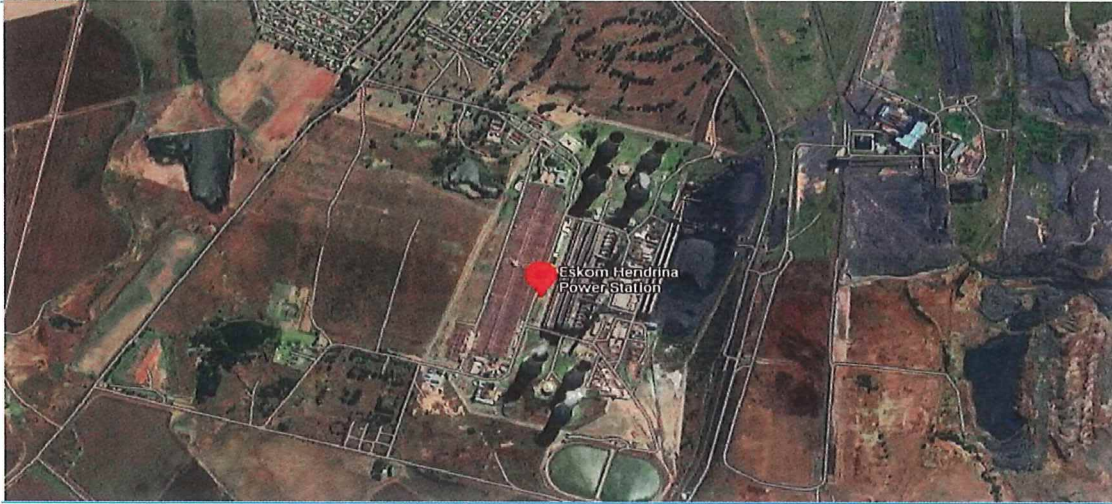


HENDRINA POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License 17/4/AEL/MP312/11/16



1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Dec-2024
	Coal	Tons	820 000	248 177.0
	Fuel Oil	Tons	3 200	1142.8
Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Dec-2024
	Energy	GWh	1488	226.33
	Ash	Tons	290 000	21 287
	RE PM	kg/MWh	not specified	0.094

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
Sulphur Content	%	0.6 to < 1	0.58
Ash Content	%	20 to < 35	22.81

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
North	50	3200	1100
South	50	3200	1100

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Dec-2024
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line
Unit 2	Fabric Filter Plant (FFP)	100%
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line
Unit 4	Fabric Filter Plant (FFP)	Unit Off-line
Unit 5	Fabric Filter Plant (FFP)	100%
Unit 6	Fabric Filter Plant (FFP)	100%
Unit 7	Fabric Filter Plant (FFP)	100%
Unit 8	Fabric Filter Plant (FFP)	Unit Off-line
Unit 9	Fabric Filter Plant (FFP)	Unit Off-line
Unit 10	Fabric Filter Plant (FFP)	100%

Note: Abatement plant does not have bypass mode operation, hence plant 100% Utilised.

5 MONITOR RELIABILITY (%)

-North Stack SO₂, and NO not available due to monitor defects.

Associated Unit/Stack	PM	SO ₂	NO	O ₂	CO ₂
North	100.0				
South	100.0	99.8	95.6	95.6	97.5

Note: NO_x emissions is measured as NO in PPM. Final NO_x value is expressed as total NO₂.

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of December-2024

Associated Unit/Stack	PM (tons)	SO _x (tons)	NO _x (tons)
North	13.7	1 468.2	768.3
South	7.6	525.3	272.6
SUM	21.3	1 993.4	1 038.9

-North Stack SO₂, and NO_x: Surrogate values measured from QAL 2 Parallel Test Report (RSL411) were used due to monitor defects. Mitigation measures outlined at section 9 of this report: General

Table 6.2: Operating days in compliance to PM AEL Limit - December 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm³)
North	28	0	0	0	0	16.5
South	22	0	0	0	0	22.1
SUM	50	0	0	0	0	

-North Stack SO₂: Surrogate values measured from QAL 2 Parallel Test Report (RSL411) were used due to monitor defects. Mitigation measures outlined at section 9 of this report:

Table 6.3: Operating days in compliance to SO₂ AEL Limit - December 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SO ₂ (mg/Nm³)
North	29	0	0	0	0	1 592.8
South	25	0	0	0	0	1 278.4
SUM	54	0	0	0	0	

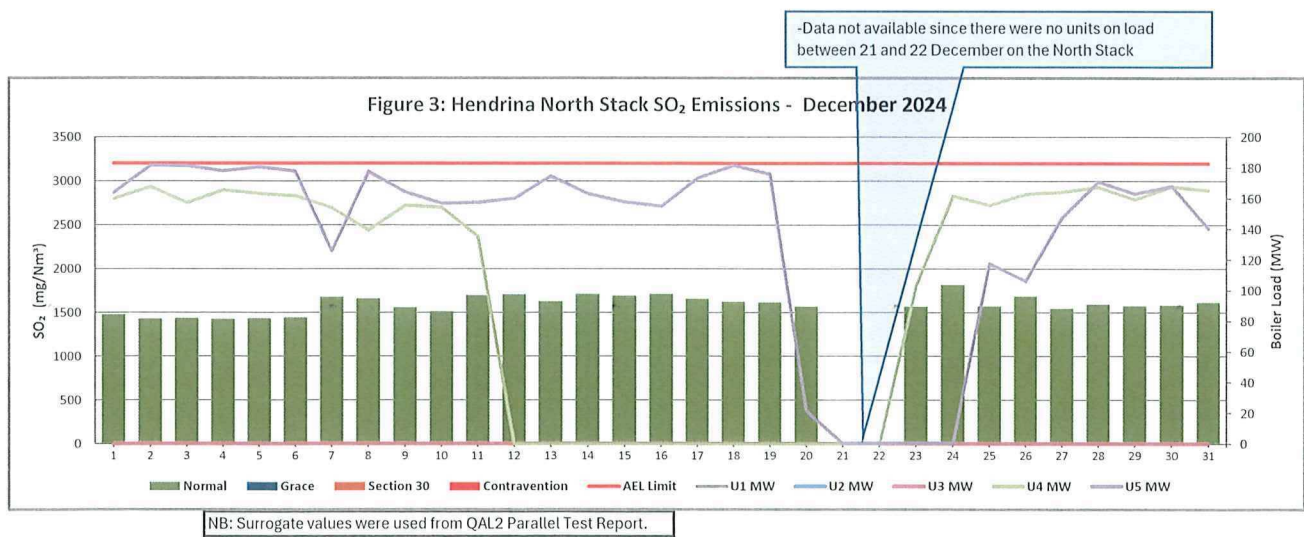
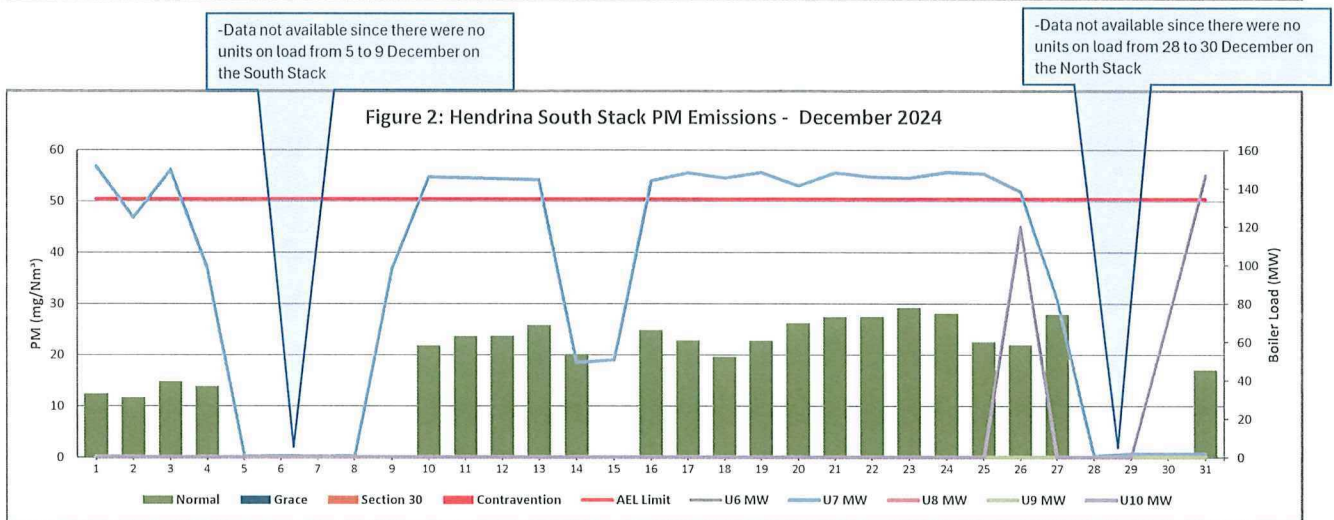
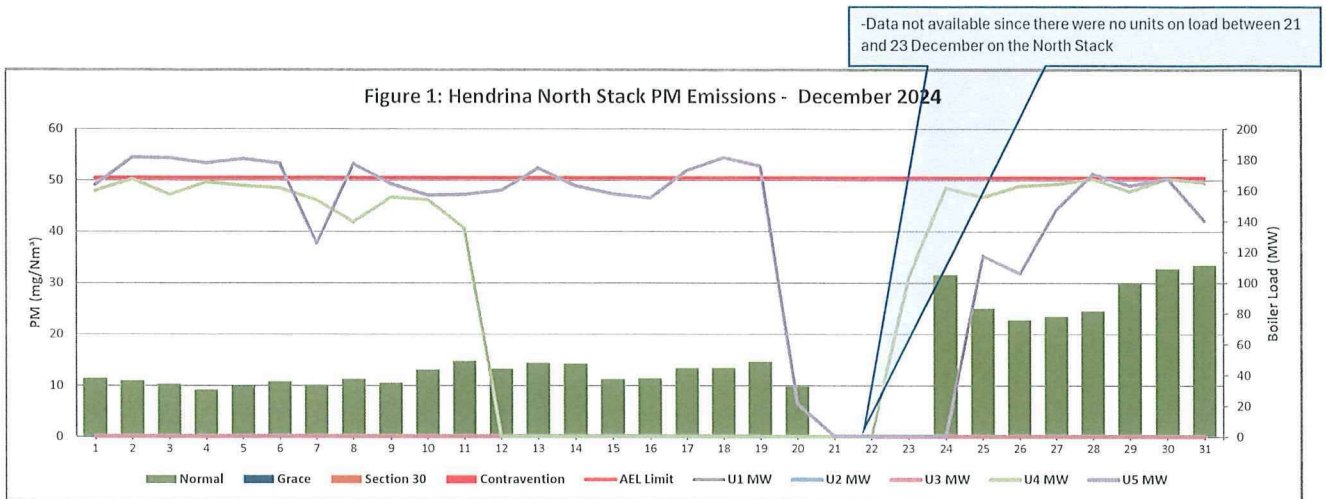
-North Stack NO_x: Surrogate values measured from QAL 2 Parallel Test Report (RSL411) were used due to monitor defects. Mitigation measures outlined at section 9 of this report: General

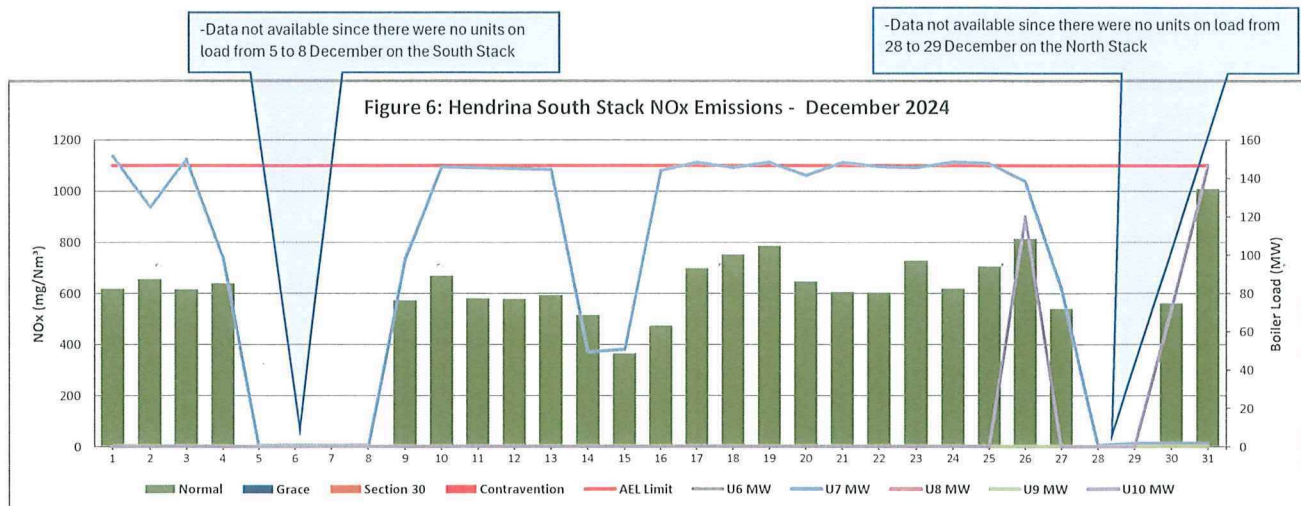
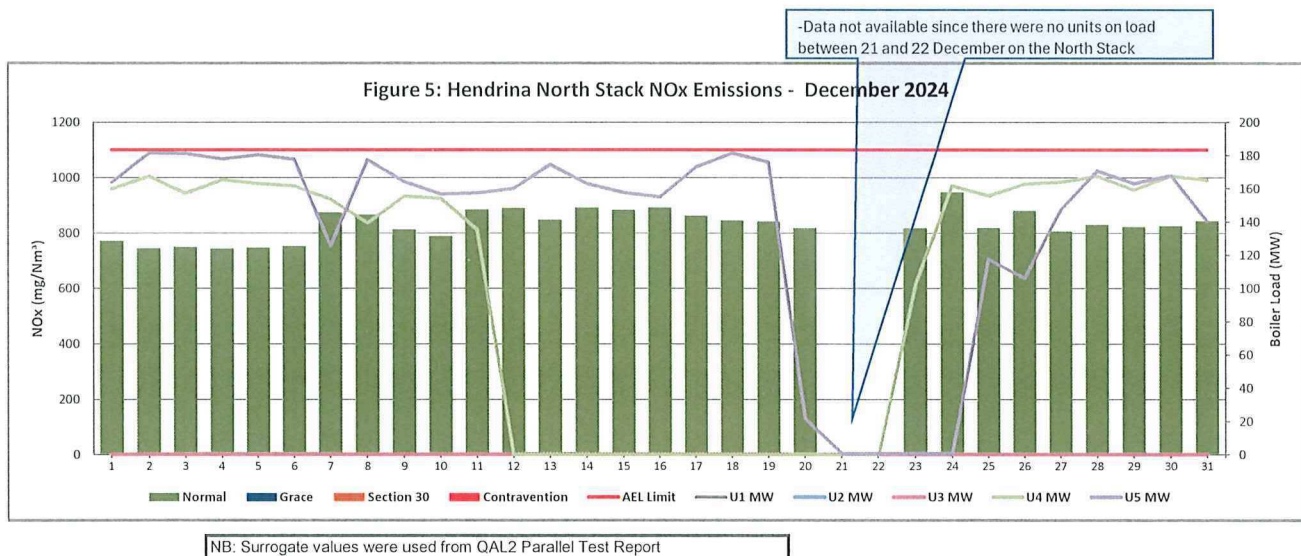
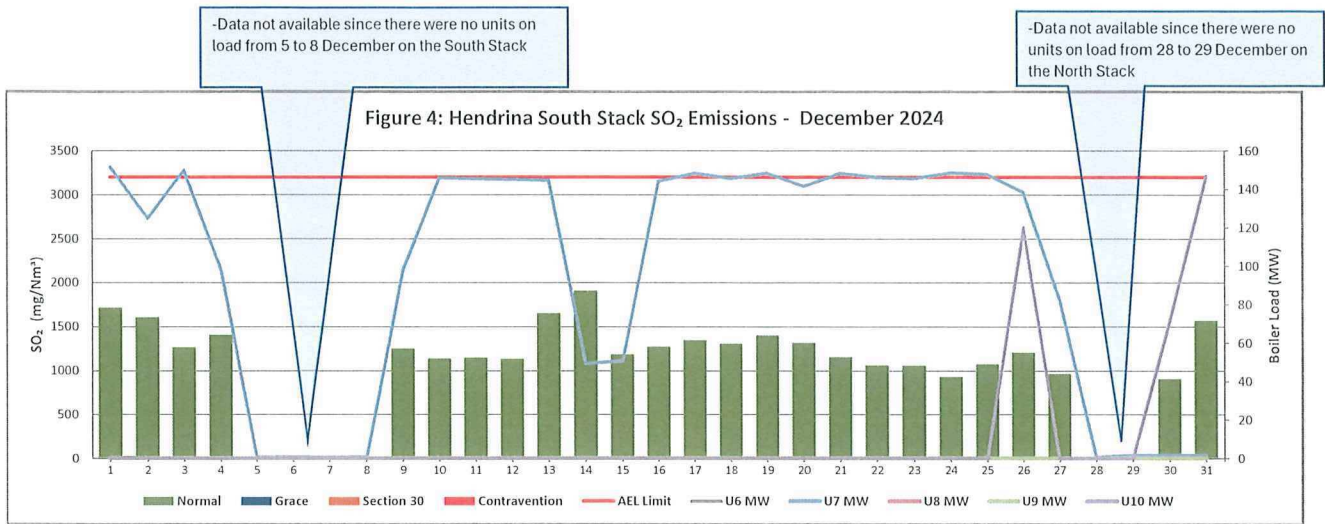
Table 6.4: Operating days in compliance to NO_x AEL Limit - December 2024

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NO _x (mg/Nm³)
North	29	0	0	0	0	831.4
South	25	0	0	0	0	637.5
SUM	54	0	0	0	0	

Table 6.5: Legend Description

Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions





Gaseous Emission Trends (NOx and SOx) for the North Stack: Surrogate values from QAL2 Parallel Test Report (RSL 411) have been used due to erroneous data from the Continuous Emission Monitoring System (CEMS) . Spot Check measurements have been performed internally and they confirm the error.

The parallel tests reports review has been completed, however the tests for the North Stack must be conducted again because the results were not valid.

The Station has conducted correlation tests for both stacks via services of a SANAS accredited service provider and the reports are being finalised. The station shall implement the correlation factors once the reports are finalised. The report will be shared with the Licencing Authority.

7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1 PM Start-up information for the month of December-2024

North Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 4		Unit 4		Unit 5		Unit 5	
Breaker Open (BO)	11:45 am	2024/12/07	6:55 pm	2024/12/11	2:35 pm	2024/12/07	3:45 am	2024/12/20
Draught Group (DG) Shut Down (SD)	3:25 pm	2024/12/07	8:55 am	2024/12/12	DG did not trip or SD	DG did not trip or SD	9:25 pm	2024/12/20
BO to DG SD (duration)	00:03:40	DD:HH:MM	00:14:00	DD:HH:MM	n/a	DD:HH:MM	00:17:40	DD:HH:MM
Fires in time	9:45 pm	2024/12/07	2024/12/22	2024/12/22			2024/12/24	2024/12/24
Synch. to Grid (or BC)	5:10 am	2024/12/08	6:50 pm	2024/12/23			4:40 am	2024/12/25
Fires in to BC (duration)	00:07:25	DD:HH:MM	01:09:45	DD:HH:MM		DD:HH:MM	00:08:15	DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit			not > limit	not > limit
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM	n/a	DD:HH:MM

North Stack ...Continued	Event 5		Event 2		Event 3		Event 4	
Unit No.	Unit 5		Unit 5		no event		no event	
Breaker Open (BO)	3:15 pm	2024/12/26	8:05 pm	2024/12/31				
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	4:35 am	2025/01/01				
BO to DG SD (duration)	n/a	DD:HH:MM	00:08:30	DD:HH:MM		DD:HH:MM		DD:HH:MM
Fires in time								
Synch. to Grid (or BC)								
Fires in to BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)								
Emissions below limit from BC (duration)		DD:HH:MM		DD:HH:MM		DD:HH:MM		DD:HH:MM


South Stack	Event 1		Event 2		Event 3		Event 4	
Unit No.	Unit 7		Unit 7		Unit 7		Unit 7	
Breaker Open (BO)	7:55 am	2024/12/02	12:35 pm	2024/12/04	5:05 am	2024/12/14	8:45 am	2024/12/27
Draught Group (DG) Shut Down (SD)	8:05 am	2024/12/02	12:25 am	2024/12/05	9:35 am	2024/12/14	3:00 pm	2024/12/27
BO to DG SD (duration)	00:00:10	DD:HH:MM	00:11:50	DD:HH:MM	00:04:30	DD:HH:MM	00:06:15	DD:HH:MM
Fires in time	8:35 am	2024/12/02	2024/12/08	2024/12/08	15:09:55	2024/12/15		
Synch. to Grid (or BC)	1:40 pm	2024/12/02	9:40 am	2024/12/09	6:00 pm	2024/12/15		
Fires in to BC (duration)	00:05:05	DD:HH:MM	00:12:35	DD:HH:MM	00:08:05	DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	not > limit	not > limit	not > limit	not > limit	not > limit	not > limit		
Emissions below limit from BC (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM

8 Complaints register:

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Date measure will be implemented	Measures implemented to prevent reoccurrence
The Station did not receive complaints related to air quality during the month of December 2024.					

09 General

The station has taken to execute short term and long term mitigations to ensure reliability of the CEMS. The short term action include implementation of the parallel curves. For the long term, the station will engage the Licencing Authority regarding replacement of the CEMS as required by Paragraph b) of General Condition 4.1 of the AEL.


 Compiled by: Environmental Officer
 A. Boja

20 January 2025

Date

7/1

05/05/2025

Authorised by: GM
 T. Lekalakala

Date


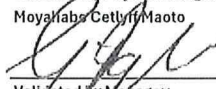

Compiled by: Boiler Engineering Department

For: Nkangala District Municipality

Copies: Eskom Environmental Management

Group Technology Engineering

Hendrina Power Station:


 Checked by: System Engineer Boiler/ FFP
 Moya Mabo

 Validated by Manager: Boiler Engineering Manager
 G. Kgwathe

 Supported by: Environmental Manager
 L. Ntla

20/01/2025

Date

2025/01/20

Date

30/04/2025

Date

FFP SE/ Environmental Officer

Air Quality Officer

D Herbst

B Mccourt

R Rampiar

E. Patel

Engineering Manager

Operating Manager

Maintenance Manager

Unit Production Manager

Boiler Engineering Manager

System Engineer: Boiler Engineering

Environmental Officer

C & I Engineering Manager

Production Manager

Environmental Manager

PSM