

## HENDRINA POWER STATION MONTHLY EMISSIONS REPORT

Atmospheric Emission License 17/4/AEL/MP313/11/16



## 1 RAW MATERIALS AND PRODUCTS

Raw Materials and	Raw Material Type	Units	Max. Permitted Consumption Rate	Consumption Rate Jan-2020
Products -	Coal	Tons	820 000	198 510.0
1 routets	Fuel Oil	Tons	3 200	359.03
Production	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jan-2020
Production -	A STATE OF THE PARTY OF THE PAR	Units		Production Rate Jan-2020
Production - Rates	Name	25,000	Permitted	

#### 2 ENERGY SOURCE CHARACTERISTICS

Coal Characteristics	Units	Stipulated Range	Monthly Average Content
CV Content	MJ/kg	16-24	
Sulphur Content	%	0.6 to < 1	1.65
Ash Content	%	31 to < 35	27.51

## 3 EMISSION LIMITS (mg/Nm³)

Associated Unit/Stack	РМ	sox	NOx
North	75	3200	1200
South	75	3200	1200

## 4 ABATEMENT TECHNOLOGY (%)

Associated Unit/Stack	Technology Type	Efficiency Jan-2020		
Unit 1	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 2	Fabric Filter Plant (FFP)	99.941%		
Unit 3	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 4	Fabric Filter Plant (FFP)	99.954%		
Unit 5	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 6	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 7	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 8	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 9	Fabric Filter Plant (FFP)	Unit Off-line		
Unit 10	Fabric Filter Plant (FFP)	100.000%		

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

## 5 MONITOR RELIABILITY (%)

Associated Unit/Stack	PM	SO <sub>2</sub>	NO	CO <sub>2</sub>	02
North	100.0	51.2	77.6	1777.000	97.2
South	100.0	75.3	96.4		99.5

### **6 EMISSION PERFORMANCE**

Table 6.1: Monthly tonnages for the month of January-2020

Associated Unit/Stack	PM (tons)	SO <sub>2</sub> (tons)	NO <sub>2</sub> (tons)	CO₂ (tons)
North	17.3	2 404.6	1 342.6	
South	4.3	1 088.8	381.5	
SUM	21.6	3 493.4	1 724.0	

Table 6.2: Operating days in compliance to PM AEL Limit - January 2020

Associated Unit/Stack	Normal Grace Section 3		Section 30	Contravention	Total Exceedance	Average PM (mg/Nm²)
North	31	0	0	0	0	13.9
South	31	0	0	0	0	5.2
SUM	62	0	0	0	0	

Table 6.3: Operating days in compliance to SOx AEL Limit - January 2020

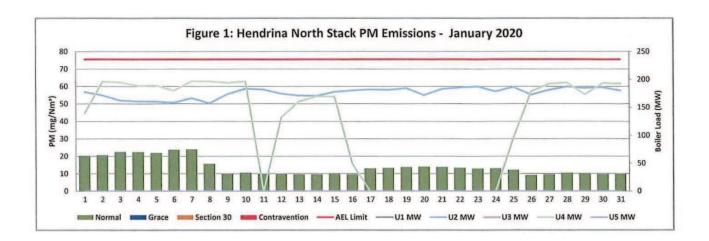
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm³)
North	31	0	0	0	0	1 824.6
South	31	0	C	0	. 0	1 319.4
SUM	62	0	0	0	0	

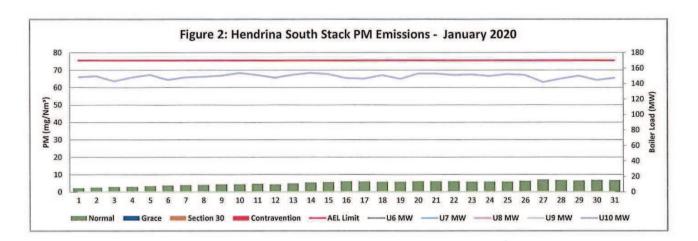
Table 6.4: Operating days in compliance to NOx AEL Limit - January 2020

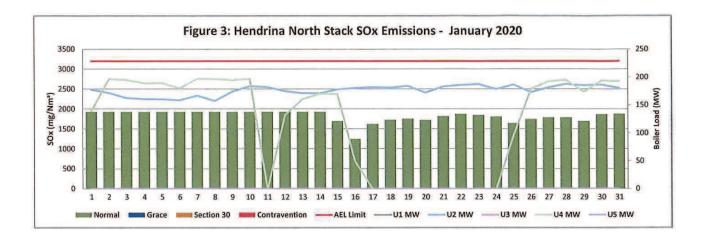
Associated Unit/Stack	Normal Grace Section 30 Contrave		Contravention	Total Exceedance	Average NOx (mg/Nm³)	
North	23	8	0	0	8	996.0
South	31	0	0	0	0	463.3
SUM	54	8	0	0	8	

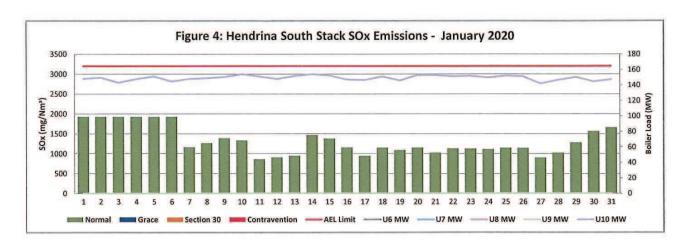
Table 6.5: Legend Description

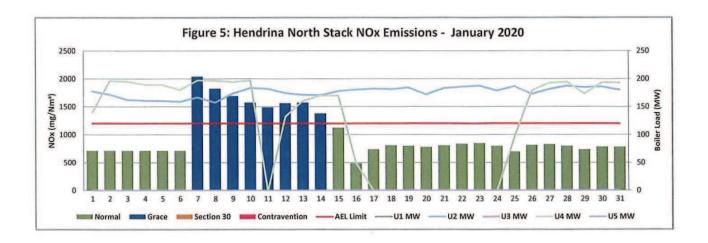
Table 0.5. Le	3	
Condition	Colour	Description
Normal		Emissions below Emission Limit Value (ELV)
Grace		Emissions above the ELV during grace period
Section 30		Emissions above ELV during a NEMA S30 incident
Contravention		Emissions above ELV but outside grace or S30 incident conditions

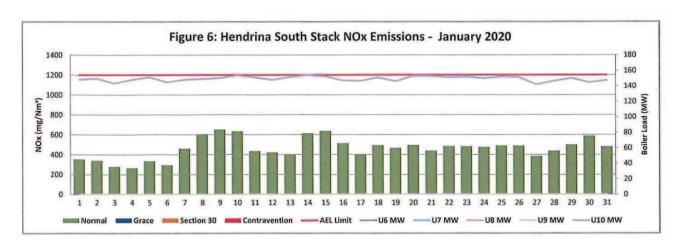












## 7 SHUT DOWN AND LIGHT UP INFORMATION

Table 7.1 PM Start-up information for the month of January-2020

North Stack	E	event 1	Ever	it 2	Eve	nt 3	Event 4	
Unit No. Breaker Open (BO)	no event		Unit	Unit 4		vent	no event	
	BO previously	BO previously	11:45 PM	2020/01/10	12:15 AM	2020/01/16		
Draught Group (DG) Shut Down (SD)	n/a	n/a	11:20 AM	2020/01/11	01 15 AM	2020/01/17		
BO to DG SD (duration)	n/a	DD:HH:MM	00:11:35	DD:HH:MM	01:01:00	DD:HH:MM	DD:HH:MM	
Fires in time			2020/01/12	2020/01/12				
Synch. to Grid (or BC)			04:10 PM	2020/01/12				
Fires in to BC (duration)		DD:HH:MM	00:12:00	DD:HH:MM		DD:HH:MM	DD:HH:MM	
Emissions below limit from BC (end date)			not > limit	not > limit				
Emissions below limit from BC (duration)		DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM	DD:HH:MM	

North StackContinued	Event 1	Event 2	Event 3	Event 4	
Unit No.	no event	no event	no event	no event	
Breaker Open (BO)					
Draught Group (DG) Shut Down (SD)					
BO to DG SD (duration)	DD:HH:MM	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 no event		Ever	nt 2	Eve	ent 3	Event 4 no event	
Unit No.			no e	vent	no	event		
Breaker Open (BO)		#REF!	12.05 AM	2020/01/17				
Draught Group (DG) Shut Down (SD)		#REF!	01 15 AM	2020/01/17				
BO to DG SD (duration)	n/a	DD:HH:MM	00:01:10	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 StackContinued	Event 1	Event 2	Event 3	Event 4 no event	
Unit No.	no event	no event	no event		
Breaker Open (BO)					
Draught Group (DG) Shut Down (SD)					
BO to DG SD (duration)	DD:HH:MM	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	

<sup>7.2:</sup> Point Source emissions released during start-up (fires-in) and Shut-down (SD) for the month of January-2020 in mg/Nm³ [Include reference to once off test showing typical emissions rates during fires in and SD]

Section 30 report for Nox North Stack between 7 and 14 January 2020 during monitor faultness.

Reserved for Addendum XXXX

#### 11 General

Nox for North Stack monitor failure reported for period 7 to 14 Janaury 2020, Section 30 was reported. See attached. Coal Sulphur qaulity did not meet a limit of 1%,as it was 1.65%.

Compiled: Environmental Officer

Date

Boller/ FFP

Authorised by: GM M. Lesolang

Date

Walidated by Manager:

or Environmenta Boiler

Date

Compiled by: Boiler Engineering Department

For:

Nkangala District Municipality

Copies:

**Eskom Environmental Management** 

Group Technology Engineering

Hendrina Power Station:

R. Nelwamondo J. Ramagoma

Air Qaulity Officer

FFP SE/ Environmental Officer

**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

### ADDENDUM TO MONTHLY EMISSIONS REPORT: JANUARY 2020

### **8 EMERGENCY GENERATION**

Emergency Generation [This is only required for stations that are requested to report on this information]

Table 8. Emergency Generation per unit for the month of January-2020

	Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10
Emergency Generation hours declared by national Control										
Emergency Hours declared including hours after stand down										
Hours over the Limit during Emergency Generation										

# 9 COMPLAINTS REGISTER

Table 9. Complaints for the month of January-2020

Source Code Root Cause Analysis		Calculation of Impacts / emissions associated with the incident			Date measure will be implemented	
(Insert name of affected person/source )	(Insert root cause for incident)	(Insert emissions associated with incident)	(Insert dispersion model information where applicable)	(Insert mitigation measures	(Insert date of implementation of mitigation method)	
None	None	None	None	Noen	None	

## 10 S30 INCIDENT OR LEGAL CONTRAVENTION REGISTER

To be completed in the case of a S30 incident or a legal contravention:

Unit no	Incident Start Date	Incident End Date	Incident Cause	Remedial action	Date S30 initial notification sent	Date S30 investigation report sent	Date DEA Acknowledg- ment	Date DEA Acceptabe	Comments / Reference No.
North Stack	7/01/2020	14/01/2020	Prelimiary finding is monitor failure, investigation is still underway	Replacements of spares	03/02/2020				Monitor failure, frozen data.