Annexure - I

STACK EMISSION MONITORING & ANALYSIS DATA BASE

(October'2018 to March'2019)

Stack Physical Parameters

Existing Plant		
Stack connected to	**Height from GL (m)**	**Internal dia at sampling point (m)**
DEG	58	3.16
Hot oil Heater	69	1.9
Boiler/Incinerator	88	1.7
PX oxidation off gas (PX - Paraxylene)	21.85	2.2
Vent gas scrubber -I (Scrubbing of Process off) gas from	18.35	1.6
Vent gas scrubber -II (PTA Storage Scrubber)	15.15	2.1

Expansion Plant		
Stack connected to	**Height from GL (m)**	**Internal dia at sampling point (m)**
Hot oil Heater	30	1.4
DEG & Incinerator	70	2.2
Off Gas Combustion Unit	30	

Note:

1. Stack emissions are monitored wrt to PM ,CO, SO2, NO2. However as per the Air & Water Consent to operate only PM & CO are to be monitored. Hydrocarbon monitoring done on quarterly basis in DEG & Hot oil heater stacks.
2. As there is no PM, SO_2 & NO2 from Process emission (PX off gas, Vent gas scrubber- I & II, off gas combustion unit)
3. Incinerator emission is through Boiler stack ie Boiler & Incinerator stack is common in the existing plant.
4. Boiler not running during normal operation. It is operated only during start up & shut down of the Plant.
5. Stack sampling from Hot Oil Heater, DEG, Incinerator in the Existing & Expansion Plant are conducted by third party, whereas for vent gas scrubber I,II, PX Off Gas stack, off gas combustion emission sampling is conducted in-house.

ANALYSIS RESULTS

Month -October'2018

		Existing Plant						Expansion Plant		
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**PX off gas Stack**	**Vent gas scrubber-I**	**Vent gas scrubber-II**	**Hot Oil Heater**	**DEG & Incinerator**	**Off Gas Combustion**
1	**PM (mg/Nm3)**	40.2	stop**	stop*		Not venting	Not venting	24.4	Standby	-
2	**CO (%, v/v)**	<0.2			0.09			<0.2		-
3	**SO_2 (mg/Nm3)**	584.6						461.8		-
4	**NO_2 (mg/NM^3)**	268.5						149.5		-

		Existing Plant			Expansion Plant	
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**Hot Oil Heater**	**DEG & Incinerator**
1	**NMHC (ppm)**	<1.0	stop**	stop	<1.0	stop

ANALYSIS RESULTS

Month -November'2018

		Existing Plant						Expansion Plant		
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**PX off gas Stack**	**Vent gas scrubber-I**	**Vent gas scrubber-II**	**Hot Oil Heater**	**DEG & Incinerator**	**Off Gas Combustion**
1	**PM (mg/Nm3)**	36.6	stop**	stop*		Not venting	Not venting	24.9	Standby	-
2	**CO (%, v/v)**	<0.2			0.10			<0.2		-
3	**SO_2 (mg/Nm3)**	498.2						315.1		-
4	**NO_2, (mg/Nm3**	219.3						176.1		-

WBPCB SAMPLING:

`

		Existing Plant			Expansion Plant	
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**Hot Oil Heater**	**DEG & Incinerator**
1	**PM (mg/Nm3)**	32.26	stop**	stop	42.23	stop

ANALYSIS RESULTS

Month -December'2018

		Existing Plant						Expansion Plant		
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**PX off gas Stack**	**Vent gas scrubber-I**	**Vent gas scrubber-II**	**Hot Oil Heater**	**DEG & Incinerator**	**Off Gas Combustion**
1	**PM (mg/Nm3)**		stop**	stop*		Not venting	Not venting	25.4	standby	-
2	**CO (%, v/v)**				0.10			<0.2		-
3	**SO_2 (mg/Nm3)**							282.4		-
4	**NO_2, (mg/Nm3**							144.1		-

ANALYSIS RESULTS

Month - January'2019

		Existing Plant						Expansion Plant		
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**PX off gas Stack**	**Vent gas scrubber-I**	**Vent gas scrubber-II**	**Hot Oil Heater**	**DEG & Incinerator**	**Off Gas Combustion**
1	**PM (mg/Nm3)**	50.7	stop**	stop*		Not venting	Not venting	38	standby	-
2	**CO (%, v/v)**	<0.2			0.11			<0.2		-
3	**SO_2 (mg/Nm3)**	548.9						280.9		-
4	**NO_2, (mg/Nm3**	210.3						183.3		-

		Existing Plant			Expansion Plant	
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**Hot Oil Heater**	**DEG & Incinerator**
1	**NMHC (ppm)**	<1.0	stop**	-	<1.0	standby

ANALYSIS RESULTS

Month - February'2019

		Existing Plant						Expansion Plant		
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**PX off gas Stack**	**Vent gas scrubber-I**	**Vent gas scrubber-II**	**Hot Oil Heater**	**DEG & Incinerator**	**Off Gas Combustion**
1	**PM (mg/Nm3)**	28.1	stop**	stop*		Not venting	Not venting	44.1	standby	-
2	**CO (%, v/v)**	<0.2			0.12			<0.2		-
3	**SO_2 (mg/Nm3)**	453.4						330.7		-
4	**NO_2, (mg/Nm3**	220.6						180.3		-

WBPCB SAMPLING:

		Existing Plant			Expansion Plant	
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**Hot Oil Heater**	**DEG & Incinerator**
1	**PM (mg/Nm3)**	27.28	stop**	stop*	26.69	standby

ANALYSIS RESULTS

Month -March'2019

		Existing Plant						Expansion Plant		
S No.	**Parameter**	**Hot oil heater**	**DEG**	**Incinerator**	**PX off gas Stack**	**Vent gas scrubber-I**	**Vent gas scrubber-II**	**Hot Oil Heater**	**DEG & Incinerator**	**Off Gas Combustion**
1	**PM (mg/Nm3)**	NA	stop**	stop*		Not venting	Not venting	35.6	standby	-
2	**CO (%, v/v)**	NA			0.14			<0.2		-
3	**SO_2 (mg/Nm3)**	NA						415.9		-
4	**NO_2, (mg/Nm3**	NA						198.7		

*** Co- processing activity is on process with M/S Orisha Cement Ltd (Dalmia) as per CPCB approval**

3rd pary Laboratory Vendor's NABL / MOEFCC approval copies as Annexure-1a, NA- Not Analyzed

**** April'2015 onwards we are using Grid power**