

Ref: S &E/E-23/22

Date: 29.04.2022

To
The Director
Ministry of Environment and Forest
I. A. Division
Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi - 110 003

Sub: Half Yearly Compliance Status Report for Environmental Clearance -Reg

Ref:

- 1) Ministry's clearance Lr.No.J-11011/15/86/IA dated 28.07.87.
- 2) F.No. J-11011/171/2007- IA II (I) Dated : March 5, 2008
- 3) F.No J -11011/620/2009 IA-II(I) dated 18.03.2010.
- 4) F.No.J-11011/123/2014-IA-II(I),Dt:30.05.2018
- 5) No J -11011/620/2009 IA II (I) dated 11.01.2019
- 6) F.No. J-11011/171/2007- IA II (I) Dated : May 20, 2019

Dear Sir,

With reference to the above Environmental Clearances, we are herewith submitting the Compliance Status Report (Half yearly compliance report) for the period ending October 2021 to March 2022.

Thanking you,

Yours faithfully,
For "Greenstar Fertilizers Limited"

E. Balu

E. Balu
Chief Operating Officer
Encl:

1. Half Yearly Compliance Report
2. Half yearly monitoring report.

CC: i) District Environmental Engineer, Tamil Nadu Pollution Control Board, Tuticorin.

Greenstar Fertilizers Limited

CIN : U24100TN2010PLC077127

REGD OFFICE : "SPIC HOUSE", No. 88, Mount Road, Guindy, Chennai - 600 032, Tamilnadu, India.

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GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

Sub: Environmental clearance for substantial expansion of Di-Ammonium Phosphate by retrofitting.

Ref: Ministry's clearance Lr.No.J-11011/15/86/IA dated 28.07.87.

Specific conditions:

S.NO	Specific conditions:	Compliance Status
1	A two stage fluoride removal system must be installed, to achieve fluoride concentration of 10 mg/l conform to the MINAS.	Two stage fluoride removal systems installed to recover fluorine in phosphoric acid plant and also to achieve fluoride concentration. We have achieved fluoride concentration of 10 mg/l to conform MINAS. Fluorine is recovered as Hydrofluoro silicic acid and reacted with aluminum hydroxide to produce aluminum fluoride.
2	Thermal urea hydrolyser stripper must be installed in case of performance of the bio-hydrolyser system is not found satisfactory. Monthly report on the performance of the bio-hydrolyser should be made available to this Ministry and to the Central Pollution Control Board.	Process effluent generated in Urea plant is completely recycled to plant. Hence bio-hydrolyser treatment system has been removed since 2000. (Now the unit is with M/s SPIC Limited)
3	LSHS must be used in heaters/boiler/ CPP. No fuel oil may be used.	We have started receiving natural gas from Ramanathapuram area through IOCL on 13 th March 2021 and we are operating our plant on mixed feedstock, Naphtha + NG is being used in our Reformer ,NG is being used in fired heaters and boilers . (Now the unit is with M/s SPIC)
4	Existing lagoon outside the plant premises should not be used for effluent collection. The finally treated effluent should be discharged into the sea, via, guard ponds only.	Existing lagoon outside the plant premises is not used for effluent collection. The final treated effluent is reused in Greenstar plant for process. Occasionally it is discharged in to the sea via guard pond. (Now the unit is with M/s SPIC)

5	Sludge disposal site must be made impervious to prevent ground water contamination.	The generated Chromium and arsenic sludge are encapsulated in lined pit as per CPCB guidelines in the year 2006. We have adopted alternate technology and because of this chromium and arsenic are not used in the process at present. (Now the unit is with M/s SPIC)
6	Three fixed ambient air quality-monitoring stations should be set up in consultation with Tamilnadu Pollution Control Board for continuous monitoring of SO ₂ , NH ₃ and SPM. Sensors should be provided to detect P ₂ O ₅ , SO ₂ and NH ₃ at vulnerable points within the battery limits of the plant.	We have installed 9 Nos of permanent ambient air monitoring stations. 4 along the plant boundary and 5 Nos. outside the plant premises, based on the wind rose diagram of the site in consultation with Tamilnadu Pollution Control Board. The constituents namely SO ₂ , NO ₂ , NH ₃ , F, SPM are monitored regularly in nine stations simultaneously. We have provided ammonia gas monitors / sensors at vulnerable locations in Ammonia and Urea Plants. In addition to Ambient Air Quality Survey (AAQS), Online AAQMS Unit also has been provided and ambient air quality data is being uploaded to TNPCB care air center since March 2012 and scrolling has been provided at the entrance of the factory to the general public. The parameters displayed are NH ₃ , SO ₂ , NO _x , HF, PM ₁₀ , and PM _{2.5} apart from Relative humidity, Temperature, Wind speed, Wind direction.
7	The unit should install continuous waste water monitoring system for measuring the following parameters. Flow, pH, Fluorine, AN, TKN and Arsenic.	Continuous on-line analyzers has been installed at the exit of Guard pond for the analysis of various parameters in the treated effluent like pH, AN and TSS, the same is being uploaded to TNPCB and CPCB. The samples of final treated effluent are closely monitored once in two hours for flow, pH and Ammonical nitrogen. Flow meters with integrator have been provided at the inlet of IETP, sea disposal line and treated effluent reuse line and in garden water line. The parameters Fluoride, Sulphate, Phosphate, Chloride, Oil & grease, COD and BOD are analyzed in the discharged water regularly. (Now the unit is with M/s SPIC)
8	Ground water should be monitored regularly in pH, TDS, Arsenic, Nitrate nitrogen and Fluoride.	Ground water is being monitored regularly. Samples from 20 no. Sampling wells around the plant area are collected once in a month and complete analysis is done for pH, TDS, Nitrate,

		nitrogen, Fluoride, and Arsenic.																				
9	Treated waste water samples should also be collected from upstream (100m) and downstream (100m) of the confluence point in the open channel before final discharge into sea. for measuring pH, Ammoniacal nitrogen, Phosphate as P, Fluoride, Arsenic, Oil and grease.	Treated effluent from IETP is reused in Greenstar Fertilizers plant to the maximum extent and a small quantity of the excess treated effluent is disposed off into sea through a sub-merged pipe line under pressure at a distance of 1 km, inside sea and not through open channel. At the discharge end, a multi-port diffuser is provided in the outfall. The quality of coastal water near the diffuser end and 100 meter away from diffuser in open sea is monitored for pH, AN, Phosphate, Fluoride, Arsenic, Oil and Grease. The treated effluent from guard pond is regularly monitored to ensure the quality before discharging into sea. (Now the unit is with M/s SPIC)																				
10	The project authorities should change over from vetrocoke system to any other system where arsenic is not used in the scrubbing solution. During such time as vetrocoke system is continuing, adequate measures must be adopted to fully control arsenical effluent discharge and sludge disposal.	From July 1998 onwards glycine is used as the scrubbing solution instead of arsenic and hence there is no generation of arsenic bearing sludge. As per supreme court monitoring committee the entire Arsenic bearing waste available (115.70MT) has been stabilized, solidified and encapsulated in a lined concrete pit. (Now the unit is with M/s SPIC)																				
11	A green belt must be developed within the battery limits of the SPIC	Tree plantation has been done covering almost all The vacant areas in and around the plant and township. <table border="1"> <thead> <tr> <th>Area</th> <th>SPIC</th> <th>Greenstar</th> <th>Township</th> <th>Combined</th> </tr> </thead> <tbody> <tr> <td>Total area (Hectares)</td> <td>47.11</td> <td>56.43</td> <td>118.723</td> <td>222.113</td> </tr> <tr> <td>Greenbelt Area (Hectares)</td> <td>19.14</td> <td>19.6</td> <td>103.648</td> <td>139.228</td> </tr> <tr> <td>% Greenbelt area</td> <td>40.62%</td> <td>34.73%</td> <td>87.30%</td> <td>62.68%</td> </tr> </tbody> </table>	Area	SPIC	Greenstar	Township	Combined	Total area (Hectares)	47.11	56.43	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139.228	% Greenbelt area	40.62%	34.73%	87.30%	62.68%
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12	All monitoring reports must be sent to the State Pollution Control Board and this ministry regularly without fail.	Reports are being sent to Tamilnadu Pollution Control Board once in a month and Quarterly Report is being sent to Central Pollution Control Board and Quarterly Monitoring reports are regularly sent to MOEF.																				
13	The ministry reserves the right to change the above stipulations or impose any additional condition(s) to protect the environment, if considered necessary at any time.	Agreed to follow / obey the condition(s) imposed by The Ministry to protect the environment.																				

GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

ENVIRONMENTAL CLEARANCE FOR ENHANCED PRODUCTION AT SPIC, TUTICORIN

F.No. J-11011/171/2007- IA II (I) Dated : March 5, 2008

Half Yearly Compliance Status Report

S.No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
1	There shall be no addition of 'Pollution Load' due to the expansion. The unit shall shift to Natural Gas as fuel within next three years.	<p>There is no addition in the 'Pollution Load' due to enhanced production as per the study report of IIT professor.</p> <p>The following actions were taken</p> <ul style="list-style-type: none"> a) Environmental clearance was obtained from MoEF for the changeover of feedstock from Naphtha to mixed feed stock (Naphtha and Natural gas) on 28.03.2017 b) We have obtained consent to operate for Natural gas conversion vide Consent Order NO. 2007231068959 for Air Act and Consent Order NO. 1906127778730 for Water Act Dated: 26/05/2020 from Tamilnadu Pollution control Board. c) We have started receiving natural gas from Ramanathapuram area through IOCL on 13th March 2021 and NG is being used in our Ammonia plant. <p>(Now the unit is with M/s SPIC)</p>
2	The gaseous emission [SO ₂ , NO _x , NH ₃ , and Urea Dust & Fluoride] and particulate matter from various process units shall conform to the prescribed norms by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. The stack height	<p>The gaseous emissions (SO₂, NO_x, NH₃ and Urea Dust & Fluoride) and particular matter from various process units are monitored on monthly basis and the emission levels are within limits.</p> <p>The unit will be put off in the event of failure of pollution control system and we will restart only after rectifying the control measures to</p>

	shall be as per the CPCB guidelines. 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. Further, the company shall interlock the production system with the pollution control devices.	achieve the desired efficiency. The stack height is as per CPCB guidelines. Interlocking system is provided in the pollution control devices. Company has taken following measures:- 1. Sulphuric acid plant converter catalyst which has been renewed at a cost of Rs.4.4 crores has helped to achieve less than 1.0 Kg/T of SO ₂ emission. 2. Tail Gas scrubber has been installed at Sulphuric acid plant to keep the emission always under norms even during start up and shut down.
3	The limits for various pollutants should be within the prescribed limits. Set of dry and wet Cyclones along with a stack shall be provided. The total Particulate emission from all the plants shall be within 50 mg/Nm ³ .	We have provided two sets of dry cyclone and one set of wet cyclone with stacks to limit the pollutant within 50 mg/Nm ³ . (Now the unit is with M/s SPIC)
4	SO ₂ emission level shall be 2 kg/T of the 100% H ₂ SO ₄ produced and Acid Mist concentration shall be within 10 mg/nm ³ . Monitoring of Prilling Tower shall be carried out as per the CPCB Guidelines. Recovered Hydrofluoro Silicic Acid from the Fluorine recovery unit shall be reused in the process.	The SO ₂ emissions from Sulphuric acid plants stack is below 1Kg/T of H ₂ SO ₄ produced and acid mist concentration is within 10 mg/nm ³ . Sulphuric acid plant converter catalyst has been renewed at a cost of Rs.4.4 crores which helped achieve less than 1.0 Kg/T of SO ₂ emission. Online analyzers for particulate matter and ammonia have been installed in urea prilling tower and the real time data are connected to TNPCB and CPCB. Hydro-fluorosilicic acid is recovered by operating the fluorine recovery unit and used for manufacturing of Aluminum Fluoride. (Urea plant is now with M/s. SPIC)
5	Regular monitoring of ambient air quality for SPM, RPM, SO ₂ , NO _x , NH ₃ , and Urea Dust & Fluoride shall be carried out. The location of existing ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board and additional stations shall be set up, if required. It shall be ensured that stations are in the downwind directions	Ambient Air Quality monitoring is being carried out regularly for SPM, RPM, SO ₂ , NO _x , NH ₃ , Urea Dust and Fluoride by our Environment monitoring cell manually twice a week at 9 locations, in which 4 locations are located inside the factory premises and 5 are outside the factory premises. The location of existing ambient air quality monitoring stations was set up in consultation with TNPCB in the predominant downwind

	as well as where maximum ground level concentration are anticipated.	direction, where maximum ground level concentrations are anticipated. In addition to this Continuous Online ambient Air Quality monitoring stations are provided one each in M/s SPIC and M/s Greenstar and the data of PM10, PM2.5, SO ₂ , NH ₃ , and NO, NO ₂ , NO _x , wind direction, wind speed, RH and temperature are transferred to Care Air Centre, TNPCB Chennai.
6	Fugitive emissions in the bagging plant shall be controlled through two wet dedusting systems. Urea dust laden air from various dust emission points will be sucked through and sent to the dust chambers and scrubbers. The scrubber liquor will be sent for urea recovery system and urea plant. Cyclone separators/Bag Houses will be provided at transfer points for controlling urea dust. Dust collected at these points will be reprocessed in the urea plant.	Urea from plant is directly sent to Urea Bagging plant for bagging most of the time. It is transported through rubber belt soft conveyors. Only one transfer point is provided. Closed SS duct is provided in transfer points to avoid fugitive emissions. Electronic Packer scale weighers are provided which eliminates manual handling and avoid fugitive emission. Urea dust laden air from various dust emission points are sucked through and sent to the dust chambers and scrubbers. The scrubber liquor is sent for urea recovery system of urea plant. Cyclone separators are provided at transfer points for controlling urea dust. Dust collected at these points are collected and reprocessed in the urea plant. (Units- Urea plant and Urea Bagging plant are now with M/s. SPIC)
7	The fugitive emissions in the work zone environment, product, and raw material storage area shall be regularly monitored as per the guidelines of CPCB and data shall be submitted to the concerned authorities. The fugitive emissions shall be controlled and conform to the limits prescribed by the CPCB in future.	Adequate measures like routine maintenance, preventive maintenance of equipment etc. are taken to control fugitive emissions in the work zone environment, product raw material storage area. Regular monitoring of fugitive emission as per the guidelines of CPCB is carried out and data is submitted to the concerned authorities. The fugitive emission confirms to the limits prescribed by the CPCB.
8	There shall be no increase in the water consumption and waste water generation. Efforts shall be made for water conservation to achieve water consumption less than 8m ³ /ton of urea	There is no increase in water consumption and waste water generation. We have reduced water consumption by adopting various conservation measures and the present water consumption for Urea is less than 8 m ³ per ton

	<p>produced. All discharge of waste water shall be through the Marine outflow system. No effluent arising from the process plants and associated facilities shall be discharged to the storm water drain. The quality of storm water shall be regularly monitored.</p>	<p>of urea produced. The effluent is treated in integrated effluent treatment plant. Some portion of the treated effluent is discharged in to sea occasionally. Quality of Storm water is regularly monitored. (Now the unit is with M/s SPIC)</p>
9	<p>Regular monitoring of ground water by installing piezometric wells around the guard pond and sludge disposal sites for all relevant parameters including pH, fluoride and ARSENIC shall be periodically monitored and report shall be submitted to the concerned RO of the Ministry, CPCB and State Pollution Control Board. Adequate number of influent and effluent quality monitoring stations shall be set up in consultation with the State Pollution Control Board.</p>	<p>Ground water quality is monitored at 20 locations by our Environment Monitoring Cell on monthly basis. All the stipulated parameters are monitored. 4 Piezometric wells are located around the arsenic encapsulation and 4 Piezometric wells are provided around chromium encapsulation locations. Parameters including pH, fluoride and arsenic are periodically monitored and the report is submitted to the RO of the Ministry, CPCB and State Pollution Control Board.</p>
10	<p>2.5 TPA of Sulphur Sludge, 14m³/yr of Spent Nickel Catalyst, 3m³/yr of Spent Co, Mo Spent Catalyst, 20m³/yr of Spent Iron Catalyst, 4m³/yr of Spent ZnO Catalyst & 5m³/yr V₂O₅ catalyst and 250 Kg/d of Calcium Carbonate sludge shall be sent to the Secured Landfill site within the premises. 30 Kl/yr of Used oil shall be stored in leak proof steel drums for sale to registered recyclers and 700 Used batteries shall be sold to authorized reprocesses.</p>	<p>The sulphur sludge and calcium carbonate sludge is completely reused (in house) as filler material in DAP plant. Spent nickel catalyst, spent Co, Mo and spent iron catalyst and spent ZnO catalyst of M/s SPIC were sent to Tamil Nadu Waste Management Ltd. V₂O₅ catalyst of M/s Greenstar fertilizers Ltd, is sent to Tamil Nadu Waste Management Ltd. Used oil is stored and disposed to authorized recyclers. Used batteries are given to the approved recyclers.</p>
11	<p>All safety precautions, as submitted to Ministry shall be installed and undertaken. Adequate protection measures for handling of Ammonia vapours in case of process upset condition shall be undertaken. Safety valve exhaust and drains shall be connected to a separate close header from which Ammonia vapours shall be vented from vent stack after diluting the stream.</p>	<p>All safety precautions as submitted to Ministry are implemented. Adequate protection measures for handling of Ammonia vapors in case of process upset condition are undertaken. Safety valves' exhaust and drains are connected to a separate closed header from which Ammonia vapor is vented from vent stack after diluting the stream.</p>
12	<p>The project authorities shall strictly comply with the rules and regulations</p>	<p>All the rules and regulation under MSIHC Rules 1989 are being followed. On Site</p>

	<p>under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January 2000 and Hazardous Wastes [Management and Handling] Rules, 2003 along with Emergency Preparedness Rules. Authorization from the State Pollution Control Board must be obtained for collection / treatment / storage / disposal of hazardous wastes, if any.</p>	<p>Emergency drills are being carried out as per approved plan. We have obtained separate authorization for M/s SPIC and M/s Greenstar Fertilizers Limited.</p>
13	<p>The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection [CREP].</p>	<ul style="list-style-type: none"> ✓ Water consumption of the unit per MT of Urea produced (Naphtha based) is less than 8 m³/MT. ✓ The unit has adopted glycine based technology for absorption system in Ammonia plant in June 1998. ✓ Cooling water systems were switched over to non-Chromate based treatment programme in 1998. ✓ There is no process effluent in urea plant as everything is recycled back to the process. ✓ The nitrogenous fertilizer plant effluent mainly the cooling tower blow down is collected in effluent sumps and then sent to integrated effluent treatment plant for treatment ✓ No effluent is discharged into storm water drain. ✓ The storm water quality is monitored during the time of monsoon. ✓ Urea Prilling tower is based on forced draft system. The air pollution control equipment have been installed to reduce the concentration of pollutants. ✓ In M/s. Greenstar Fertilizers Limited phosphoric acid plant, four stage off gas recovery system has been installed in addition to turbulent contact absorber (TCA - 3) for scrubbing of fluoride present in emission gases The total fluoride concentration at the exit of TCA -3 and HH Off gas stack is

		<p>maintained below 5.4 mg/Nm³.</p> <ul style="list-style-type: none"> ✓ Tail gas scrubber is provided in sulphuric acid plant at a cost of 80 lakhs. ✓ Gypsum is disposed to cement manufacturing units and is also utilized in agriculture as a soil conditioner. ✓ The spent catalysts are collected in mild steel drum and disposed to Tamilnadu Waste Management Limited. <p>(Urea plant is now with M/s. SPIC)</p>																				
14	The company shall install rainwater harvesting systems from the rooftops of the buildings and storm water drains to recharge the ground water and use the same water for the various activities of the project to conserve fresh water.	We have provided Rain water harvesting system for storm water collection as well as for roof top collection and the collected water is used for various activities.																				
15.	33% of the total land area shall be developed as green belt in consultation with DFO. The Green Belt shall be as per the CPCB Guidelines.	<p>We have taken up plantations within the project sites and the colony areas by covering more than 33 % of the total land area.</p> <table border="1"> <thead> <tr> <th>Area</th> <th>SPIC</th> <th>Greenstar</th> <th>Township</th> <th>Combined</th> </tr> </thead> <tbody> <tr> <td>Total area (Hectares)</td> <td>47.11</td> <td>56.43</td> <td>118.723</td> <td>222.113</td> </tr> <tr> <td>Greenbelt Area (Hectares)</td> <td>19.14</td> <td>19.6</td> <td>103.648</td> <td>139.228</td> </tr> <tr> <td>% Greenbelt area</td> <td>40.62 %</td> <td>34.73%</td> <td>87.30%</td> <td>62.68%</td> </tr> </tbody> </table>	Area	SPIC	Greenstar	Township	Combined	Total area (Hectares)	47.11	56.43	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139.228	% Greenbelt area	40.62 %	34.73%	87.30%	62.68%
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B) General Conditions:

S.NO	GENERAL CONDITIONS	COMPLIANCE STATUS
1	The project authorities shall strictly adhere to the stipulations made by the state pollution control board.	All the stipulations made by the state Pollution Control Board are strictly adhered.
2	No further expansion or modification in the plant shall be carried out without prior approval of the MoEF.	We ensure No further expansion or modification in the plant was carried out without prior approval of the MoEF.

3	The Project proponent shall also comply with all the Environmental protection measures and Safe guards recommended in the EIA / EMP report.	We have complied with all the Environmental protection measures and safe guards recommended in the EIA / EMP.
4	Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the EP Act 1986 for Marine discharge norms.	Cooling tower blow down water is collected and treated in Integrated Effluent Treatment Plant and reused in M/s Greenstar Fertilizers Limited and a small portion of this is discharged into sea after confirming its quality. The treated and untreated effluent is also monitored by our Environment Monitoring Cell on monthly basis. In addition to this continuous online effluent monitoring system has been installed for pH, Ammonical nitrogen, flow and TSS - real time data is being uploaded on the web site of TNPCB and CPCB. (Now the unit is with M/s SPIC)
5	The overall noise level in and around the plant area shall be kept well within the standard by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generations	Noise level is monitored at 4 locations along the factory boundary at day and night time. The noise levels are within limit. We have provided noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generations.
6	Proper Housekeeping and adequate occupational health programmes shall be carried out and records shall be maintained for at least 30 – 40 years. The programmes shall include lung function and sputum test, besides the regular tests, once in 6 months, sufficient preventive measures shall be adapted to avoid direct exposure to dust etc.,	We are maintaining good housekeeping. We have an Occupational Health (OH) Centre with a full time doctor and supporting staff. OH tests including lung function test, sputum tests, audiometry and regular tests are carried out for all employees as per the Factory's Act and records are maintained. Preventive measures are adopted to avoid direct exposure.
7	A separate environmental management cell equipped with full-fledged laboratory facilities shall be set up under the control of a senior executive.	A separate environmental management cell equipped with full-fledged laboratory facilities is available. The Environment Management Cell is having 3 Environment engineers and Lab chemists and they are reporting to Head of Safety and Environment, who in turn is reporting to the Top Management.

8	<p>Adequate funds shall be ear marked to meet the capital cost and recurring cost per annum for the Environmental protection measures. The amount so earmarked shall be used judiciously to implement the conditions stipulated by the MoEF as well as the state Government. The funds so provided shall not be diverted for any other purpose.</p>	<p>We have allocated adequate funds to implement the conditions stipulated by the Ministry of Environment and forest as well as the State government along with the implementation schedule for all the conditions stipulated. The funds are not diverted for other purpose.</p> <p>Expenditures for Environmental protection measures include</p> <ul style="list-style-type: none"> a) Flameproof AAQMS Apparatus for tank farm area at the cost of 2.0 lakhs. b) Bio Assay study was carried out at the exit of IETP – Rs 40,000 c) Revamping of AAQ monitoring station with new analyzers to measure additional parameters and erection of new display board and uploading of the data to Care Air Centre, TNPCB, Chennai at a cost of Rs. 55 Lakhs. d) We have installed another AAQ continuous monitoring station for M/s Greenstar Fertilizers Limited at a cost of Rs.55 Lakhs. e) Replacing of the SA Plant Converter Catalyst at a cost of Rs.4.4 crores. Analysis reports are being submitted to regional office on half yearly basis. f) SA Plant FAT modification job to increase SO₂ Absorption efficiency was carried out at a cost of Rs.1, 80,375. g) Startup scrubber has been
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		<p>provided in sulphuric acid plant at a cost of Rs.80 Lakhs.</p> <p>h) Online continuous emission monitoring of ammonia has been installed in both DAP and Complex fertilizers stack at a cost of Rs.30 lakhs (per stack) and Reformer stack SO2 analyzer at a cost of Rs.30 lakhs and NOx analyzer at the cost of 1 lakhs.</p> <p>i) Online continuous monitoring for HF has been installed in DAP ,SSP and PA plant at a cost of Rs.45 lakhs.</p> <p>j) Online HF analyzer has been installed for ambient air monitoring at a cost of Rs.21lakhs</p> <p>k) Online PM analyzer has been installed in DAP and SSP plant RG mill stack at a cost of Rs.6.25 lakhs.</p>
<p>9</p>	<p>The company shall under take the welfare measures and the community development measures for the local people in the vicinity of the project area.</p>	<p>We have undertaken many measures for improving the socio economic condition of the local people in the surrounding area. We are rendering community service like running health center, Cheshire home etc., free medical camps. Blood donation camps ,Eye camps Polio vaccination campaigns, tree plantation , distribution of groceries are being conducted by Spic Nagar Rotary club every year.</p> <p>M/s SPIC and Greenstar are conducting medical camp in near by villages such as Soosai nagar and Muthiapuram using Mobile health van</p> <p>Free note books are being distributed every year to the poor students.</p> <p>Wide spread programs were conducted on "Beat plastic pollution".</p>

		<p>We have constructed community hall at nearby village at cost of Rs.12 lakhs. Solar power plant at cost of 3.25 lakhs has been installed for two old age homes.</p> <p>We have donated Rs.2 Lakhs to Thoothukudi Govt.Hospital for infrastructure development during Covid – Pandemic. We have constructed Library and handed over to Soosai Nagar village at a cost of 4 lakhs.</p> <p>Desilting and cleaning of canal in Kulaiyankarisal village was carried out at a cost of Rs.15.5 lakhs.</p> <p>During the year 2021 the following Socio economic services were carried out for the local community.</p> <p>We have contributed an amount of Rupees 5.9 lakhs towards the procurement of materials, running and modernization of PHCs.</p> <p>We have contributed an amount of Rupees 35000, for a boy to participate in International Yoga competition being held in Srilanka.</p> <p>We have donated black boards and white boards which also serve as a partition for the classrooms.</p> <p>We have contributed projector and speakers to convert a classroom to Digital classrooms in Sivanthikulam Coporation Middle School, we have donated a printer and a scanner to Government Higher Secondary School, Mukkani. We have renovated and constructed the toilet facility for government High School Pottalkadu and Government Higher Secondary School, Umarikadu.</p> <p>We have provided handrails at panchayath Union Middle School, Devar colony for the benefit of Physically challenged students, Contribution of chairs to classrooms and water tank for the schools at Mudukkukadu, Bharathi nagar and Compound wall renovation at Valavallan</p>
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		<p>Government High School.</p> <p>We have donated 20 computers, Printers and UPS to Government Higher Secondary School, Saidapet, Chennai.</p> <p>We have provided a printer and Desktop to Mullakadu PHC.</p> <p>We have donated Mobile Phone to Students for attending Online classes on 7th July 2021 at SNHSS.</p> <p>We have celebrated 'International Day of Clean Air for blue skies 2021 on 7th September 2021 inside the plant premises at SPIC Nagar and inaugurated a tree plantation programme.</p> <p>We have set up an medical grade oxygen plant worth Rs. 1.5 crore .</p> <p>AM International Group of companies donated Rs. 1 crore to the Thoothukudi District Collector's CSR fund and And another Rs.1 Crores was donated to Chief minister's Public Relief Fund, Tamil Nadu.</p> <p>We have donated to water purifier machines worth Rs. 2,18,300 to thoothukudi Govt. Hospital. And also donated oximeters and temperature monitoring infra red guns to Mullakadu PHCC.</p> <p>We have donated Rs.45000 towards the mini marathon conducted by VOC College, Thoothukudi.</p> <p>We have donated Rs.98000 towards the welfare of Thoothukudi Meenava sangham.</p> <p>We have donated a new library building at Soosai nagar.</p> <p>We have. donated plastic chairs to anganvadi at a cost of Rs. 34600.</p> <p>We have supplied three 12 HP dewatering pumps & 125 KVA Diesel Generators to the</p>
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		ICU ward functioning at the Government Hospital, Thoothukudi for which Rs. 3,85,000 was spent.
10	Concerned regional office of this Ministry state pollution control Board / CPCB shall monitor the implementation of the stipulated conditions. Six monthly compliance status report and monitoring data along with statistical interpretation shall be submitted to them regularly and shall be placed on the web site of the company	Compliance status report is being submitted regularly by the unit to MoEF, RO once in six months and for others on monthly basis. Compliance status report is uploaded on the Company's Website.
11	The project proponent should advertise in 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, informing that the project has been accorded environmental clearance by the ministry and copies of the clearance letter are available with the SPCB/ Committee may also be seen at the website of the ministry and forest at http//enviro.nic/in . The advertisement should be made within seven days from the date of issue of the clearance letter and a copy of the same should be forwarded to the concerned regional office of the ministry.	Newspaper advertisements were given in two local newspaper and copies of the same were submitted to MoEF, RO.
12	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 land development work.	Information was provided and Project was completed.

GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

Sub: SSP Unit Environmental Clearance-Half Yearly Compliance Status Report

Ref: No J -11011/620/2009 IA-II(I) dated 18.03.2010

A.SPECIFIC CONDITIONS

S.NO	SPECIFIC CONDITION	COMPLIANCE STATUS
1	The gaseous emissions from various process units shall conform to the standards prescribed by the consent authorities from time to time. The state pollution control board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. 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 unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency.	The gaseous emission is monitored on monthly basis and the emission levels are within the limit and at no time the emission level has gone beyond the prescribed standards. We shall shut down the unit in the event of failure of any pollution control system adopted and it will be restarted only after ensuring the accurate functioning of the control measures provided.
2	There should be no process effluent generation. The scrubbed effluent from the fluorine scrubber shall be recycled back in the process. The domestic effluent after treatment shall be used for green belt development.	There is no process effluent generation in the Single Super Phosphate unit. The water used in the fluorine scrubber unit is recycled back in the process. The domestic effluent from plant and township is treated in 700 KLD sewage treatment plant and treated effluent is being utilized for gardening/green belt development.
3	The company shall achieve SO ₂ emission of 1Kg per tone of Sulphuric acid produced. The acid mist emission shall conform to the prescribed standards. The stack height for the sulphuric acid plant shall be provided as per the guidelines and on the basis of normal plant operation. The scrubbed gases should be left out at the same height of the plant.	Company had achieved the SO ₂ emission at the level of below 1 Kg / T of Sulphuric acid produced by changing the entire converter catalyst at a cost of 5 crores. SO ₂ emission is within the limit and Sulphuric Acid Plant stack height is as per the TNPCB guidelines, and the scrubbed gas is left out at the same height of the plant.

4	The company shall undertake monitoring of fluoride from the scrubber vents and the data shall be submitted to the RO / MOEF, state pollution control board/ CPCB.	Fluoride at the exit of scrubber vent is being monitored and the reports are submitted to MoEF and CPCB.																				
5	To control the total fluoride emission within the prescribed standards of 25 mg/NM3. The company shall install four stage fluorine scrubbers with 99.8% efficiency.	We have installed four stage fluorine scrubbers to control the fluoride emission and the emission level is within the prescribed standards. The scrubber efficiency is about 99.8%.																				
6	The company shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitoring 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 , fluoride and NO _x (Ambient levels) 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.	<p>We have installed continuous online AAQMS each in SPIC and the monitored data are connected to the TNPCB care air center since 2012 and 2015 respectively.</p> <p>Further the results of monitoring data are regularly submitted to the regional office of MoEF, CPCB and the State pollution control Board.</p> <p>The online monitored data such as PM₁₀, PM_{2.5}, NO_x, ammonia, NO, NO₂, SO₂, HF, wind speed, wind direction, temperature, relative humidity is displayed near the factory main entrance gate for the public.</p>																				
7	The company shall monitor the SO ₂ emission from the sulphuric acid plant. Measures shall be taken to control the emission from the sulphuric acid plant. Monitoring of SO ₂ and fluoride should be carried out as per the CPCB guidelines.	We have installed on line stack monitoring equipment in the Sulphuric acid plant to measure SO ₂ emission and the monitored data is transmitted to care air center of TNPCB. Monitoring of SO ₂ and fluoride are carried out as per the CPCB guidelines.																				
8	Green belt of adequate width and density of about 33% of the plant area shall be provided to mitigate the effects of fugitive emissions all around the plant. The development of green belt should be in consultation with the DFO as per the CPCB guidelines.	<p>SSP unit is located within the existing factory/facility and the company has developed greenbelt within the factory and colony area.</p> <table border="1" data-bbox="957 1680 1548 1971"> <thead> <tr> <th>Area</th> <th>SPIC</th> <th>Greenstar</th> <th>Township</th> <th>Combined</th> </tr> </thead> <tbody> <tr> <td>Total area (Hectares)</td> <td>47.11</td> <td>56.43</td> <td>118.723</td> <td>222.113</td> </tr> <tr> <td>Greenbelt Area (Hectares)</td> <td>19.14</td> <td>19.6</td> <td>103.648</td> <td>139.228</td> </tr> <tr> <td>% Greenbelt area</td> <td>40.62 %</td> <td>34.73%</td> <td>87.30%</td> <td>62.68%</td> </tr> </tbody> </table>	Area	SPIC	Greenstar	Township	Combined	Total area (Hectares)	47.11	56.43	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139.228	% Greenbelt area	40.62 %	34.73%	87.30%	62.68%
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		Greenbelt development has been carried out in consultation with the local DFO. The plantation works and survival are maintained good.
9	The company should take measures for harvesting the rain water to recharge the ground water.	Rain water harvesting facilities are made.
10	The company shall undertake eco developmental measures including community welfare measure in the project area for the overall improvement of the environment.	ECO development measures including community welfare measures like tree plantation Environmental awareness programs, Environmental pamphlets are being carried out for the overall improvement of the Environment.
11	Provision shall be made for the housing of the construction labours within the site with all the necessary infrastructure and facility, such as fuel for cooking, mobile toilet, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure which is to be removed after the completion of the project. All the construction waste shall be managed so that there is no impact on the surrounding environment.	<p>The facilities/provisions such as drinking water and toilet facilities are being provided to the construction workers during the construction time.</p> <p>The construction waste is being managed within the project site without creating any adverse impact on the surrounding environment as stated.</p>

B) GENERAL CONDITIONS

S.NO	<u>GENERAL CONDITIONS</u>	<u>COMPLIANCE STATUS</u>
1	The project authorities shall strictly adhere to the stipulations made by the state pollution control board.	All the stipulations made by the State Pollution Control Board are being adhered.
2	No further expansion or modification in the plant shall be carried out without prior approval of the MOEF. 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 the conditions imposed and to add additional environmental protection measures required, if any.	We ensure No further expansion or modification in the plant was carried out without prior approval of the MoEF.
3	At no time the emission shall exceed the prescribed limits. in the event of failure of any	All measures are in place to adhere to the prescribed emission standards. In the event of

	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.	failure of pollution control system, we will restart after the control measures are rectified to achieve the desired efficiency.
4	The location of ambient air quality monitoring stations shall be decided in consultation with the state pollution control board.(SPCB) and it shall be ensured that atleast one station is installed in the upwind and down wind direction as well as where maximum ground level concentrations are anticipated.	The locations of ambient air quality monitoring station were selected in consultation with TNPCB and these stations are covered up wind, downwind direction as well as where maximum ground level concentrations are anticipated. In addition to this, Continuous online Monitoring station is provided one in M/s SPIC and M/s Greenstar and the data of PM10, PM2.5, SO2, NH3, and NO, NO2, NOx, wind direction, wind speed, RH and temperature are transferred to care Air Center, TNPCB.
5	Dedicated scrubbers and stacks of appropriate height as per the central pollution board guidelines shall be provided to control the emissions from various vents. The scrubbed water shall be sent to ETP for further treatment.	Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines are provided. The scrubbed water is sent back to the process.
6	The overall noise level in and around the plant area shall be kept well within the standard by providing noise control measures including acoustic hoods, silencers, enclosures etc on all sources of noise generations. The ambient noise shall conform to the standards prescribed under Environment (Protection) Act, 1986 rules, 1989.	Noise level is monitored at 4 locations along the factory boundary at day and night time. The noise levels are within limits. We have provided noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generations.
7	The project proponent shall also comply with all the environmental protection measures and safe guards proposed in the project report submitted to the ministry. All the recommendations made in the respect of environmental management and risk mitigation measures relating to the project shall be implemented.	We have implemented all the environmental protection measures and safe guards proposed in the project report and complied with. All the recommendations for environmental management and risk mitigation measures are being implemented.
8	The company will undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities will be undertaken by involving local villages and administrations.	We have undertaken many measures for improving the socio economic condition of the local people in the surrounding area. We are rendering community service like running health center, Cheshire home etc, free medical camps. Blood donation camps

		<p>,Eye camps Polio vaccination campaigns, tree plantation , distribution of groceries are being conducted by Spic Nagar Rotary club every year.</p> <p>M/s SPIC and Greenstar are conducting medical camp in near by villages such as Soosai nagar and Muthiapuram using mobile health van</p> <p>Free note books are being distributed every year to the poor students.</p> <p>Wide spread programs were conducted on "Beat plastic pollution".</p> <p>We have constructed community hall at nearby village at cost of Rs.12 lakhs. Solar power plant at cost of 3.25 lakhs has been installed for two old age homes.</p> <p>We have donated Rs.2 Lakhs to Thoothukudi Govt.Hospital for infrastructure development during Covid – Pandemic. We have constructed Library and handed over to Soosai Nagar village at a cost of 4 lakhs.</p> <p>Desilting and cleaning of canal in Kulaiyankarisal village was carried out at a cost of Rs.15.5 lakhs.</p> <p>During the year 2021 the following Socio economic services were carried out for the local community.</p> <p>We have contributed an amount of Rupees 5.9 lakhs towards the procurement of materials, running and modernization of PHCs.</p> <p>We have contributed an amount of Rupees 35000, for a boy to participate in International Yoga competition being held in Srilanka.</p> <p>We have donated black boards and white boards which also serve as a partition for the classrooms.</p> <p>We have contributed projector and speakers to convert a classroom to Digital classrooms in Sivanthikulam Coporation Middle School, we have donated a printer and a scanner to Government Higher Secondary School, Mukkani. We have renovated and constructed the toilet facility for government High School Pottalkadu and Government Higher Secondary</p>
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		<p>at a cost of Rs. 34600.</p> <p>We have supplied three 12 HP dewatering pumps & 125 KVA Diesel Generators to the ICU ward functioning at the Government Hospital, Thoothukudi for which Rs. 3,85,000 was spent.</p>
9	The company shall undertake eco developmental measures including community welfare measure in the project area for the overall improvement of the environment.	Eco developmental measures such as plantation work in and around the SPIC nagar, community welfare measures are undertaken for the overall improvement of the environment.
10	A separate environmental management cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	A separate environmental management cell is equipped with full-fledged laboratory facilities. The Environment Management Cell is having 3 Environment engineers and lab chemists and they are reporting to Head of Safety and Environment.
11	The project authorities shall earmark adequate funds to implement the conditions stipulated by the ministry of environment and forest as well as state government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	<p>We have allocated adequate funds are being provided to implement the conditions stipulated by the Ministry of Environment and forest as well as the State government along with the implementation schedule for all the conditions stipulated. The funds are not diverted for other purpose.</p> <p>Expenditures for Environmental protection measures include</p> <ul style="list-style-type: none"> • Flameproof AAQMS Apparatus for tank farm area at the cost of 2.0 lakhs. • Bio Assay study was carried out at the exit of IETP – Rs 40,000 • Revamping of AAQ monitoring station with new analyzers to measure additional parameters and erection of new display board and uploading of the data to Care Air Centre, TNPCB, Chennai at a cost of Rs. 55 Lakhs. • We have installed another AAQ continuous monitoring station for M/s Greenstar Fertilizers Limited at a cost

		<p>of Rs.55 Lakhs.</p> <ul style="list-style-type: none">• Replacing of the SA Plant Converter Catalyst at a cost of Rs.4.4 crores. Analysis reports are being submitted to regional office on half yearly basis.• SA Plant FAT modification job to increase SO₂ Absorption efficiency was carried out at a cost of Rs.1, 80,375.• Startup scrubber has been provided in sulphuric acid plant at a cost of Rs.80 Lakhs.• Online continuous emission monitoring of ammonia has been installed in both DAP and Complex fertilizers stack at a cost of Rs.30 lakhs (per stack) and Reformer stack SO₂ analyzer at a cost of Rs.30 lakhs and NO_x analyzer at the cost of 1 lakhs.• Online continuous monitoring for HF has been installed in DAP and PA plant at a cost of Rs.30 lakhs.• Online HF analyzer has been installed for ambient air monitoring at a cost of Rs.21lakhs• Online PM analyzer has been installed in DAP and SSP plant RG mill stack at a cost of Rs.6.25 lakhs.• Online HF analyzer installed for SSP, DAP II and PA stacks at the cost of Rs. 45 lakhs.
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12	The implementation of the project vis-à-vis environmental action plan 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 and shall be posted on the website of the company.	Compliance status reports are being submitted regularly MoEF, RO and others. Compliance status report is uploaded on the Company's Website.
13	A copy of the clearance letter shall be sent by the proponent to the concerned panjayath, Zilla parishad/Municipal corporation, Urban local body and local NGO, if any, from whose suggestions/ representations, if any, are to be received while processing the proposal.	Copy of the clearance letter was sent to the local panchayat.
14	The project proponent shall also submit six monthly report on the status of compliance of the stipulated EC condition including results of monitored data (Both in hard copies as well as by e mail) to the respective regional office of the MOEF, respective Zonal offices of the CPCB and the state pollution control board.	We are submitting six monthly compliance reports on the status of the conditions stipulated by the Ministry's RO, respective Zonal offices of the CPCB and the state pollution control board.
15	The environmental statement for each financial year ending 31 st March in form 5 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 the compliance of the environmental clearance conditions and shall also be sent to the respective regional offices of the MOEF by e mail.	The annual environmental statement in form V is being submitted to MoEF and TNPCC. Form V has been uploaded on the company's website.
16	The project proponent shall inform the public that environmental clearance has been accorded by the ministry and copies of the clearance letter are available with the	Newspaper advertisements were given in two local newspaper and copies of the same was submitted to RO, MoEF.

	SPCB/Committee may also be seen at the 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 newspaper 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.	
17	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.	Already informed. Project is completed. Date of commencement : 17.05.2010 Month of completion : October 2010

GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

Sub: Expansion of Phosphoric Acid plant Half Yearly Compliance Status Report

Ref:F.No.J-11011/123/2014-IA-II(I),Dt:30.05.2018

S.NO	SPECIFIC CONDITION	COMPLIANCE STATUS
6.	In view of the above, the proposal for amendment /transfer of the Environmental clearances dated 5 th March, 2008 and 18 th March, 2010 need to be submitted for further action in to the matter.	This is a communication order informing that the project involves expansion of one of the intermediate product and hence there is no requirement of Environmental Clearance. In compliance to this we have obtained separate EC in the name of Greenstar and also obtained amendment in EC 2008 .

GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

Sub: SSP Unit Environmental Clearance-Half Yearly Compliance Status Report

No J -11011/620/2009 IA II (I) dated 11.01.2019

A. SPECIFIC CONDITIONS

S.No	SPECIFIC CONDITION	COMPLIANCE STATUS
6.	As per the relevant provisions of the EIA Notification,2006 the environmental clearance to the project 'Installation of Single Super Phosphate (SSP) Production unit of capacity 350 MTPD at downstream of existing acid plants at SPIC Nagar, Tuticorin Tamil Nadu, granted by the Ministry vide letter dated 18 th March 2010, is hereby transferred from M/s Southern Petrochemical Industries Corporation Ltd to M/s Greenstar Fertilizers Limited, on the same terms and conditions under which prior environmental clearance was initially granted and for the same validity period.	This is a communication order informing the transfer of the Single super phosphate in the name of M/s Greenstar Fertilizers Ltd., subject to the implementation of terms and conditions which are stipulated in Environment clearance dated 18 th March 2010. A Separate compliance report for EC dated 18 th march 2010 is enclosed.

GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

ENVIRONMENTAL CLEARANCE FOR ENHANCED PRODUCTION AT SPIC, TUTICORIN

F.No. J-11011/171/2007- IA II (I) Dated : May 20, 2019

Half Yearly Compliance Status Report

S.No.	CONDITIONS	COMPLIANCE STATUS
5.	<p>Based on recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords approval to the amendment/ bifurcation of the environmental clearance dated 5th March 2008, as stated in para 3 above, with additional terms and conditions as under:-</p> <p>a) Total Fresh water requirement shall not exceed 3840 cum/day to be met through Tamil Nadu water supply and Drainage board from Thamiraparani river. Permission in this regard, shall be obtained from the concerned regulatory authority.</p>	<p>The present water consumption has been reduced from 3840 m³/day to 2591 m³/day by several water conservation measures. And it is drawn from Tamiraparani river through TWAD. There is no separate allocation for Greenstar. The water is drawn combined for both M/s SPIC Ltd., and M/s Greenstar fertilizers ltd., and permission is obtained in this regard.</p>
5 b)	<p>As already committed by the project proponent, Zero liquid Discharge shall be ensured and no waste/ treated water shall be discharged outside the premises.</p>	<p>Greenstar Fertilizers Ltd., is following up Zero Liquid Discharge as indicated in the condition.</p>
6.	<p>All the other terms and conditions stipulated in the Environmental Clearance dated 5th March 2008 remain unchanged.</p>	<p>This is a communication order informing the bifurcation of Environmental Clearance dated 5th March 2008 between M/s Greenstar Fertilizers Ltd. And M/s SPIC Ltd. We complied with all the conditions in the EC dated 05th march 2008.</p>

Compliance of "Charter on Corporate Responsibility for Environmental Protection" by M/s. Greenstar Fertilizers Limited. Thoothukudi

I. WASTE WATER MANAGEMENT:

Sl.No.	Charter Condition	Status of Compliance
1.	Efforts will be made for conservation of water, particularly with a target to have consumption less than 8, 12 & 15 M ³ /tonne of urea produced for plant based on gas, naphtha and fuel oil, respectively. In case of plants using Naphtha and Gas both as feed stocks, water consumption target of less than 10 M ³ /tonne will be achieved. An action plan for this will be submitted by June 2003 and targets will be achieved by March 2004.	Water consumption per MT of Urea produced (Mixed feed Naphtha and Natural gas based) is less than 10 cu.m/MT urea production (Now the Unit is with M/S.SPIC Limited)
2.	Use of arsenic for CO ₂ absorption in Ammonia Plants and chromate based chemicals for cooling systems, which is still continuing in some industries, will be phased out and replaced with non-arsenic and non-chromate systems by December 2003. In this regard, action plan will be submitted by June 2003.	The Unit has adopted glycine-based technology for absorption system in Ammonia Plant in June 1998. Cooling water system was switched over to non-chromate based (Phosphate system) treatment programme since 1998. (Now the Unit is with M/S.SPIC Limited)
3.	Adequate treatment for removal of oil, chromium (till non-chromate based cooling system is in place) and fluoride will be provided to meet the prescribed standards at the source (end of respective process unit) itself. Action plan will be firmed up by June 2003 for compliance by March 2004	Oil is skimmed from ammonia and urea effluent collection sump before the effluent is sent to treatment plant. The concentration of oil in treated effluent is BDL (Below Detectable Limit) always. The Unit has already adopted non-chromate treatment programme in cooling water system from June 1998. (Now the Unit is with M/S.SPIC Limited)
4.	Proper and complete nitrification and denitrification will be ensured, wherever such process is used for effluent treatment, by September 2003.	In the Unit, nitrification and denitrification process is not adopted for effluent treatment. An exclusive Integrated Effluent Treatment Plant is in operation to treat the generated effluents. pH of effluents is raised by addition of milk of lime in hydrotreater followed by air stripping. There is no process effluent in urea plant as everything is recycled back to the process. (Now the Unit is with M/S.SPIC Limited)

Sl.No.	Charter Condition	Status of Compliance
5.	<p>Ground water monitoring around the storage facilities and beyond the factory premises will be carried out at regular intervals particularly for pH, fluoride, CPCB will finalize the guidelines for groundwater monitoring by December 2003.</p>	<p>Regular Ground water monitoring is done in 20 no of wells once in a month both inside and outside factory premises.</p> <p>Samples are collected once in a month and analyzed for pH, Phosphate, Fluoride, Ammonical Nitrogen, Arsenic, Urea Nitrogen, Hexavalent chromium and Nitrate nitrogen.</p> <p>Regular monthly samples are collected and analyzed by us and once in three months by TNPCB</p>
6.	<p>No effluent arising from process plants and associated facilities will be discharged to the storm water drain. The quality of storm water will be regularly monitored by all the industries</p>	<p>The nitrogenous fertilizer plant effluent-mainly the cooling tower blow down, is collected in effluent sumps and then sent to Integrated Effluent Treatment Plant (IETP) for treatment. Similarly the phosphatic fertilizer plant effluent is recycled back to the system.</p> <p>No effluent is discharged into storm water drain.</p> <p>The storm water quality is monitored at the time of rains and is pumped to IETP and then reused.</p>
7.	<p>The industries, where waste water/effluent flows through the storm water drains even during the dry season will install continuous systems for monitoring the storm water quality for pH, ammonia and fluoride. If required, storm water will be routed through effluent treatment plant before discharging. An action plan will be submitted by June 2003 and necessary action will be taken by June 2004.</p>	<p>In the Unit, waste water/effluent does not flow through the storm water drains.</p> <p>During rain, in Nitrogenous fertilizer plant, the storm water drain is diverted to Integrated effluent treatment plant for treatment and then reused.</p>

II. AIR POLLUTION MANAGEMENT

Sl.No.	Charter Condition	Status of Compliance
1.	All the upcoming Urea Plants will have urea prilling towers based on natural draft so as to minimize urea dust emissions.	<p>Provision of natural draft system is applicable to new upcoming Urea Plants The Urea Plant was commissioned in 1975.</p> <p>We had been taken several steps to reduce the pollution load below 50 mgms/Nm³</p> <p>(Now the Unit is with M/S.SPIC Limited)</p>
2.	The existing urea plants, particularly, the plants having forced draft prilling towers, will install appropriate systems (e.g.scrubber, etc.) for achieving existing norms of urea dust emissions. In this regard, industries will submit action plan by June 2003 and completion of necessary actions by June 2004.	<p>In the Unit Urea prilling tower is based on forced draft system. The air pollution control equipment has been installed to reduce the concentration of pollutants.</p> <ul style="list-style-type: none"> • The conventional distribution system at the top of prilling tower has been converted to acoustic granulation in 1988 to bring down dust emission. With this improved urea melt spray system "Satellites" namely the fine dust particles are reduced. • The fluidizing dryer hot air used for carrying of urea crystals to the top of prilling tower is sent to a set of cyclones, consisting of dry cyclones (4 Nos.) and wet cyclones (2 Nos.). Since the dry cyclones are operated under negative pressure by an induced draft fan, urea crystals and the dust particles are effectively separated by centrifugal action in cyclones. The hot air is then sent to wet cyclones, where clear water is circulated to absorb fine dust particles and ammonia. The fluidizing cooler air, which is used for cooling of urea prills, is sent through 4 Nos. of dust chambers. At the bottom of dust chamber, water level is maintained by a circulation pump. The pollutants, ammonia and urea dust are absorbed in water and the pollutant level in the exit is reduced. The particulate matter at the exit of prilling tower is well below the stipulated standard of 50 mg/NM³ <p>(Now the Unit is with M/S.SPIC Limited)</p>

Sl.No.	Charter Condition	Status of Compliance
3.	The sulphuric acid plants having SCSA system will switch over to DCDA system by March 2004 to meet the emission standard for SO ₂ as 2 kg/tonne of H ₂ SO ₄ produced. An action plan for this will be submitted by June 2003.	DCDA process is adopted since 1994. Now it is under M/s Greenstar Fertilizers we had completely renewed the old catalyst and achieved SO ₂ emission less than 1.0 kg/tonne of H ₂ SO ₄ produced
4.	Sulphuric acid plants having DCDA system will improve the conversion and absorption efficiencies of the system as well as scrubbers to achieve SO ₂ emissions of 2 kg/tonne of acid produced in case of plants having capacity above 300 tpd and 2.5 kg/tonne in case of plants having capacity upto 300 tpd. An action plan will be submitted by June 2003 and emission levels will be complied with by September 2004.	Sulphuric acid manufacturing process is based on DCDA system. In order to improve the conversion efficiency further, fresh V ₂ O ₅ catalyst was charged in Sulphuric Acid Plant converter. By this, the stipulated 1.0 kg/tonne of acid produced is complied with.
5.	Stack height for sulphuric acid plants will be provided as per the guidelines and on the basis of normal plant operations (and not when the scrubbers are in use) by June 2003. The scrubbed gases are to be let out at the same height of the stack.	The stack height provided in SA plant is 60M which is sufficient to meet the stringent standard of 1.0 kg/ton of 100% H ₂ SO ₄ . Tail Gas scrubber has been installed at Sulphuric acid plant to keep the emission always under norms even during start up and shut down.
6.	An action plan for providing proper dust control systems at rock phosphate grinding unit in phosphoric acid plants/single super phosphate plants, so as to achieve particulate emission levels of 150 mg/NM ³ will be submitted by September 2003 and complied with by march 2004.	In Rock grinding section of Phosphoric Acid plant improved pulsejet bag filter was provided in 1995 to remove the particulate matter in the exhaust gas. The concentration of particulate matter in RG mill exhaust is less than the stipulated standard of 125 mg/NM ³ .
7.	Particulate as well as gaseous fluoride will be monitored and adequate control systems will be installed by June 2004 to achieve the norms on total fluoride emissions (25 mg/NM ³)	Turbulent Contact Absorber (TCA) is provided for scrubbing of fluoride present in emission gases and continuous circulation is maintained. The total fluoride concentration at the exit of TCA-3 is within standards. Fluorine recovery unit is in operation since 1987 and the Hydro fluosilicic acid produced is converted into a value added product - Aluminium Fluoride.
8.	Continuous SO ₂ emission monitoring systems will be installed in sulphuric acid plants (having capacity 200 tpd and above) by	The Unit has provided continuous online analyzer for monitoring of SO ₂ concentration in SA stack and is uploaded to TNPCB and CPCB

Sl.No.	Charter Condition	Status of Compliance
	March 2004. Action plan for this will be submitted by June 03.	
9.	Regular monitoring of ambient air quality with regard to SO ₂ , NO _x , PM, SO ₃ , Fluoride and acid mist will be carried out.	<p>Ambient air samples are collected twice in a week in all the 9 permanent ambient air stations. The parameters analysed are SO₂, NO_x, PM, Fluoride and Ammonia.</p> <p>As part of CREP compliance, the parameters SO₃ and acid mist are also analysed by the Unit in ambient air.</p> <p>As per Supreme Court Monitoring Committee directions online display of Ambient Air Data has been started by the Unit.</p> <p>The parameters uploaded are Ambient temperature, relative humidity, Ambient Ammonia level, Ambient SO₂, NO₂, NO_x, PM₁₀, PM_{2.5} levels, Ambient HF.</p>

III. SOLID WASTE MANAGEMENT

Sl.No.	Charter Condition	Status of Compliance
1.	Gypsum will be effectively managed by providing proper lining, dykes with approach roads and monitoring of ground water quality around storage facilities. Accumulated gypsum will be properly capped. In this regard, action plan will be submitted by June 2003 and for compliance by Dec. 2003	<p>Gypsum is disposed to cement manufacturing units as a substitute to lime stone to enhance the calcium oxide concentration in cement. Gypsum is also utilized in agriculture as a soil conditioner. By continuous disposal methods, the quantity of gypsum utilized is higher than the generation quantity and thereby the accumulation is reduced. The dykes are provided with approach roads for transportation of the material. In gypsum dyke area monitoring wells have been provided to check the ground water quality.</p> <p>Fluoride levels in the monitoring wells are well within the standard.</p>
2.	An action plan for proper handling, storage and disposal of spent catalyst having toxic metals will be submitted by June 2003 and implemented by September 2003. The industry will also explore recovery/buy-back of spent catalyst by Sep. 2003.	The spent catalysts are collected in mild steel drum sealed and disposed to M/s Tamilnadu waste management Ltd. We are having agreement with them.

Sl.No.	Charter Condition	Status of Compliance
3.	Carbon slurry, sulphur muck and chalk will be properly managed and disposed of in properly designed landfill either within premises or in common facility. Action plan on this will be submitted by June 2003 and implemented by march 2004.	<p>Carbon slurry is not generated in this Unit.</p> <p>As per our guidelines the Sulphur muck is used as a filler material in the Phosphatic fertilizer unit. (Now the unit at M/s Greenstar Fertilizers Ltd)</p> <p>Calcium carbonate waste generation is reduced by using imported lime.</p>
4.	Existing stock of chromium and arsenic bearing sludge will be properly disposed by December 2003. Industries will also explore recovery of chromium from the sludge. CPCB will provide guidelines for proper disposal of the sludge.	<p>The Unit has adopted phosphate treatment system in cooling water system in 1998 and hence Chromium sludge generation has been avoided. The previously generated Chromium sludge in trivalent form is stored in an impervious pond inside the factory premises in an isolated area. The Chromium sludge from M/s. Tuticorin Alkali Chemicals and M/s. Tamilnadu Petroproducts Limited is also stored along with our Chromium sludge as per our directions. The capping of the impervious Chromium pond was taken up based on CPCB guidelines.</p> <p>Glycine absorption system is adopted in ammonia plant carbon dioxide removal section from 1998 and hence arsenic sludge generation has been eliminated completely.</p> <p>As per Supreme Court monitoring committee directions, the Arsenic bearing sludge, which has been collected in mild steel drum, seal welded and stored in an isolated area inside the factory premises with lock and key arrangement is stabilized, solidified and encapsulated in a lined concrete pit as per CPCB guidelines.</p> <p>(Now the Unit is with M/S.SPIC Limited)</p>

Ref: S &E/E-23/22

Date: 29.04.2022

The Director
Ministry of Environment and Forest
I. A. Division
Paryavaran Bhawan
CGO Complex, Lodhi Road
New Delhi - 110 003

Sub: Half Yearly Compliance Status Report for Environmental Clearance –Reg

Ref: Environment Clearance F.No. J – 11011/620/2009/- IA II (I) Dated : 25th Jan 2021

Dear Sir,

With reference to the above Environmental Clearance, we are herewith submitting the Compliance Status Report (Half yearly compliance report) for the period ending October 2021 to March 2022.

Thanking you,

Yours faithfully,
For "Greenstar Fertilizers Limited"



E. Balu
Chief Operating Officer
Encl:

1. Half Yearly Compliance Report
2. Half yearly monitoring report.

CC: i) District Environmental Engineer, Tamil Nadu Pollution Control Board, Tuticorin.

Greenstar Fertilizers Limited

CIN : U24100TN2010PLC077127

REGD OFFICE : "SPIC HOUSE", No. 88, Mount Road, Guindy, Chennai - 600 032, Tamilnadu, India.

FACTORY : Muthiahpuram Post, Tuticorin - 628 005. Tamilnadu, India.

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Web : www.greenstarfertilizers.com

GREENSTAR FERTILIZERS LIMITED
SPIC NAGAR, TUTICORIN – 628 005

ENVIRONMENTAL CLEARANCE FOR MODERNIZATION OF EXISTING DAP PLANT
FROM 606100 MTPA to 900000 MTPA

F.No. J-11011/620/2009- IA-II (I) Dated : Jan 25, 2021

Half Yearly Compliance Status Report

S.No.	SPECIFIC CONDITIONS	COMPLIANCE STATUS
15. (i)	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management and risk mitigation measures relating to the project shall be implemented.	We are in the process of obtaining Consent to Establish from Tamilnadu Pollution control Board. We shall implement all Environmental protection measures and safe guards as proposed at the time of establishing the project .
15. (ii)	The project proponent shall undertake a study on fertility of soil and comparative study of micro-species in the soil where their product is applied on large scale.	We have conducted soil fertility study in Tuticorin district in Tamilnadu and Kolar district in Karnataka state and the report is submitted to MOEF on 24.12.2021
15. (iii)	As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises. Treated effluent shall be reused in the process/ utilities. Treated Industrial effluent shall not be used for gardening / greenbelt development/ horticulture.	We shall follow Zero Liquid Discharge as indicated in the condition.
15. (iv)	Continuous online (24*7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the	<ul style="list-style-type: none"> • Online continuous emission monitoring of ammonia has been installed in both DAP and Complex fertilizers stack at a cost of Rs.30 lakhs (per stack) • Online continuous monitoring for HF has been installed in DAP ,SSP and PA plant at a cost of Rs.45 lakhs. • Online HF analyzer has been installed for ambient air monitoring at a cost of

	channel/drain carrying effluent within the premises.	<p>Rs.21lakhs</p> <ul style="list-style-type: none"> Online PM analyzer has been installed in DAP and SSP plant RG mill stack at a cost of Rs.6.25 lakhs <p>Online monitoring is not applicable for effluent monitoring since no open channel/drain carrying effluent within the premises.</p>
15. (v)	Total fresh water requirement shall not exceed 2591 m ³ /day will be met from Tamil Nadu Water supply and Drainage Board/ M/s SPIC Ltd. Prior permission in this regard shall be obtained from the concerned regulatory authority/ CGWA.	Total fresh water requirement of 2591 m ³ /day is drawn from Tamiraparani river through TWAD. The water is drawn combined for both M/s SPIC Ltd., and M/s Greenstar fertilizers Ltd.,
15. (vi)	Storm water from the roof top shall be channelized through to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.	<p>We have provided Rain water harvesting system for storm water collection as well as for roof top collection and the collected water is used for various activities.</p> <p>We have provided separate trenches for the collection of process water which shall be diverted to the plant process itself and separate drains for storm water collection which shall also be used for the plant process.</p>
15. (vii)	As committed, natural gas shall be used as fuel in all the boilers, after commissioning of the pipeline by the oil companies.	M/s SPIC has started receiving Natural Gas from IOCL on 13 th March 2021. Once full availability is ensured we shall comply the usage of NG.
15. (viii)	Occupational health center for surveillance of the worker's health shall be set up. The health data be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	We have an Occupational Health (OH) Centre with a full time doctor and supporting staff. OH tests including lung function test, sputum tests, audiometry and regular tests are carried out for all employees as per the Factory's Act and records are maintained and workers are being deployed in duties based on the health data. All employees and workers are being provided with the required Personal protective.
15. (ix)	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Safety and visual reality training shall be provided to employees.	Every month safety refresher trainings are conducted covering all employees of the company. It includes sessions on Safety, Health, Environment and aspects of chemical handling. Videos and Live demos are included for better understanding for the employees.

15. (x)	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire- fighting system shall be as per the norms.	We have a well-equipped fire protection system and a well-trained fire crew for fighting fire during any manufacturing process. Fire-fighting systems are as per the TAC Act and Factories Act.																				
15. (xi)	The project proponent shall undertake waste minimization measures as below																					
	(a) Metering and control of quantities of active ingredients to minimize waste	Raw material and other ingredients are added in measured quantities through mechanical means and therefore waste generation is minimized.																				
	(b) Re-use of by-products from the process as raw materials or as raw material substitutes in other processes	Hydrofluorosilicic acid generated as byproduct in PA process is being utilized at ALF3 plant. Gypsum generation from PA Process is sold to cement manufacturing units																				
	(c) Use of automated filling to minimize spillage	Mechanized chutes are being used for filling at Bagging plants and hence spillages are minimized.																				
	(d) Use of Close Feed system into batch reactors	Closed Feed system is being used in ALF3 batch reactors.																				
	(e) Venting equipment through vapour recovery system	Relief vent systems are provided at critical locations																				
	(f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.	High pressure hoses for equipment clearing are used																				
15. (xii)	The green belt of at least 5-10 m width shall be developed in nearly 33% of the total project area, mainly along the periphery. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department. Records of the tree canopy shall be monitored through remote sensing map.	We have taken up plantations within the project sites and the colony areas by covering more than 33 % of the total land area. <table border="1" data-bbox="837 1456 1460 1780"> <thead> <tr> <th>Area</th> <th>SPIC</th> <th>Greenstar</th> <th>Township</th> <th>Combined</th> </tr> </thead> <tbody> <tr> <td>Total area (Hectares)</td> <td>47.11</td> <td>56.43</td> <td>118.723</td> <td>222.113</td> </tr> <tr> <td>Greenbelt Area (Hectares)</td> <td>19.14</td> <td>19.6</td> <td>103.648</td> <td>139,228</td> </tr> <tr> <td>% Greenbelt area</td> <td>40.62%</td> <td>34.73%</td> <td>87.30%</td> <td>62.68%</td> </tr> </tbody> </table>	Area	SPIC	Greenstar	Township	Combined	Total area (Hectares)	47.11	56.43	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139,228	% Greenbelt area	40.62%	34.73%	87.30%	62.68%
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15. (xiii)	The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule -1 species in the study area, as applicable to the project, and subject to chief Wildlife Warden for approval. The	Not Applicable. The project is modernization of existing Plants. There is no schedule 1 species in site and hence site specific conservation plan stands not applicable.																				

	recommendations shall be implemented in consultation with the State Forest/ Wildlife Department in a time bound manner.	
15.(xiv)	The activities and the action plan proposed by the project proponent to address the socio- economic issues in the study area, shall be completed as per the schedule presented before the committee and as described in the EMP report in letter and spirit. All the commitments made shall be satisfactorily implemented.	We adhere to comply with all the proposed activities and action plan to address the socio-economic issues in the study area.
15. (xv)	A separate Environmental Management Cell (having qualifies person with Environmental Science/ Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	A separate environmental management cell equipped with full-fledged laboratory facilities is available. The Environment Management Cell is having 3 Environment engineers and Lab chemists and they are reporting to Head of Safety and Environment, who in turn is reporting to the Top Management.

S.No.	A. GENERAL CONDITION	COMPLIANCE STATUS
(i)	No further expansion or modifications in the plant, other than mentioned in the CIA notification, 2006 and its amendments, shall be carries out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. 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 this Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	We ensure No further expansion or modification in the plant was carried out without prior approval of the MoEF.
(ii)	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	We shall ensure that the energy source for lighting purpose shall be preferably LED based.
(iii)	The overall noise levels in and around the	Noise level is monitored at 4 locations

	<p>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 prescribes under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).</p>	<p>along the factory boundary at day and night time. The noise levels are within limit. We have provided noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generations.</p>
(iv)	<p>The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.</p>	<p>CER activities were undertaken in the areas such as Infrastructure for drinking water Supply Sanitation, Health, Education, Skill development, Roads, cross drains, Electrification including solar power, solid waste management facilities, Scientific supports Awareness to local farmers to increase yield of crop and fodder, Rain water harvesting, soil moisture conservation works, Avenue plantation in community area. We are continuously striving for the betterment of our surrounding community.</p>
(v)	<p>The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and climate change as well as the State Government along with the implemented schedule for all the conditions stipulated herein. The funds so earmarked for environment management/pollution control measures shall not be diverted for any other purpose.</p>	<p>We have allocated adequate funds are being provided to implement the conditions stipulated by the Ministry of Environment and forest as well as the State government along with the implementation schedule for all the conditions stipulated. The funds are not diverted for other purpose. Expenditures for Environmental protection measures include</p> <ul style="list-style-type: none"> • Online continuous emission monitoring of ammonia has been installed in both DAP and Complex fertilizers stack at a cost of Rs.30 lakhs (per stack) • Online continuous monitoring for HF has been installed in DAP and PA plant at a cost of Rs.30 lakhs. • Online HF analyzer has been

		<p>installed for ambient air monitoring at a cost of Rs.21lakhs</p> <ul style="list-style-type: none"> • Online PM analyzer has been installed in DAP and SSP plant RG mill stack at a cost of Rs.6.25 lakhs. • Online HF analyzer installed for SSP, DAP II and PA stacks at the cost of Rs. 45 lakhs.
(vi)	<p>A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal.</p>	<p>We have undertaken many measures for improving the socio economic condition of the local people in the surrounding area.</p> <p>We are rendering community service like running health center, Cheshire home etc., free medical camps. Blood donation camps ,Eye camps Polio vaccination campaigns, tree plantation , distribution of groceries are being conducted by Spic Nagar Rotary club every year.</p> <p>M/s SPIC and Greenstar are conducting medical camp in near by villages such as Soosai nagar and Muthiapuram using Mobile health van Free note books are being distributed every year to the poor students.</p> <p>Wide spread programs were conducted on "Beat plastic pollution". We have constructed community hall at nearby village at cost of Rs.12 lakhs. Solar power plant at cost of 3.25 lakhs has been installed for two old age homes.</p> <p>We have donated Rs.2 Lakhs to Thoothukudi Govt.Hospital for infrastructure development during Covid – Pandemic. We have constructed Library and handed over to Soosai Nagar village at a cost of 4 lakhs.</p> <p>Desilting and cleaning of canal in Kulaiyankarisal village was carried out at a cost of Rs.15.5 lakhs.</p>

		<p>During the year 2021 the following Socio economic services were carried out for the local community.</p> <p>We have contributed an amount of Rupees 5.9 lakhs towards the procurement of materials, running and modernization of PHCs.</p> <p>We have contributed an amount of Rupees 35000, for a boy to participate in International Yoga competition being held in Srilanka.</p> <p>We have donated black boards and white boards which also serve as a partition for the classrooms.</p> <p>We have contributed projector and speakers to convert a classroom to Digital classrooms in Sivanthikulam Coporation Middle School, we have donated a printer and a scanner to Government Higher Secondary School, Mukkani. We have renovated and constructed the toilet facility for government High School Pottalkadu and Government Higher Secondary School, Umarikadu.</p> <p>We have provided handrails at panchayath Union Middle School, Devar colony for the benefit of Physically challenged students. Contribution of chairs to classrooms and water tank for the schools at Mudukkukadu, Bharathi nagar and Compound wall renovation at Valavallan Government High School.</p> <p>We have donated 20 computers, Printers and UPS to Government Higher Secondary School, Saidapet, Chennai.</p> <p>We have provided a printer and Desktp to Mullakadu PHC.</p> <p>We have donated Mobile Phone to Students for attending Online classes on 7th July 2021 at SNHSS.</p> <p>We have celebrated 'International Day of Clean Air for blue skies 2021 on 7th September 2021 inside the plant premises at SPIC Nagar and</p>
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		<p>inaugurated a tree plantation programme.</p> <p>We have set up an medical grade oxygen plant worth Rs. 1.5 crore .</p> <p>AM International Group of companies donated Rs. 1 crore to the Thoothukudi District Collector's CSR fund and And another Rs.1 Crores was donated to Chief minister's Public Relief Fund, Tamil Nadu.</p> <p>We have donated to water purifier machines worth Rs. 2,18,300 to thoothukudi Govt. Hospital. And also donated oximeters and temperature monitoring infra red guns to Mullakadu PHCC.</p> <p>We have donated Rs.45000 towards the mini marathon conducted by VOC College, Thoothukudi.</p> <p>We have donated Rs.98000 towards the welfare of Thoothukudi Meenava sangham.</p> <p>We have donated a new library building at Soosai nagar.</p> <p>We have donated plastic chairs to anganvadi at a cost of Rs. 34600.</p> <p>We have supplied three 12 HP dewatering pumps & 125 KVA Diesel Generators to the ICU ward functioning at the Government Hospital, Thoothukudi for which Rs. 3,85,000 was spent.</p>
(vii)	<p>The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on</p>	<p>Compliance status reports are being submitted regularly MoEF, RO and others.</p> <p>Compliance status report is uploaded on the Company's Website.</p>

	the website of the company.	
(viii)	The environmental 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 Office of the Ministry.	The annual environmental statement in form V is being submitted to MoEF and TNPCB. Form V has been uploaded on the company's website.
(ix)	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 and at http://parivesh.nic.in/ . this shall be advertised within seven days from the date of issue of 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.	Newspaper advertisements were given in two local newspaper and copies of the same was submitted to RO, MoEF.
(x)	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.	Information shall be given on completion of the project.
(xi)	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Adhered to.

Compliance of "Charter on Corporate Responsibility for Environmental Protection" by M/s. Greenstar Fertilizers Limited. Thoothukudi

I. WASTE WATER MANAGEMENT:

Sl.No.	Charter Condition	Status of Compliance
1.	Efforts will be made for conservation of water, particularly with a target to have consumption less than 8, 12 & 15 M ³ /tonne of urea produced for plant based on gas, naphtha and fuel oil, respectively. In case of plants using Naphtha and Gas both as feed stocks, water consumption target of less than 10 M ³ /tonne will be achieved. An action plan for this will be submitted by June 2003 and targets will be achieved by March 2004.	Water consumption per MT of Urea produced (Mixed feed Naphtha and Natural gas based) is less than 10 cu.m/MT urea production (Now the Unit is with M/S.SPIC Limited)
2.	Use of arsenic for CO ₂ absorption in Ammonia Plants and chromate based chemicals for cooling systems, which is still continuing in some industries, will be phased out and replaced with non-arsenic and non-chromate systems by December 2003. In this regard, action plan will be submitted by June 2003.	The Unit has adopted glycine-based technology for absorption system in Ammonia Plant in June 1998. Cooling water system was switched over to non-chromate based (Phosphate system) treatment programme since 1998. (Now the Unit is with M/S.SPIC Limited)
3.	Adequate treatment for removal of oil, chromium (till non-chromate based cooling system is in place) and fluoride will be provided to meet the prescribed standards at the source (end of respective process unit) itself. Action plan will be firmed up by June 2003 for compliance by March 2004	Oil is skimmed from ammonia and urea effluent collection sump before the effluent is sent to treatment plant. The concentration of oil in treated effluent is BDL (Below Detectable Limit) always. The Unit has already adopted non-chromate treatment programme in cooling water system from June 1998. (Now the Unit is with M/S.SPIC Limited)
4.	Proper and complete nitrification and denitrification will be ensured, wherever such process is used for effluent treatment, by September 2003.	In the Unit, nitrification and denitrification process is not adopted for effluent treatment. An exclusive Integrated Effluent Treatment Plant is in operation to treat the generated effluents. pH of effluents is raised by addition of milk of lime in hydrotreater followed by air stripping. There is no process effluent in urea plant as everything is recycled back to the process. (Now the Unit is with M/S.SPIC Limited)

Sl.No.	Charter Condition	Status of Compliance
5.	Ground water monitoring around the storage facilities and beyond the factory premises will be carried out at regular intervals particularly for pH, fluoride, CPCB will finalize the guidelines for groundwater monitoring by December 2003.	<p>Regular Ground water monitoring is done in 20 no of wells once in a month both inside and outside factory premises.</p> <p>Samples are collected once in a month and analyzed for pH, Phosphate, Fluoride, Ammonical Nitrogen, Arsenic, Urea Nitrogen, Hexavalent chromium and Nitrate nitrogen.</p> <p>Regular monthly samples are collected and analyzed by us and once in three months by TNPCB</p>
6.	No effluent arising from process plants and associated facilities will be discharged to the storm water drain. The quality of storm water will be regularly monitored by all the industries	<p>The nitrogenous fertilizer plant effluent-mainly the cooling tower blow down, is collected in effluent sumps and then sent to Integrated Effluent Treatment Plant (IETP) for treatment. Similarly the phosphatic fertilizer plant effluent is recycled back to the system.</p> <p>No effluent is discharged into storm water drain.</p> <p>The storm water quality is monitored at the time of rains and is pumped to IETP and then reused.</p>
7.	The Industries, where waste water/effluent flows through the storm water drains even during the dry season will install continuous systems for monitoring the storm water quality for pH, ammonia and fluoride. If required, storm water will be routed through effluent treatment plant before discharging. An action plan will be submitted by June 2003 and necessary action will be taken by June 2004.	<p>In the Unit, waste water/effluent does not flow through the storm water drains.</p> <p>During rain, in Nitrogenous fertilizer plant, the storm water drain is diverted to Integrated effluent treatment plant for treatment and then reused.</p>

II. AIR POLLUTION MANAGEMENT

Sl.No.	Charter Condition	Status of Compliance
1.	All the upcoming Urea Plants will have urea prilling towers based on natural draft so as to minimize urea dust emissions.	<p>Provision of natural draft system is applicable to new upcoming Urea Plants The Urea Plant was commissioned in 1975.</p> <p>We had been taken several steps to reduce the pollution load below 50 mgms/Nm³ (Now the Unit is with M/S.SPIC Limited)</p>
2.	The existing urea plants, particularly, the plants having forced draft prilling towers, will install appropriate systems (e.g.scrubber, etc.) for achieving existing norms of urea dust emissions. In this regard, industries will submit action plan by June 2003 and completion of necessary actions by June 2004.	<p>In the Unit Urea prilling tower is based on forced draft system. The air pollution control equipment has been installed to reduce the concentration of pollutants.</p> <ul style="list-style-type: none"> • The conventional distribution system at the top of prilling tower has been converted to acoustic granulation in 1988 to bring down dust emission. With this improved urea melt spray system "Satellites" namely the fine dust particles are reduced. • The fluidizing dryer hot air used for carrying of urea crystals to the top of prilling tower is sent to a set of cyclones, consisting of dry cyclones (4 Nos.) and wet cyclones (2 Nos.). Since the dry cyclones are operated under negative pressure by an induced draft fan, urea crystals and the dust particles are effectively separated by centrifugal action in cyclones. The hot air is then sent to wet cyclones, where clear water is circulated to absorb fine dust particles and ammonia. The fluidizing cooler air, which is used for cooling of urea prills, is sent through 4 Nos. of dust chambers. At the bottom of dust chamber, water level is maintained by a circulation pump. The pollutants, ammonia and urea dust are absorbed in water and the pollutant level in the exit is reduced. The particulate matter at the exit of prilling tower is well below the stipulated standard of 50 mg/NM³ (Now the Unit is with M/S.SPIC Limited)

Sl.No.	Charter Condition	Status of Compliance
3.	The sulphuric acid plants having SCSA system will switch over to DCDA system by March 2004 to meet the emission standard for SO ₂ as 2 kg/tonne of H ₂ SO ₄ produced. An action plan for this will be submitted by June 2003.	DCDA process is adopted since 1994. Now it is under M/s Greenstar Fertilizers we had completely renewed the old catalyst and achieved SO ₂ emission less than 1.0 kg/tonne of H ₂ SO ₄ produced
4.	Sulphuric acid plants having DCDA system will improve the conversion and absorption efficiencies of the system as well as scrubbers to achieve SO ₂ emissions of 2 kg/tonne of acid produced in case of plants having capacity above 300 tpd and 2.5 kg/tonne in case of plants having capacity upto 300 tpd. An action plan will be submitted by June 2003 and emission levels will be complied with by September 2004.	Sulphuric acid manufacturing process is based on DCDA system. In order to improve the conversion efficiency further, fresh V ₂ O ₅ catalyst was charged in Sulphuric Acid Plant converter. By this, the stipulated 1.0 kg/tonne of acid produced is complied with.
5.	Stack height for sulphuric acid plants will be provided as per the guidelines and on the basis of normal plant operations (and not when the scrubbers are in use) by June 2003. The scrubbed gases are to be let out at the same height of the stack.	The stack height provided in SA plant is 60M which is sufficient to meet the stringent standard of 1.0 kg/ton of 100% H ₂ SO ₄ . Tail Gas scrubber has been installed at Sulphuric acid plant to keep the emission always under norms even during start up and shut down.
6.	An action plan for providing proper dust control systems at rock phosphate grinding unit in phosphoric acid plants/single super phosphate plants, so as to achieve particulate emission levels of 150 mg/NM ³ will be submitted by September 2003 and complied with by march 2004.	In Rock grinding section of Phosphoric Acid plant improved pulsejet bag filter was provided in 1995 to remove the particulate matter in the exhaust gas. The concentration of particulate matter in RG mill exhaust is less than the stipulated standard of 125 mg/NM ³ .
7.	Particulate as well as gaseous fluoride will be monitored and adequate control systems will be installed by June 2004 to achieve the norms on total fluoride emissions (25 mg/NM ³)	Turbulent Contact Absorber (TCA) is provided for scrubbing of fluoride present in emission gases and continuous circulation is maintained. The total fluoride concentration at the exit of TCA-3 is with in standards. Fluorine recovery unit is in operation since 1987 and the Hydro fluosilicic acid produced is converted into a value added product - Aluminium Fluoride.

Sl.No.	Charter Condition	Status of Compliance
8.	Continuous SO ₂ emission monitoring systems will be installed in sulphuric acid plants (having capacity 200 tpd and above) by March 2004. Action plan for this will be submitted by June 03.	The Unit has provided continuous online analyzer for monitoring of SO ₂ concentration in SA stack and is uploaded to TNPCB and CPCB
9.	Regular monitoring of ambient air quality with regard to SO ₂ , NO _x , PM, SO ₃ , Fluoride and acid mist will be carried out.	<p>Ambient air samples are collected twice in a week in all the 9 permanent ambient air stations. The parameters analysed are SO₂, NO_x, PM, Fluoride and Ammonia.</p> <p>As part of CREP compliance, the parameters SO₃ and acid mist are also analysed by the Unit in ambient air.</p> <p>As per Supreme Court Monitoring Committee directions online display of Ambient Air Data has been started by the Unit.</p> <p>The parameters uploaded are Ambient temperature, relative humidity, Ambient Ammonia level, Ambient SO₂, NO₂, NO_x, PM₁₀, PM_{2.5} levels, Ambient HF.</p>

III. SOLID WASTE MANAGEMENT

Sl.No.	Charter Condition	Status of Compliance
1.	Gypsum will be effectively managed by providing proper lining, dykes with approach roads and monitoring of ground water quality around storage facilities. Accumulated gypsum will be properly capped. In this regard, action plan will be submitted by June 2003 and for compliance by Dec. 2003	<p>Gypsum is disposed to cement manufacturing units as a substitute to lime stone to enhance the calcium oxide concentration in cement. Gypsum is also utilized in agriculture as a soil conditioner. By continuous disposal methods, the quantity of gypsum utilized is higher than the generation quantity and thereby the accumulation is reduced. The dykes are provided with approach roads for transportation of the material. In gypsum dyke area monitoring wells have been provided to check the ground water quality.</p> <p>Fluoride levels in the monitoring wells are well within the standard.</p>

Sl.No.	Charter Condition	Status of Compliance
2.	An action plan for proper handling, storage and disposal of spent catalyst having toxic metals will be submitted by June 2003 and implemented by September 2003. The industry will also explore recovery/buy-back of spent catalyst by Sep. 2003.	The spent catalysts are collected in mild steel drum sealed and disposed to M/s Tamilnadu waste management Ltd. We are having agreement with them.
3.	Carbon slurry, sulphur muck and chalk will be properly managed and disposed of in properly designed landfill either within premises or in common facility. Action plan on this will be submitted by June 2003 and implemented by march 2004.	<p>Carbon slurry is not generated in this Unit.</p> <p>As per our guidelines the Sulphur muck is used as a filler material in the Phosphatic fertilizer unit. (Now the unit at M/s Greenstar Fertilizers Ltd)</p> <p>Calcium carbonate waste generation is reduced by using imported lime.</p>
4.	Existing stock of chromium and arsenic bearing sludge will be properly disposed by December 2003. Industries will also explore recovery of chromium from the sludge. CPCB will provide guidelines for proper disposal of the sludge.	<p>The Unit has adopted phosphate treatment system in cooling water system in 1998 and hence Chromium sludge generation has been avoided. The previously generated Chromium sludge in trivalent form is stored in an impervious pond inside the factory premises in an isolated area. The Chromium sludge from M/s. Tuticorin Alkali Chemicals and M/s. Tamilnadu Petroproducts Limited is also stored along with our Chromium sludge as per our directions. The capping of the impervious Chromium pond was taken up based on CPCB guidelines.</p> <p>Glycine absorption system is adopted in ammonia plant carbon dioxide removal section from 1998 and hence arsenic sludge generation has been eliminated completely.</p> <p>As per Supreme Court monitoring committee directions, the Arsenic bearing sludge, which has been collected in mild steel drum, seal welded and stored in an isolated area inside the factory premises with lock and key arrangement is stabilized, solidified and encapsulated in a lined concrete pit as per CPCB guidelines.</p> <p>(Now the Unit is with M/S.SPIC Limited)</p>