

**STATUS OF ENVIRONMENTAL CLEARANCE CONDITIONS AS
ON 30.09.2013**

Ref: MOEF LETTER NO. 1-11011/215/2007-1A-H(I) Dt. 7th Feb.2008.

S. No	Conditions	Status as on 30.09.2013
	SPECIFIC CONDITIONS	
1.	The Company shall comply with new standards/norms that are being proposed by the CPCB for petrochemical plants and refineries.	New norms/standards are being complied.
2.	The company shall comply with all the stipulations of environmental clearance issued vide File No.11011/375/2006-IA.H(I) dated 22 nd March 2007	Guwahati Refinery obtained no such environmental clearance.
3.	The process emission (SO ₂ , No _x , HC, VOCs and Benzene) from various units shall conform to the standards prescribed by the Assam State Pollution Control Board from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Complied. Emissions from the process Units are monitored every month and the results are well within the applicable norms. Data for the last months enclosed as Annexure-I&II. Fugitive emission data collected is enclosed as Annexure -III Complied.
4.	The improvement project shall be installed within the existing premises and no additional land shall be acquired for the project.	Complied. The proposed project shall be installed within the existing premises.
5.	Quarterly monitoring of fugitive emissions shall be carried out as per the guidelines of CPCB by fugitive emission detectors (GMI Leak Surveyor) and reports shall be submitted to the Ministry's regional office at Shillong.	Complied. (Attached as Annx-III)
6.	For control of fugitive emission all unsaturated hydrocarbon will be routed to the flare system and the flare system shall be designed for smokeless burning.	Complied. All uncontrolled hydrocarbon from flare are routed through FGRS unit for its recovery. Only minimum quantity of hydrocarbon is allowed to burn in smokeless flare.
7.	The Company shall strictly follow all the recommendation mention in the charter on	Complied. Is being followed strictly.

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	corporate responsibility for environmental protection (CREP).	
8.	Occupational health surveillance of worker shall be done on a regular basis and records maintained as per the Factory Act.	Complied. Regular health checks up done to employees as per the factory and report send to APCB regularly.
9.	Greenbelt shall be developed to mitigate the effect of fugitive emission all around the plant in a minimum 30% plant area in consultation with DFO as per CPCB guidelines.	Complied. Because of space constraint & safety reason green belt cannot be expanded in the refinery. However the plantation is taken up in township areas. About 2000 tree saplings planted in 2013-14.
10.	The company shall make suitable arrangement for disposed of catalyst waste and alumina balls. The report of disposal of this waste shall be submitted to Ministry's regional office at Shillong.	Provisions of MSIHC Rules, 1989 and amendments are followed. MoE&F shall be kept informed whenever catalyst waste is disposed.
11.	The company shall take necessary measures to prevent fire hazards, containing oil spill and soil remediation as needed. At place of ground flaring, the overhead flaring stack with knockout drums shall be installed to minimize gaseous emissions during flaring.	Refinery has install fire fighting facilities in compliance with OISD standards. However, there is no ground flaring system followed in the Refinery.
12.	To prevent fire and explosion at oil and gas facility, potential ignition sources should be kept to a minimum and adequate separation distance between potential ignition sources and flammable material shall be in place.	Complied. All applicable Petroleum rules & OISD standards are followed for laying out various facilities.
GENERAL CONDITIONS		
1.	The project authority must adhere to the stipulations made by the concerned Assam State Pollution Control Board and the State Government and any other statutory body.	Stipulations of SPCB &state Govt. and any other statutory shall be complied.
2.	No further expansion or modification in the project shall be carried without prior approval of the Ministry of Environment and Forests. In case of deviation or alterations in the project proposal from those submitted to the Ministry for clearance, a fresh reference shall be made to the Ministry.	Complied. Is being complied.
3.	At no time, the emissions should go beyond the prescribed standards.	Complied. To meet the prescribed standards, online

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	In the event of failure of any pollution control system, the respective well site should be immediately put out of operation and should not be restarted until the desired efficiency has been achieved. Provision of adequate height of stack attached to DG sets & flare is to be done.	and manual monitoring systems are set. There are no well sites in the Refinery.
4.	Waste water shall be properly collected and treated so as to conform to the standards prescribed under EP Act & Rules and mentioned in the Consents provided by the relevant SPCB.	Complied. Wastewater is properly collected and treated in ETP through physical, chemical and biological process to conform to the standards.
5.	The overall noise levels in and around the premises shall be limited within the prescribed standards (75 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz 75 dBA (day time) 70 dBA (night time)	Complied. Regular noise level monitoring is done and observations are within the prescribed limits. Observations are attached as Annx-V. Complied. Regular ambient noise level monitoring is done and observations are within the prescribed limits
6.	The project authorities must strictly comply with the provisions made in Manufacture, Storage and Import of Hazardous, Chemicals Rules 1989 as amended in 2000 for handling of hazardous chemicals etc. Necessary approvals from Chief Controller of Explosives must be obtained before commission of the expansion project, if required. Requisite On-site and Off-site Disaster Management Plans will be prepared and implemented.	Complied. Provisions of MSIHC rules, 1989 and amendments are strictly followed. Requisite On-site and Off-site Disaster Management Plans are prepared and followed.
7.	Handling of Hazardous Waste shall be as per the Hazardous Waste (Management and Handling Rules 2003). Authorization from the State Pollution Control Board must be obtained for collections, treatment, and storage disposal of hazardous wastes.	Complied. Present authorization is valid up to 27 th August 14.
8.	The project authorities will provide adequate funds as non-recurring and recurring expenditures to implement the conditions stipulated by the Ministry of Environment and	Complied.

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	Forests as well as the State Govt. along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	
9.	The company shall develop rainwater-harvesting structures to harvest the runoff water for replacement of ground water.	Complied.
10.	The concerned Regional Office of this Ministry/ Central Pollution Control Board/ State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data should be submitted to them regularly. It will also be displayed on the website of the company.	Stipulations are being complied and updated in the website “ www.iocl.com”
11.	The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board/ Committee and may also be seen at Website of the Ministry of Environment and Forests at http://WWW.envfor.nic.in . This should be advertised within seven days from the date of issue of the clearance letter at least two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the concerned Regional Office of this Ministry.	Complied. Guwahati Refinery informed the public that the project has been accorded environmental clearance by MoE&F through the daily English paper ‘The Sentinel’ and the local language paper the ‘Dainik Assam’ on 25 th March’08.
12.	A separate environment management cell with full-fledged laboratory facilities to carryout various management and monitoring functions shall be set up under the control of Senior Executive.	Complied. Separate environment management cell headed by DGM (HSE) exists. Laboratory facility is available in the refinery.
13.	The Project Authorities shall inform the Regional Office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Is being complied

Annexure -I

Data on Stack Emission Monitoring at Guwahati Refinery (April'13-Sept'13)

Stack	Concentration (mg/NM3)		
	PM	SO2	NOX
CDU	71-98	413-688	226-315
DCU	43-68	314-456	163-198
TPS Boilers			
Blr 5	61-78	386-558	185-244
Blr 6 & 7	72-89	518-628	206-289
HDT	54-72	30-48	148-182
HGU	29-54	125-189	82-102
Indmax	78-97	69-175	61-154
ISOM	25-48	31-51	90-123

Annexure-II

Data on Ambient Air Monitoring at Guwahati Refinery (April'13-Sept'13)

Values in ug/m³

AMBIENT AIR QUALITY MONITORING REPORT												
Sampling and analysis done by M/S Mitrisk pvt. Ltd.,Kolkata												
	Concentration of Pollutants											
	SO2	NO2	PM 10	PM 2.5	Ozone (O3)	Lead (Pb)	CO	Ammonia (NH3)	Benzene (C6H6)	Benzo(O) Pyrene	Arsenic (As)	Nickel (Ni)
	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	µg/m ³	mg/m ³	µg/m ³	µg/m ³	ng/m ³	ng/m ³	ng/m ³
Limit as per CPCB notification, New Delhi,18th Nov, 2009.for Ambient air quality	80	80	100	60	100	1	2	400	5	1	6	20
Location : Admn Building												
Max.	7.6	38.7	96.0	55.0	BDL	0.2	0.9	44.3	6.5	BDL	BDL	16.8
Min.	4.0	19.6	43.0	22.0	BDL	0.0	0.4	19.6	0.0	BDL	BDL	3.3
Avg.	5.1	25.9	64.8	35.9	BDL	0.0	0.6	30.7	2.1	BDL	BDL	5.7
Location : Guest House												
Max.	6.7	33.2	84.0	51.0	0.0	0.1	0.8	44.8	5.6	BDL	BDL	9.2
Min.	4.0	14.9	39.0	21.0	0.0	0.0	0.2	15.5	0.0	BDL	BDL	0.0
Avg.	4.9	25.4	60.4	33.6	0	0.0	0.4	30.8	1.4	BDL	BDL	4.8
Location : Sector II												
Max.	7.4	36.7	99.4	58.0	BDL	0.1	0.9	45.6	4.6	BDL	BDL	13.0
Min.	4.0	18.4	46.0	21.0	BDL	0.0	0.3	21.8	0.0	BDL	BDL	0.0
Avg.	5.3	26.6	66.2	36.4	BDL	0.0	0.4	33.1	2.1	BDL	BDL	6.5
Location : WTP												
Max.	6.7	33.2	84.0	47.0	BDL	0.07	0.6	40.2	BDL	BDL	BDL	9.2
Min.	4.0	13.8	31.0	19.0	BDL	0.0	0.2	15.9	BDL	BDL	BDL	0.0
Avg.	4.6	22.3	52.9	30.1	BDL	0.0	0.4	27.6	BDL	BDL	BDL	4.3
BDL : Below Detections Limit												
Note : Detection Limit of O3 : 19.62 µg/m ³ ,Pb : 0.02 µg/m ³ , Ni: 1.0 ng/m ³ ,As : 2 ng/ m ³ , C ₆ H ₆ : 2.8 µg/m ³ , Benzo(a)pyrene : 0.2 ng/m ³ .												

Annexure III

RESULTS OF FUGITIVE EMISSION MONITORING

AT GUWAHATI REFINERY FOR (April'13-Sept'13)

Location of Sampling	Total Hydrocarbons, ppm	Benzene, mg/m ³
CDU	0.97-1.23	0.08 -0.1
SRU	1.23-1.86	0.03-0.08
HGU & HDT	0.41-0.91	0.04-0.08
DCU	1.07-1.75	0.06-0.12
TPS Blr 6&&	0.08-0.11	0.02-0.11

Annexure-IV

Data on Discharged Effluent Analysis at Guwahati Refinery (April'13-Sept'13)

Sl. No.	Parameter	Concentration value (mg/l except pH)	Concentration value (mg/l except pH)	%age Compliance
		National Limit	Average	
1	pH	6.0 – 8.5	6.6-7.05	100
2	Oil & Grease,ppm	5	1.87	100
3	BOD,ppm	15	5.52	100
4	COD,ppm	125	24.17	100
5	Suspended Solids	20	15.56	100
6	Phenols	0.35	0.15	100
7	Sulphides	0.5	0.01	100
8	CN	0.2	0.01	100
9	Ammonia as N	15	0.70	100
10	TKN	40	0.74	100
11	P	3	0.26	100
12	Cr (Hexavalent)	0.1	0.05	100
13	Cr (Total)	2	0.04	100
14	Pb	0.1	0.01	100
15	Hg	0.01	0.00	100
16	Zn	5	0.05	100
17	Ni	1	0.01	100
18	Cu	1	0.02	100
19	V	0.2	0.20	100
20	Benzene	0.1	0.01	100
21	Benzo (a) - Pyrene	0.2	0.01	100

Load Mass Based Effluent data

Figs in Kg/1000 tonnes crude

Sl. No.	Parameter	Quantum value (kg/TMT of Crude processed)	Quantum value (kg/TMT of Crude processed)
		National Limit	Average
1	pH	--	--
2	Oil & Grease	2	0.379
3	BOD,ppm	6	1.097
4	COD,ppm	50	4.764
5	Suspended Solids	8	3.140
6	Phenols	0.14	0.029
7	Sulphides	0.2	0.002
8	CN	0.08	0.002
9	Ammonia as N	6	0.091
10	TKN	16	0.147
11	P	1.2	0.049
12	Cr (Hexavalent)	0.04	0.010
13	Cr (Total)	0.8	0.008
14	Pb	0.04	0.002
15	Hg	0.004	0.000
16	Zn	2	0.009
17	Ni	0.4	0.002
18	Cu	0.4	0.005
19	V	0.8	0.039
20	Benzene	0.04	0.001
21	Benzo (a) - Pyrene	0.08	0.001
	Effluent discharge,M3/TMT of crude processed	400/700	196

Annexure - V

**NOISE LEVEL MONITORING
BATTERY AREA
GUWAHATI REFINERY(April'13-Sept'13)**

SL. NO.	AREA	LOCATION	AVERAGE EXPOSURE FOR AN EMPLOYEE PER SHIFT (HRS)	READING IN dBA
1	TPS	Boiler - 3	1.30 hrs	93.0
		Boiler - 4	1.30 hrs	off
		Boiler - 5	1.30 hrs	95.0
		Boiler - 6	1.30 hrs	92.5
		Boiler - 7	1.30 hrs	92.5
		Boiler Control Room	8.0 hrs	62.0
		TG - 3	1.30 hrs	98.0
		TG - 4	1.30 hrs	98.0
		TG - 5	1.30 hrs	97.0
		Turbine Control Room	8.0 hrs	67.5
		DM Plant Pump Area	1.30 hrs	94.5
		DM Plant Control Room	8.0 hrs	63.5
2	CDU	Model Pump House	1.30 hrs	93.5
		Cold Pump House	1.30 hrs	92.5
		Hot Pump House	1.30 hrs	91.5
		NSF Area	1.30 hrs	95.5
		CDU Field Control Room	8.0 hrs	66.0
3	DCU	Cold Pump House	1.30 hrs	94.5
		Hot Pump House	1.30 hrs	95.0
		Air Compressor Area	1.30 hrs	95.0
		DCU Field Control Room	8.0 hrs	69.5
4	NITROGEN	Air Compressor 013-K-01A	1.00 hr	98.0
		Air Compressor 013-K-01B	1.00 hr	99.0
		Air Compressor 013-K-01C	1.00 hr	off
		Nitrogen Field Control Room	8.0 hrs	65.5
5	INDMAX	Main Air Blower Area	1.00 hr	95.0
		INDMAX Field Control Room	8.0 hrs	62.5
6	SRU	Main Air Blower 51A-K-01A	1.30 hrs	98.0
		Main Air Blower 51A-K-01B	1.30 hrs	97.0
		SRU Field Control Room	8.0 hrs	63.0
7	HDT	Pump Area	1.00 hr	95.0
		HDT/HGU Field Control Room	8.0 hrs	67.5
8	HGU	Pump Area	1.00 hr	94.5
		HDT/HGU Field Control Room	8.0 hrs	67.5
9	MSQU	Pump Area	1.00 hr	95.0
		MSQU Field Control Room	8.0 hrs	64.5
10	ETP	Air Blower Area	1.00 hr	97.0
		ETP Control Room	8.0 hrs	67.5

**Permissible Noise Level For Continuous Exposure
(OISD-GDN-166, JULY 1997)**

Duration per day (hour)	Sound level (dBA)
8.0	90
6.0	92
4.0	95
3.0	97
2.0	100
1.5	102
1.0	105
0.5	110
0.25 or less	115