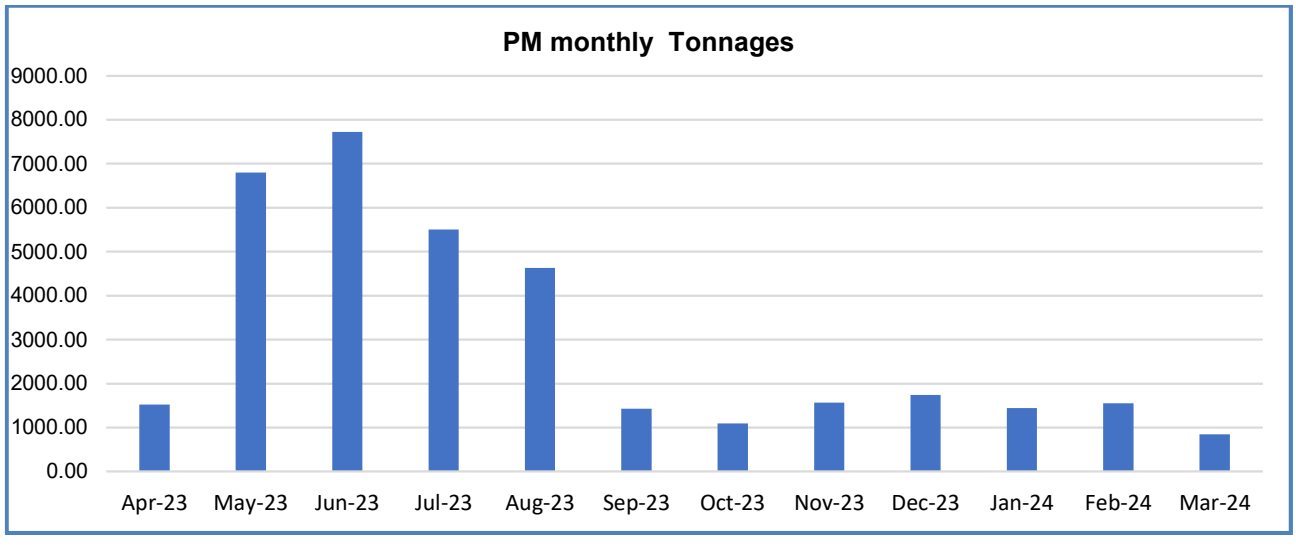


Figure 1: Monthly Particulate Emissions in tons from Matla Power Station 2023/24

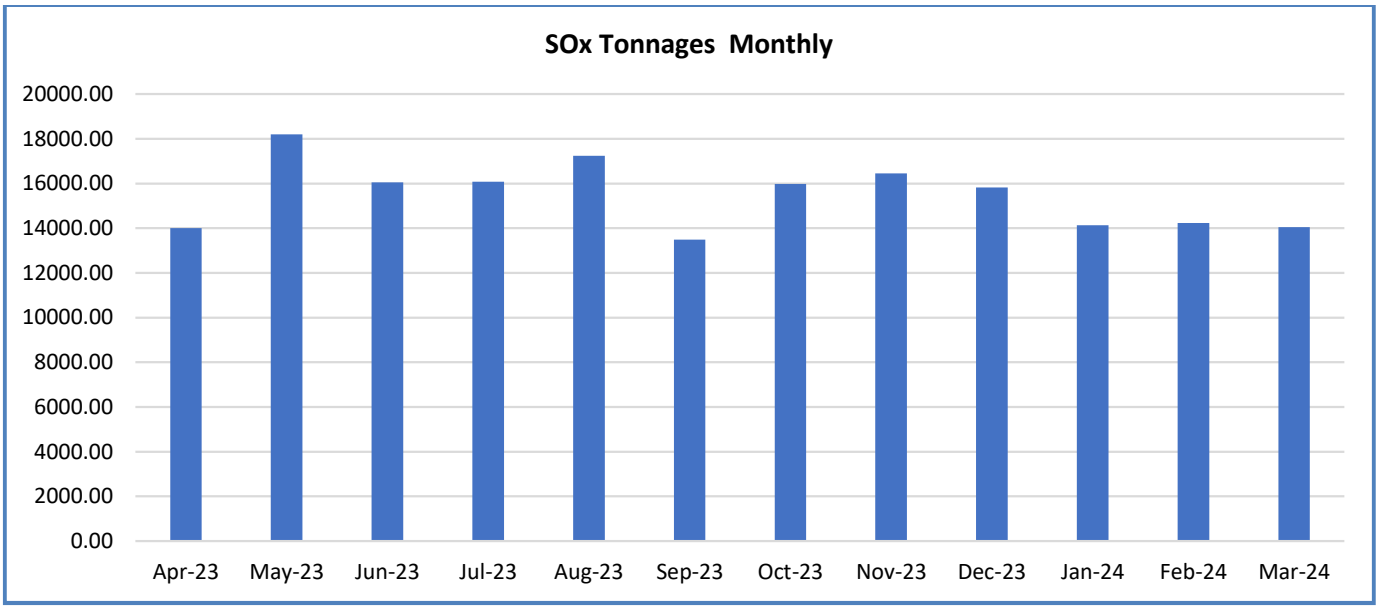


Figure 2: Monthly SO_2 Emissions in tons from Matla Power Station 2023/24.

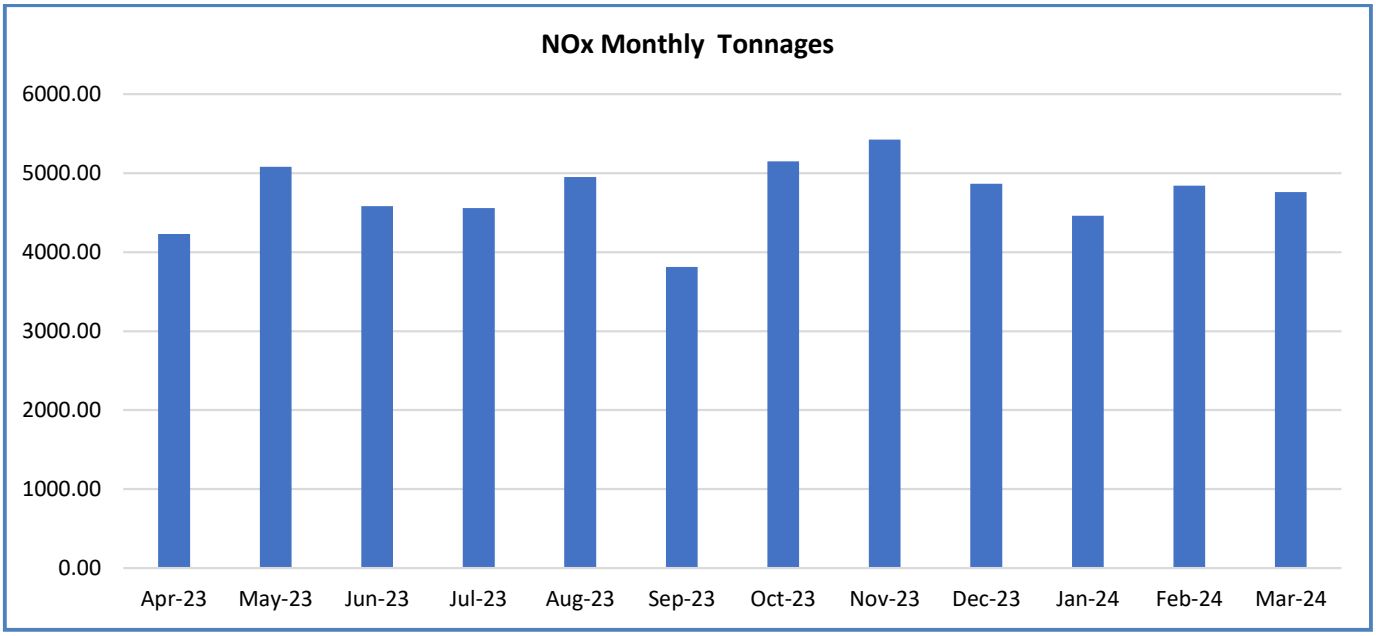


Figure 3: Monthly NO_2 Emissions in tons for Matla Power Station 2023/24.

Please note: Gaseous emissions, are largely dependent on the power generated by the power station, and thus the amount of coal burnt.

2. Production rates

The maximum licensed production capacity is limited to 2 745GWh. The power station remained within prescribed limit for the period between April 2023 and March 2024. For most of the month, the Units were operated with load losses to reduce particulate emissions.

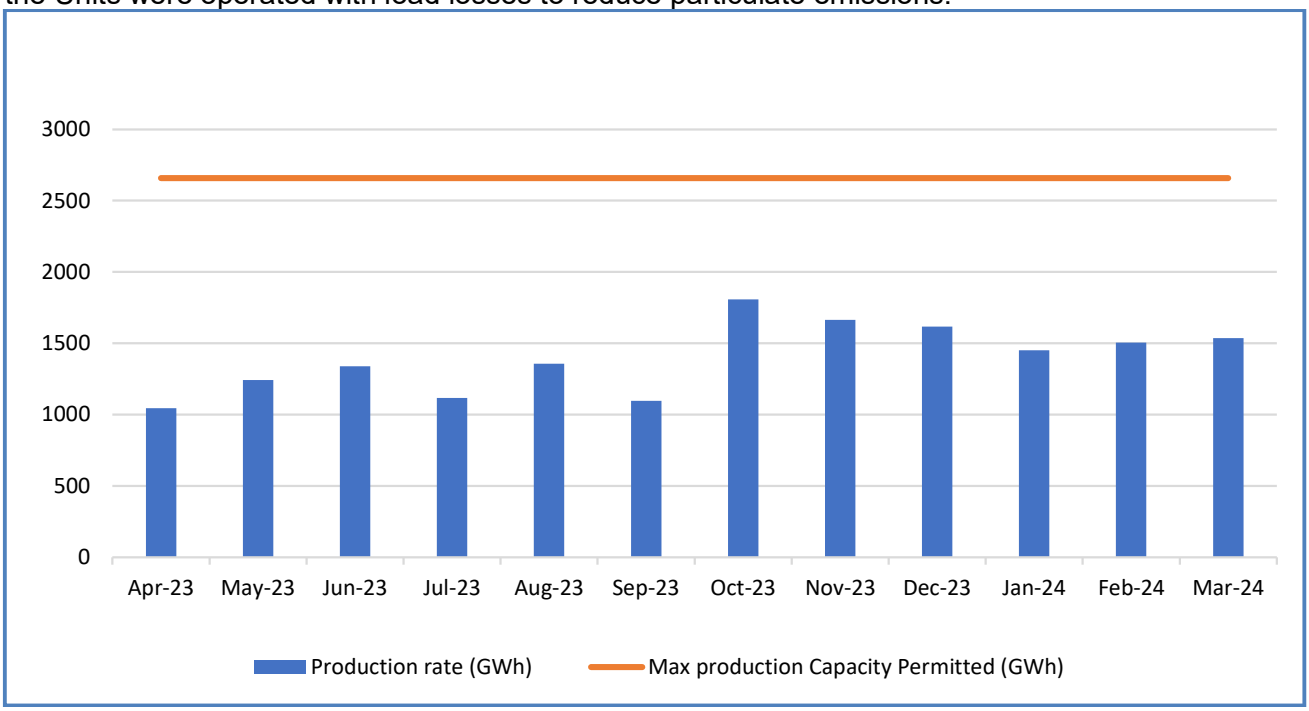


Figure 4: Monthly Energy sent out in GWh from Matla Power Station 2023/24.

3. **An explanation of all instances where minimum emission standards were exceeded.**

The graph below show the total exceedance from each unit/ Stack where the AEL limits was Exceeded, for the reporting period .

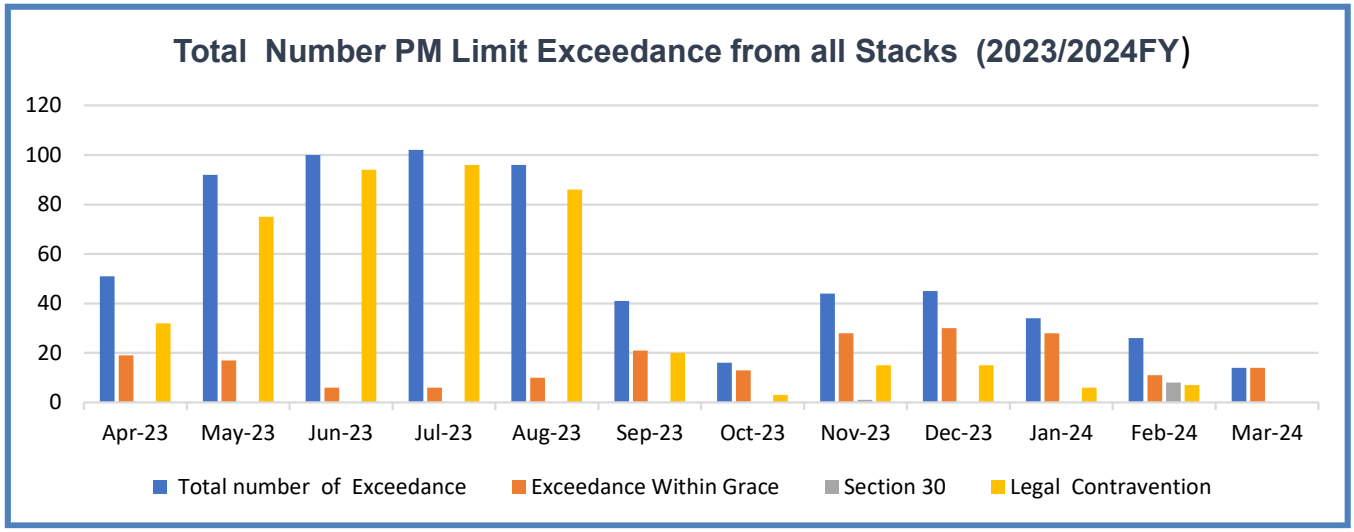


Figure 5: Monthly Total Number of PM Exceedances 2023/24FY.

Matla Power Station of the Electrostatic Precipitators (ESP) to reduce particulate emissions from the stack. There were several exceedances of the particulate matter that were recorded throughout the financial year 2023/2024. ESP plant experienced technical difficulties during this reporting period and exceeded the Particulate Matter limit on several occasions.

For this reporting period Total PM Exceedance of 661 were recorded, PM Exceedance within grace were 203, Legal Contravention exceedance 449 and Section 30 were 9 from all stacks. Only 2 Section 30 incidents were recorded, in November 2023(Unit 5) and February 2024 (Unit 6)

There was no exceedance for NOx and SOx recorded for this reporting Period.
The table below shows all Reasons of Exceedance that resulted to either Section 30 or Legal Contravention.

Table 3: Reasons of Exceedance that resulted to either Section 30 or Legal Contravention.

South Common Stack Particulate exceedances			
Date	**Daily Average Emission**	**Reason for Exceedance**	**Corrective Action**
22/04/2023 23/04/2023 24/04/2023 25/04/2023 26/04/2023 27/04/2023 28/04/2023 29/04/2023 30/04/2023	339.3 334.7 321.6 302.2 393.4 379.9 283.9 229.7 225.8	High Ash hopper levels	Empty the Hoppers
2023/05/01 2023/05/02 2023/05/03 2023/05/04 2023/05/05 2023/05/06 2023/05/07 2023/05/08 2023/05/09 2023/05/10	1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0 1000.0	High hopper levels, low instrument and conveying air	Hired additional compressors

2023/05/11 2023/05/12 2023/05/13 2023/05/14 2023/05/15 2023/05/16 2023/05/17 2023/05/18 2023/05/19 2023/05/20 2023/05/21 2023/05/22 2023/05/23 2023/05/24 2023/05/25 2023/05/26 2023/05/27 2023/05/28 2023/05/29 2023/05/30 2023/05/31	1000.0 1000.0		
2023/06/01 2023/06/02 2023/06/03 2023/06/04 2023/06/05 2023/06/06 2023/06/07 2023/06/08 2023/06/09 2023/06/10 2023/06/11 2023/06/12 2023/06/13 2023/06/14 2023/06/15 2023/06/16 2023/06/17 2023/06/18 2023/06/19 2023/06/20 2023/06/21 2023/06/22 2023/06/23 2023/06/24 2023/06/25 2023/06/26 2023/06/27 2023/06/28 2023/06/29 2023/06/30	1000.0 344.6 386.7 243.8 441.7 415.5 391.4 420.2 331.7	Poor coal qualities, high hopper levels, low conveying air and Sulphur blockages.	Blending bad and good coal, recovering high hopper level backlog.
2023/07/01 2023/07/02 2023/07/03 2023/07/04 2023/07/05 2023/07/06 2023/07/07 2023/07/08 2023/07/09 2023/07/10 2023/07/11 2023/07/12 2023/07/13	277.1 230.2 285.9 317.0 292.2 328.8 415.0 434.4 433.6 461.0 465.9 457.8 434.2	Poor coal qualities, high hopper levels, low conveying air.	Blending bad and good coal and Empty the Hoppers. Hired, compressors and repairing the defective compressors.

2023/07/14 2023/07/15 2023/07/16 2023/07/17 2023/07/18 2023/07/19 2023/07/20 2023/07/21 2023/07/22 2023/07/23 2023/07/24 2023/07/25 2023/07/26 2023/07/27 2023/07/28 2023/07/29 2023/07/30 2023/07/31	388.7 357.8 351.7 363.9 374.7 411.9 466.0 479.9 478.1 477.5 476.2 414.8 367.0 370.0 307.4 426.8 408.5 412.6		
2023/08/01 2023/08/02 2023/08/03 2023/08/04 2023/08/05 2023/08/06 2023/08/07 2023/08/08 2023/08/09 2023/08/10 2023/08/11 2023/08/12 2023/08/13 2023/08/14 2023/08/15 2023/08/16 2023/08/17 2023/08/18 2023/08/19 2023/08/20 2023/08/21 2023/08/22 2023/08/23 2023/08/24 2023/08/25 2023/08/26 2023/08/27 2023/08/28 2023/08/29 2023/08/30 2023/08/31	477.2 519.1 584.9 552.6 608.7 390.3 423.8 697.2 436.2 486.6 273.6 431.9 596.1 455.0 633.5 604.0 576.8 582.8 638.6 647.7 635.4 732.3 692.0 680.3 549.4 563.3 596.1 630.6 671.8 624.7 610.9	Poor coal qualities, high hopper levels, low conveying air.	Hired compressors, blending coal, and added vacuum trucks to pull ash from the hoppers.
2023/09/01 2023/09/07 2023/09/20 2023/09/21 2023/09/22 2023/09/23 2023/09/24 2023/09/25 2023/09/26	370.1 363.8 279.4 226.8 262.7 310.6 341.1 336.7 305.6	Poor coal qualities, high hopper levels, low conveying air.	Hired compressors, blending coal, and added vacuum trucks to pull ash from the hoppers.
2023/10/08 2023/10/09	282.6 366.2	Dust plant stoppages due to defects that led to high hopper levels.	Repair defects and recover ash high hopper levels.

2023/11/04 2023/11/05 2023/11/06 2023/11/25 2023/11/26 2023/11/27 2023/11/28 2023/11/29 2023/11/30	214.8 261.1 273.1 410.9 369.9 333.4 686.4 408.8 431.5	Unit 2 and 3 poor precips performance due to high precips flue gas temperatures High hopper levels, poor K-pump performance, and defects.	Biased unit drought group cleared hopper levels. Repaired K-pump and cleared hopper levels
2023/12/01 2023/12/02 2023/12/03 2023/12/04 2023/12/05 2023/12/06 2023/12/21 2023/12/22 2023/12/23 2023/12/24 2023/12/25 2023/12/26	436.9 624.0 843.1 712.9 498.0 543.6 497.8 253.9 548.6 291.6 368.7 254.3	Poor coal qualities, unit 3 back-end temperatures, poor precipitator performance and high hopper levels	

Unit 4 Particulate Exceedances			
Date	Daily Average Emission	Reason for Exceedance	Corrective Action
01/04/2023 02/04/2023 06/04/2023 15/04/2023 16/04/2023 17/04/2023 18/04/2023 19/04/2023 20/04/2023 21/04/2023 22/04/2023 23/04/2023 24/04/2023 25/04/2023 26/04/2023 27/04/2023 28/04/2023 29/04/2023 30/04/2023	320.5 316.7 201.6 406.5 383.5 397.3 646.6 281.6 361.5 318.7 781.3 813.3 479.6 229.9 375.4 535.1 574.3 579.4 255.1	High ash hopper Levels	Empty the Hoppers
2023/05/01 2023/05/02 2023/05/03 2023/05/04 2023/05/05 2023/05/06 2023/05/20 2023/05/21 2023/05/22 2023/05/23 2023/05/24 2023/05/25 2023/05/26	396.7 921.6 1806.6 1897.2 1066.0 242.9 739.6 470.2 482.0 459.0 660.7 765.5 1183.4	High ash hopper Levels	Empty the Hoppers

2023/05/27 2023/05/28 2023/05/29 2023/05/30 2023/05/31	2000.0 2000.0 2000.0 2000.0 2000.0		
2023/06/01 2023/06/02 2023/06/03 2023/06/04 2023/06/05 2023/06/06	360.2 441.5 545.0 1550.3 798.7 390.2	Poor coal qualities, high hopper levels, low conveying air and Sulphur blockages.	Blending bad and good coal, recovering high hopper level backlog.
2023/07/03 2023/07/04 2023/07/05 2023/07/06 2023/07/07 2023/07/08 2023/07/09 2023/07/10 2023/07/11 2023/07/12 2023/07/13 2023/07/14 2023/07/15 2023/07/16 2023/07/17 2023/07/18 2023/07/22 2023/07/23 2023/07/24 2023/07/25 2023/07/26 2023/07/27 2023/07/28 2023/07/29 2023/07/30 2023/07/31	2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 1351.9 1351.9 1351.9 1351.9 1351.9 971.9 376.5 373.0 367.4 367.2 371.3 552.9 577.8 577.8 577.8 500.3	Poor coal qualities, high hopper levels, low conveying air.	Blending bad and good coal and Empty the Hoppers. Hired, compressors and repairing the defective compressors.
2023/08/08 2023/08/09 2023/08/12 2023/08/13 2023/08/14 2023/08/15 2023/08/16 2023/08/17 2023/08/18 2023/08/19 2023/08/20 2023/08/21 2023/08/22 2023/08/23 2023/08/24 2023/08/25 2023/08/26	314.1 301.6 632.6 799.1 1381.2 727.9 580.6 419.2 281.5 260.0 391.4 426.7 1067.2 468.0 327.2 300.5 226.6	Poor coal qualities, high hopper levels, low conveying air.	Hired compressors, blending coal, and added vacuum trucks to pull ash from the hoppers.
2023/09/08 2023/09/09 2023/09/10 2023/09/27 2023/09/28	280.7 260.9 314.3 842.7 254.1	High hopper levels. SO3 blockage	Clear Hopper Levels Extended warm-up period and unblocked SO3
2023/11/08 2023/11/09	208.3 207.2	High hopper levels, poor precips performance and internally damaged precips.	Hired, compressors and repairing the defective compressors
2024/01/11	1070.0	Conveying line and K pump blockages	Unblocked the lines

2024/01/12 2024/01/13 2024/01/14 2024/01/15 2024/01/16 2024/01/20 2024/01/21	1650.1 853.8 280.5 445.9 217.4 447.8 376.3		
2024/02/07 2024/02/08 2024/02/09 2024/02/13 2024/02/14 2024/02/15 2024/02/16	638.6 462.3 1000.3 853.8 280.5 445.9 217.4	moisture on conveying and instrument air that led to blockages on K pump and conveying lines.	continuous opening (crack open) of vent valves to drain moisture.

Unit 5 Particulate Exceedances			
Date	Daily Average Emission	Reason for Exceedance	Corrective Action
20/04/2023 27/04/2023 28/04/2023	496.4 515.3 116.6	Poor Coal Qualities	Sourcing of Quality Coal
2023/05/10 2023/05/11 2023/05/12 2023/05/13 2023/05/17 2023/05/18 2023/05/19 2023/05/20 2023/05/25 2023/05/26 2023/05/27 2023/05/28 2023/05/29 2023/05/30 2023/05/31	101.2 164.8 212.4 298.7 233.2 147.8 151.8 444.8 654.5 1190.4 1217.4 1973.5 2000.0 2000.0 2000.0	High hopper levels, low instrument and conveying air	Hired additional compressors
2023/06/01 2023/06/02 2023/06/03 2023/06/04 2023/06/05 2023/06/06 2023/06/07 2023/06/08 2023/06/09 2023/06/10 2023/06/11 2023/06/12 2023/06/13 2023/06/14 2023/06/15 2023/06/16 2023/06/17 2023/06/18 2023/06/19 2023/06/20 2023/06/21 2023/06/22 2023/06/23 2023/06/24	2000.0 2000.0 2000.0 2000.0 2000.0 1700.0 1620.8 1574.2 1700.0 1700.0 1412.7 1211.9 1524.3 1700.0 1542.8 346.2 1491.3 1640.1 1687.3 1700.0 1700.0 1692.2 1689.6 830.3	Poor coal qualities, high hopper levels, low conveying air and Sulphur blockages.	Blending bad and good coal, recovering high hopper level backlog.

2023/06/25 2023/06/26 2023/06/27 2023/06/28	1369.4 1700.0 1700.0 1700.0		
2023/07/24 2023/07/25 2023/07/26 2023/07/27 2023/07/28 2023/07/29 2023/07/30 2023/07/31	148.0 1001.8 1178.1 1559.0 2000.0 1581.1 1530.2 1868.2	Poor coal qualities, high hopper levels, low conveying air.	Blending bad and good coal, and Empty the Hoppers Hired, compressors and repairing the defective compressors
2023/08/01 2023/08/02 2023/08/03 2023/08/04 2023/08/05 2023/08/06 2023/08/07 2023/08/08 2023/08/09 2023/08/10 2023/08/11 2023/08/12 2023/08/13 2023/08/14 2023/08/15 2023/08/16 2023/08/17 2023/08/18 2023/08/19 2023/08/20 2023/08/21 2023/08/22 2023/08/23 2023/08/24 2023/08/25	1559.8 1254.4 1150.1 1156.3 1159.2 1191.3 1179.4 1173.1 1164.1 1195.7 1181.6 1176.3 1189.0 1318.9 1943.1 1654.4 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0	Poor coal qualities, high hopper levels, low conveying air.	Hired compressors, blending coal, and added vacuum trucks to pull ash from the hoppers. Shut down unit for repairs
2023/09/20 2023/09/21 2023/09/22 2023/09/30	292.2 165.0 146.2 342.8	SO3 blockage High hopper	SO3 flow meter replaced. Clear hopper levels
2023/10/01	625.7	High hopper	Clear hopper levels
2023/11/18 2023/11/19 2023/11/20 2023/11/21 2023/11/22	328.1 188.0 131.8 448.9 106.7	partially blocked SO3 catalyst. High hopper levels, poor precips performance, poor coal qualities and high precips flue gas temperatures.	Unblock the SO3 catalyst. Coal qualities improved and cleared hopper levels
2023/12/21 2023/12/22	347.1 168.7	High Hopper levels	Empty Hoppers

Unit 6 Particulate Exceedances			
Date	Daily Average Emission	Reason for Exceedance	Corrective Action
2023/05/20 2023/05/21 2023/05/22 2023/05/23	493.3 528.0 1384.3 1892.2	High hopper levels, low instrument and conveying air	Hired additional compressors

2023/05/24 2023/05/25 2023/05/26 2023/05/27 2023/05/28 2023/05/29 2023/05/30 2023/05/31	1754.9 1034.1 1210.0 1293.9 2000.0 1232.2 1789.0 2000.0		
2023/06/01 2023/06/02 2023/06/03 2023/06/04 2023/06/05 2023/06/06 2023/06/07 2023/06/08 2023/06/09 2023/06/10 2023/06/11 2023/06/12 2023/06/13 2023/06/14 2023/06/15 2023/06/16 2023/06/17 2023/06/18 2023/06/19 2023/06/20 2023/06/21 2023/06/22 2023/06/23 2023/06/24 2023/06/25 2023/06/26 2023/06/27 2023/06/28 2023/06/29 2023/06/30	2000.0 2000.0 2000.0 2000.0 2000.0 1339.6 888.9 1545.6 1573.2 1476.2 1739.3 837.6 1072.9 1327.2 438.0 860.6 1809.3 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 2000.0 1966.7 2000.0 1961.8 1039.9	Poor coal qualities, high hopper levels, low conveying air and Sulphur blockages.	Mixing bad and good coal, recovering high hopper level backlog.
2023/07/01 2023/07/02 2023/07/03 2023/07/04 2023/07/05 2023/07/06 2023/07/07 2023/07/08 2023/07/09 2023/07/10 2023/07/11 2023/07/12 2023/07/13 2023/07/14 2023/07/15 2023/07/16 2023/07/17 2023/07/18 2023/07/19 2023/07/20 2023/07/21 2023/07/22 2023/07/23 2023/07/24 2023/07/25 2023/07/26	1198.9 999.9 828.4 617.5 439.1 456.1 670.3 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0 1400.0	Poor coal qualities, high hopper levels, low conveying air.	Blending bad and good coal, and Empty the Hoppers Hired, compressors and repairing the defective compressors

2023/07/27 2023/07/28 2023/07/29 2023/07/30 2023/07/31	1262.5 1351.8 1400.0 1400.0 1400.0		
2023/08/01 2023/08/02 2023/08/03 2023/08/04 2023/08/17 2023/08/18 2023/08/22 2023/08/23	2000.0 2000.0 2000.0 1178.7 267.7 132.7 146.1 191.4	Poor coal qualities, high hopper levels, low conveying air.	Hired compressors, blending coal, and added vacuum trucks to pull ash from the hoppers. Shut down unit for repairs
2023/09/04 2023/09/28 2023/09/29	1400.0 1400.0 226.7	Unit on low load, precips and SO3 off.	Put SO3 and precips after loading the unit
2023/12/04	132.0	Damaged precipitators and high hopper levels	Fix Damaged Precipitators and Empty Hoppers
2024/02/09 2024/02/10 2024/02/11 2024/02/12 2024/02/13 2024/02/14 2024/02/15 2024/02/16	1817.3 1817.3 1817.3 1817.3 1817.3 1817.3 1817.3 1414.4	RH precips out for cable replacement after fire incident	Shut down RH precips and replaced cables

Figures showing compliance with the daily average emission limits of the respective pollutants have been submitted on the monthly emission reports sent to the Nkangala Air quality Officer.

4. Emission monitoring information

valid results are obtained for the CEMS for 2023/2024 FY.

Table 4. General overview of monitoring data availability for the financial year 2023/24

	South Stack (Units 1,2 and 3)	Unit 4	Unit 5	Unit 6
PM	80.78%	89.44%	83.09%	67.84%
SO_2	98.98%	89.98%	96.62%	83.29%
NOx	98.98%	98.44%	94.75%	92.47%

Results of spot measurements or correlation tests:

Overview of dates of last conducted CEMS verification tests for PM, SO_2 and NOx (Please see annexure A for the verification test results):

Table 5. Overview of verification tests

Stack/ Unit	PM	SO_2	NOx
South Stack (Unit 1-3)	October 2023	October 2023	October 2023
Unit 4	April 2023	April 2023	April 2023
Unit 5	August 2021	April 2023	April 2023
Unit 6	November 2019	June 2023	June 2023

5. Compliance Audit Report(s):

There was one (1) internal compliance audit done in June 2023, conducted at Matla Power Station during the 2023/24 financial year. The AEL compliance Audit is attached as Appendix I.

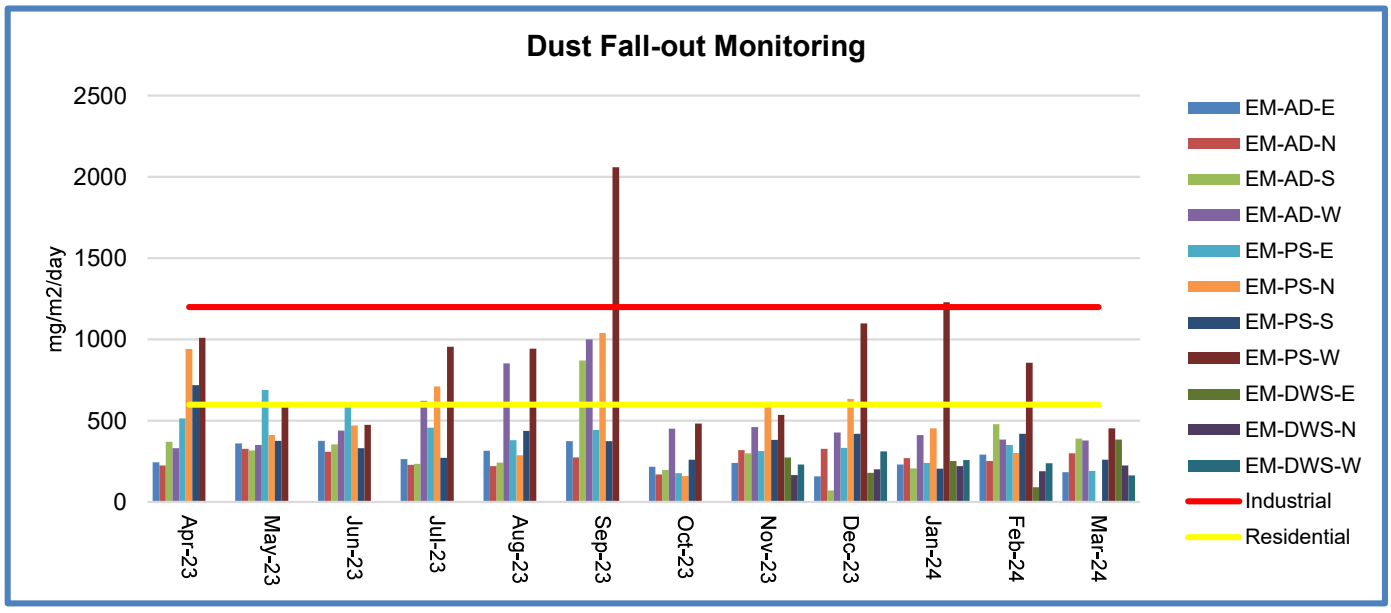
6. Major upgrades projects:

Table 6. Matla Power Station Major Upgrade Projects

Project	Status
Retrofitting the existing conventional rectifier/transformers with High Frequency Power Suppliers (HFP's) which is expected to reduce the particulate emissions by approximately 20-30%.	Unit 1 :14.07.2024 (In progress) Unit 2 Complete Unit 4 Complete Unit 6 Complete
Multi Ash flow project implementation on unit 1,2&3	Unit 1: 14.07.2024 (In progress)
ESP upgrade	Unit 1 :14.07.2024 (In progress) Unit 2 Complete Unit 4 Complete Unit 6 Complete

7. Fugitive dust Management

Fugitive dust management plan for Matla Power Station has been developed and assessments conducted monthly. For the 2023/24 financial year, one monitoring source indicated an exceedance above the industrial guideline twice but not Consecutive. All other areas were within the specification, fugitive dust around Matla power station is managed according to the fugitive dust plan. Fugitive dust monitoring plan was sent to Nkangala District Emission Officer 24 July 2023.



8. Participation in priority areas programs

Matla is participating in the Highveld Priority Areas (HPA) Multi-stakeholder Reference Group (MSRG) meetings as and when arranged by the Nkangala District Emission Officer

9. Air quality offset program

An Air Quality Offset Implementation Plan progress for the Nkangala District Municipality has been submitted on the 27th of March 2024

10. General

NAEIS reporting:

Matla Power Station submitted its annual emission information on the NAEIS system manually.

The rest of the information demonstrating compliance with the emission license conditions is supplied within the monthly emission reports sent to your office

Hoping the above will meet your satisfaction

Yours sincerely

Maserati Lesolang
GENERAL MANAGER: MATLA POWER STATION

Eskom	**Matla Air Quality AEL Compliance Review Report**	**Generation Division: Environmental Management**

Title: **Matla Air Quality AEL Compliance Review Report**

Document number: **GEM23-R145**

Total Pages: **39**

Disclosure Classification: **CONTROLLED DISCLOSURE**

Compiled by	Reviewed by	Approved by
Gavaza Mhlarhi	**Bryan Mc Court**	**Deidre Herbst**
Senior Environmental Advisor	**Manager: Air Quality Centre of Excellence**	**Generation Environmental Manager**
Date: 3 August 2023	Date: 3 August 23	Date: 03 August 2023

Received by:

Name	Designation
Maserati Lesolang	General Manager
Lufuno Tshidzumba	Environmental Manager
Refilwe Mokobodi	Senior Advisor: Environmental
Bethuel Moeng	Senior Advisor: Environmental
Shareen Ramaboea	Environmental Officer
John Makuleka	Boiler Engineering Manager
Mzwandile Gcaleka	Senior Advisor: Boiler Engineering

CONTENTS

EXECUTIVE SUMMARY

An Atmospheric Emission Licence (AEL) Compliance Assurance Review was undertaken at Matla Power Station on 21-22 June 2023. The objective of the AEL compliance review was to determine compliance with the AEL conditions and provide an initial AEL compliance sub-KPI score.

The review was undertaken to verify the station's compliance to the conditions in the Atmospheric Emission Licence (AEL) number: **17/4/AEL/MP313/11/14 (expired 30 June 2022)**,[1] the National Environmental Management: Air Quality Act (Act No 39 of 2004), Listed Activities and Associated Minimum Emission Standards, 22 November 2013, National Ambient Air Quality Standards, 24 December 2009, National Dust Control Regulations, 01 Nov 2013 and Municipal Bylaws. **A detailed checklist with all AEL conditions reviewed is attached as Appendix 1.** The SAP QIM number for this report will be loaded upon receipt of the final report.

Key Findings:

1. **AEL condition 4.1**. indicates, amongst other conditions, that "*The Licence Holder must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated".*

   Despite the station's efforts, Matla has continuously exceeded the PM limits within the review period (Q1 2023/24). This indicates the station's failure to ensure that all appliances and mitigation measures for preventing or reducing emissions are at all times properly maintained and operated. If appliances and mitigation measures for preventing or reducing atmospheric emissions had been properly maintained and operated (including getting the correct coal quality), the station should not be exceeding the limits.

2. **AEL condition 4.2** indicates the following:

   - *The Licence Holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.*

     According to the station, duty of care is adhered to through the following:

[1] The station has initiated the process to renew this licence and as such the existing licence is considered legally valid until the renewal process is completed.

- load losses related to emissions are taken when the station realises that they will not meet the limits,
- the station operates on min gen to ensure compliance,
- the station maintains equipment to ensure proper operation,
- the station has an emission reduction plan aimed at reducing emissions,
- the station conducts awareness sessions.

However, despite the station's efforts above, the station was continuously operating in non-compliance to the PM emission limits over extended periods within the review period.

- *Failure to comply with the above condition is a breach of the duty of care, and the License Holder will be subject to the sanctions set out in section 28 of the NEMA.*

Matla has an open pre-Compliance Notice (PCN) related to the AEL; however, the station continues to operate in non-compliance with the PM limits on multiple units. The station risks getting a directive to shut down units.

3. **AEL condition 7.2** deals with the maximum emission rate under normal working conditions.

Stations are currently operating on the previous limits (prior to April 2020) until the MES Postponement Applications decision is finalised and enforced. Matla has operated with one or more units in non-compliance with the PM limits for 8 days in April, 30 days in May, 30 days in June 2023 and continued to exceed the PM limit in July (the time this report was finalized). Matla Units exceeded the PM limits as follows:

- South stack (PM limit 200mg/Nm^3): average PM daily concentrations of 135 mg/Nm^3, 407 mg/Nm^3, 540 mg/Nm^3 during the months of April,May and June 2023, respectively.
- Unit 4 (PM limit of 200mg/Nm^3): average PM daily concentrations of 214 mg/Nm^3, 384 mg/Nm^3 and 440 mg/Nm^3 during the months of April, May and June 2023, respectively.
- Unit 5 (PM limit of 200mg/Nm^3): average PM daily concentrations of 161 mg/Nm^3, 441 mg/Nm^3 and 1548 mg/Nm^3 during the months of April, May and June 2023, respectively.
- Unit 6 (PM limit of 100mg/Nm3): average PM daily concentrations of 1006 mg/Nm^3 and 1230 mg/Nm^3 during the months of May and June 2023 (unit was off load during April 2023).

4. **AEL condition 7.4** deals with point source emission monitoring and reporting requirements.

- The Correlation tests on Unit 4 and Unit 6 expired in August 2021. Similarly, the parallel tests on South Stack and Unit 6 expired in November 2022 and November 2021, respectively.
- The station's gas calibrations are not up to date.

Review Rating:

A simple rating of 1 (compliance) or 0 (non-compliance) was used for a % compliance score, which is calculated as the number of conditions in compliance divided by the total number of conditions reviewed for compliance, multiplied by 100. Based on this simple rating, the station scored a percentage score of **81%.** In terms of the categorisation of findings, an individual finding rating description outlined in Section 3.4.8 of the Assurance and Forensic Combined Assurance Standard (240-87242017) Rev4 of Nov 2021, was used to rate the findings' risk levels as described below (Table1). The risk rating of these findings is shown in section 6 (Table 3) of the report and in the checklist (Appendix 1).

In terms of the overall opinion rating classification outlined in Section 3.4.9 of the Assurance and Forensic Combined Assurance Standard (240-87242017) Rev4 of Nov 2021 (Table 2), Matla scores an overall score of **4** – *this is because within the context of the AEL review, the primary business objective is to minimise the air quality impact of the stations operations on the environment and to ensure compliance to the defined emission limits and the accurate reporting of the emissions. Matla has been operating almost all of its units continuously in non-compliance with the PM emission limits. Furthermore, the station has outstanding correlation and parallel tests.*

Given the critical importance of meeting the Listed Activities and Associated Minimum Emission Standards, 22 November 2013 and of accurate data reporting to AEL compliance, the system of control is regarded as **adequate but ineffective** to achieve the related business objectives. **Collectively**, the governance framework components of the system of control are regarded as ineffective, which results or could result in all of the related business objectives not being achieved.

Matla Management Comments:

Matla management was afforded an opportunity to comment on the draft report. The comments were taken into consideration during the development of the final report. *A plan of action is required. The outcomes of this review should be captured in SAP QIM and closure of all findings should be reported to AQ CoE monthly, for performance tracking and reporting.*

ABBREVIATIONS

Abbreviation	Description
AEL	Atmospheric Emission Licence
AEMP	Atmospheric Emission Management Plan
AQ CoE	Air Quality Centre of Excellence
CEM	Continuous Emission Monitoring
DFFE	Department of Forestry, Fisheries and the Environment
GM	General Manager
Gx	Generation
KPI	Key Performance Indicator
MES	Minimum Emission Standards
NEM:AQA	National Environmental Management: Air Quality Act 39 of 2004
PCN	Pre-Compliance Notice
PM	Particulate Matter

1. INTRODUCTION

Generation Environmental Department, Air Quality Centre of Excellence (AQ CoE), represented by Gavaza Mhlarhi, conducted an Air Quality AEL Compliance Review at Matla Power Station on 21-22 June 2023. The purpose of the review was to give assurance that conditions of the Matla AEL are being complied with.

The station was represented by the Environmental team consisting of Lufuno Tshidzumba, Refilwe Mokobodi, Shareen Ramaboe and Bethuel Moeng. Boiler Engineering was represented by Mzwandile Gcaleka.

2. OBJECTIVES AND SCOPE

The objective of the review was to determine compliance with the atmospheric emission license general conditions for the purpose of the AEL KPI scoring, as per specific sub-KPI 5. Within the scope of the review, compliance with air quality-related legislative requirements and identifying potential areas of improvement were determined. The period under review was quarter 1 of the 2023/24 financial year (April to June 2023).

This report aims to provide the station with identified gaps which the station will have an opportunity to address in the following months. The final year-end score (Q4) will then include the updated AEL compliance review score based on the closure of the identified gaps.

3. REFERENCE DOCUMENTS

During the review, compliance to the following legislation was evaluated:

- Matla Station's Atmospheric Emission Licence[2]- **17/4/AEL/MP313/11/14 (expired 30 June 2022).**
- National Environmental Management: Air Quality Act (Act No 39 of 2004)
- Listed Activities and Associated Minimum Emission Standards, 22 November 2013
- National Ambient Air Quality Standards, 24 December 2009
- National Dust Control Regulations, 01 Nov 2019
- Municipal Bylaws

[2] The station has initiated the process to renew this licence and as such the existing licence is considered legally valid until the renewal process is completed.

During the review, there was a focus on the following high-risk areas:

1. *Continuous emission monitoring:* Calibration and correlations of the continuous emission monitoring systems was checked. Monthly air quality reports indicating PM and gaseous emissions were looked at to evaluate AEL compliance monitor reliability and report as required by the Minimum Emission Standards and the power station AEL. Data reviews are undertaken separately by the Generation Compliance Management department with the requirements for data reporting clearly defined in the Emission Monitoring and Reporting Standard (240-5624236 rev 3). This is to assess the correctness of emission data as generated by the station's CEMS and captured in the station's monthly emission reporting tool. It should be noted that data correctness as reported by the station was not evaluated as part of this review process, and reliance was placed on the Emission Review Data Integrity Feedback Report OGE/CM/APC/FEB23/12, dated 23 March 2023.
2. *Fugitive emissions:* Compliance with the station's fugitive emissions management plan was evaluated. The fugitive emission monitoring network and the monthly fugitive reports since April 2023 were looked at for compliance.
3. *Section 30 reporting:* The close-out of all section 30 high-emission incidents reported since April 2023 was evaluated.
4. *General AEL monthly reporting:* A sample of the station's monthly AEL reports was reviewed to determine their correctness in terms of data presented and interpretation.
5. *Previous Authority air quality compliance actions or commitments, assurance or compliance reviews and environmental incidents.*

4. REVIEW PROCESS FOLLOWED

The AQ CoE sent out a notification letter to the station's GM and the Environmental practitioners in preparation for the review. The reviewer received additional documents requested during the review during the two days allocated for the review. All the documents requested were provided by the power station. A detailed checklist with all AEL conditions reviewed is attached as Appendix 1.

The following programme was followed during the review:

i) Opening meeting: a presentation (formal or verbal) was done on the review objectives and plan. The station was afforded an opportunity to share their emission performance, including challenges followed by action plans to address such challenges.
ii) Documentation review: the station representatives were interviewed on each condition of the AEL and were requested to upload supporting documents for review on MS Teams.

iii) Closing meeting: a closing meeting was held on 28 June 2023, where high-level findings were shared with the station management team.

A draft report was sent to the station for comments within 10 working days after the closing meeting which was held on 28 June 2023. The station had 1 week to provide comments on the draft report, for consideration by the reviewer. A final the report was issued within two (2) weeks from receipt of the station team's comments on the draft report. The power station must submit an action plan with due dates for the close-out of the findings within two weeks of receipt of the report.

The final report's findings will be tracked monthly through SAP QIM and the findings spreadsheet in place by AQ CoE.

Criteria for the review

The compliance status of the power station was rated in terms of a simple rating of 1 (compliance) or 0 (non-compliance) for a percentage (%) compliance score, which is the number of conditions in compliance divided by the total number of conditions reviewed for compliance, multiplied by 100.

In addition, the individual finding rating description outlined in Section 3.4.8 and overall opinion rating classification outlined in Section 3.4.9 of the Assurance and Forensic Combined Assurance Standard (240-87242017) Rev4 of Nov 2021, were used as described below (Tables 1 and 2). Within the context of the AEL review, the primary business objective is to minimise the air quality impact of the stations' operations on the environment and to ensure compliance to the defined emission limits and the accurate reporting of the emissions.

Table 1: **Individual Finding Rating Description (Section 3.4.8 of the combined assurance standard)**

Rating	Rating description
1	Isolated/negligible instances of ineffectiveness in relation to internal controls tested (effectiveness testing). Gaps in internal controls have a negligible impact on the control environment (adequacy testing). Findings do not necessarily need to be formally corrected. Relative ease to correct findings in terms of time, effort and cost.

Rating	Rating description
2	Multiple immaterial instances of ineffectiveness in relation to internal controls tested (effectiveness testing). Gaps in internal controls have a minor/immaterial negative impact on the control environment (adequacy testing). Findings may require slightly more time, effort and cost to correct. Findings must be corrected within 12 months.
3	Isolated or multiple material instances of ineffectiveness in relation to internal controls tested (effectiveness testing). Gaps in internal controls have a material negative impact on the control environment (adequacy testing). Findings are serious and significant time, effort and cost may be required to remediate. Findings must be corrected within 30-60 days.
4	Pervasive instances of ineffectiveness in relation to internal controls tested (effectiveness testing). Gaps in internal controls have a material pervasive impact on the control environment (adequacy testing). Findings are critical and significant time, effort and cost may be required to remediate. Findings must be corrected within 30 days.

Table 2: **Overall opinion rating (Section 3.4.9 of the combined assurance standard)**

Overall Opinion Rating	Rating
The system of control is regarded as adequate **and/or** effective to achieve all the related business objectives. **No or insignificant control deficiencies were identified.**	1
Overall, the system of control is regarded as adequate **and/or** effective to achieve the related business objectives. However, control deficiencies were identified relating to some of the governance framework components of the system of control, which could affect the achievement of some of the related business objectives.	2
The system of control is regarded as adequate **but** ineffective to achieve the related business objectives. **Most** of the governance framework components of the system	3

Overall Opinion Rating	Rating
of control are regarded as ineffective, which results or could result in **most** of the related business objectives not being achieved. **OR** Overall, the system of control is regarded as inadequate to achieve the related business objectives. **Most** of the governance framework components of the system of control are regarded as inadequate, which results or could result in **most** of the related business objectives not being achieved.	
The system of control is regarded as adequate **but** ineffective to achieve the related business objectives. **Collectively,** the governance framework components of the system of control are regarded as ineffective, which results or could result in all of the related business objectives not being achieved. **OR** The system of control is regarded as inadequate to achieve the related business objectives. **Collectively,** the governance framework components of the system of control are regarded as inadequate, which results or could result in all of the related business objectives not being achieved.	4

5. LIST OF FINDINGS

Table 3 below contains a list of non-compliances with the AEL and observations for the station to action.

Table 3: Non-compliances with the AEL and observations for station to action

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
1	AEL Condition 4.1	**AEL condition 4.1** indicates, amongst other conditions, that *The Licence Holder must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.* According to the station, the efficiency and reliability of the precips is being met as per the monthly reports. This was confirmed in the monthly report for April 2023 (May report not available at time of review). Furthermore, Matla's units are maintained as and when required, i.e. the station takes outages to fix precips. The station has upgraded the High Frequency Transformers (HFTs) which reduce ash;				3

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
		however, too much ash (with a lower Calorific Value) is being produced due to poor coal qualities, rendering the dust plant unable to convey the dust at the required rate. The station has also recently developed an emission reduction plan which has been sent to the Authorities. Despite the above-mentioned efforts, Matla has continuously exceeded the PM limits within the review period (Q1 2023/24). This indicates the station's failure to ensure that all appliances and mitigation measures for preventing or reducing emissions are at all times properly maintained and operated. If appliances and mitigation measures for preventing or reducing atmospheric emissions had been properly maintained and operated (including getting the correct coal quality), the station should not be exceeding the limits.				

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
2	AEL Condition 4.2	**AEL condition 4.2.** indicates that: *The Licence Holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.* According to the station, duty of care is adhered to through the following: • load losses related to emissions are taken when the station realises that they will not meet the limits, • the station operates on min gen to ensure compliance, • the station maintains equipment to ensure proper operation, • the station has an emission reduction plan aimed at reducing emissions, • the station conducts awareness sessions.				3

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
		However, despite the efforts above, the station was continuously operating in non-compliance with the PM limits at the different units within the review period. Furthermore, **AEL condition 4.2.** states that *failure to comply with the above condition is a breach of the duty of care, and the Licence Holder will be subject to the sanctions set out in section 28 of the NEMA.* Matla has an open PCN related to the AEL; however the station continues to operate in non-compliance with the PM limits on multiple units. The station risks getting a directive to shutdown units.				

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
3	AEL condition 4.4	**AEL condition 4.4** requires Matla Power Station to *provide and implement, a specific and time bound Atmospheric Emission Off-set plan to reduce PM pollution in the ambient/receiving environment that must be approved by the Atmospheric Emission Licensing Authority annually.* Eskom offsets plan has been developed and an implementation progress report was submitted to the Licensing Authorities on 03 March 2023. However it should be noted that the progress on implementation has been slow. This is a finding against the condition but will not be held against the station as coordination of the implementation is at Head Office level.				

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
4	AEL condition 6.2	**AEL condition 6.2** specifies the maximum permitted capacity for electricity as 3 690 MW. The maximum permitted electricity capacity does not match what the station uses on their monthly reports. The station is reporting against 2 657 "GWh" which is obtained as $\frac{3690\,MW}{hr} \times \frac{1GW}{1000MW} \times \frac{24hrs}{day} \times \frac{30\,days}{month} = 2\,657\,\frac{GW}{month}$. It must be clarified that the conversion is being made from MW/h to GW/h and not from MW to GW/h (AEL refers to 1200MW). <u>It is recommended that the station communicates the correct unit of measurement to the Authorities to ensure consistancy and to avoid confusion in the monthly report.</u>				1

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
5	AEL condition 7.2	**AEL condition 7.2** deals with the maximum emission rate under normal working conditions. Stations are currently operating on the previous limits (prior to April 2020) until the MES Postponement Applications decision is finalised and enforced. Matla has operated with one or more units in non-compliance with the PM limits for 8 days in April, 30 days in May and 30 days in June 2023[3]. Matla Units exceeded the PM limits as follows: • South stack (PM limit 200mg/Nm^3): average PM daily concentrations of 135 mg/Nm^3, 407 mg/Nm^3, 540 mg/Nm^3 during the months of April May and June 2023, respectively. • Unit 4 (PM limit of 200mg/Nm^3): average PM daily concentrations of 214 mg/Nm^3, 384				4

[3] The station has continued to operate in non-compliance until the finalization of this report (July 2023).

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
		mg/Nm^3 and 440 mg/Nm^3 during the months of April, May and June 2023, respectively. • Unit 5 (PM limit of 200mg/Nm^3): average PM daily concentrations of 161 mg/Nm^3, 441 mg/Nm^3 and 1548 mg/Nm^3 during the months of April, May and June 2023, respectively. • Unit 6 (PM limit of 100mg/Nm3): average PM daily concentrations of 1006 mg/Nm^3 and 1230 mg/Nm^3 during the months of May and June 2023 (unit was off load during April 2023).				

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
6	AEL condition 7.4	**AEL condition 7.4** deals with point source emission monitoring and reporting requirements: • The Correlation tests on Unit 4 and Unit 6 expired in August 2021. Similarly, the parallel tests on South Stack and Unit 6 expired in November 2022 and November 2021, respectively. • The station's gas calibrations are not up to date. It is recommended that the station calibrate and perform correlation and parallel tests.				3
7	AEL condition 7.5	**AEL condition 7.5** deals with area and or line source management and mitigation measures. The Station's May 2023 dust fallout report shows exceedances of the dust fallout industrial limit of 1200 mg/m2/day at bucket EM-PS-W in January and February 2023 (two consecutive months). A				2

Number	Legal requirement	Compliance Action	Responsible Person	Due Date	Station Response/ Comments	A&F Risk Rating (1-4)
		dust management plan was submitted to the air quality officer in July 2023, more than the required three months after the submission of the February 2023 dustfall monitoring report (late reporting).				
8	AEL condition 10.1	**AEL condition 10** requires the License Holder to notify every registered interested and affected party, in writing within five (5) days, of receiving the Municipal decision. According to the Station the interested and affected parties were notified within 5 days of receiving the Municipal decision; however, the evidence provided shows that the notification was through a letter dated 30 August 2017, more than five days later.				1

It is the responsibility of the station to ensure that the actions are closed. Proof of closure and progress made on the actions are sent to Air Quality Centre of Excellence monthly, and updated on the SAP QIM system.

6. CONCLUSION

The AEL Compliance review concluded with **seven (7) main findings** raised. The station is requested to take the above summary of findings and develop a detailed execution plan to drive the close-out of actions relating to the findings. This plan should be submitted to Gx Environmental Management, AQ CoE within 2 weeks from this feedback report. GEM AQ CoE will track and report on the status of the findings.

The station should also ensure that the above findings are captured within the station's internal review tracking system such as the SAP QIM.

7. RATING

Based on the simple rating explained above, the station scored a percentage score of **81%** and in terms of the overall opinion rating classification outlined in Section 3.4.9 of the Assurance and Forensic *Combined Assurance Standard (240-87242017) Rev4 of Nov 2021* and Table 1 of the executive summary above, Matla scores an overall score of **4** – *this is because within the context of the AEL review, the primary business objective is to minimise the air quality impact of the stations operations on the environment and to ensure compliance to the defined emission limits and the accurate reporting of the emissions. Matla has been operating almost all of its units continuously in non-compliance with the PM emission limits. Furthermore, the station has outstanding correlation and parallel tests.*

Given the critical importance of meeting the Listed Activities and Associated Minimum Emission Standards, 22 November 2013 and of accurate data reporting to AEL compliance, the system of control is regarded as **adequate but ineffective** to achieve the related business objectives. **Collectively**, the governance framework components of the system of control are regarded as ineffective, which results or could result in all of the related business objectives not being achieved.

APPENDIX 1: Matla AEL Compliance Review Checklist

Matla Checklist for AEL Compliance Review conducted 21-22 June 2023 AEL No: 17/4/AEL/MP313/11/14 Issued 30 June 2017 Valid until 30 June 2022				Legends		
				Compliance	1	
				Non-compliance	0	
				A&F Rating	1 2 3 4	
AEL Condition No./ Section	**AEL Conditions/ subsection**	Required evidence for compliance	**Comments/ Action required**	**Compliance Rating**	**A&F Rating**	**Condition Number**
	Front page of the Licence	Check information is correct and reflects the station	AEL reference number on cover page to be corrected to 17/4/AEL/MP313/11/14			
1	**ATMOSPHERIC EMISSION LICENCE ADMINISTRATION**	Check information is correct and reflects the station				
Name of Licensing Authority	Nkangala District Municipality		Noted - no corrections	**1**		**1**
Atmospheric Emission License Number	17/4/AEL/MP313/11/14		Noted - no corrections			
Atmospheric Emission License Issue date	Friday, 30 June 2017		Noted - no corrections			
Atmospheric Emission License Type	Renewal		Noted - no corrections			
Review date not later than	30-Jun-22		At the time of the review, the AEL had expired. The delay was sitting with the Licensing Authority pending the MES decision. The station provided an AEL renewal application signed by the GM on 23 November 2021. A screenshot from the SAAELIP system also shows that the application was submitted prior to 30 June 2022.			

2	**ATMOSPHERIC EMISSION LICENSE HOLDER DETAILS**	Check information is correct and reflects the station				
Enterprise name	Eskom Holdings SOC Limited		Noted - no corrections	**For verification not to be scored under compliance, refer to condition 4.4 for any changes and updates**		
Trading as	Matla Power Station		Noted - no corrections			
Enterprise registration number	2002/015527/06		Enterprise number to be corrected to 2002/015527/30			
Registered address	Megawatt Park, Maxwell Drive, Sunninghill, Sandton		Noted - no corrections			
Postal Address	Private bag X5012, Kriel, 2271		Noted - no corrections			
Telephone number (General)	(017) 612 9111		Noted - no corrections			
Industry Sector	Power station - Electricity Generation		Noted - no corrections			
Name of Responsible Officer	Bruce Moyo	Changes communicated to the authorities?	The Responsible officer has changed to Ms Maserati Lesolang. The Licensing Authority was notified of the change in a letter dated 19 July 2023.			
Name of Emission Control Officer	Bruce Moyo					
Telephone number	(017) 612 6440					
Cell phone number	(082) 235 4433					
Fax Number	(086) 539 8419					
Email address	Bruce.Moyo@eskom.co.za					
After Hours contact details	(082) 235 4433	Number to be dialled				
Land use zoning as per town planning scheme	Agricultural /Heavy Industry	check zoning of the land document	Station to ensure that zoning certicate is available for Authorities.			

3.	**LOCATION AND EXTENT OF THE PLANT**					
Physical address of the Premises	Matla Power Station, Delmas Road		Noted - no corrections	**For verification not to be scores under compliance.**		
Description of site	Portion 3 of the Farm Haasfontein 85 IS, District of Bethal Mpumalanga		Station to ensure that the description of the site is as described in the title deeds			
Coordinates of approximate Center of operations	Latitude: $26^0$16'57,25"S Longitude: $29^0$08'40,60"E	When last confirmed?	The Station indicated that the coordinates have been updated on the SAAELIP system. This was verified and coordinates were at the centre of the station.			
Extent (KM^2)	1,656 ha	Confirmation?	Station to ensure that the extent is correct and it includes - ash dam/dump and coal stock pile/yard			
Elevation above mean sea level(m)	1740 m	Confirmation?	Station to check elevation information			
Province	Mpumalanga Province		Noted - no corrections			
District Municipality	Nkangala District Municipality		Noted - no corrections			
Local municipality	Emalahleni Local Municipality		Noted - no corrections			
Designated Priority Area	Highveld Priority Area		Noted - no corrections			
Description of surrounding land use (within 15km radius)	The surrounding land use is zoned as agricultural, comprising of low density farmsteads and infrastructure, crops on the arable soil and grazing. The North-Eastern border is with the second Power Generation Facility (Matla Power Station), while the Northern border is with the Matla Mine (Exxaro).		Noted - no corrections			

4.	**GENERAL CONDITIONS**					
4.1 Process and ownership changes	The Licence Holder must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.	•Check for maintenance plan or philosophy and if these are followed. •Triggers: Check for recurring S30s, LCs, emission performance, repeat plant failures •Check for emission reduction plans	According to the station the efficiency and reliability of the precips is being met as per the monthly reports. This was confirmed in the monthly report for April 2023 (May report not available at time of review). Furthermore, Matla's units are maintained as and when required, i.e. the station takes outages to fix precips. Station indicated that they have upgraded the HFTs which reduce ash; however, due to poor coal qualities, too much ash (with a lower CV) is being produced, rendering the dust plant unable to convey the dust at the required rate. The station has also recently developed an emission reduction plan which has been sent to the Authorities. **Despite the above-mentioned efforts, Matla has continuously exceeded the PM limits within the review period (Q1 2023/24). This indicates the station's failure to ensure that all appliances and mitigation measures for preventing or reducing emissions are at all times properly maintained and operated. If appliances and mitigation measures for preventing or reducing atmospheric emissions had been properly maintained and operated (including getting the correct coal quality), the station should not be exceeding the limits.**	**0**	**3**	**2**
	No building, plant or site of works related to the listed activity or activities used by the License Holder shall be extended, altered or added to the listed activity without an environmental authorisation from the competent authority.	Check for changes in processes, quantities, material against month end report and what has been stipulated in section 6.1 of this licence. Any changes increase must be communicated in writing to the authorities. Check for any extensions or changes to infrastructure or additions thereof.	Noted - no changes			

	Any changes in processes or production increases, by the License Holder, will require prior approval by the Licensing Authority.	Check for changes in production, process type and quantities of input material, or production equipment and treatment facilities	Noted - no changes			
	Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the Licensing Authority.		Noted - no changes			
	The License Holder must, in writing, inform the licensing authority of any change of ownership of the enterprise. The Licensing Authority must be informed within 30 (thirty)days after the change of ownership.		Noted - no changes			
	The License Holder must immediately on cessation or decommissioning of the listed activity inform, in writing, the licensing authority.		Noted - no changes			
4.2 General duty of care	The License Holder must, when undertaking the listed activity, adhere to the duty of care obligation as set out in section 28 of the NEMA.	How is station practicing duty of care? Is station taking emission related load losses?	According to the station, duty of care is adhered to through the following: • load losses related to emissions are taken when the station realises that they will not meet the limits, • the station operates on min gen to ensure compliance, • the station maintains equipment to ensure proper operation, • the station has an emission reduction plan aimed at reducing emissions, • the station conducts awareness sessions. **Despite the station's efforts above, the station was continuously operating in non-compliance to the PM emission limits**	**0**	**3**	**3**

			over extended periods within the review period.			
	The License Holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.		Station's response - same as above. Section 28 (3) of NEMA requires every person who causes, has caused or may cause significant pollution or degradation to the environment to take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring. The measures may include assessing and evaluating the impact on the environment. **The station was continuously operating in non-compliance over extended periods and incurred legal contraventions within the review period.**			
	Failure to comply with the above condition is a breach of the duty of care, and the License Holder will be subject to the sanctions set out in section 28 of the NEMA.		**Matla has an open PCN related to the AEL; however the station continues to operate in non-compliance with the PM limits on multiple units. The station risks getting a directive to shutdown units**			
4.3 Sampling and or analysis requirements	Measurement, calculation and/or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard. A different method may be acceptable to the Licensing Authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalance of analysis.	Compliance to Emission monitoring and reporting Standard.	Tests are conducted by LEVEGO and are performed as per the methods stipulated under annexure A of GN893. Station has sent through the certificate indicating the service provider is SANAS accredited. **Validity of the sampling measurements to be checked under 7.4**			
	The license holder is responsible for quality assurance of methods and performance. Where the License Holder uses external laboratories for sampling or analysis, accredited laboratories shall be used.	Check if accredited external laboratories are used.	Test are conducted by LEVEGO and are performed as per the methods stipulated under annexure A of GN893. Tests are sent to Rakesh and Ebrahim to check the completeness of the test, quality and method. Station has sent through the certificate indicating the service provider is SANAS accredited.			

4.4 General requirements for license holder	The Licence Holder is responsible for ensuring compliance with the conditions of this license by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering services to the holder of the licence.	Awareness, communication, training, compliance operators meetings (Audio/minutes/presentation/ attendance register ?)	Station holds AEL awareness sessions. Last session was held in August 2022 with task team (station provided attendance register of session)	**1**		**5**
	The license does not relieve the License Holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.	Statuary requirements applicable may not be in the licence but must be complied with	Noted.			
	A copy of the licence must be kept at the premises where the listed activity is undertaken. The Liecnce must be made available to the environmental management inspector representing the Licensing Authority who requests to see it.		A copy of the AEL is kept on the Station's G-Drive, email and document centre and is made available upon request			
	The licence holder must nominate the emission control officer or any other official to attaend all the Highveld Priority Area Air Quality Management Plan Implementation Task Team (HPA-AQMP: ITT) and also the Multi-Stakeholder Reference Group meetings.	Check if there is a nomination form/appointment letter done by GM as LH - or representatives from the station	Refilwe Mokobodi, Mzwandile Gcaleka and John Makuleka have been appointed to attend the HPA ITT and MSRG meetings			
	The License Holder must inform, in writing, the Licensing Authority of any change to its details including the name of the emission control officer, postal address and /or telephonic details.	Check the name of the control officer?	Emission Control Officer has changed to Ms Maserati Lesolang. The Licensing Authority was notified of the change in a letter dated 19 July 2023.			
	Eskom Matla Power Station is required to provide and implement, a specific and time bound Atmospheric Emission Off-set plan to reduce PM pollution in the ambient/receiving environment that must be approved by the Atmospheric Emission Licensing Authority annually	The station to have a copy of the HPA AQMP objectives and plans	Eskom offsets plan has been developed and an implementation progress report was submitted to the Licensing Authorities on 03 March 2023. However it should be noted that the progress on implementation has been slow. This is a finding against the condition but will not be held against the station as	**0**		

			coordination of the implementation is at Head Office level.			
4.5 Statutory obligations	The holder must comply with the obligations as set out in Chapter 5 of the Act.	Check how the station is complying to statutory obligations as set out in chapter 5 of the Act.	Noted. Station is aligned to other statutory obligations as required	**1**		**6**
5	**NATURE OF PROCESS**					
5.1 Process description	Process as described in the AEL	Check if process as described is accurate and still the same	The electricity generating process is as described in the AEL.	**1**		**7**
5.2 Listed activity or activities	Activities as described in the AEL Table 5.2	Check if listed activities as listed are correct and still the same	All listed activities per Table 5.2 are in order as listed in the EAL	**1**		**8**
5.3 Unit process or processes	As per Table 5.3 of the AEL with listed activities undertaken at the premises	Check if correct and still in order	Listed activities per Table 5.3 are in order.	**1**		**9**
5.4 Hours of operations	Hours as per Table 5.4 of the AEL			**1**		**10**
5.5 Graphical process information	Graphic illustration of the process per figure 2 and 2.1	Check if correct and still the same	Still in order and illustrate the exact electricity generation process as known to the station	**1**		**11**
6	**RAW MATERIAL AND PRODUCTS**					
6.1 Raw materials used	Regulated Raw Material table 6.1 - Coal **1 475 000 to**ns/month. Fuel oil - **3 500 ton**s/month.	Check if these limits were not exceeded in the past April, May, June (if available)	Both coal and fuel oil usage was below the permitted consumption rate (April 2023). Reports for May and June 2023 not available at time of the review.	**1**		**12**
6.2 Production rates	Electricity maximum permitted production capacity at **3 690 MW.** Ash maximum production capacity permitted - **471 000 tons/month**	Check monthly reports April, May, June (if available)	The maximum permitted electricity capacity does not match what the station uses on their monthly reports. **The station is reporting against 2 657 "GWh" which is obtained as (3690 MW)/hr×1GW/1000MW × 24hrs/day × (30 days)/month =2 657 GW/month. It must be clarified that the conversion is being made from MW/h to GW/h and not from MW to GW/h (AEL refers to 1200MW). The correct unit of measurement must be communicated to the Authorities to ensure consistency and to avoid confusion in the monthly report**.	**0**	**1**	**13**

6.3 Materials used in energy sources	Coal and Fuel oil actual consumption rate and material Characteristics - Coal 1 475 000 tons/month; CV= 16 to 24 MJ/kg; Sulphur =<0.5<1.1%; Ash = 21 - 40% . Fuel oil 3500 tons/month	Check if these characteristics as described or permitted were in order from July 2022. **Station to provide Step reports**	April and May 2023 Step reports were not provided by station. Sampled November 2022, December 2022 and March 2023 STEP reports. CV, sulphur and ash were within the permitted material characteristics.	**1**		**14**
6.4	**Sources of Atmospheric Emission**					
6.4.1 Point Source parameters	Stack information on table	Check if information per Table 6.4.1 and 2 of AEL is still the same and accurate for the station.	According to the station, the coordinates of stacks have been updated in new AEL application.	**1**		**15**
6.4.2 Area Source parameters	Coal Staithe 1 and 2, Ash Dam. Check for other area sources, i.e., Coal stock pile, Fuel oil tanks, Conveyor belts and unpaved roads		According to the station, the coordinates of coal staithes have been updated in new AEL application.	**1**		**16**
7	**APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION**					
7.1 Appliances and control measures	Appliances and control measures, as described in the AEL. Abatement Equipment Control Technology. **Control efficiency (ESP) - 98% and utilization 99%; Control efficiency (Flue gas conditioning plant) - 90% and utilization 95%**	Check for ESP and Flue Gas conditioning plant Min control efficiency and Min utilization (monthly reports)	April 2023 monthly report showed ESP efficiency of above 98% and 100% utilisation.	**1**		**17**
7.2 Point Source - maximum emission rate (under normal working conditions)	**Limit table: Stack 1 (U1 - 4)**: PM = 200 mg/Nm^3; **Stack 2 (U5&6):** PM = 100mg/Nm^3. **SO2 =** 3500mg/Nm^3**, NOx** = 1300mg/Nm^3	Check if station complies with the said limits from April - June 2023	Stations are currently operating on the previous limits (prior to April 2020) until the MES Postponement Applications decision is finalised and enforced. **Matla has operated with one or more units in non-compliance with the PM limits for 8 days in April, 30 days in May, 30 days in June 2023 and continued to exceed the PM limit in July (the time this report was finalized). Matla Units exceeded the PM limits as follows:** • **South stack (PM limit 200mg/Nm^3): average PM daily concentrations of 135 mg/Nm^3, 407 mg/Nm^3, 540 mg/Nm^3**	**0**	**4**	**18**

			during the months of April May and June 2023, respectively. • **Unit 4 (PM limit of 200mg/Nm^3): average PM daily concentrations of 214 mg/Nm^3, 384 mg/Nm^3 and 440 mg/Nm^3 during the months of April, May and June 2023, respectively.** • **Unit 5 (PM limit of 200mg/Nm^3): average PM daily concentrations of 161 mg/Nm^3, 441 mg/Nm^3 and 1548 mg/Nm^3 during the months of April, May and June 2023, respectively.** • **Unit 6 (PM limit of 100mg/Nm3): average PM daily concentrations of 1006 mg/Nm^3 and 1230 mg/Nm^3 during the months of May and June 2023 (unit was off load during April 2023).**			
Point source - General Operating Requirements	7.2.1. The Licence Holder must report its operational performance against the conditions of the Licence at least on a bi-annual basis, to the Licensing Authority.	Request proof of submission of bi-annual report	Latest bi-annual report was due end of May 2023. Report was submitted on 30 May 2023.	**1**		**19**
	7.2.2. This operation is located in the HPA designated Area. Further review of the set conditions may be introduced to align to the implementation of the Highveld Air Pollution Priority Area interventions		Noted. No revision of set conditions has been done by authorities to date.	**1**		**20**
	7.2.3. A copy of this AEL shall be retained at a place convenient to be produced in case authorities would like to view it		A copy of the AEL is kept on the G-drive and in the documentation library.	**1**		**21**
	7.2.4. All records related to operational performance in terms of this licence must be maintained and be kept for at least five (5) years		All records are kept on the G-drive and in the documentation library, and for at least 5 years as required.	**1**		**22**

	7.2.5. The Licence Holder shall be liable to prevent and mitigate against the risk of harm to human health and the environment, and shall put in place measures necessary to prevent and/or mitigate against such risks; and	Check for FEMP.	Noted. The station has installed abatement equipment to prevent and mitigate against risk of harm to human health. Station has dust buckets placed around station and near the ash dam, as per the Station's dustfall monitoring procedure No 4375.	**1**		**23**
	7.2.6. All units must be fitted with continuous emission monitoring equipment for PM, SO2 and Nox by 01 June 2015		All units have been fitted with CEMS. The station provided the initial QAL2 measurement survey reports for all the stacks (South stack, unit 4, 5 & 6) by Levego, dated 23 September 2015, as evidence that the CEMS had been installed by 2015.	**1**		**24**
	7.3.1. The Licence holder must take all reasonable measures to control atmospheric emissions during start-up, maintenance and shut-down operations.	Any section 30s?	Station indicated that last Section 30 related to start up was before October 2023. Recent exceedances have been related to additional problems and not start-up, and have thus been reported as legal contraventions.	**1**		**25**
	7.3.2. Normal maintenance and shut-down conditions shall not exceed a period of forty eight (48) hours. Should maintenance, upset and shut down conditions exceed a period of 48 hours, section 30 of the National Environmental Management Act, 107 of 1998 (as amended) shall apply.		Station indicated that they have exceeded during start-up but exceedances were reported as legal contraventions as there were external issues that made incidents not qualify as Section 30. Station continued to exceeded continously after start-up.	**1**		**26**
	7.3.3. The duration of a hot start is limited to 12 hours from fires in to synchronisation, while the duration of a cold start is limited to a maximum of 48 hours from fire in to synchronisation.		Noted. This is a condition that is applied on the ERT.	**1**		**27**
	7.3.4. PM emissions should be below the limit value within 48 hours of synchronising with the grid during a hot start, and below the limit value within 72 hours of synchronising with the grid during a cold start.		Noted. This is applied on the ERT. However; the station is now operating under LC due to the number as exceedances that do not meet Section 30 requirements. Non-compliance noted under 7.3.2	**1**		**28**

	7.3.5. Should start-up exceed the period in 7.3.3, section 30 of the National Environmental Management Act, 107 of 1998 (as amended) shall apply.	Start-up schedule	According to the Station they have exceeded during start-up but exceedances were reported as legal contraventions as there were external issues that made incident not qualify as Section 30. Station continued to exceeded continously after start-up.	**1**		**29**
	7.3.6. Reporting on particulate emissions to commence 24 hours after the unit has synchronised with the grid during start-up.		Noted. This is a condition that is applied on the ERT.	**1**		**30**
	7.3.7. During start-up, maintenance and shut-down, or in the event where there is an indication of adverse impacts to human health and/or the environment, the Licence Holder must take appropriate measures to avoid such adverse impacts from occuring and/or recurring		Not audited during this period			
	7.3.8. In order to put into effect section 42 of the Act, the Licence Holder shall, on receipt of the Atmospheric Emission Licence, undertake an investigation to measure, monitor and report on point source emissions released during start-up, maintenance and shut-down conditions. Such measurement and reporting shall be carried out in terms of the measuremnet, monitoring and reporting requiremenets set out in Geovernment Notice Number 893 of 2014		The Station undertook an investigation and compiled a report in November 2015, confirmed as received by Authorities on 11 January 2016.	**1**		**31**
	In order to put into effect the provisions of section 42 of the Act, the Licensing Authority may from time to time review the conditions set herein and may set maximum emission limits to be adhered to by the Licence Holder during start-up, maintenance and shut-down conditions.		Noted.	**1**		**32**

7.4 Point Source Emission Monitoring and Reporting Requirements	As described in the AEL table - Sampling frequency (continuous), sampling duration, parameters to be measured (PM, SO2, NOx), Parameters to be reported (PM, SO2 NOx) and reporting frequency (monthly). 7.4.1 Sampling and monitoring method as well as the sampling duration shall be carried out a indicated in Government Notice Number 893 of 2013. Reporting must commence from 01 June 2015	Check correlation test and parallel test being conducted MES Regulations require 80% and above monitor reliability. If the monitor reliability per Unit is 80% and above the station will score a one (1) for each Unit and where it is less than 80% the station will score a zero (0) per Unit.	The Station monitors PM, SO2 and NOx emissions continuously using CEMS. Reporting is done monthly. Zero and span checks are automated and done daily. Maintenance of monitors is done through cleaning when required. PM, NOx, SOx and O2 monitor reliability was above 80% for South stack, Unit 4 and Unit 5 in April 2023. • **The Correlation tests on Unit 4 and Unit 6 are expired. Similarly, the parallel tests on South Stack and Unit 6 are expired.** • **The station's gas calibrations are also not up to date.**	**0**	**3**	**33**
7.5 Area and or line source-management and mitigation measures	Table for coal staithe (in an enclosed building), ash dam (wet ashing method - truck water tanks), dust fall out monitoring as per the NEM:AQA39 of 2004; National Dust Control Regulations.	Check the dust fall out reports/ fugitive emissions management plan. Check for dust buckets within the coal stock pile with 8 principal wind direction	Coal staithe is enclosed. Water spraying implemented at ash dams as when needed. Matla's dust-fall monitoring plan is valid until April 2024. Dust fallout reports were available for April and May 2023. **The May 2023 dust fallout report shows exceedances of the dust fallout industrial limit of 1200 mg/m2/day at bucket EM-PS-W in January and February 2023 (two consecutive months).** **A dust management plan was submitted to the air quality officer in July 2023, more than three months after the submission of the February 2023 dustfall monitoring report (late reporting).**	**0**	**2**	**34**

7.6	**Routine reporting and record keeping**					
Complaints Register	The License Holder must maintain a complaints register at its premises, and such register must be made available for inspections. The complaint register must include the following on the complainant, namely: the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints.	Check complaints register and feedback on how the issues were addressed.	Station provided a complaints register which meets the requirements stipulated in the AEL	**1**		**35**
	Furthermore, the License Holder is to investigate and, monthly, report to the Licensing Authority in a summarised format on the total number of complaints logged. The complaints must be reported in the format with each component indicated as may be necessary: a,b,c,d and e stated in the AEL	Check if there was summarised reporting to the licensing authority.	Section 9 of the Station's monthly reports) contains a summary of the complaints for the month. The complaints in the register are reported in the monthly reports as per the prescribed format. Furthermore, the station makes reference to SAP QIM (system for reporting incidents and investigations) in the register. The last incident was an ash spillage which occured in August 2022. It was recorded in both the complaints register and in the monthly report.			
	The Licensing Authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.		The Station's complaints register is a physical book that is kept at the station premises. Station reports to LA on complaints on a monthly basis. According to the Station they did not have any complaints related to emissions five years ago and therefore no record of such complaints is available.			

Annual Reporting	The License Holder must complete and submit to the Licensing Authority an annual report. The report must include information for the year under review (annual year end). The report must be submitted to the Licensing Authority not later than 60 (sixty) days after the end of each reporting period. The annual report must include items a, b, c, d as prescribed in the AEL.	Check annual report and that it contains items as required. Also that it was submitted on time. The due date is 30 May 2023	Matla's last annual report was due end of May and was sent to LA on 30 May 2023. The report includes items a-c, however it does not include item (d) on greenhouse gas emissions. AQ CoE to assist stations with greenhouse gas emissions reporting			
	The Licence Holder must keep a copy of the annual report for a period of at least (five) 5 years		Station keeps reports on G-drive and at the document centre, and for at least 5 years as required.			
8.	**Disposal of waste and effluent arising from abatement equipment control technology**					
	Stack 1 and 2: Dry ash disposed at ash dams; Solid sulphur at hazardous waste site	Check for proof of disposal of hazardous material such as fabric filter bags to hazardous waste site	Ash is sent to the ash dams on site, and sulphur is sent to Holfontein. Disposal to Holfontein done as and when onsite disposal bins are full; however, the station does not keep sulphur on site for more than 90 days. Station submitted a waste manifest document as proof of disposal of hazardous waste to Holfontein, dated 22 May 2023.	**1**		**36**
9.	**Penalties for non-compliance with licence and statutory conditions or requirements**					
	Failure to comply with any of the licence and relevant statutory conditions and/or requirements is an offence, and the Licence Holder, if convicted, will be subjected to those penalties set out in section 52 of the AQA 39 of 2004.	Check for PCN and complaints from the community.	Noted. The station has received a PCN before	**1**		**37**

10.	**Appeal of license**					
	10.1 The License Holder must notify every registered interested and affected party, in writing within five(5) days, of receiving the Municipal decision.	Check if this notification was done accordingly	According to the Station the interested and affected parties were notified within 5 days of receiving the Municipal decision; **however, the evidence provided shows that the notification was through a letter dated 30 August 2017, more than five days later.**	**0**	**1**	**38**
	10.2 The notification referred in 10.1 must:					
	10.2.1 Inform the registered interested and affected parties of the appeal procedure provided for in the Municipal Systems Act		Reference to Section 62 of the Municipal Systems Act included in notification	**1**		**39**
	10.2.2 Advise the interested and affected parties that a copy of the Atmospheric Emission Licence and reasons for the decision will be furnished on request; and		Included in notification	**1**		**40**
	10.2.3 Specify the date on which the licence was issued.		Included in notification	**1**		**41**
	10.2.4 An appeal against the decision must be lodged in terms of Section 62 of the Municipal Systems Act with the Appeal Authority Nkangala District Municipality P O Box 437, Middleburg, 1050. Tel No. 013 249 2000, Fax No. 013 249 2173		Included in notification	**1**		**42**
			Total conditions reviewed	**42**		
			Total compliance	**34**		
			Percentage Scored	**81%**		**4**