



Generation

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AND

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DUVHA POWER STATION

Atmospheric Emission License 17/4/AEL/MP312/11/07


GENERAL MANAGER

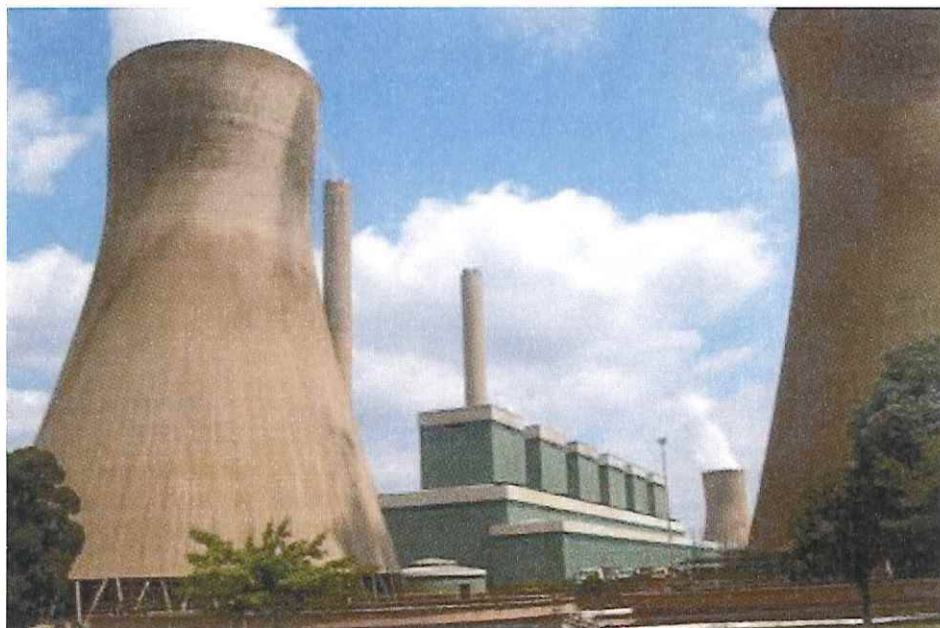

DATE

APRIL 2025



DUVHA POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License 17/4/AEL/MP312/11/07



1 RAW MATERIALS AND PRODUCTS

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Apr-2025
	Coal	Tons	1 400 000	418 725.400
	Fuel Oil	Tons	5 000	4717.35
Production Rates	Product / By-Product Name	Units	Maximum Production Capacity Permitted	Indicative Production Rate Apr-2025
	Energy	GWh	2 592.000	734.799
	Ash	Tons	not specified	102 880.8

Note: Maximum energy rate is as per the maximum capacity stated in the AEL: $[3\ 600\ \text{MW}] \times 24\ \text{hrs} \times \text{days in Month}/1000$ to convert to GWh

2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristic	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	18-24	22.37
Sulphur Content	%	0.6 TO >1.2	0.67
Ash Content	%	27 TO 30	24.57

3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
Unit 1	100	2600	1100
Unit 2	100	2600	1100
Unit 4	100	2600	1100
Unit 5	100	2600	1100
Unit 6	100	2600	1100

4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Apr-2025	Technology Type	SO ₃ Utilization Apr-2025
Unit 1	FFP	99.8%	SO ₃	n/a
Unit 2	FFP	99.9%	SO ₃	n/a
Unit 4	ESP + SO ₃	99.9%	SO ₃	95.3%
Unit 6	ESP + SO ₃	99.9%	SO ₃	99.0%
<i>Note: ESP plant does not have bypass mode operation, hence plant 100% Utilised.</i>				

5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO ₂	NO	O ₂
Unit 1	99.9	98.1	96.3	99.6
Unit 2	99.9	96.3	96.1	100.0
Unit 4	100.0	70.8	70.7	78.6
Unit 6	100.0	58.8	58.8	94.8

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

6 EMISSION PERFORMANCE

Table 6.1: Monthly tonnages for the month of April 2025

Associated Unit/Stack	PM (tons)	SO ₂ (tons)	NO _x (tons)
Unit 1	59.5	3 877	1 384
Unit 2	22.5	2 347	1 075
Unit 4	25.9	1 124	440
Unit 6	22.1	1 265	590
SUM	129.92	8 613	3 488

Table 6 2 Operating days in compliance to PM
AEL Limit - April 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention
Unit 1	30	0	0	0
Unit 2	30	0	0	0
Unit 4	11	1	0	0
Unit 6	17	0	0	0
SUM	88	1	0	0

Table 6 3 Operating days in compliance to
SO₂ AEL Limit - April 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention
Unit 1	30	0	0	0
Unit 2	30	0	0	0
Unit 4	14	0	0	0
Unit 6	19	0	0	0
SUM	93	0	0	0

Table 6 4 Operating days in compliance to
NO_x AEL Limit - April 2025

Associated Unit/Stack	Normal	Grace	Section 30	Contravention
Unit 1	30	0	0	0
Unit 2	30	0	0	0
Unit 4	14	0	0	0
Unit 6	19	0	0	0
SUM	93	0	0	0

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

Table 6.5: Legend Description

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

Figure 1: Duvha Unit 1 PM Emissions - April 2025

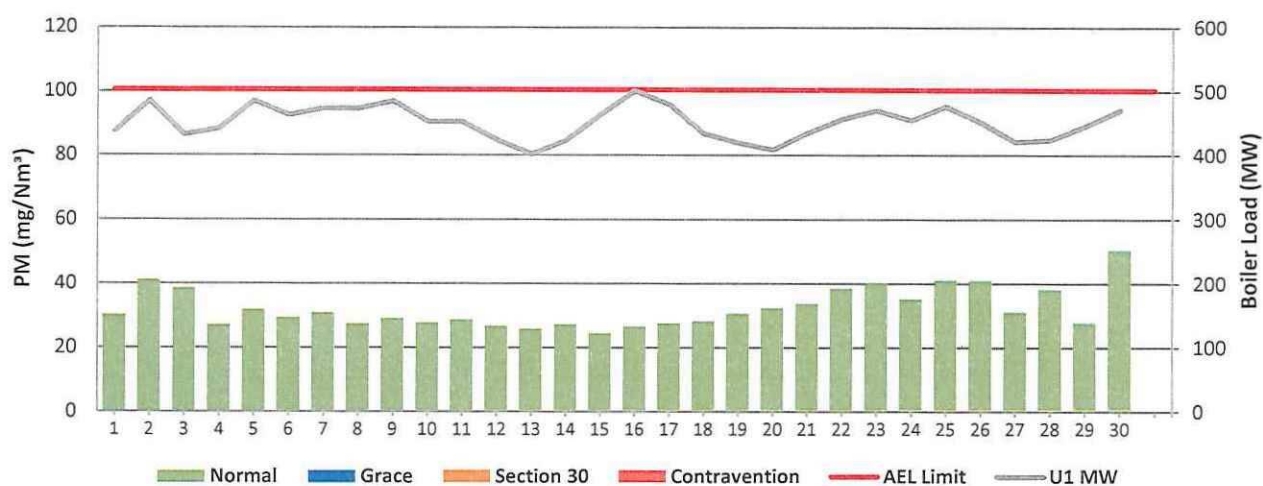


Figure 2: Duvha Unit 2 PM Emissions - April 2025

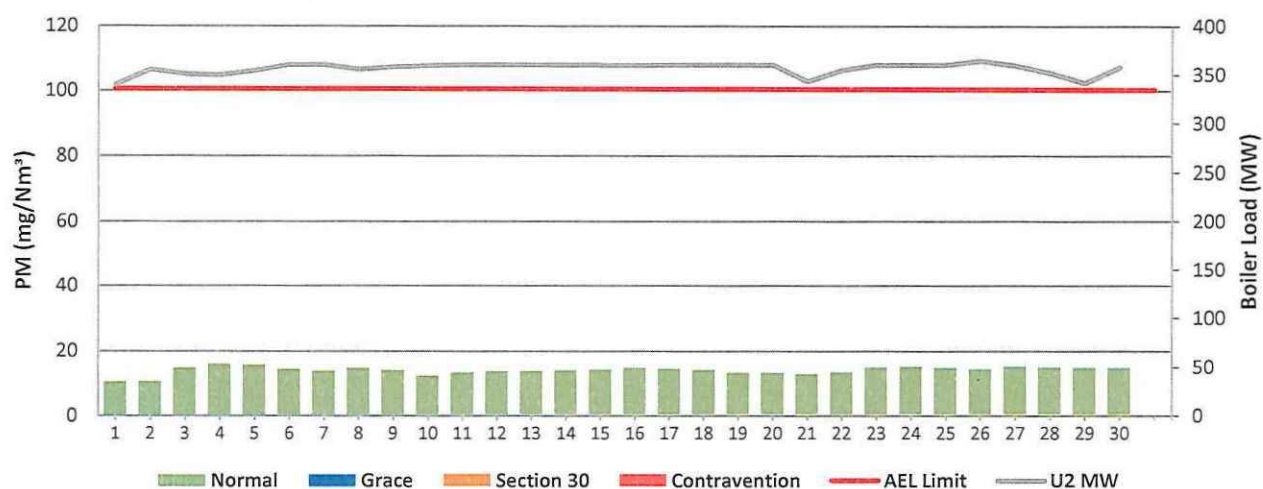


Figure 3: Duvha Unit 4 PM Emissions - April 2025

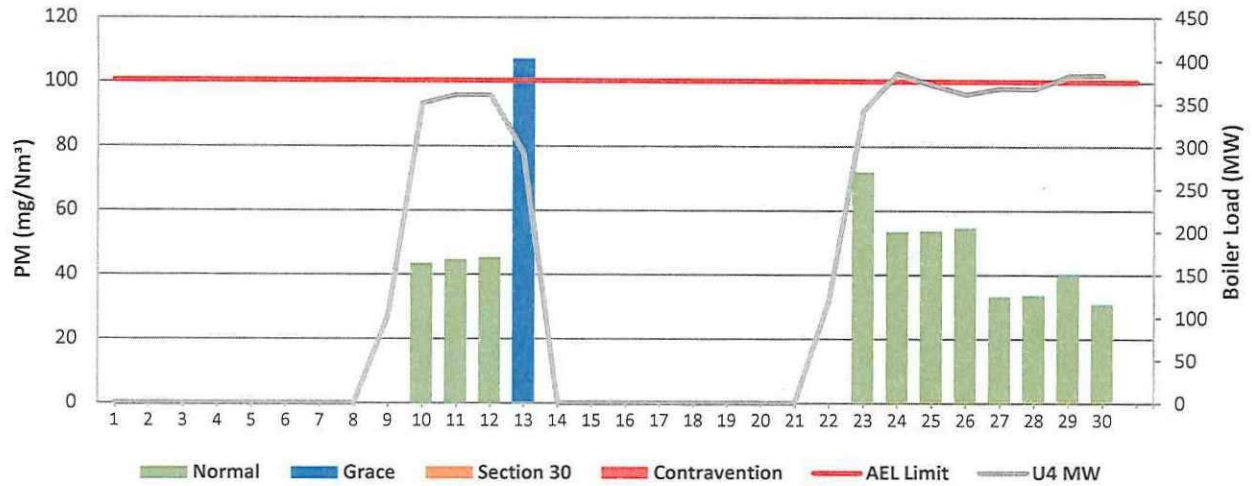


Figure 5: Duvha Unit 2 SO₂ Emissions - April 2025

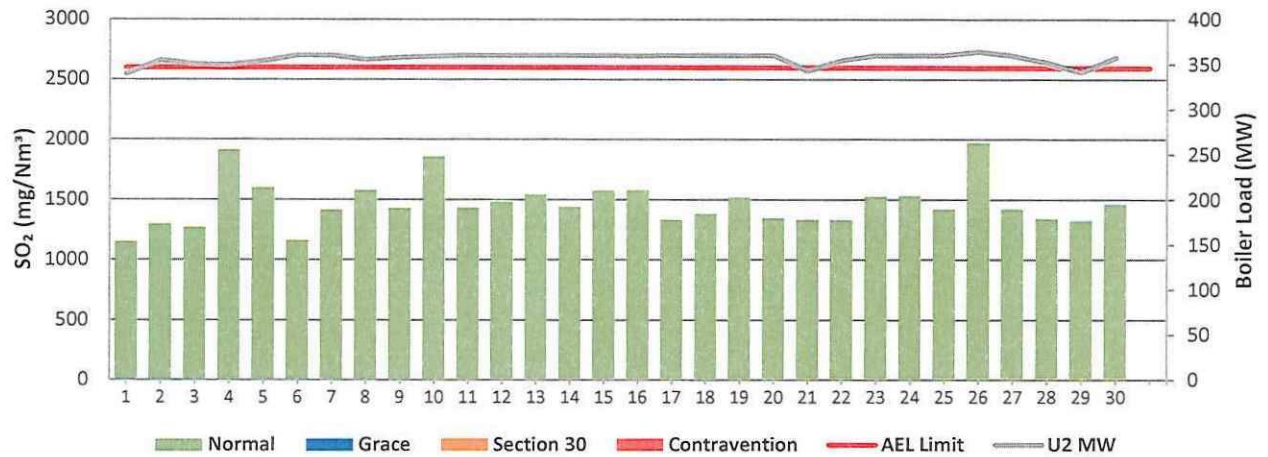


Figure 6: Duvha Unit 4 SO₂ Emissions - April 2025

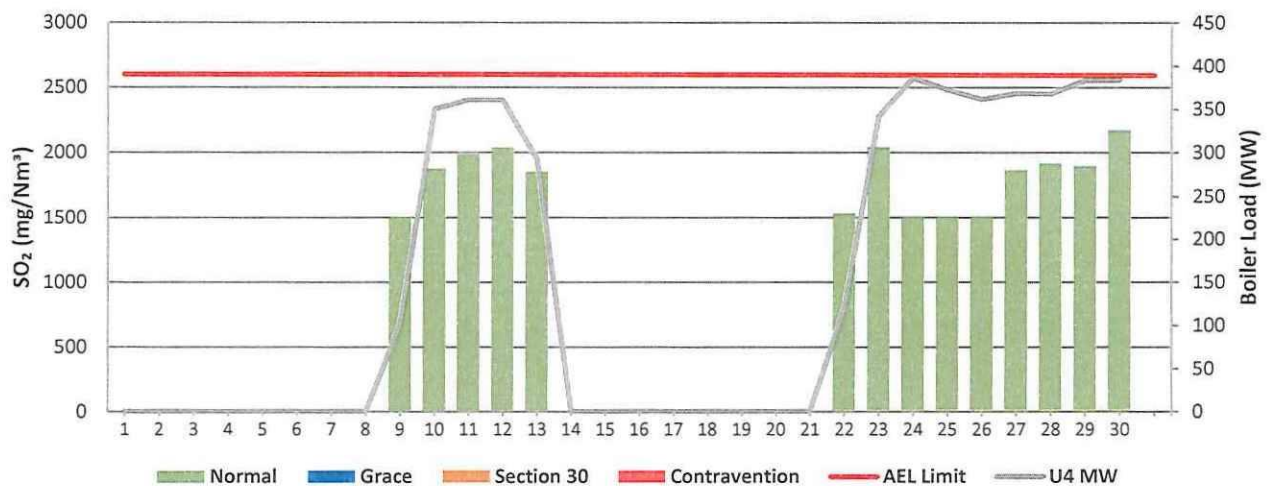


Figure 7: Duvha Unit 6 SO₂ Emissions - April 2025

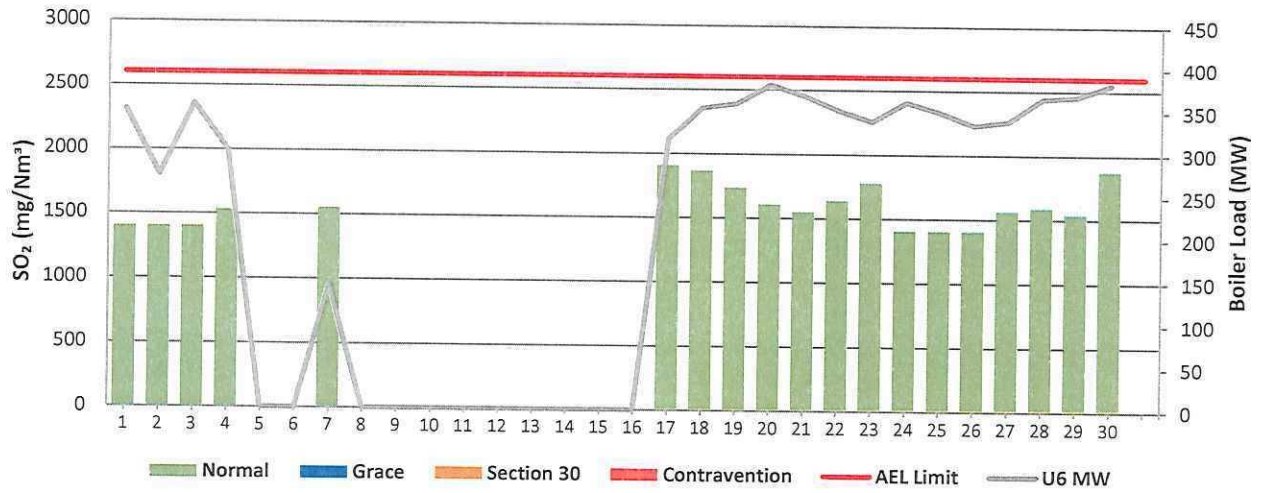


Figure 8: Duvha Unit 1 NO_x Emissions - April 2025

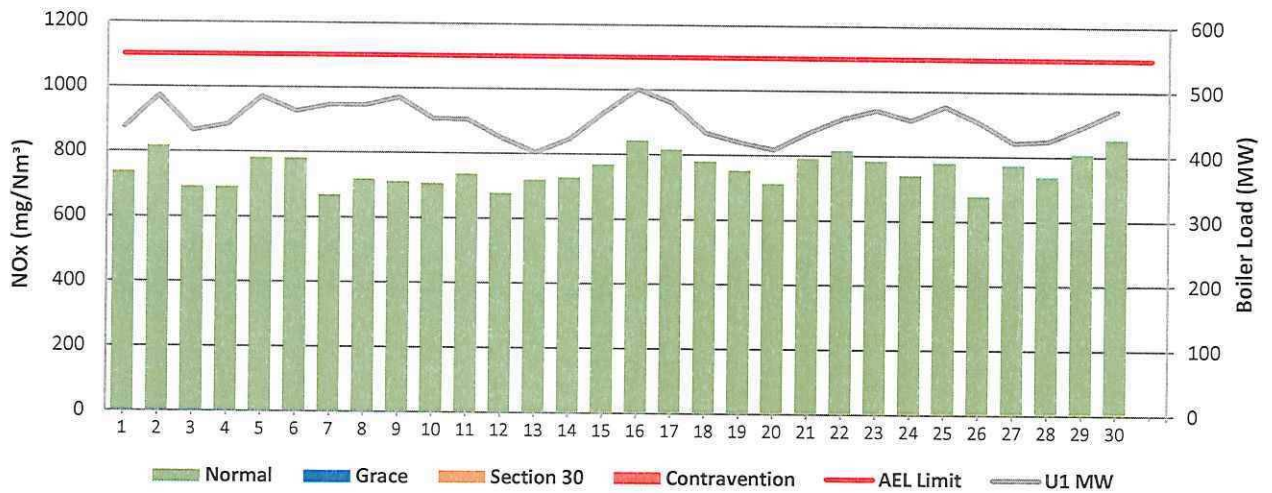
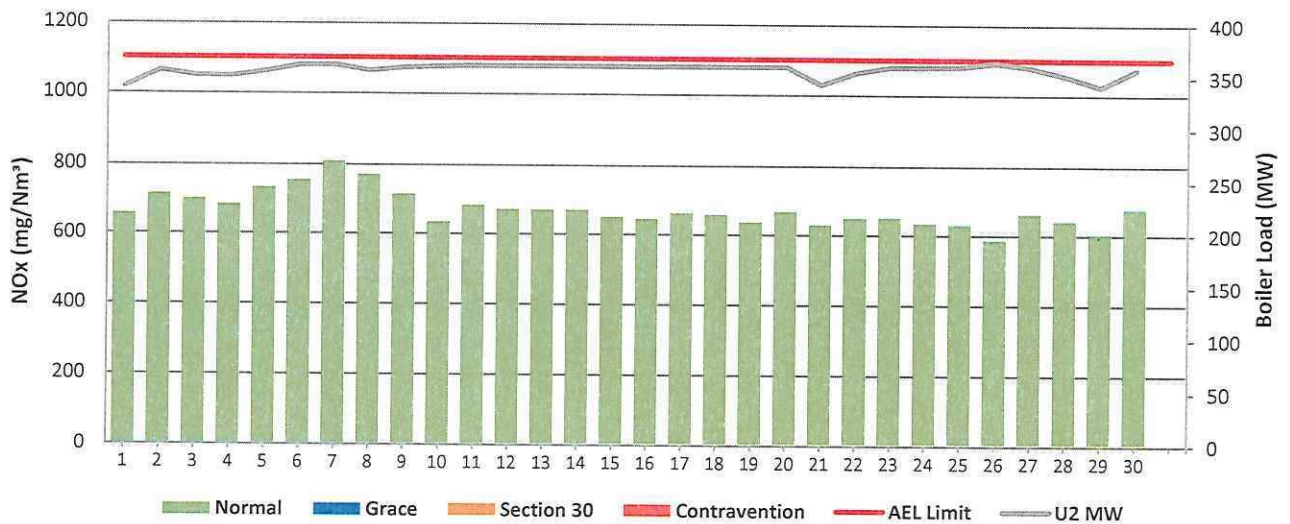


Figure 9: Duvha Unit 2 NO_x Emissions - April 2025



8 COMPLAINTS

There were no complaints for this month

Source Code / Name	Root Cause Analysis	Calculation of Impacts / emissions associated with the incident	Dispersion modeling of pollutants where applicable	Measures implemented to prevent reoccurrence

9 GENERAL

Exceedance: Particulate Matter.

Unit 4

13/04/2025

The Unit was returned to service on the 13th of April 2025 and the unit was on Cold Unit Light Up

Additionally, the SO3 plant utilization was lower than the minimum rate as stipulated in the AEL due to the following reasons

Unit 4

13 April 2025

SO3 plant went to hold due to low load after the unit was returned to service

The averages for Oxygen (O2) and Carbon Dioxide (CO2) data from the QAL2 tests reports were used for reporting gaseous emissions for units 1, 2 and 4 & 6 due to poor performance of the O2 and CO2 gaseous monitors. The poor performance of the monitors particularly on unit 4 & 6 was due to the unavailability of the lift at the North Smokestack, this has led to inadequate calibration of the monitors as per requirement of bi-weekly calibration for an extended period. The lift was out of service due to mechanical failure from December 2024, the lift has now been repaired and returned to service on the 12th of May 2025.

With the lifts in service, the station expects a reliability of 80% for monitors in all the station's units

10. Complaints and S30 Incidents Register

There were no complaints and no S30s incurred during the month of April 2025

Ben Hlatwayo 02/06/25 [Signature] 2025/06/02
Boiler Plant Engineering Manager Date Environmental Manager Date
[Signature] 2025-06-02
Engineering Manager Date

Compiled by Environmental Officer

For Nkangala District Municipality Air Quality Officer

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Generation Compliance Management R Rampiar
Generation Asset Management E Patel

Duvha Power Station Engineering Manager
Operating Manager
Maintenance Manager
Production Manager
Boiler Engineering Manager
System Engineer
Environmental Manager