



United Phosphorus Limited

746/750, G.I.D.C., P. B. No. 9, Jhagadia 393 110, Distt. Bharuch, Gujarat.
Phone : (02645) 226011-15 • Fax : (02645) 226017-18



September 2, 2013

Unit # 05

Plot # 746/750, GIDC, P.B. No. 9, Jhagadia-393110

Dr A Mehrotra, Director (S)
Ministry of Environment & Forests
Western Region Office
Kendriya Paryavaran Bhavan
Link Road # 3
E - 5, Ravi Shankar Nagar
Bhopal - 462 016
Madhya Pradesh

Accl. COPY

Sub :- Half yearly Compliance Report to conditions of Environmental Clearance (January 2013 to June 2013)

- Ref :-**
1. Environmental Clearance No. J-13011/26/96-IA-II, dtd. 24th December, 1996 of 50 MW Combined Cycle Co. Generation Power Plant;
 2. Environmental Clearance No. J-11011/42/95-IA-II (I), dtd. 17th May, 1996 of 100 TPD Chlor-Alkali Plant; and
 3. Environmental Clearance No. J-11011/325/2006-IA-II (I) dtd. 25th July, 2007 for various products;
 4. Environmental Clearance No. J-11011/325/2006-IA-II (I) dtd. 18th September, 2009 for Amendment of Glyphosate Technical product;
 5. Environmental Clearance No. J-11011/325/2006-IA-II (I) dtd. 10th June, 2011 for CS2 process Change-use of natural gas instead of charcoal.

Dear Sir,

Kindly refer above Environmental Clearance dated 24th December 1996; 17th May 1996 and 25th July 2007 granted to our Unit # 05 located at Plot # 746/750, GIDC, P.B. No. 9, Jhagadia-393110, Dist - Bharuch, Gujarat.

We are sending herewith the half yearly compliance report, along with various other required information with respect to our Unit # 05 for your kind reference and records. The details given are with respect to the period January 2013 to June 2013.

Please refer Environmental Clearance No. J-11011/325/2006-IA-II (I) dtd. 25th July 2007 for various products. The unit has Consent to Establish (NOC) from Gujarat Pollution Control Board. NOC copy is attached in Annexure -1 for your ready reference. Out of the various products mentioned in EC, we are manufacturing Mancozeb and Pendimethylene, which have been included in our Consent. We are implementing CS2 Project. We have also applied for CC&A Amendment for inclusion of new products - CS2 and Glyphosate

We would like to bring to your kind attention that we have taken following initiatives at our Unit;

Received
Gujarat Pollution Control Board
Q.O. Anklshwar
4.9.13

*Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013*

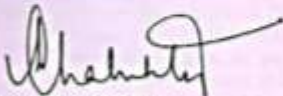
- Installed Shimadzu Japan make online TOC / TKN meter
- Constructed Hazardous Incinerable Waste Storage as per CPCB Guideline

Soft copy of the details is also enclosed herewith in the attached CD/DVD.

We hope that the above is in order. In case you need any additional information, we can provide the same on hearing from you.

Thanking you.

Yours faithfully,
For, **UNITED PHOSPHORUS LTD**



S CHAKRABORTY
UNIT HEAD

Encl : a/a

Copy to: The Zonal Officer
Central Pollution Control Board
Parivesh Bhavan
Opp VMC Ward Office # 10
Subhanpura
Vadodara – 390 023

: The Regional Officer
Gujarat Pollution Control Board
Ankleshwar – 393 002

GPCB XGN ID # 25353

*Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013*

September 2, 2013

Unit # 05
Plot # 746/750, GIDC, P.B. No. 9, Jhagadia-393110

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Please refer Environmental Clearance No. J-11011/325/2006-IA II (I) dtd. 25th July 2007 for various products. The unit has Consent to Establish (NOC) from Gujarat Pollution Control Board. NOC copy is attached in Annexure -1 for your ready reference. Out of the various products mentioned in EC, we are manufacturing Mancozeb and Pendimethylene, which have been included in our Consent. We are

implementing CS2 Project. We have also applied for CC&A Amendment for inclusion of new products – CS2 and Glyphosate

We would like to bring to your kind attention that we have taken following initiatives at our Unit;

- Installed Shimadzu Japan make online TOC / TKN meter
- Constructed Hazardous Incinerable Waste Storage as per CPCB Guideline

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GPCB XGN ID # 25353

Compliance Report for Environmental Clearance No. J-11011/42/95-IA.II (I), dtd. 17th May, 1996 of 100 TPD Chlor-Alkali Plant

Sr. No.	Condition	Compliance Status
-	The project has been examined and environmental clearance is accorded to the project for manufacturing 100 TPD caustic soda (47%), 88 TPD chlorine gas, 25 TPD HCL (32%) and 25 TPD hydrogen gas subject to implementation of the following conditions and environmental safeguards:	
i	The project authorities must strictly adhere to the stipulation made by the State Pollution Control Board and the State govt.	Complied as per CCA No. 53846 dated 07.05.2013 valid up to 19.11.2017. Attached as Annexure-1 .
ii	No further expansion or modification in the plant should be carried out without prior approval of this Ministry	Complied. As and when new projects are coming up, we are taking up with MoEF
iii	Gaseous (Cl ₂ , SO ₂ , NO _x & HC) and particulate emission from the various process vents and storage tanks should conform to the standards prescribed by the competent authorities from time to time. At no time, the emissions level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the units, the respective unit should be put out of operation immediately and should not be restarted until the pollution control measure are rectified to achieve the desired efficiency	Complied. We do internal and external Monitoring & all Parameters are within limits. Please find attached analysis report for your reference.
iv	At least three ambient air quality monitoring stations should be established in the downwind as well as where maximum ground level concentrations of SPM, SO ₂ , NO _x and Cl ₂ are anticipated. The selection of the AAQ monitoring stations should be based on modeling exercise to represent short term ground level concentrations sensitive targets etc. in consultation with the SPCB. Stack emissions should also be regularly monitored by installing stack monitoring devices in consultation with the State Pollution Control Board. Data on AAQ and stack emission should be submitted regularly to this Ministry once in six months and the State Pollution Control Board once in three months along with the statistical analysis and interpretation.	Complied. AAQM stations have installed for monitoring of SPM, PM ₁₀ , PM _{2.5} , SO ₂ , NO _x & Cl ₂ . Cl ₂ , HCl Monitored in Hypo & HCl stacks. Results are being well within stipulated norms. We also get third party ambient air monitoring. Please find attached analysis report for your reference.
v	Fugitive emissions should be controlled, regularly monitored and data recorded. Chlorine sensors should be installed in the chlorine storage area at lower level between the tanks.	Complied. We have installed 16 Nos. of Chlorine sensors at various locations & monitored on DCS regularly.
vi	Liquid effluents coming out of the plant should conform to the standards as prescribed by the State Pollution Control Board and the Ministry of Environment and Forests under the Environment (Protection) Act, 1986. Recycling and reuse of the treated waste water should be maximized to the extent possible.	Complied. We are monitoring effluent quality regularly. Please find attached analysis report for your reference. Steam condensate of Caustic Evaporation reused in Brine make up & Cooling tower make up

**Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013**

Sr. No.	Condition	Compliance Status
vii	<p>Adequate measures for the control of noise should be taken so as to keep noise level below 85 dB in the work environment.</p> <p>Persons working near the noisy machines like blowers, compressors etc. should be provided with well-designed ear muffs/plugs. Besides, measures should be taken to reduce the noise by engineering methods.</p>	<p>Complied.</p> <p>Noise monitoring is being done monthly. Please find attached analysis report for your reference.</p> <p>Ear muffs & ear plugs are provided to the person working in high noise area like H₂ compressor, & air compressor Acoustic enclosures provided.</p>
viii	<p>Occupational health surveillance programme should be undertaken as regular exercise especially with respect to exposure to chlorine, thermal stresses and noise pollution</p>	<p>Complied.</p> <p>The company is having full time medical doctor and also OHC. Pre-employment and routine medical examinations are being carried out. We are also doing full body medical checkup by external expert agency once in two years. All medical records are being maintained.</p>
ix	<p>A green belt of adequate width and density (2000-2500 trees/ha.) covering 25 acres of land should be developed preferably using native plants species in consultation with the local DFO.</p> <p>Final treated liquid effluent should be used for developing the greenery</p>	<p>Complied.</p> <p>Presently we have about 40,054 Nos. of trees. Please find attached tree plantation details.</p>
x	<p>Suitable alarm system and standard procedure for transmitting the information on accidental release of chlorine to the nearby areas and proper focal point should be established. Steps should also be taken to ensure access to information on weather conditions prevailing at that time and weather forecast. Wind socks at appropriate locations should be provided.</p> <p>Necessary approval may be taken from the Explosive Department/ Chief Inspector of Factories regarding the safety of the pressure vessels, storage tanks etc.</p>	<p>Complied.</p> <p>Disclosure of Information on CL₂ to general public is given in booklet thrice and also conducted awareness program in the year 1999 & 2005. In addition, we have also installed 14 wind socks inside the factory premises.</p> <p>We have also obtained all necessary approval for Cl₂ storage, filling in toners and hydro testing; for H₂ filling and storage. Maps of plant approved & inspected by Chief Inspector of Factories (Director - Industrial Safety & Health, Gujarat State)</p>
xi	<p>Hazardous wastes should be handles as per the Hazardous Waste (Management & Handling) Rules, 1989 of the EPA, 1986</p>	<p>Complied.</p> <p>A yearly Hazardous Waste return is being Submitted to GPCB regularly. Manifest system is also followed</p>
xii	<p>Handling, manufacture, storage and transportation of hazardous chemicals should be carries out in accordance with the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994</p>	<p>Complied.</p> <p>MSIHC guidelines is being followed for on site emergency plan, MSDS etc.</p>
xiii	<p>he project authorities must set up laboratory facilities for collection and analysis of samples under supervision of competent technical personnel, who will directly report to the Chief Executive</p>	<p>Complied.</p> <p>Laboratory is in operation & regular analysis is being done for waste water, stacks & ambient air, ground water etc. and the results are well within limit.</p>

**Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
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Sr. No.	Condition	Compliance Status
xiv	A separate Environmental Management Cell with suitably qualified people to carry out various functions should be set up under the control of Senior Executive, who will report directly to the Head of the Organization	Complied. Internal Environment management cell comprising of Unit Head, plant head, SHE Head & Corporate Environment head is in operation for close monitoring. The environment cell verifies environmental performance and involves in environmental audit.
xv	The funds earmarked for the environmental protection measures should not be diverted for any other purposes and year-wise expenditure should be reported to this Ministry	Complied. Project has been commissioned since 1997 with compliance of all environment related measures. Statement of expenditure is being submitted half yearly.
xvi	Six monthly reports on the compliance status of project implementation vis-à-vis above environmental measures should also be submitted to regional Office of the Ministry	Complied. The report is being submitted regularly.
-	This Ministry or any competent authority may stipulate any further condition (s) on receiving reports from the project authorities. The above conditions will be monitored by the Regional Office of this Ministry located in M.P. (Bhopal)	Noted.
-	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory	Noted. All environmental parameters are being monitored and results are well within the permissible limit.
-	The above conditions will be enforced, inter-alia under the provisions of the water (Prevention & Control of Pollution) Act, 1974; the Air (Prevention & Control of Pollution) Act, 1981; the Environment (Protection) act, 1986 and the public Liabilities Insurance Act, 1991 with their amendments and rules	Noted.

Date: 2nd September, 2013

*Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013*

Compliance Report for Environmental Clearance No. J.13011/26/96-IA.II, dtd. 24th December, 1996 of 50 MW Combined Cycle Co. Generation Power Plant

Sr. No.	Condition	Compliance Status
-	The proposal for setting up of 90 MW Naphtha Based Captive Power Plant at Jhagadia, Distt. Bharuch, Gujarat, has been examined from environmental angle and clearance is hereby accorded subject to the following terms and conditions:	
i	All the conditions stipulated by Gujarat Pollution Control Board vide their letter No. PC/NOC/BRCH/1600/7518 dated 31 st July, 1996 should be strictly implemented	Complied.
ii	An area of 103 acres should only be acquired for the project including 14 acres for green belt and installation of naphtha storage tanks	Complied. Power plant is included in the area of 103 acres and details of green belt are also attached.
iii	Three stacks of height 30 m, 35 m and 7 m for gas turbines, heat recovery steam generation and DG sets should be installed	Complied. Installed & commissioned.
iv	Air quality monitoring should be carried out regularly around the power plant and records should be maintained. Complete analysis of the recorded data should be regularly undertaken and results should be submitted to the Ministry every six months for review	Complied. We do internal and external Monitoring & all Parameters are within limits. Please find attached analysis report for your reference. As per new standard, we have also started monitoring of parameters PM10 and PM 2.5. We are submitting half yearly reports to MOEF regularly.
v	Naphtha @ 240 tonnes/day should be used as main fuel with sulphur content not exceeding 0.15%	Not Applicable. Condition is not applicable now as we have switched over from Naphtha to Natural Gas in June 2002 and consent has been obtained.
vi	Suitable NO _x control device such as Water/Steam Injection in the combustion chamber should be installed to ensure that NO _x emissions shall not exceed 50 PPM	Complied. NO _x is well within the limit. Please find attached results for your reference.
vii	Liquid effluent should be properly treated and used for raising of green belt	Complied. It is being used
viii	Water use for the plant should be restricted to 6,480 m ³ /day. Closed Circuit cooling devices should be provided and minimum makeup water should be used	Complied. The water consumption quantity is much less than the consent limit. We are also utilizing effluent R.O permeates in cooling tower.
ix	Adequate noise control measure should be provided to ensure that noise levels do not exceed the prescribed standards of 85 dBA. Workers in high noise area should be provided with ear protection devices and their use by the workers should also be enforced	Complied. Noise monitoring is being done monthly. Please find attached analysis report for your reference. Ear muffs & ear plugs are provided to the person working in high noise area like H ₂ compressor, & air compressor Acoustic enclosures provided.
x	Considering the wind rose pattern in the area, green belt should be developed covering an area of 14 acres with primary, secondary and curtain zones with selection of indigenous species. A norm of 1500-2000 trees per ha should be followed. Details should be submitted to the Ministry by January, 1997. The guidelines evolved by the CPCB on afforestation should be followed by formulating the afforestation programme	Complied. Presently we have about 40,054 Nos. of trees Please find attached details of tree plantation for your reference.
xi	The landfill site identified within the plant area for disposal of solid wastes should be properly lined and continuous monitoring of ground water should be undertaken in the project area and its impact zone for ascertaining the changes in the ground water quality	Not Applicable. No solid waste generation from power plant

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Sr. No.	Condition	Compliance Status
xii	For ensuring that in worst case scenario of naphtha storage tanks on fire, the Switch Yard on the western side of the storage tank is not affected, a thermal proof wall should be provided. As proposed, on the eastern side of the plant only landfill activity should be taken up for disposal of waste material from the main plant as well as the sludge from the power project	Not Applicable. Not applicable as we have switched over from Naphtha to Natural Gas.
xiii	The sludge from the common sludge tank should be incinerated and the ash generated be disposed of by land filling with proper lining	Not applicable. We are not using Naphtha at present
xiv	Full co-operation should be extended to the Scientists/Officers of the Regional Office of the Ministry at Bhopal/CPCB/SPCB who would be monitoring the compliance of environmental status. Complete set of impact assessment report and the Management Plans should be forwarded to the Regional Office for their use during monitoring	Noted.
xv	Financial provisions should be made for implementation of environmental mitigative measures with adequate scope for its enhancement in future and the funds so provided should be kept in a separate account and details intimated to this Ministry and the State Level authorities	Project has been commissioned since 1997 with compliance of all environment related protection measures
xvi	Monitoring Committee should be constituted for reviewing the compliance in various safeguard measures by involving recognized local NGOs, Pollution Control Boards, Institutions, Experts etc.	As our plant is commissioned since long Internal Environment management cell comprising of Unit Head, plant head, SHE Head & Corporate Environment head is in operation for close monitoring. After implementation of the project, we have constituted a monitoring committee and the last meeting was conducted in September - 2002 We have carried out a meeting involving various stakeholders including the monitoring members in September 2005 in connection with information on the change over of fuel from naphtha to natural gas as we are working on CDM project.
-	The Ministry reserves the right to revoke the clearance if conditions stipulated, are not implemented to the satisfaction of the Ministry	Noted.
-	For any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the ministry to assess the adequacy of the conditions imposed and to add additional environmental protection measures required, if any	Noted. There was no deviation during project. However subsequently raw material changes from Naphtha to Natural Gas in 2002 for which we have already obtained an approval.
-	The above stipulations would be enforced, inter-alia under the provisions of the water (Prevention & Control of Pollution) Act, 1974; the Air (Prevention & Control of Pollution) Act, 1981; the Environment (Protection) act, 1986 and the public Liabilities Insurance Act, 1991, the Impact Assessment Notification of January, 1994 and its amendments	Noted.

Date: 2nd September, 2013

*Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013*

Compliance Report for Environmental Clearance No. J-11011/325/2006-IA II (I) dtd. 25th July, 2007 for various products

Sr. No.	Condition	Compliance Status
-	The ministry of Environment & forest has examined the proposal. It is noted that the proposal is for expansion of Unit - V at Jhagadia Gujarat. The expansion project comprise of addition of new units for producing Pesticide Intermediate & Technical Products and expansion of existing Chlor-alkali & Captive Power Plants. Company proposes to produce the following Pesticides Intermediate Products, Technical Grade Pesticide Products along with their By - Products	<p>Noted and Complied. Company has obtained consent to establish (NOC) for various products and copy is attached. Company has started manufacturing of Mancozeb and Pendimethylene.</p> <p>We have also applied for CC&A amendment for inclusion of new products CS2 and Glyphosate application Inward No. 68860 dated 15/05/2013.</p>

Sr. No.	Products				By Products			
	Quantity in MT/Month				Quantity in MT/Month			
	Items	Existing Capacity	Additional Capacity	Overall capacity after expansion	Items	Existing capacity	Additional capacity	Overall capacity after expansion
1	Triphenyl Phosphite	300	-	300	HCl (30%)	353	-	353
2	Phosphorus Trichloride	2250	-	2250	-	-	-	-
3	2,4Di Chlorophenol	166	-	166	Mix Chlorophenol	15	-	15
					HCl (30%)	250	-	250
4	Phosphorus Oxychloride	150	-	150	-	-	-	-
5	Phosphorus	900	-	900	Ferrous Phosphorus	150	-	150
					Calcium Silicate	6000	-	6000
6	Phosphorus Acid	150	-	150	HCl (30%)	600	-	600
7	Trinonyl Phenyl Phosphite	100	-	100				
8	Phenyl Di Iso Decyl Phosphite	100	-	100				
9	Amino Tri Methylene Phosphoric Acid	200	-	200				

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10	Ethylene Diamine Tetra Phosphoric Acid- Penta Sodium Salt	100	-	100				
PCI5 Plant								
11	Phosphorus Penta Chloride		150	150				
DVACI Plant								
12	DVACI	-	300	300	Spent Sulphuric Acid	-	900	900
					POCl3	-	400	400
					HCL (28%)	-	490	490
					Sodium Sulphite (20%)	-	1200	1200
Pesticides Intermediate Products – Multi Product Plant								
13	n – Alkylated Xylenes	-	300	300	Pera Toluene Sulphonic Acid (PTSA)	-	94	94
OR								
	HRT Ketone	-	200	200				
OR								
	2 – Ethyl 6 – Methyl – n – n Aniline	-	300	300				
OR								
	MPBAL	-	300	300				
Caustic Chlorine Plant								
14	Caustic Soda Lye 48% (On 100 % Basis)	4680	10500	15180	Sodium Hypochlorite	225	525	750
15	Chlorine	3972	8537	12509	-	-	-	-
16	Hydrogen	225	263	488	-	-	-	-
17	Hydrochloric Acid (30%)	1200	2625	3825	-	-	-	-
Power Plant								
18	Electrical Power	50 MW/Hrs	37.6 MW/Hrs.	87.6 MW/Hrs.	Steam	30 MT / Hrs.	-	30 MT/Hrs
Pesticides Technical Products								
19	Glyphosate	-	1000	1000				
20	Pendimethylene	-	200	200				
21	Tebuconazole	-	200	200				
22	Metalochlor	-	200	200				
23	Aceflorfen	-	500	500	Acetic Acid (80%)	-	1185	1185
24	Mancozeb	-	4000	4000	Sodium Sulphate 96% / Sodium Sulphate Solution	-	4092/ 15680	4092/ 15680
25	Acephate	-	800	800	Ammoniu	-	464	464

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					m Acetate			
26	Cypermethrin	-	500	500				
27	Permethrin	-	300	300	HCl (30%)	-	94.8	94.8
Pesticides Formulation								
28	Isopropyl Amine Salt of Glyphosate (liq) - Formulation (Kl/Month)	-	2600	2600				
29	Ammonium Salt of Glyphosate (liq) - Formulation (Kl/Month)	-	2600	2600				
30	Sodium Salt of Aceflorofen - Formulation	-	1500	1500				
CS2 (Carbon Disulfide) Plant								
31	Carbon Disulfide	-	3000	3000				
MnSO4 (Manganese Sulfate) Plant								
32	MnSO4 (31%)	-	10000	10000				

Sr. No.	Condition	Compliance Status
-	The unit already has 50 MW CPP and additional 37.5 MW CPP is proposal to be added. Cooling Towers, N2 Plant, Compressor, Chilling unit, Biological ET, DM plant, Fire Fighting System etc. shall be added. Total cost of the expansion is Rs. 473.74 Crores. Proposed Capital cost for environmental management will be Rs. 43.09 Crores and recurring cost will be Rs. 07.00 Crores. The company has total 8,85,601 sq m (218 acres) of land and the proposed expansion project will be in the existing premises. Out of this, about 91,655 sq m is covered as green belt and greenery and an additional 1,12,091 sq m is proposed for the same. Narmada River is at 12 km from the site. No agricultural or forest land is involved in the project site and no eco-sensitive zone is involved in 7 km area of the project site. However, about 21 Reserve Forests exist with 10 to 24 km from the site	Complied. CC&A No. 53846 dated 07.05.2013 valid up to 19.11.2017. Attached as Annexure-1 . We have also applied for CC&A amendment for inclusion of new products CS2 and Glyphosate application Inward No. 68860 dated 15/05/2013.
-	The project activities are listed at 4(c) and 5(b) in the schedule of the EIA Notification, 2006 and are of 'A' category. The project is submitted under the EIA Notification, 2006 for evaluation of the completeness of Draft EIA/EMP and for additional TORs, if any, as per Para 2.2.1 (b) of the Interim Operational Guideline dated 13 th October 2006 issued by the Ministry. The additional information as desired by the Committee were submitted by the Proponent. Since the proposed project is in industrial area, it would not need Public Consultation as per Para 7(i). stage (3) (b)- Public Consultation of EIA Notification 2006	Noted.
-	Based on the information provided, The Ministry of Environment and Forests hereby accords environmental clearance to above project under the provisions of EIA Notification dated 14 th September 2006 subject to the compliance of the following Specific and General conditions:	Noted.
A→SPECIFIC CONDITIONS		
i	The gaseous emissions (SO2, NOx, HCl, Cl2, CH4, P2O5, DMS, H2S, HC, PCI3, NH3, CS2 and CO, HC and VOC along with SPM and RSPM from various process units shall conform to the standards prescribed by the concerned authorities 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 respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.	Complied. We do internal and external Monitoring & all Parameters are within limits. Please find attached analysis report for your reference.
ii	New standards for pesticides unit, as proposed by the CPCB under the E(P) A, 1986 shall be followed by the Unit.	Noted and Complied.
iii	Three new boilers shall be based on Imported Coal/Lignite/ RDF (pellets or fluff). Fuel for other boilers and D.G. Sets will be Natural Gas, HSD and FO. Lignite shall be used only in emergency.	Noted.

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Sr. No.	Condition	Compliance Status
iv	Natural Gas, H ₂ and Cl ₂ shall be transported through pipelines. Present transportation mode of Hazardous Chemicals by road shall be switched over to railway line as soon as it is laid down. All Transportation of Hazardous Chemicals shall be as per the MVA, 1989	Noted.
v	23 additional Stacks shall be provided for dispersion of gaseous emissions. The height of these shall be as per the prescribed Stack Height rules and CPCB guidelines. For process emissions like HCl, Cl ₂ , SO ₂ , PCl ₃ , CS ₂ etc. scrubbers shall be provided with each reactor for quenching. Waste air de-chlorination system shall be provided in the Caustic chlorine Plant, Vent gases from 2, 4-Dichloro Phenol shall be subjected to two-stage absorption consisting of DM water and caustic jet. For Chlorine, 2 stages Scrubber with recovery of Sodium Hypo shall be provided.	Complied. Scrubbers are provided for each plant to control process emissions.
vi	Water/ Alkali Two stage Scrubber systems, Mist Eliminator with Koch filter and Wet Scrubber with Mist Eliminator shall be installed for the boilers. Thermic Fluid heater, D.G.Sets. The scrubbed water shall be sent to ETP for further treatment.	Complied.
vii	Flare system shall be provided for burning of contaminated H ₂ and Fume incinerator shall be provided for decomposition of contaminated air/gas from the plant.	Noted. It will be incorporated in the proposed project
viii	For CPP, ESP will be provided which will meet SPM limits within 50 mg/nm ³ .	Noted. It will be incorporated in the proposed project
ix	All liquid raw material shall be stored in storage Tanks and Drums	Complied.
x	Regular monitoring for SO ₂ , NO _x , HCl, Cl ₂ , CH ₄ , P ₂ O ₅ , DMS, H ₂ S, HC, PCl ₃ , NH ₃ , CS ₂ and CO, HC and VOC along with SPM and RSPM in the ambient air at various probable locations in and around the plant shall be carried out.	Complied. We do internal and external Monitoring & all Parameters are within limits.
xi	The location of ambient air quality monitoring station shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required in the downwind direction as well as where maximum ground level concentration are anticipated.	Complied.
xii	Use of toxic solvent like Methylene Chloride (M.C.) etc. shall be minimized to the extent possible. Benzene shall not be used as solvent and no odorous compounds/ gas like Mercaptans or Hydrogen Sulfide shall be used or formed in any of reactions at the site.	Noted.
xiii	Bioassay test and toxicity index shall be carried out regularly.	Complied. We do internal as well as external third party waste water analysis regularly.
xiv	All the storage tanks shall be under negative pressure to avoid any leakages. Breathers, N ₂ blanketing and condensers will be provided for all the storage tanks. Closed handling systems for chemicals and solvents will be provided. Magnetic seals will be provided for pumps/agitators for reactors for reduction of fugitive emissions. Chilled Brine based condensers shall be used to prevent VOC emissions. Solvent traps shall be installed wherever necessary.	Complied.
xv	All venting equipment shall have vapour recovery system. All the pumps and other equipment's where there is a likelihood of HC leakages shall be provided with Leak Detection and Repair (LDAR) system and LEL indicators and Hydrocarbon detectors. Provision for immediate isolation of such equipment, in case of a leakage will also be made. The company shall provide a well defined Leak Detection and Repair (LDAR) programme for quantification and control of fugitive emissions. The detectors sensitivity will be in ppm levels.	Complied.
xvi	Spent solvents shall be recovered as possible & solvent recovery shall be further increased from the present 95% to at least 98% percent. Solvent vapours emitted during purification process from purification tanks as fugitive emissions shall be reduced as far as possible.	Noted and Complied.
xvii	Portable monitoring instruments for all relevant gases like Chlorine and Ammonia shall be provided.	Complied. Chlorine gas detector is provided and used.
xviii	Fugitive emissions in the work zone environment, product, raw materials storage area shall be regularly monitored for all relevant parameters. The emissions shall conform to the limits imposed by the State Pollution Boards/Central Pollution Control Board.	Complied. Online sensors are provided to monitor fugitive emissions like Chlorine, H ₂ S etc. we also do fugitive emission monitoring through third party.

**Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013**

Sr. No.	Condition	Compliance Status
xix	No ground water shall be used for the project. Water requirement will not exceed 10,000 m ³ /day, which will be met through GIDC Water supply.	Complied. Our water consumption is well within the limit. Water cess return is also being submitted regularly.
xx	Daily waste water generation will not exceed to 4,575 m ³ /day. The whole waste water shall be treated in the proposed two ETPs. One Effluent Treatment Plant shall consist of primary, secondary and tertiary treatment units for the proposed Pesticide, CS ₂ and MnSO ₄ Plants. The inorganic stream shall be sent to CETP after the primary treatment. The Biodegradable stream shall be treated up to tertiary treatment. High TDS and low COD stream shall be taken to MEE System and High Organic (high COD) stream will be incinerated. The final treated effluent will be collected in collection sump and discharged through GIDC drainage line. The effluent generated from the proposed 350 TPD Caustic Chlorine and enhanced CPP shall be treated in the existing ETP of CPP which will be modified. The effluent generated from the proposed pesticides intermediate and technical products, CS ₂ and MnSO ₄ shall be treated in the proposed ETP. The treated effluent shall be sent to CETP of BEAIL for final discharge into the deep sea through closed pipeline. No free solvent shall go to the ETP.	Complied. Effluent treatment plant consists of primary, Secondary and tertiary treatment; and all parameters are well within limit. We are using C-Tech's SBR technology for effluent treatment. Please find attached analysis result for your reference.
xxi	Hazardous / Solid Waste generated shall be as per the list and quantities submitted to this Ministry as per the letter no. UJH/PRO/17/2007 dated 14 th May 2007. On-site Incinerator shall be installed to incinerate incinerable waste. Otherwise the waste shall be sent to the Common Incinerator of BEIL. Land fillable waste shall be sent to BEIL-TSDF.	Complied. We have taken membership of BEIL and sending waste materials to BEIL regularly.
xxii	Emissions from the incinerator shall be within the prescribed norms for the incinerators. Monitoring Protocol as prescribed in these standards shall be followed.	Noted.
xxiii	Fly ash generated from the CPP will be utilized for Brick manufacturing and for Cement manufacturing as per the Fly Ash Utilization Notification.	Noted.
xxiv	All safety measures suggested in the letter no. UJH/PRO/17/2007 dated 14 th May 2007 for the solvent and reactants storage shall be implemented.	Noted and Complied.
xxv	The company shall undertake following Waste Minimization measures.	
	a. Metering and control of quantities of active ingredients to minimize waste.	Noted and Complied.
	b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.	Complied.
	c. Use of automated filling to minimize spillage.	Complied.
	d. Use of "Close Feed" system into batch reactors.	Complied.
	e. Venting equipment through vapour recovery system.	Complied.
	f. Use of high pressure hoses for equipment clearing to reduce wastewater generation.	Noted.
xxvi	The project authorities shall 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. Necessary approvals from Chief Controller of Explosives must be obtained before commissioning of the expansion project. Requisite On-Site and Off-Site Disaster Management Plans will be prepared and implemented. Regular mock drills shall be carried out for both On-Site and Off-Site plans.	Noted.
xxvii	The company shall develop rain water harvesting structures to harvest the run off water for recharge of ground water.	Noted.
xxvii	Minimum 25% of the total area shall be developed as green belt as per the CPCB guidelines. Additional 1,12,091 sq.m shall be developed as green belt.	Noted. Total 40,054 Nos. of trees have been planted till June 2013.
xxix	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied.
xxx	Training shall be imparted to all employees on safety and health aspects of chemicals handling. As informed to the Ministry. OHSAS 18001 shall be continued. Pre- employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.	Complied.
xxxi	Usage of PPEs by all employees/ workers shall be ensured.	Complied.
xxxii	The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection (CREP).	Complied.

**Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013**

Sr. No.	Condition	Compliance Status
xxxiii	The company shall harvest surface as well as rainwater from the rooftops of the buildings proposed in the expansion project and storm water drains to recharge the ground water and use the same water for various activities of the project to conserve fresh water.	Noted.
xxxiv	All the recommendations made by the consultants in respect of environmental management and risk mitigation measures relating to the project shall be implemented.	Complied.
xxxv	The company shall undertake all relevant measures as indicated during the Public Hearing for improving the Socio-economic conditions of the surrounding area. CSR activities will be undertaken by involving local villages and administration.	Complied.
xxxvi	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.	Noted.
B→GENERAL CONDITIONS		
i	The project authorities shall strictly adhere to the stipulations made by the State Pollution Control Board.	Complied.
ii	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Noted and Complied.
iii	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system 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.	Noted and Complied.
iv	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October, 1994 and January, 2000. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.	Complied.
v	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied.
vi	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.	Complied.
vii	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Complied.
viii	The project authorities shall earmark separate funds of Rs. 43.09 Crores to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. Rs. 07.00 crores will be the annual recurring expenditure for environmental protection measures. The funds so provided shall not be diverted for any other purpose.	Noted and Complied.
ix	The implementation of the project vis-à-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry / SPCB / CPCB. A six monthly compliance status report shall be submitted to monitoring agencies.	Complied.
x	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter at least in 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 shall be forwarded to the concerned Regional Office of the Ministry.	Complied. Advertisement was given in news papers and details submitted to GPCB and MoEF
xi	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.	Complied.
-	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted.
-	The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.	Noted.

**Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013**

Sr. No.	Condition	Compliance Status
-	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 Hazardous Waste (Management and Handling) Rules, 2003 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	Noted.

Date: 2nd September, 2013

Compliance Report for Environmental Clearance No. J-11011/325/2006-IA II (I) dtd. 18th September, 2009 for Amendment of Glyphosate Technical product

Sr. No.	Condition	Compliance Status
-	The production capacity of "Glyphosate- Tech" is mentioned as 1000 MT/month under pesticides technical. The company wants to start manufacturing of product (Glyphosate-Technical viz- 1 st step-DSIDA preparation: 2 nd step- Conversion of DSIDA to PMIDA and 3 rd step- PMIDA conversion to Glyphosate Technical. Now 3 rd step proposed to be modified as "Intermediate product from 2 nd stage (PMDIA) will be reacted with Ammonia and clean air in the presence of a catalyst. Ammonium Salt formed is reacted with Sulphuric Acid to precipitate Glyphosate (Technical). Mother Liquor containing Ammonium Sulphate will be recovered as by-product. In the original process, oxidation of PMDIA with Oxygen giving Glyphosate (Technical) and by-product Formaldehyde and CO ₂ was given.	Noted. We have applied for CC&A amendment for inclusion of new products CS ₂ and Glyphosate application Inward No. 68860 dated 15/05/2013.
-	It is noted that due to change in process, water consumption will reduce from 1,151 KL per day to 812 KL per day; effluent quantity will reduce from 813 KL per day to 98.54 KL per day, and solid waste (ETP sludge) quantity will be reduced from 2.39 TPD to 0.3 TPC. The emission to additional NH ₃ will be controlled by providing wet scrubber and company will recover Ammonium Sulphate 120 KLD (equivalent to 25 TPD Solid) generated and sold as by-product.	Noted
-	The proposal was considered during 93 rd meeting of the Expert Appraisal Committee (Industry) held on 14 th - 16 th April, 2009. The Committee noted that change in process will reduce water pollution as well as hazardous waste generation with addition of NH ₃ pollution which will be controlled by providing wet scrubber and decided necessary amendment in environmental clearance may be made subject to stipulation of following additional conditions:	Noted.
1	The production of Glyphosate (Technical) shall not be more than 1000 TPM and the by product Ammonium Sulphate 120 KL per day (equivalent to 25 TPD Solid) generated during process shall be sold to actual user and record shall be produced with monitoring report to the Ministry's Regional Office at Bhopal.	Noted.
2	The water consumption, wastewater generation and hazardous waste (ETP sludge) generation shall reduce from 1,151 KLD to 812 KLD; 813 KLD to 98.54 KLD and 2.39 TPD to 0.3 TPD respectively.	Noted.
3	The company shall provide wet scrubber for control of NH ₃ emissions within the GPCB norms and monitoring arrangements shall be made in the vent.	Noted and Complied.
4	The company shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal office of CPCB and the State Pollution Control Board. The levels of SPM, RSPM, SO ₂ , NO _x , HCL and VOC (ambient level) and emissions from the stacks shall be monitored and displayed at a convenient location near the main gate of the company and at important public places.	Noted

**Half Yearly Environmental Clearance Compliance Report by United Phosphorus Ltd., Unit # 05, Jhagadia, Gujarat
Period from January-June 2013**

Sr. No.	Condition	Compliance Status
5	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copy as well as by e-mail) to the respective Regional office of MoEF, the respective Zonal Office of CPCB and the State Pollution Control Board.	Noted and Complied.
6	The environment statement for each financial year ending 31 st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices to MoEF by e-mail.	Noted and complied. We have submitted Environmental Statement for period April-2012- March -2013.
-	The Ministry accepts the above recommendation of the Expert Appraisal Committee (Industry) with the additional conditional suggested for amendment of environment clearance and all other conditions and paras of environmental clearance issued by the Ministry vide letter no. J-11011/325/2006/IA. II (I) dated 25.07.2007 shall remain same.	Noted and Complied.
-	This letter shall be kept attached with the original clearance letter.	Noted.
-	This issues with the approval of the Competent Authority.	Noted.

Date: 2nd September, 2013

Compliance Report for Environmental Clearance No. J-11011/325/2006-IA II (I) dtd. 10th June, 2011 for CS2 process change use of natural gas instead of charcoal.

Sr. No.	Condition	Compliance Status
-	The Ministry has issued EC , subject to following conditions: "Sulfur recovery Unit shall be installed to control H2S emissions from the Furnace into elemental Sulfur and shall be recycled to the process. The "S" recovery shall be above 99.5 % (as per Refinery Norms, Notification No. GSR 186(E) dated 18.03.2008) and H2s emissions shall be less than 10 mg/ Nm3. The tail gas from Clauss Unit shall be sent to Tail Gas Treatment Unit (TGTU) for further treatment to reduce SO2 emissions. Tail Gas Treatment Unit (TGTU) shall consist of Spot Hydrogeneration, removal of H2S from, the gas by Amine treatment and fume incinerator".	Complied. We have applied for CC&A amendment for inclusion of new products CS2 and Glyphosate application Inward No. 68860 dated 15/05/2013. We have installed all EMS system as per EC -like SRU unit, Tail Gas treatment Unit (TGTU), For removal of H2S from the gas by Amine treatment and Fume Incinerator.
-	This letter may be kept with the original letter.	Noted and Complied.
-	This has been issued with prior approval from the Competent Authority in the Ministry.	Noted and Complied.

Date: 2nd September, 2013

**DETAILS OF GREEN BELT DEVELOPMENT
(JANUARY-JUNE 2013)**

1. No. of trees planted before January -13 inside the company premises: 39,527 in 21.75 acre.
2. During the period of January-June 2013:
 - Nos. of trees planted inside company premises = 527 Nos. in 1 acre area.
 - Total Nos. of Trees survived inside the company: 527 out of 527 for above period.
3. Total Nos. of trees available inside company: 40,054
4. Total Green Belt area covered : 22.75 acre
5. Total Nos. of trees per Hectare of land: 4,350

EXPENDITURE ON POLLUTION CONTROL MEASURES FOR THE PERIOD JANUARY-2013 TO JUNE-2013

A) Operating cost for Air Pollution Control Equipment's

Sr. No.	Plant	Pollution Control Equipment	Expense in INR
1	PCL ₃	Scrubbers	5,58,865
2	POCL ₃	Scrubbers	79,465
3	Caustic – Chlorine	Hypo Scrubber	99,28,590
4	Caustic – Chlorine	Caustic Scrubber	3,54,648
5	White Phosphorus	Venture Scrubber	Plant not in operation
6	PCl ₅	Scrubbers	22,03,728
7	Mancozeb	Scrubbers	49,29,056
8	CS ₂	SRU (Sulphur Recovery Unit), TGTU (Tail Gas Treatment Unit), Fume Incinerator, Flare Stack	90,00,00,000
9	Glyphosate	Scrubbers	38,00,000

Total cost for operating Air Pollution Control equipment is Rs. 92,18,54,352.

B) Operating cost for Water Pollution Control Equipment's

Sr. No.	Plant	Pollution Control Equipment	Expense in INR
1	Caustic – Chlorine	ETP	7,63,863
2	PCL ₃ & POCL ₃ Plant	Scrubber Effluent	6,99,565
3	Power Plant	ETP	2,97,535
4	White Phosphorus	ETP	0
5	Central ETP	ETP	1,42,089
6	RO	RO	11,58,061
7	1 MLD ETP (C-Tech)	ETP	93,42,248
8	MEE	MEE	3,39,41,828
9	TOC / TKN Meter	ETP	35,00,000

Total cost for operating Water Pollution Control Equipment is Rs. 4,98,45,189.

C) Operational cost for solid waste disposal

Rs. 1,36,69,544 (This includes transferring cost from plant to our internal solid waste storage and from our site to TSDF, BEIL, Ankleshwar)

SUMMARY OF STACK MONITORING PARAMETERS:

SR. NO.	STACKS	PARAMETERS	LIMIT		AVERAGE	MAXIMUM	MINIMUM
1	Power Plant HRSG Stack	NO _x	50	ppm	26	31.6	19.7
2	Boiler	NO _x	50	ppm	21.21	24.6	15.4
3	Caustic Scrubber WAD 100-TPD Plant	Cl ₂	9	mg/Nm ³	2.11	3.1	1.2
		HCl	20	mg/Nm ³	8.51	14.6	4.8
4	Caustic Scrubber of HCl Furness 100-TPD Plant	HCl	20	mg/Nm ³	15.87	19.3	11.3
5	Caustic Scrubber of Phosphorus Oxy-Chloride (POCl ₃) Plant Distillation Column	HCl	20	mg/Nm ³	9.45	16.5	4.7
6	Caustic Scrubber of Distillation Section of PCl ₃ Plant	HCl	20	mg/Nm ³	9.4	14.8	6.1
		PCl ₃	9	mg/Nm ³	1.48	2.4	0.9
7	Caustic Scrubber of Storage Tank & Drum Filling Section of PCl ₃ Plant	HCl	20	mg/Nm ³	6.36	9.4	4.2
		PCl ₃	9	mg/Nm ³	0.9	1.8	0.2
8	Water Scrubber + Alkali Scrubber of Reactor PCl ₅ Plant	Cl ₂	9	mg/Nm ³	0.9	1.6	0.4
		HCl	20	mg/Nm ³	13.13	17.5	7.4
9	General Scrubber- PCl ₅ Plant	Cl ₂	9	mg/Nm ³	0.99	1.8	0.3
		HCl	20	mg/Nm ³	13.28	18.7	8.1
10	Alkali Scrubber of Mancozeb Plant Reactor D-14 New EDA Scrubber	H ₂ S	45	mg/Nm ³	3.4	4.3	BDL
		CS ₂	180	mg/Nm ³	49.85	80.6	BDL
11	Water Scrubber of Wet Spray Dryer of Mancozeb Plant	PM	20	mg/Nm ³	16.3	19.6	12.3
12	Bag Filter of RVDF of Mancozeb Plant	PM	20	mg/Nm ³	14.26	17.9	9.5
13	TPPI - Thermic Fluid Heater	PM	150	mg/Nm ³	50.05	60.5	39.1
		SO ₂	100	ppm	13.88	18.6	8.4
		NO _x	50	ppm	18.31	28.2	10.2
14	TPPI -Water Scrubber + Ventury Scrubber of Tri-Phenyl Phosphite Plant Rector(C-2102)	HCl	20	mg/Nm ³	10	14.6	6.5
15	TPPI -Water Scrubber + Ventury Scrubber of Tri-Phenyl Phosphite Plant Rector(C-2002A)	HCl	20	mg/Nm ³	8.23	8.9	7.6

SUMMARY OF AMBIENT MONITORING PARAMETERS:

SR. NO.	PARAMETERS	LIMIT		AVERAGE	MAXIMUM	MINIMUM
1	PM10	100	µg/m ³	80.6	86.9	74.1
2	PM2.5	60	µg/m ³	42.5	48.4	33.9
3	SOx	80	µg/m ³	23.71	27.1	19.5
4	NOx	80	µg/m ³	26.85	32.6	22.8
5	HCl	200	µg/m ³	5.76	7.9	2.6
6	Cl ₂	100	µg/m ³	BDL	BDL	BDL
7	NH ₃	400	µg/m ³	BDL	BDL	BDL
8	HF	160	µg/m ³	BDL	BDL	BDL
9	H ₂ S	500	µg/m ³	BDL	BDL	BDL
10	CS ₂	2000	µg/m ³	100.1	107.5	95.2
11	HC	160	µg/m ³	BDL	BDL	BDL
12	P ₂ O ₅	70	µg/m ³	BDL	BDL	BDL

SUMMARY OF EFFLUENT PARAMETERS:

SR. No.	PARAMETERS	LIMITS		3 rd PARTY RESULTS			NCTL RESULTS		
				AVERAGE	MAXIMUM	MINIMUM	AVERAGE	MAXIMUM	MINIMUM
1	pH	6.5-8.5	--	7.17	7.58	6.67	7.63	8.45	7.04
2	COD (mg/L)	100	mg/L	87.78	98.12	64.62	123.54	145	79
3	SS (mg/L)	100	mg/L	83	96	64	47.35	24	51
4	Ammonical Nitrogen (mg/L)	50	mg/L	12.93	15.7	9.34	10.75	14	3