



Ms Mpho Nembilwi
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Date:

April 2022

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Ref: *Kusile Power Station AEL (17/4/AEL/MP311/12/01)*

Dear Ms. Nembilwi

KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR JANUARY 2022

This serves as the monthly report required in terms of Section 7.6 in Kusile Power Station's Atmospheric Emission License: 17/4/AEL/MP311/12/01. The emissions are for the month of January 2022.

Hoping the above will meet your satisfaction.

Yours sincerely

Bongumusa A. Mashazi
GENERAL MANAGER
DATE: 2022/04/25

1. KUSILE POWER STATION MONTHLY EMISSIONS REPORT: Atmospheric Emission
License 17/4/AEL/MP311/12/01



2 Raw Materials and Products

Raw Materials and Products	Raw Material Type	Units	Maximum Permitted Consumption Rate	Consumption Rate Jan-2022
	Coal	Tons	1 818 083	426 798
	Fuel Oil	Tons	5 533	2058,19
	Limestone	Tons	72 917	11750

Production Rates	Product / By-Product Name	Units	Max. Production Capacity Permitted	Production Rate Jan-2022
	Energy	GWh	3321,216	479,10
	Ash	Tons	663 583	128 765,1
	Gypsum	Tons	129 250	6 580,0
	RE PM	kg/MWh	not specified	0,081
	RE SO ₂	kg/MWh	not specified	1,575

3 Energy source characteristics

Fuel Characteristic	Units	Stipulated Range	Monthly Average Content
Coal CV	MJ/kg	not specified	20,610
Coal Sulphur	%	1,3	1,240
Ash in Coal	%	38	30,170

4 Emissions Limits (mg/Nm³)

Associated Unit/Stack	PM	SO ₂	NO _x
North	50	500	750
South	50	500	750

5 Abatement Technology (%)

Associated Unit/Stack	Technology Type	Efficiency Jan-2022	Technology Type	Efficiency Jan-2022
Unit 1	FFP	99,986%	FGD	88,958%
Unit 2	FFP	Unit on outage		
Unit 3	FFP	99,942%	FGD	95,897%
Unit 4	FFP		FGD	
Unit 5	FFP		FGD	
Unit 6	FFP		FGD	

Note: Both the FFP and FGD does not have bypass mode operation, hence plant 100% Utilised.

6. Monitoring reliability (%)

Associated Unit/Stack	PM	SO ₂	NO	CO ₂	O ₂
Unit 1	27,2	99,7	98,9	75,6	99,0
Unit 2	Unit on outage				
Unit 3	97,8	91,9	84,4	90,4	84,2
Unit 4					
Unit 5					
Unit 6					

7. Emissions Performance

Table 7.1: Monthly tonnages for the month of January-2022

Associated Unit/Stack	PM	SO _x	NO _x	CO ₂
Unit 1	8,9	579	1 065	340 362
Unit 2	Unit on outage			
Unit 3	30,2	176	310	195 340
Unit 4	0,0	0	0	0
Unit 5	0,0	0	0	0
Unit 6	0,0	0	0	0
SUM	39,1	755	1 374	535 702

Table 7.2: Operating days in compliance to PM AEL Limit - January 2022

Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average PM (mg/Nm ³)
Unit 1	24	0	0	0	0	4,6
Unit 2	0	0	0	0	0	
Unit 3	15	4	0	0	4	36,8
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
SUM	39	4	0	0	4	

Table 7.3: Operating days in compliance to SOx AEL Limit - January 2022

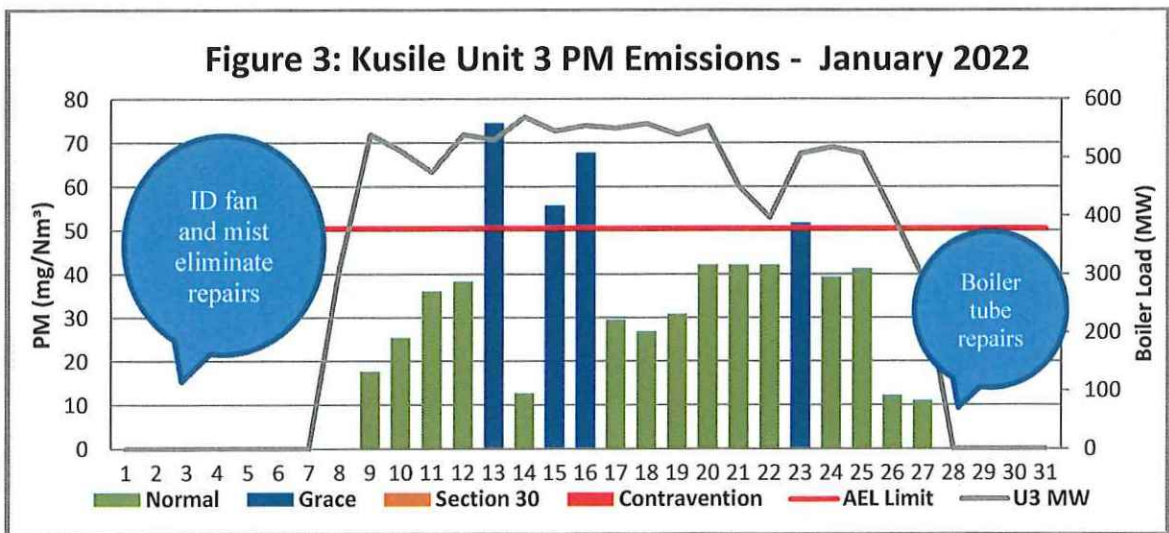
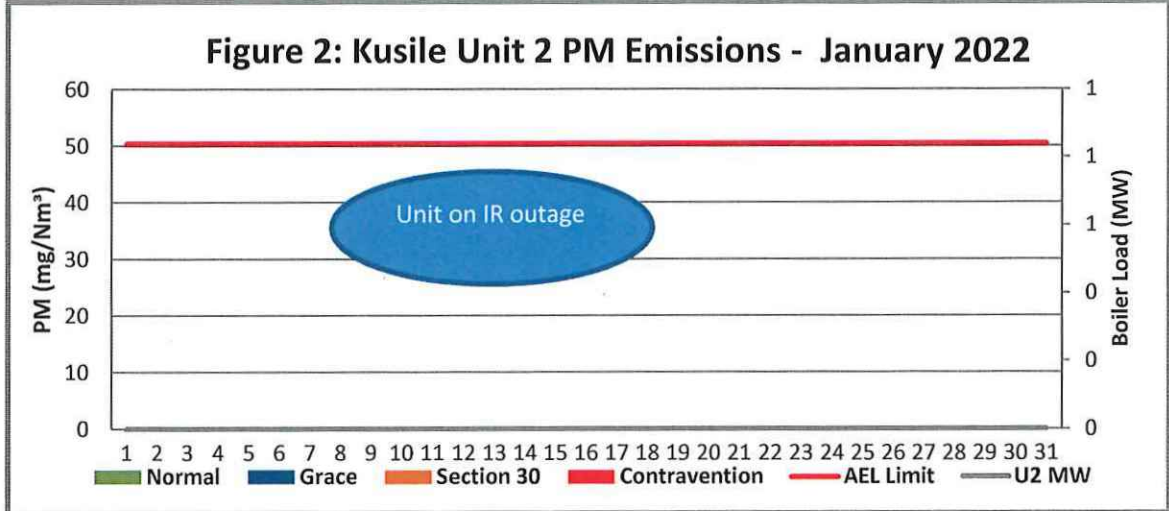
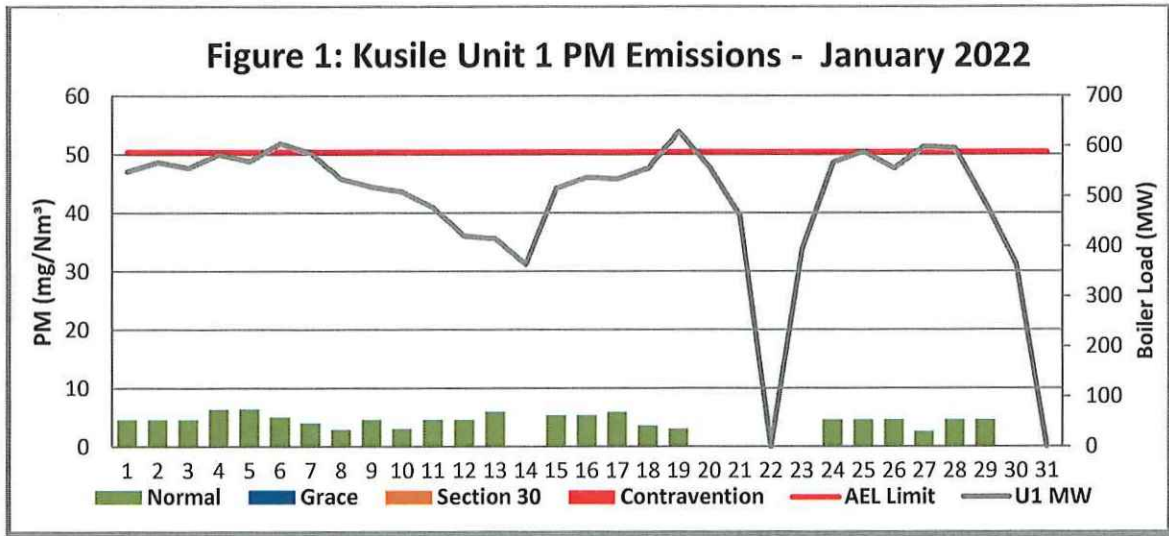
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average SOx (mg/Nm ³)
Unit 1	29	0	0	0	0	249,2
Unit 2	0	0	0	0	0	
Unit 3	18	2	0	0	2	197,4
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
SUM	47	2	0	0	2	

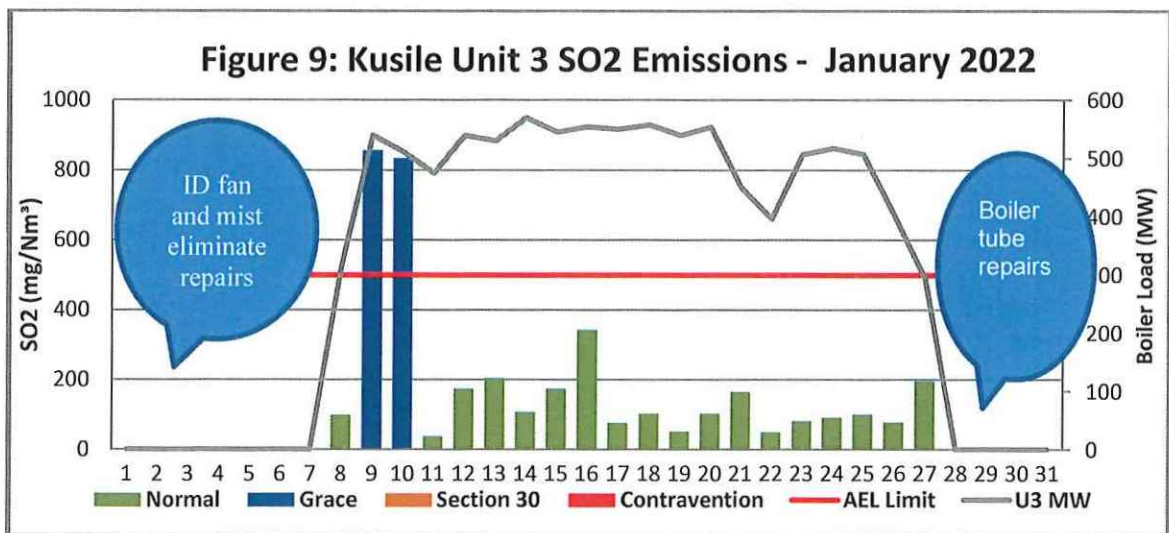
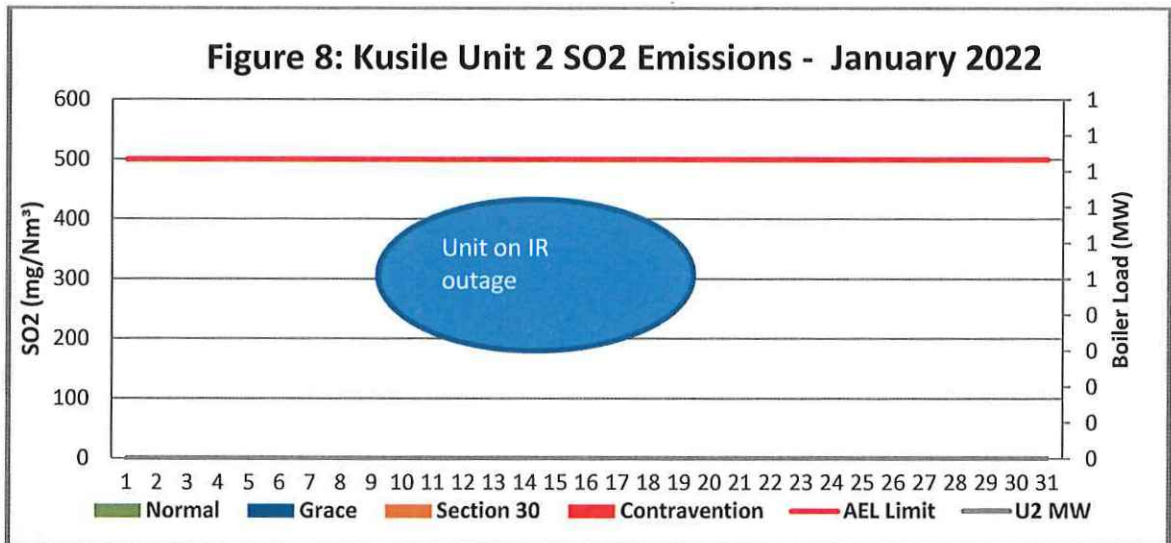
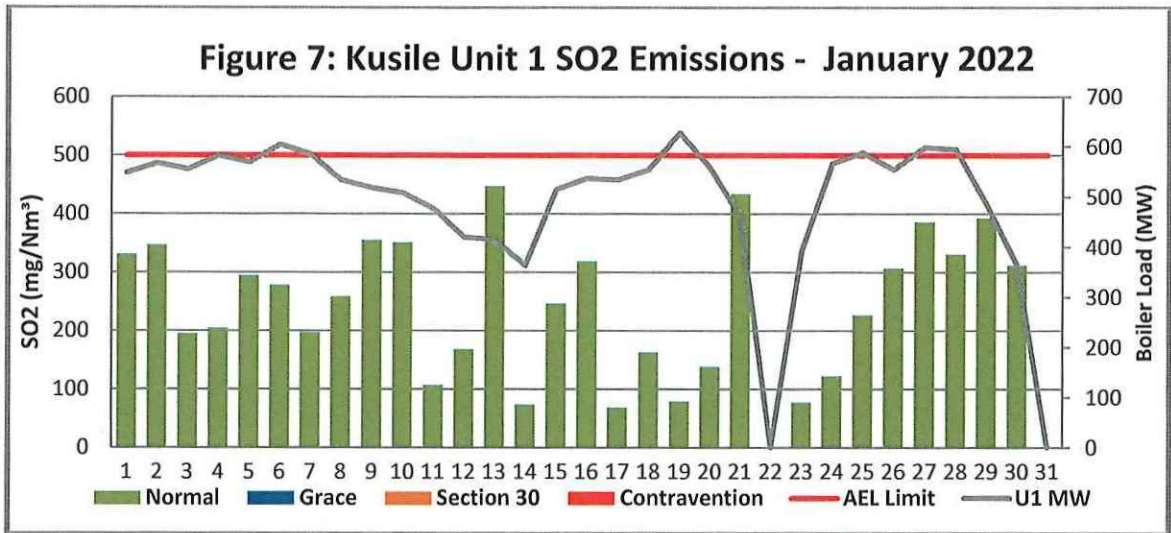
Table 7.4: Operating days in compliance to NOx AEL Limit - January 2022

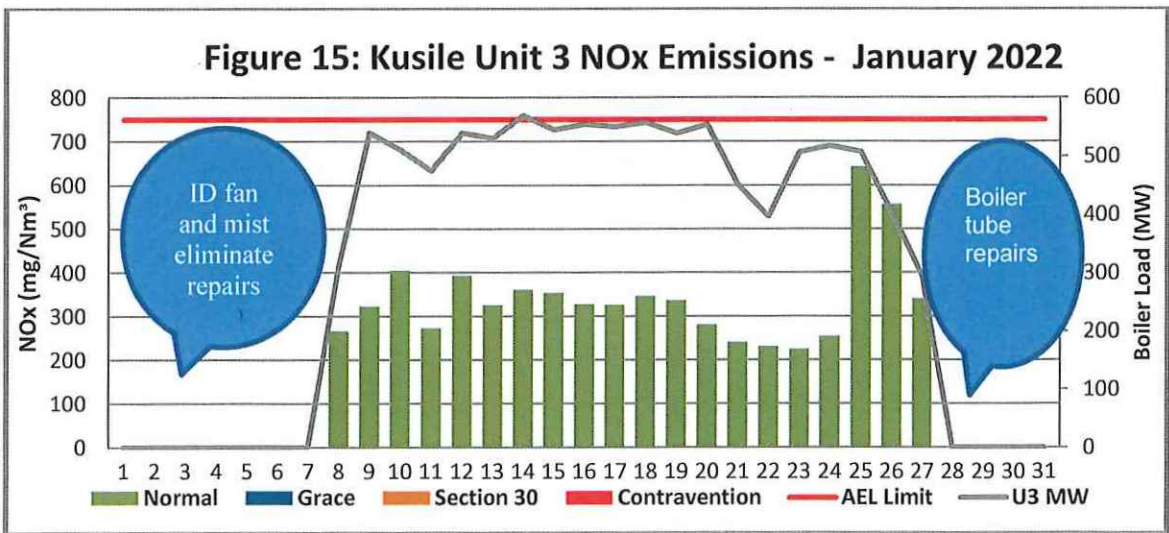
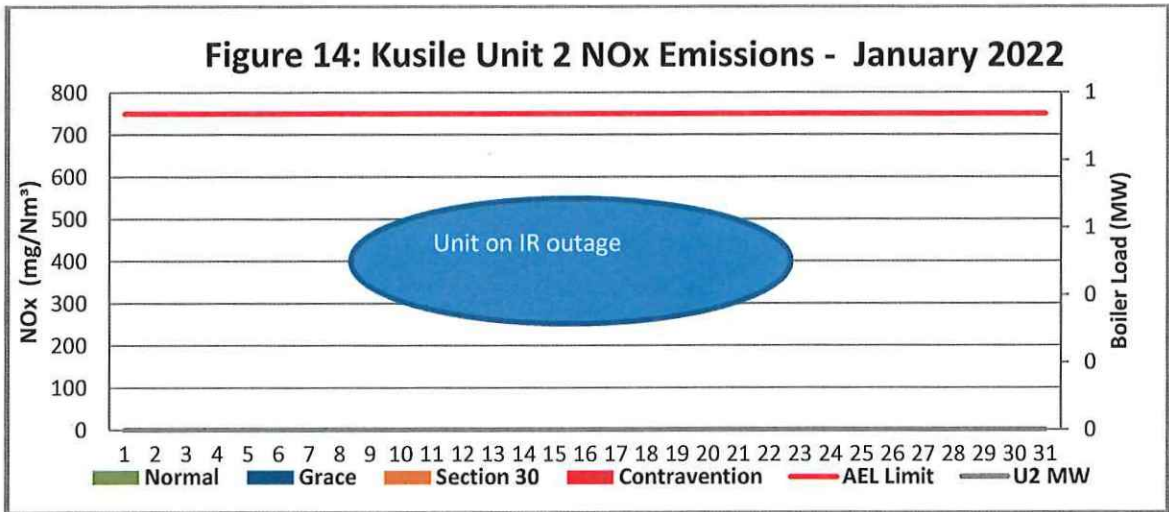
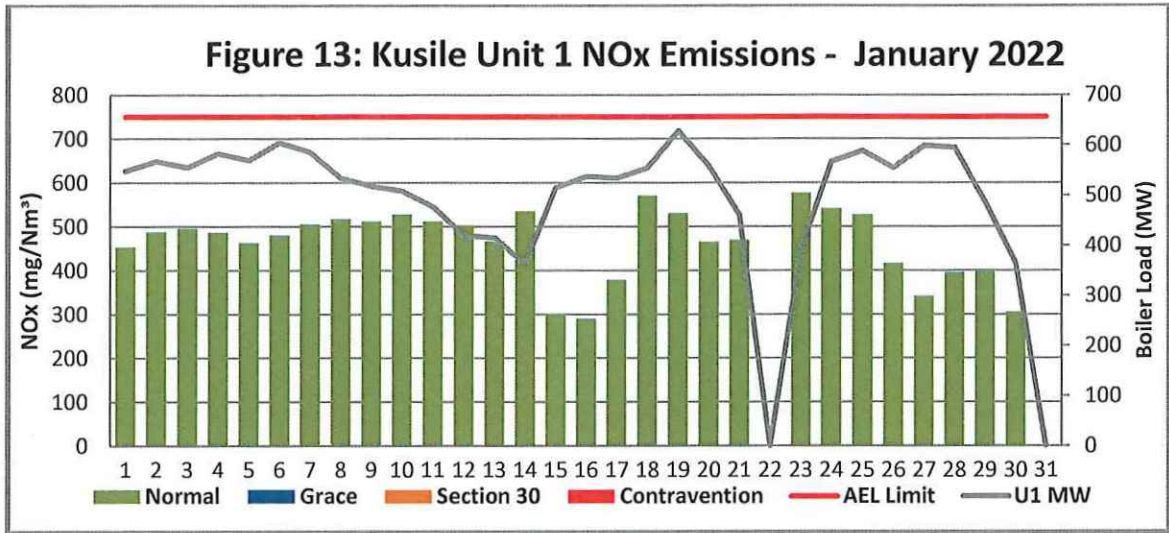
Associated Unit/Stack	Normal	Grace	Section 30	Contravention	Total Exceedance	Average NOx (mg/Nm ³)
Unit 1	29	0	0	0	0	464,6
Unit 2	0	0	0	0	0	
Unit 3	20	0	0	0	0	341,0
Unit 4	0	0	0	0	0	
Unit 5	0	0	0	0	0	
Unit 6	0	0	0	0	0	
SUM	49	0	0	0	0	

Table 7.5: 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







8. Shut down and Light up information

Table 8. PM Start-up information for the month of Jan-2022

Unit No. 1	Event 1		Event 2		Event 3		Event 4	
Breaker Open (BO)	2:50 pm	2022/01/13	9:40 pm	2022/01/19	10:25 am	2022/01/26	12:00 am	2022/01/29
Draught Group (DG) Shut Down (SD)	DG did not trip or SD	DG did not trip or SD	5:10 am	2022/01/22	DG did not trip or SD	DG did not trip or SD	9:00 pm	2022/01/30
BO to DG SD (duration)	n/a	DD:HH:MM	02:07:30	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM
Fires in time	4:20 pm	2022/01/14	5:05 pm	2022/01/22				
Synch. to Grid (or BC)	8:00 pm	2022/01/14	4:45 pm	2022/01/23				
Fires in to BC (duration)	00:03:40	DD:HH:MM	00:23:40	DD:HH:MM		DD:HH:MM		DD:HH:MM
Emissions below limit from BC (end date)	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		DD:HH:MM

KUSILE POWER STATION'S MONTHLY EMISSIONS REPORT FOR JAN 2022 - 17/4/AEL/MP311/12/01

Unit No. 3	Event 1		Event 2		Event 3		Event 4		Event 5		Event 6	
Breaker Open (BO)	BO previously	BO previously	6:40 pm	2022/01/10	1:00 am	2022/01/13	8:15 pm	2022/01/21	02:30 PM	2022/01/25	12:40 AM	2022/01/27
Dragnet Group (DG) Shut Down (SD)	n/a	n/a	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	DG did not trip or SD	8:15 pm	2022/01/21	03:30 PM	2022/01/25	01:30 AM	2022/01/27
BO to DG SD (duration)	n/a	DD:HH:MM	n/a	DD:HH:MM	n/a	DD:HH:MM	00:00:00	DD:HH:MM	00:01:00	DD:HH:MM	00:00:50	DD:HH:MM
Fires in time	5:50 pm	2022/01/08	10:55 pm	2022/01/10	1:00 am	2022/01/13	11:50 pm	2022/01/21	04:15 PM	2022/01/25		
Synch. to Grid (or BC)	8:45 pm	2022/01/08	1:00 am	2022/01/11	6:00 am	2022/01/13	11:50 am	2022/01/22	07:15 PM	2022/01/25		
Fires in to BC (duration)	00:02:55	DD:HH:MM	00:02:05	DD:HH:MM	00:05:00	DD:HH:MM	00:12:00	DD:HH:MM	00:03:00	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	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	n/a	DD:HH:MM	n/a	DD:HH:MM		DD:HH:MM

9. Complaints

No complaints received during the month of Jan - 2022