

CHAMBAL FERTILIZERS AND CHEMICALS LIMITED, GADEPAN

MOEF ENVIRONMENTAL CLEARANCE COMPLIANCE REPORT [PHASE- I]

(Period April 2017 ~ Sept. 2017)

Letter No.J-11011 / 8 / 87-IA DT.15.11.88

01.	The Project Proponent must submit this Ministry a rapid Environmental Impact Assessment Report in Six-month and a comprehensive environmental impact assessment report within 18 months for scrutiny and approval.	Complied with. Rapid EIA was submitted to MOEF, New Delhi vide our letter No.110627 dt.27.06.89. Comprehensive EIA was submitted to MOEF, New Delhi vide letter No. CFCL/GEN/VM/01A dt.15.11.90.
02.	The entire quantity of liquid effluents generated within the various process operations will have to be recycled either as process water or for afforestation in the plant premises. If any liquid effluents are coming out of the plant premises it should strictly confirm to be standards prescribed by the Government or the Central/State Pollution Control Board.	Complied with. Treated effluent (process condensates) is recycled and reused in the process. Cooling tower blow down, DM plant regeneration effluent etc. after treatment are used for green belt development only after meeting the norms as prescribed by the RSPCB / CPCB; within the premises during non-rainy season. During rainy season, treated effluent is discharged into Kali Sindh river only after meeting the norms as prescribed by the RSPCB / CPCB. STP out let water is also used for various horticulture purposes within the premises. Treated liquid effluent analysis data for the period from April 2017 ~ Sept. 2017 have been shown in Table-5
03.	The emissions from various process units should confirm to the standards prescribed by the Government or the Central / State Pollution Control Board. At no time the emission levels should go beyond the stipulated standards in the event of failure of any pollution control systems adopted by the units the respective units shall be put out of operation immediately and should not be restarted until the control systems are rectified to	Complied with. Emissions from various process units are strictly conforming to the standards prescribed by RSPCB (Rajasthan State Pollution Control Board) Analysis data for the period from April 2017 ~ Sept. 2017 have been shown in Table-1 All the pollution control systems form the integral part of the process and controlled by process itself. With any process failure; plants go to a safe shutdown condition; plant is restarted only after rectification.

	achieve the desired efficiency.	
04.	The emissions from the Urea Prilling towers will conform to the standards prescribed for Urea dust.	Emissions from Prilling towers are within prescribed norms please refer Table-1 for monitoring data.
05.	The Project authorities should prepare a plan for implementation of disposal of solid wastes generated during various process operations or in the treatment plants provided. The Plan for disposal should be submitted to the competent authorities for scrutiny and approval.	Complied with. A proper plan for disposal of solid waste generated during various process operations is followed. Sludge from raw water treatment plant and STP is used as manure within CFCL premises Spent catalyst generated from process is sold/ disposed to authorized recycler/ re processors/ CTDF (Udaipur)
06.	A minimum number of 05 air quality monitoring stations will be set up at different locations of the plant and in the nearby areas especially towards Sorsan and the air quality will be monitored as per the standard procedures on a weekly interval basis. Stack emissions levels will be recorded and submitted to the State Pollution Control Board once in three months.	05 Ambient Air Quality Monitoring Stations are functioning within the factory premises; these stations have been installed in consultation with R.O. RSPCB Kota. Ambient Air Quality Monitoring at all the five stations is being carried out as per the standard procedures on twice in a week basis and data is regularly submitted to RSPCB & MoEF's Regional Office at Lucknow. Refer Table-2 for monitoring data. Regular monitoring of each stack is being carried out and data are being submitted to RSPCB on Quarterly basis. Data recorded for the period from April 2017 ~ Sept. 2017 have been shown in Table-1
07.	The liquid effluent quality will be measured on a daily basis and records should be kept. Adequate number of water quality monitoring stations must be set up. If the effluent quality exceeds the standards prescribed at any time, the corresponding units of the Plant which are contributing to the excessive pollutant loads shall be stopped from operation till the quantity of pollutants discharged from those units are brought down to the required level.	Complied with. Effluent quality is being measured on daily basis and records are kept. Quality of Treated effluent (process condensates) from Ammonia & Urea plant is monitored regularly. All the pollution control systems form the integral part of the process and controlled by process itself. With any process failure; plants go to a safe shutdown condition plant is restarted only after rectification.

08.	The Project authorities will establish the air and water quality monitoring stations immediately and start collecting the base line data of air and water quality in the region available at present, during the construction stage before start of the operation of the plant and continuous later when the plant goes on stream.	Complied with. Air and water quality monitoring was carried out from Feb'89 to Jan '90 and base line data was collected by Consultant M/s AIC Watson. Data was presented in Comprehensive EIA Report referred in Item-01 above. Thereafter CFCL established their own laboratory and air and water quality monitoring was started from Feb'93. The Construction of the Project was over in Dec'93. Regular monitoring is carried out from the beginning and data is regularly submitted to RSPCB and MOEF.
09.	The ground water quality of this particular area will be measured at a few locations near the plant site and later once in a month at the same points.	Ground water quality is being monitored at 08 locations around the plant site up to the radius of 10 Kms. Analysis data for the period from April 2017 ~ Sept. 2017 have been shown in Table- 6 & 7
10.	A Disaster Management Plan duly approved by the nodal agency should be submitted before the commissioning of the Plant.	Complied with. Disaster Management plan has been prepared and submitted to all concerned. The same is being reviewed and updated regularly. Revised/ updated copy has been submitted to all concerned.
11.	The cultivators who are likely to be affected due to the acquisition of their land shall be settled and rehabilitated as per norms laid down by this Ministry.	Complied with. All issues related to land acquisition have been settled long back.
12.	Additional area under the control of the company, which is not being used for the plant utilities, may be afforested and funds for this purpose should be suitably provided.	Complied with. In CFCL Gadepan about 35% of the total land area of the complex is covered under the green belt. The green belt is being properly maintained and regular tree plantation is carried out. Adequate funds are provided for greenbelt.
13.	A separate Environmental Management Cell with suitably qualified people to carry out various functions related to Environmental Management should be set up under the control of senior technical personnel which will report direct to the head of the	Complied with. A separate Environment Management cell with suitably qualified people to carry out various factions is already operational under control of Senior Executive, who reports directly to the Head of the organization.

	organization.	
14	Adequate financial provisions (capital and recurring expenditure) should be made for implementation of all the conditions stipulated herein and the finance so provided will not be diverted for any other purpose.	Complied with. All the jobs related to compliance of stipulated condition have been completed with adequate fund provision. Further regular system of financial budget exist and adequate financial provisions are being made for capital and recurring expenditure for maintaining and improving the environment systems; the allocated funds are only utilized for environment management and are not diverted for other purposes.

CHAMBAL FERTILIZERS AND CHEMICALS LIMITED, GADEPAN

MOEF ENVIRONMENTAL CLEARANCE COMPLIANCE REPORT [PHASE- II]

(Period April 2017 ~ Sept. 2017)

Letter No.J-11011 / 2 / 96-IA. II (I) DT.24.07.96

01.	The project authorities must adhere to the stipulations made by the Rajasthan pollution Control Board and the State Govt.	:	CFCL strictly adheres to the stipulations made by the Rajasthan State Pollution Control Board (RSPCB) and the State Government.
02.	No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment & Forests.	:	Noted
03.	The particulate matter and gaseous emissions (SO ₂ , NO _x , NH ₃ and HC) from various process/units should conform the standards prescribed by the concerned authorities, from time to time. Urea dust from the Prilling tower to be commissioned under the expansion proposal should not exceed 50 mg/Nm ³ or 0.5 kg/ Ton of product. At no time, the emission should go beyond the prescribed standards. In the event of failure of any pollution control system	:	Complied with. The particulate matter and gaseous emissions from various process/units conform the standards prescribed by the concerned authorities, from time to time. Urea dust from the Prilling tower is well below the prescribed limit of 50 mg/Nm ³ or 0.5 Kg/Ton of product. Analysis data for the period from April 2017 ~ Sept. 2017 have been shown in Table-1

	<p>adopted by the units, the respective unit would be immediately put out of operation and should not be restarted until the control measures are rectified to achieve the desired efficiency.</p>	<p>All the pollution control measures form the integral part of the process controlling the pollution by itself. With any process failures plants go to a safe shutdown and are not restarted until the control measures are rectified to achieve the desired efficiency.</p>
04.	<p>At least 05 ambient air quality monitoring stations should be set in the down wind direction, as well as where max. ground level concentration of NO_x, NH₃ & HC is anticipated in the consultation with the State Pollution Control Board.</p> <p>The air quality monitoring stations should be selected on the basis of mathematical modeling to represent short-term ground level concentrations, human settlement, sensitive targets etc.</p> <p>Portholes and sampling facilities should be provided for the stacks as per the Central Pollution Control Board Guidelines. Stack emissions should be monitored in consultation with the State Pollution Control Board.</p> <p>Data on ambient air quality and stack emissions should be submitted to this Ministry once in six months and the State Pollution Control Boards once in three months along with the statistical analysis and interpretation.</p>	<p>: 05 ambient air quality monitoring stations are already functioning within the factory premises. These station have been installed in consultation with R.O. RSPCB Kota; considering short term ground level concentration, human settlement, sensitive targets as per comprehensive EIA report. Ambient Air Quality Monitoring at all the five stations is being carried out as per the standard procedure on twice in a week basis and data is regularly submitted to RSPCB & MoEF's Regional Office at Lucknow. Refer Table-2 for monitoring data.</p> <p>Portholes and sampling facilities have been provided for the stacks as per the Central Pollution Control Board Guidelines. Stack emissions are monitored in consultation with the Rajasthan State Pollution Control Board for various defined parameters as per consent conditions.</p> <p>Data of ambient air quality and Stack emissions submitted to MoEF once in six months and to Rajasthan State Pollution Control Board on Quarterly bases. Data for the period April 2017 ~ Sept. 2017 have been given in Table-1 & 2</p>
05.	<p>Storage of ammonia should not exceed the present level. One storage tank should be kept empty for emergency use.</p>	<p>: It is general practice to keep the quantity of liquid ammonia in the storage tanks at the minimum level. A minimum quantity of 500 MT is required for pumping.</p>

06.	Ammonia should be recycled to the extent possible in the ammonia plant before passing it through stack(s).	:	Ammonia is recycled to the extent possible in the Ammonia/Urea plant for manufacturing Urea product and it does not pass through stack.
07.	Ammonia gas leakage from storage and loading points should be efficiently controlled or collected and scrubbed or may be sent to incinerator for flaring. Adequate precautions for handling ammonia vapors in case of emergency situation arising due to closure of the plant should be taken.	:	Ammonia gas leakage from storage and loading points is efficiently controlled. It can be isolated immediately and fault can be attended. There is also a provision to incinerate through flaring. Adequate precautions have already been taken at the design stage itself for handling ammonia bearing vapors and non-ammonia bearing process gases which are sent to incinerator for flaring during emergency situation including startups & shut downs.
08.	Fugitive emissions should be controlled, regularly monitored and data recorded. Automatic monitors for ammonia should be provided at appropriate places in the plant.	:	Immediate actions are taken to control fugitive emissions. Regular monitoring is carried out at various points and data are recorded. Automatic monitors for ammonia, Carbon monoxide & Hydro carbon have been provided at appropriate places in the Urea and Ammonia plants.
09.	Low NOx burners should be used to limit NOx emissions to ensure compliance with the standards.	:	Low NOx burners have been used to control NOx emissions to ensure compliance with the standards.
10.	Industry should provide separate outlets for storm wastewater and process effluents. Wastewater from the raw water treatment plant, DM Plant and the boiler blow down should not be allowed to mix up with the ammonia and urea plant effluents. Proper segregation of different effluents should be done.	:	The separate outlets for storm wastewater and process effluents have been provided. Wastewater from the Water Pre-treatment plant is recycled back to the Raw Water reservoir and the Boiler blow down is used for Cooling Water makeup. Other wastewaters like Cooling towers blow down & backwash waste are sent to Holding Ponds. DM Plant waste is sent to ETP. These are not allowed to mix up with the Ammonia and Urea plant

		effluents. The effluent from Ammonia & Urea Plant is treated in the plant itself and sent to DM plant to reuse as Boiler feed water after polishing. Thus proper segregation of different effluents is being done.
11.	Oil-bearing wastewater should be treated for removal of oily matter before discharge and oil traps should be properly maintained.	: Oil bearing waste from running machineries get collected in separate pits in all the plants which is sent to the Oil separator at ETP where oil is recovered into the drums and effluent is transferred to ETP.
12.	<p>Final treatment effluent should conform to the following standard:</p> <p>pH - 6.5 – 8.0 Ammonical Nitrogen - 50 mg/l Total Kjeldahl Nitrogen - 100 mg/l Free Ammonical Nitrogen - 4 mg/l Nitrate Nitrogen - 10 mg/l Cyanide as CN - 0.2 mg/l Vanadium as V - 0.2 mg/l Arsenic as As - 0.2 mg/l Suspended Solids - 100 mg/l Oil and Grease - 10 mg/l</p> <p>The wastewater should be recycled to the extent possible and efforts should be made to practice zero discharge from the fertilizer complex.</p>	<p>: Treated effluent of Holding Pond achieves the standards as given. Please refer to the analysis of the Holding Pond as given in Table-5</p> <p>All efforts are being made to recycle the wastewater to the maximum extent. Final Treated effluent is used for green belt development only after meeting the norms as prescribed by the RSPCB/CPCB; within the premises during non-rainy season. During rainy season, treated effluent is discharged into Kalisindh river only after meeting the norms as prescribed by the RSPCB/CPCB.</p> <p>Cyanide and Arsenic containing compounds/chemicals are not used in any process of our plant.</p>
13.	<p>Guard Pond(s) of sufficient holding capacity should be provided to cope up with the effluents discharged during the process disturbances. The contributing units should be immediately shut down and should not be restarted without bringing the system back to normalcy.</p> <p>Structural stability of the Guard Pond with respect to leakage / cracks and other factors should be ensured.</p>	<p>The Guard ponds have sufficient capacity of 10800 M3 to store wastewater of both the units. All the pollution control systems from the integral part of the process and controlled by process itself. With any process failure; plant go to a safe shutdown condition; plant is restarted only after rectification.</p> <p>The ponds are regularly inspected and maintained to ensure their structural</p>

	Monitoring of surrounding area ponds and ground water quality (wells) for relevant parameters should be carried out on a regular basis. Nitrate levels in the ground water particularly dug wells; bore wells etc. should especially be monitored to detect NO ₃ contamination in the area.	stability. Piezometer wells have been provided to monitor the ground water quality around Guard ponds and Holding Ponds and the ground water is being analysed to check its Nitrate quality. Analysis report of Piezometer wells are enclosed as Table-3 & 4 Ground water quality is being monitored at 08 locations around the plant site up to the radius of 10 kms. Analysis reports of all 08 villages for the period from April 2017 ~ Sept. 2017 are enclosed as Table- 6 & 7
14.	Adequate number of influent and effluent quality monitoring stations should be set up in consultation with the State Pollution Control Board. Regular monitoring should be carried out for relevant parameters. Routine toxicity test of effluent with fish should also be regularly done. Monitored data along with statistical analysis and interpretation in the form of a report should be submitted to this Ministry once in six months and the State Pollution Control Board once in three months.	: Regular monitoring of river Kalisindh before and after the confluence point of discharge is being done regularly. Treated effluent is discharged only during rainy days & rainy period. For the period from April 2017 ~ Sept. 2017 samples were analyzed and data are enclosed as Table-8 Report has been sent to MoEF & RSPCB as per guidelines.
15.	The industry should provide a purge gas recovery unit for removing Ammonia, H ₂ and CH ₄ instead of burning in the Primary reformer.	: Ammonia recovery unit for Purge gas is under operation. Due to commissioning of second line of GAIL from Vijaypur to Gadepan in Dec 2006 CFCL Phase-II plant is using RLNG as feed from 01.01.2007. Since, NG operation results in less CO ₂ , the Purge gas recovery for H ₂ & CH ₄ is not feasible.

16.	The hazardous wastes should be handled as per the Hazardous Waste (Management & Handling) Rules, 1989 as amended in Oct, 1994.	:	The generated spent catalyst sold out to the authorized parties registered with the MOEF and CPCB for metal recovery / reuse after processing. In case no refiner lifts the spent catalyst same is disposed to Rajasthan waste management project, CTDF Udaipur and waste oil is sold out to the authorized parties registered with the MOEF and CPCB for recovery / reuse/ reprocessing of the oil. Discarded containers were disposed to Rajasthan waste management project, CTDF Udaipur. Form-4 (Annual return for hazardous waste) and Form-10 (Hazardous waste manifest) are being submitted on regular basis to RSPCB. Form-3 is maintained by us at site.
17.	Handling, manufacture, storage and transport of hazardous chemicals should be in accordance with the Manufacture, storage and Import of Hazardous chemicals Rules, 1989 as amended in Oct, 1994	:	Handling, manufacture, storage and transport of hazardous chemicals are in accordance with the Manufacture, storage and Import of Hazardous chemicals Rules, 1989 as amended in year 1994 & 2000.
18.	Adequate measures for the control of noise should be taken so as to keep the noise levels below 85 dB in the work environment. Persons working near the noisy machines like ammonia plant, Urea Plant, TG, Compressor room, etc. should be provided with well-designed ear muffs / plugs.	:	An adequate measure for the control of noise has been taken so as to keep the noise levels below 85 dB in the work environment. Persons working near the noisy machines like ammonia plant, Urea Plant, TG, Compressor room, etc. have been provided with well-designed ear muffs / plugs.
19.	Non-chromate system be used in all the Cooling towers, In case, zinc is also used with non-chromate dosing, its level in blow-down and sludge should be kept below prescribed standards.	:	Non-chromate with low Zinc inhibitor system has been used for cooling water treatment in all cooling towers.
20.	Suitable alarm system and standards procedures for transmitting the information on the occurrence of an accident to the proper focal point should be established. Step should also be taken to ensure access to information on weather conditions prevailing at that time and weather forecast. Windssocks at	:	Suitable Alarm System and Standard Procedures for transmitting the information on occurrence of an accident or emergency are already functioning. On site DMP has been prepared. Mock Drills are organized as per schedule. Windssocks at appropriate locations have been provided to indicate the wind

	appropriate locations should be provided. Graphs / monograms indicating spatial distribution of concentrations of toxic gas during day and night under different stability classes and wind conditions should be prepared and displayed at appropriate locations so as to help the designated emergency officer/team to organize rescue operations in case of accidental release of toxic gases / vapors.		direction. On line Wind Monitor has been installed to know about the Wind speed, Wind direction, Ambient Temperature etc. for better assessment. Risk analysis has been carried out indicating spatial distribution of concentrations of Hazardous chemicals stored in the premises. All relevant information is available at designated places for rescue team.
21.	Efforts should be made to increase green belt all around the fertilizer complex and the township. Native plant species should only be selected for this purpose in consultation with the local DFO/Agriculture Department.	:	Efforts have been made to increase green belt all around the fertilizer complex and the township. Native plant species have been selected for this purpose in consultation with the local DFO/Agriculture departments.
22.	The project authorities should set up laboratory facilities for collection and analysis of samples under supervision of competent technical personnel who will directly report to the Chief Executive.	:	The project authorities have set up laboratory facilities for collection and analysis of samples under supervision of competent technical personnel who directly reports to the Chief Executive.
23.	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.	:	A separate Environmental Management cell with suitably qualified people to carry out various functions has been set up under the control of Senior Executive, who reports directly to the Head of the organization.
24.	Periodic medical check-up of the workers should be done and records maintained.	:	Periodic medical check-up of the working staff is being carried out and Medical Officer maintains the records.
25.	The funds earmarked for the environmental protection measures should not be diverted for other purpose and year-wise expenditure should be reported to this Ministry and to the state pollution Control Board under the rules prescribed for environmental audit.	:	The funds earmarked for the environmental protection measures are not allowed to divert for other purpose. Investment on environmental protection during the April 2017 ~ Sept. 2017 is Rs. 150.6 lakh for Phase-I & Phase-II plants.