

## STACK EMISSION MONITORING & ANALYSIS DATA BASE

(April'11-September'11)

### Stack Physical Parameters

Existing Plant		
Stack connected to	Height from GL (m)	Internal dia at sampling point (m)
DEG	55	3.18
Hot oil Heater	90	1.9
Boiler/Incinerator	85	1.7
PX oxidation off gas (PX - Peroxyene)	21.85	2.2
Vent gas scrubber -I (Scrubbing of Process off gas from)	18.35	1.8
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 with PM, CO, SO<sub>2</sub>, NO<sub>2</sub>. 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<sub>2</sub> & NO<sub>2</sub> from Process emission (PX off gas, Vent gas scrubber-I & II, off gas combustion unit) so these parameters are not measured from these stacks.  
 3. Incinerator emission is through Boiler stack. 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 - April'11

S No.	Parameter	Existing Plant					Expansion Plant			
		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/Nm <sup>3</sup> )	91.0	78.0	90.0	-	-	-	1.04	82.0	-
2	CO (% v/v)	<0.2	<0.2	<0.2	0.85	0.38	0.25	<0.2	<0.2	-
3	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	574	973	972	-	-	-	392	423	-
4	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	394	489	355	-	-	-	355	489	-

#### ANALYSIS RESULTS

Month - May'11

S No.	Parameter	Existing Plant					Expansion Plant			
		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/Nm <sup>3</sup> )	-	-	-	-	-	-	-	-	-
2	CO (% v/v)	-	-	-	0.75	0.37	0.26	-	-	-
3	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	-	-	-	-	-	-	-	-	-
4	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	-	-	-	-	-	-	-	-	-

Note: Due to statutory non-compliance on the part of PF and ESI, the 3rd party sampling not done.

#### WBPCB SAMPLING:

S No.	Parameter	DEG	DEG+ Incinerator
1	PM (mg/Nm <sup>3</sup> )	118.32	125.53

#### ANALYSIS RESULTS

Month - June'11

S No.	Parameter	Existing Plant					Expansion Plant			
		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/Nm <sup>3</sup> )	108.3	58.0	78.0	-	-	-	-	118.0	-
2	CO (% v/v)	<0.2	<0.2	<0.2	0.55	0.06	0.25	-	<0.2	-
3	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	763	743	721	-	-	-	-	395	-
4	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	398	395	351	-	-	-	-	428	-

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



### ANALYSIS RESULTS

Month - July'11

S No.	Parameter	Existing Plant						Expansion Plant		
		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/Nm <sup>3</sup> )	146.4	75.6	49.7	-	-	-	-	-	-
2	CO (% v/v)	<0.2	<0.2	<0.2	0.53	0.06	0.27	-	-	-
3	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	2352	4523	3662	-	-	-	-	-	-
4	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	411	595	485	-	-	-	-	-	-

S No.	Parameter	Existing Plant			Expansion Plant	
		Hot oil heater	DEG	Incinerator	Hot Oil Heater	DEG & Incinerator
1	NMHC (ppm)	<2.0	<2.0	-	-	-

\*Note: NMHC includes Ethane, Propane, n-Butane, Iso-Butane, Pentane

### ANALYSIS RESULTS

Month - August'11

S No.	Parameter	Existing Plant						Expansion Plant		
		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/Nm <sup>3</sup> )	-	-	285.04	-	-	-	-	-	-
2	CO (% v/v)	-	-	<0.2	0.75	0.11	0.27	-	-	-
3	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	-	-	3841	-	-	-	-	-	-
4	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	-	-	426	-	-	-	-	-	-

\*Due to fluctuation on the plant operation, Boiler was suddenly started during sampling.

### WBPCB SAMPLING:

S No.	Parameter	DEG (Old plant)	Incinerator & Boiler (Old plant)
1	PM (mg/Nm <sup>3</sup> )	5.9	5.14

### ANALYSIS RESULTS

Month - September'11

S No.	Parameter	Existing Plant						Expansion Plant		
		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/Nm <sup>3</sup> )	95.7	98.7	95.5	-	-	-	82.7	87.9	-
2	CO (% v/v)	<0.2	<0.2	<0.2	0.79	0.06	0.29	<0.2	<0.2	-
3	SO <sub>2</sub> (mg/Nm <sup>3</sup> )	568	902	129	-	-	-	63	42	-
4	NO <sub>x</sub> (mg/Nm <sup>3</sup> )	38	13	17	-	-	-	13	16	-

