

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 34
New Delhi - 110 003

Sub: Half Yearly Compliance Status Report for Environmental Clearance M/S.SPIC Limited – 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) J -11011/124/2015-IA II (I) dated 28.03.2017
4) 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 Oct 2021 to March 2022.

Thanking you,

Yours faithfully,

For "M/s Southern Petrochemical Industries Corporation Limited"


P.Senthilgayagam,

General Manager (Works)

Enclosure:

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

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

SOUTHERN PETROCHEMICALS INDUSTRIES CORPORATION 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. (Now the unit is with Greenstar Fertilizers limited)
2	Thermal urea hydrolyser stripper must be installed in case 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.	Effluent from urea is completely recycled and reused and because of that bio-hydrolyser treatment system has been removed since 2000.
3	LSHS must be used in heaters/boiler/CP. 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 .
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.
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.
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.	<p>Ambient Air Quality Monitoring is being carried out by our Environment Monitoring Cell at 9 locations manually.</p> <p>In addition to this Continuous Ambient Air Quality Monitoring station is available, one each in SPIC and Greenstar Fertilizers Ltd. Parameters such as PM₁₀, PM_{2.5}, NO, Nox, NO₂, NH₃ and SO₂ are monitored.</p> <p>In addition to the above parameters HF is monitored in Greenstar Ambient Air Quality Monitoring station. The online data is connected to TNPCB. Sensors are provided to detect NH₃ at vulnerable points within the battery limits of the plant.</p>
7	The unit should install continuous waste water monitoring system for measuring the following parameters: Flow, pH, Fluorine, AN, TKN and Arsenic.	Online meter for monitoring effluent flow, pH, Ammonical nitrogen, TSS are installed as per CPCB Guidelines. Arsenic is not used in our process now.
8	Ground water should be monitored regularly for pH, TDS, Arsenic, Nitrate nitrogen and Fluoride.	Ground water quality is monitored at 19 locations by our Environment Monitoring Cell on monthly basis. All the stipulated parameters such as PH, TDS, Arsenic, Nitrate Nitrogen and Fluoride are monitored.
9	Treated waste water samples should also be 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.	<p>The Treated effluent is fully recycled and reused in the Phosphatic Fertilizers plant of Greenstar fertilizers Ltd. Because of this the treated effluent is discharged only occasionally in to the sea through a pipe line, due to which we do not have an open channel.</p> <p>The treated and untreated effluent is also monitored manually by our Environment Monitoring Cell lab on monthly basis in addition to the continuous online monitoring system. pH, Ammonical nitrogen, Phosphate as P, Fluoride, Arsenic, Nitrate nitrogen, Oil and grease are monitored manually every month.</p> <p>Since arsenic is not used in the process it is not monitored.</p>
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	From July 1998 onwards glycine is being used as the scrubbing solution instead of arsenic and hence there is no generation of arsenic bearing sludge.

	time as vetrocoke system is continuing, adequate measures must be adopted to fully control arsenical effluent discharge and sludge disposal.	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.																				
11	A green belt must be developed within the battery limits of the SPIC	<p>Tree plantation has been done covering almost all the vacant areas in and around the plant and township.</p> <table><tr><td>Area</td><td>SPIC</td><td>Greenstar</td><td>Township</td><td>Combined</td></tr><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></table> <p>Multi species saplings have been planted and are maintained. Every year during World Environment Day plantation drive is being organized to develop green belt.</p>	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.	All monitoring Reports are being sent to Tamilnadu Pollution Control Board once in a month and Quarterly Reports are being sent to Central Pollution Control Board and Half yearly monitoring reports are regularly sent to MoEF, RO.																				
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.	No additional conditions are stipulated.																				

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>

		<p>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.</p> <p>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.</p> <p>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>
2	<p>The gaseous emission [SO₂, NO_x, NH₃ 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 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.</p>	<p>The gaseous emissions (SO₂, NO_x, NH₃ and Urea Dust & Fluoride) and particulate 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 achieve the desired efficiency. The stack height is as per CPCB guidelines. Interlocking system is provided in the pollution control devices.</p> <p>Company has taken all measures</p> <ol style="list-style-type: none"> 1. Reformer burners 90 numbers were replaced with low NO_x burners. 2. To reduce Ammonia and urea dust in Prilling tower, spray water system is arranged.
3	<p>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/Nm³.</p>	<p>We have provided two sets dry cyclone and one set of wet cyclone with stacks to limit the Particulate Matter within 50 mg/Nm³.</p>

4	<p>SO₂ emission level shall be 2 kg/T of the 100% H₂SO₄ produced and Acid Mist concentration shall be within 10 mg/nm³. 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.</p>	<p>The SO₂ emissions from Sulphuric acid plants stack is below 1Kg/T of H₂SO₄ produced and acid mist concentration is within 10 mg/nm³. 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 SO₂ emission.</p> <p>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.</p> <p>Hydro-fluorosilicic acid is recovered by operating the fluorine recovery unit and used for manufacturing of Aluminum Fluoride. (Units – Sulphuric acid plant and ALF₃ are now with M/s. Greenstar Fertilizers)</p>
5	<p>Regular monitoring of ambient air quality for SPM, RPM, SO₂, NO_x, NH₃, 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 as well as where maximum ground level concentration are anticipated.</p>	<p>Ambient Air Quality monitoring is being carried out regularly for SPM, RPM, SO₂, NO_x, NH₃, 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.</p> <p>The location of existing ambient air quality monitoring stations was set up in consultation with TNPCB in the predominant downwind direction and where maximum ground level concentrations are anticipated.</p> <p>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, SO₂, NH₃, and NO, NO₂, NO_x, wind direction, wind speed, RH and temperature are transferred to Care Air Centre, TNPCB Chennai.</p>
6	<p>Fugitive emissions in the bagging plant shall be controlled through two wet de-dusting 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.</p>	<p>Urea from plant is directly sent to Urea Bagging plant for bagging. It is transported through rubber belt soft conveyors. Only one transfer point is provided.</p> <p>Closed SS duct is provided in transfer points to avoid fugitive emissions.</p> <p>Electronic Packer scale weighers are provided which eliminates manual handling and avoid fugitive emission.</p> <p>Urea dust laden air from various dust emission points are sucked through and sent</p>

	Dust collected at these points will be reprocessed in the urea plant.	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.
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 conforms 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 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.	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 m3 per ton 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.
9	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.	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.
10	2.5 TPA of Sulphur Sludge, 14m ³ /yr of Spent Nickel Catalyst, 3m ³ /yr of Spent Co,	The sulphur sludge and calcium carbonate sludge is completely reused (in house) as

	Mo Spent Catalyst, 20m ³ /yr of Spent Iron Catalyst, 4m ³ /yr of Spent ZnO Catalyst & 5m ³ /yr V ₂ O ₅ 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.	filler material in DAP plant. Spent nickel catalyst, spent Co, Mo and spent iron catalyst and spent ZnO catalyst 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.
11	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.	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.
12	The project authorities shall strictly comply with the rules and regulations under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January 2000 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.	All the rules and regulation under MSIHC Rules 1989 are being followed. On Site 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.
13	The company shall strictly follow all the recommendations mentioned in the Charter on Corporate Responsibility for Environmental Protection [CREP].	<ul style="list-style-type: none"> ✓ Water consumption of the unit per MT of Urea produced (Naphtha+NG based) is less than 10 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

		<p>effluent mainly the cooling tower blow down is collected in effluent sumps and then sent to integrated effluent treatment plant for treatment</p> <ul style="list-style-type: none"> ✓ 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 maintained below 10 mg/Nm³. ✓ 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.
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.	We have taken up plantations within the project sites and the colony areas by covering more than 33 % of the total land area. The detailed are given below.

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%

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. Environmental clearance was obtained from MoEF for the modernization cum expansion of fertilizer manufacturing unit by M/s SPIC on 07.01.2020.
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 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 also has been installed for pH, Ammonical nitrogen, and flow and real time data is being uploaded on the web site of TNPCB and CPCB.
5	The overall noise level in and around the plant area shall be kept well within the	Noise level is monitored at 4 locations along the factory boundary at day and

	standard by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generations	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 (OHC) 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	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>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, TNPCC,

	<p>Chennai at a cost of Rs. 55 Lakhs.</p> <p>d) We have installed another AAQ continuous monitoring station for M/s Greenstar Fertilizers Limited at a cost of Rs.55 Lakhs.</p> <p>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.</p> <p>f) SA Plant FAT modification job to increase SO₂ Absorption efficiency was carried out at a cost of Rs.1, 80,375.</p> <p>g) Startup scrubber has been provided in sulphuric acid plant at a cost of Rs.80 Lakhs.</p> <p>h) IETP online analyzer was installed at the cost of Rs.10 lakhs and TSS analyzer is installed at the cost of 2.5 lakhs.</p> <p>i) 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.</p> <p>j) We have installed online monitoring in urea prilling tower for ammonia and dust at a cost of Rs.40 lakhs</p> <p>k) Online continuous monitoring for HF has been installed in DAP and PA plant at a cost of Rs.30 lakhs.</p> <p>l) Online HF analyzer has been</p>
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		<p>installed for ambient air monitoring at a cost of Rs.21lakhs</p> <p>m) Online SO₂ and NO_x Analysers for Boilers stack has been installed at the cost of Rs. 17.7 lakhs.</p>
9	<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.</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 nearby 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</p>

		<p>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 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</p>
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		<p>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>
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	Newspaper advertisements were given in two local newspaper and copies of the same were submitted to MoEF, RO.

	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.	
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.

SOUTHERN PETROCHEMICALS INDUSTRIES CORPORATION LIMITED
SPIC NAGAR, TUTICORIN – 628 005

Sub: Changeover of feedstock and fuel from Naphtha to mixed feed stock Environmental Clearance-Half Yearly Compliance Status Report

Ref: No J -11011/124/2015-IA II (I) dated 28.03.2017

A.SPECIFIC CONDITIONS

S.NO	SPECIFIC CONDITION	COMPLIANCE STATUS
14	All the other conditions in the environmental clearance letter no. J-1101/171/2007-IA.II (I) dated 5 th March, 2008 remains the same. The PP shall comply with all the other conditions in the EC dated 05 th March, 2008.	We have complied with all the conditions in the EC dated 05 th March, 2008.

SOUTHERN PETROCHEMICALS INDUSTRIES CORPORATION LIMITED
SPIC NAGAR, TUTICORIN – 628 005

Sub: Expansion of Urea and DAP at Southern Petrochemical Fertilizer Complex, Tuticorin, Tamil Nadu – Amendment/ Bifurcation of Environmental Clearance - Reg

Ref: No J -11011/171/2007-IA II (I) dated May 20, 2019

CONDITIONS

S.NO	SPECIFIC CONDITION	COMPLIANCE STATUS
5	<p>Based on recommendation of the EAC, the ministry of Environment Forest and climate change hereby accords approval to the amendment/ bifurcation of the environment 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 15178 cum/day to be met through Tamilnadu water supply and Drainage board from Thamiraparani river. Permission in this regard shall be obtained from the concerned regulatory authority.</p>	<p>Complied</p> <p>The present water requirement is 15178m³/day and it is drawn from Tamiraparani river through TWAD. Permission has been obtained from TWAD.</p>
5.b)	<p>Industrial effluent of 2160 cum/day shall be treated in ETP and treated effluent of 1344 cum/day shall be provided to M/s Greenstar Fertilizers Limited. Remaining treated effluent of 720 cum/day for disposal through marine outfall system shall conform to standards prescribed under the Environment (Protection) Rules, 1986.</p>	<p>The industrial effluent is within 2160 m³/day. The unit is providing 1455 cum/day of treated effluent to M/s Greenstar fertilizers Limited. As per the latest CTO .Remaining treated effluent if any is disposed occasionally through marine out fall system conforming to the standards prescribed under the Environment (protection) Rules, 1986.</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. And we have 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. SPIC Ltd., 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 gas based) is less than 10 cu.m/MT urea production.
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.	We have adopted glycine-based technology for absorption system in Ammonia Plant in June 1998. Cooling water systems were switched over to non-chromate based (Phosphate system) treatment programme since 1998.
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.
4.	Proper and complete nitrification and denitrification will be ensured, wherever such process is used for effluent treatment, by September 2003.	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.

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.	Regular Ground water monitoring is done in 20 no of wells once in a month both inside and outside factory premises. Samples are collected once in a month and analyzed for pH, Phosphate, Fluoride, Ammonical Nitrogen, Arsenic, Urea Nitrogen, Hexavalent chromium and Nitrate nitrogen. Regular monthly samples are collected and analyzed by us and once in three months by TNPCB
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	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. No effluent is discharged into storm water drain. The storm water quality is monitored at the time of rains and is pumped to IETP and then reused.
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.	In the Unit, waste water/effluent does not flow through the storm water drains. During rain, in Nitrogenous fertilizer plant, the storm water drain is diverted to Integrated effluent treatment plant for treatment and then reused.

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	Provision of natural draft system is applicable to new upcoming Urea Plants The Urea Plant

Sl.No.	Charter Condition	Status of Compliance
	so as to minimize urea dust emissions.	<p>was commissioned in 1975. We have taken several steps to reduce the pollution load below the prescribed norms.</p> <p>We have installed online continuous emission monitoring system for the measurement of Ammonia and PM and the data is being uploaded to TNPCB and CPCB since June 2018.</p>
2.	<p>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>	<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. • We have installed online continuous

Sl.No.	Charter Condition	Status of Compliance
		emission monitoring system for the measurement of Ammonia and PM and the data is being uploaded to TNPCB and CPCB since June 2018.
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/ton of H ₂ SO ₄ produced (Now the unit with M/s Greenstar Fertilizers Ltd.)
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.	Now the unit is with M/s Greenstar Fertilizers Ltd In the Unit 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/ton 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.	In the Unit, 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. Now the unit is at M/s Greenstar Fertilizers Ltd
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	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 150 mg/NM ³ . Now the unit is at M/s Greenstar Fertilizers

Sl.No.	Charter Condition	Status of Compliance
	march 2004.	Ltd
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. Now the unit is at M/s Greenstar Fertilizers Ltd
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.	We have provided continuous online analyzer for monitoring of SO ₂ concentration in SA stack and is uploaded to TNPCB and CPCB Now the unit is at M/s Greenstar Fertilizers Ltd
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.	Ambient air samples are collected twice in a week in all the 9 permanent ambient air stations. The parameters analysed are SO ₂ , NO _x , PM, Fluoride and Ammonia. As part of CREP compliance, the parameters SO ₃ and acid mist are also analyzed by the Unit in ambient air. As per Supreme Court Monitoring Committee directions online display of Ambient Air Data has been started by the Unit. The parameters uploaded are Ambient temperature, relative humidity, Ambient Ammonia level, Ambient SO ₂ , Ambient HF, NO ₂ , NO _x , PM ₁₀ , PM _{2.5} , Ambient HF.

III. SOLID WASTE MANAGEMENT

S.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 is disposed to cement manufacturing units as a substitute to lime stone to enhance the calcium oxide concentration in cement. Gypsum is also

S.No	Charter Condition	Status of Compliance
	gypsum will be properly capped. In this regard, action plan will be submitted by June 2003 and for compliance by Dec. 2003	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. Fluoride levels in the monitoring wells are well within the standard. Now it is at M/s Greenstar Fertilizers Ltd.
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 sealed drums and disposed in compliance with Hazardous waste rules.
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.	Carbon slurry is not generated in this Unit. 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) Calcium carbonate waste generation is reduced by using imported lime.
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.	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.Tamilnad 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. Glycine absorption system is adopted in ammonia plant carbon dioxide removal

S.No	Charter Condition	Status of Compliance
		<p>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>

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 34
New Delhi - 110 003

Sub: Half Yearly Compliance Status Report for Environmental Clearance M/S.SPIC Limited – Reg.

Ref: F. No. J-11011/171/2007-IA-II (I) dated January 7, 2020

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 Oct 2021 to March 2022.

Thanking you,

Yours faithfully,

For "M/s Southern Petrochemical Industries Corporation Limited"



P.Senthilnayagam,

General Manager (Works)

Enclosure:

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

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

Southern Petrochemical Industries Corporation Limited

(CIN: L11101TN1969PLC005778)

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SOUTHERN PETROCHEMICALS INDUSTRIES CORPORATION LIMITED**SPIC NAGAR, TUTICORIN – 628 005**

Sub: Modernization cum expansion of fertilizer manufacturing unit by M/s SPIC -
Environmental Clearance - Reg

Ref: No J -11011/171/2007-IA II (I) dated January 7, 2020

S.NO	TERMS AND CONDITIONS	COMPLIANCE STATUS
10.a.	Necessary Permission as Mandated under the water (Prevention and control of pollution) Act 1947 and the Air (Prevention and control of pollution) Act 1981 as applicable from time to time, shall be obtained from the state pollution control Board	We have obtained CTO for expansion- I under water (Prevention and control of pollution) Act 1947 vide consent order no: 2207241530259 dt: 21/04/2022 and under Air (Prevention and control of pollution) Act 1981 vide consent order no: 2207141530259 dt: 21/04/2022 from Tamilnadu Pollution control Board.
10.b	No additional effluent shall be generated under the proposed Modernization project Treated effluent of 600 cum/day shall be discharged through existing marine outfall system after conforming the statutory standards. The Project Proponent shall achieve zero liquid discharge (ZLD) within five years of commissioning of expansion project.	There is no change in effluent generation and the effluent shall be discharged through the existing marine outfall system after confirming the statutory standards.
10.c	Necessary authorization required under the hazardous and other wastes (Management and Trans-Boundary movement) rules 2016 shall be obtained and the provisions contained in the rules shall be strictly adhered.	We have a valid hazardous waste authorization vide authorization no. 19HFC7230770 dt.11/11/2019 valid till 10/11/2024.
10.d	The gaseous emissions (SO ₂ , NO _x , NH ₃ and HC and particulate matter from various process units shall conform to the norms prescribed by the CBCP/SPCB from time. At no time the emission levels shall go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency. Stack emission shall be monitored regularly	<p>The gaseous emissions (SO₂, NO_x, NH₃ and HC 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 achieve the desired efficiency. The stack height is as per CPCB guidelines. Interlocking system is provided in the pollution control devices.</p> <p>We have taken the following measures:-</p> <ol style="list-style-type: none"> 1. Reformer burners 90 numbers were replaced with low NO_x burners.

		<p>2. We have been using mixed feed stock (Natural Gas and Naphtha) in our ammonia plant which resulted in substantial reduction in Sox and NOx from reformer.</p> <p>3. To reduce Ammonia and urea dust in Prilling tower, spray water system is arranged.</p> <p>4. We have installed online continuous emission monitoring for the parameters SOx and No2 in reformer stack and NH3 and PM in urea Prilling tower and SOx and No2 in Aux Boiler III and data is being uploaded to TNPCB and CPCB.</p> <p>5. We have installed online continuous emission monitoring for the parameters Sox and Nox in GT/HRSG stack.</p>
10.e	To control source and the fugitive emission suitable pollution control devices shall be installed to meet the prescribed norms and /or the NAAQS The gaseous emission shall be dispersed through stack of adequate height as per CPCB/ SPCB guidelines. Fugitive emission shall be controlled by providing closed handling and conveying system.	<p>Fugitive emission is controlled by providing closed handling and conveying system. The gaseous emission is dispersed through adequate height as per CPCB/SPCB guidelines.</p> <p>Regular monitoring of fugitive emission as per the guidelines of CPCB is being carried out and data submitted to the concerned authorities. We shall ensure that fugitive emission confirms to the limits prescribed by the CPCB.</p>
10.f	Existing fresh water requirement is 15178 cum/day which is met through Tamilnadu Water supply and drainage board. No additional water shall be required for the proposed modernization	We assure that no additional water shall be required for the proposed modernization.
10.g	Process effluent/any wastewater shall not be allowed to mix with storm water. The Storm water from the premises shall be collected and discharge through a separate conveyance system.	We have separate sewers for storm water and process effluent. And thus Process effluent/ any wastewater shall not be allowed to mix with storm water. It will be diverted to IETP, treated and reused in M/s Greenstar Fertilizers Ltd. A portion of treated effluent will be discharged through marine outfall system.
10.h	Natural Gas shall be used as fuel in all the boilers	We have started receiving Natural Gas from IOCL's Ramanathapuram

		Thoothukudi Natural Gas Pipeline from 13 th March 2021 onwards and its being used in our boilers and fired heaters.																				
10.i	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc., flame arresters shall be provided on tank farm, and solvent transfer through pumps.	Naphtha and Ammonia are stored in Tanks. Flame arresters are also provided in flammable storage tanks.																				
10.j	The company shall strictly comply with the Rules and guidelines under Manufacture storage and import of Hazardous chemicals (MSIHC) Rules 1989 as amended time to time. All transportation of Hazardous chemical shall be as per the motor vehicle act 1989.	All the rules and regulation under MSIHC Rules 1989 are being followed. On Site Emergency drills are being carried out as per approved plan. Hazardous chemicals are transported in compliance with motor vehicle Act 1989.																				
10.k	The company shall under take waste minimization measures as below. i. More efficient use raw materials water and energy ii. Through an effective water management programme to reduce water consumption. iii. Use of automated filling in bagging section to minimize spillages.	We are following several waste minimization measures in our premises. We ensure to use raw materials, water and energy more efficiently. We shall follow water management programme to reduce water consumption. Automatic filling is being followed in bagging section to minimize spillages.																				
10.l	The green belt of least 5-10 m width shall be developed in nearly 35% of the total project area, mainly along the plant periphery, in downward wind direction and along road sides etc. selection of plant species shall be as per the CBCP guidelines in consultation with state Forest Department.	<p>Tree plantation has been done covering almost all the vacant areas in and around the plant and township.</p> <table><tr><td>Area</td><td>SPIC</td><td>Greenstar</td><td>Township</td><td>Combined</td></tr><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></table> <p>Multi species saplings have been planted and are maintained. Every year during World Environment Day plantation drive is being organized to develop green belt.</p>	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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10.m	As committed Rs 10 crores shall be allocated towards corporate Environment responsibility (CER) item wise details along with time bound action plan shall be prepared and submitted to the ministry's regional Office.	We have spent Rs.25 crore for the installation of 22 MW floating solar power plant as renewable Green energy towards our contribution to corporate Environmental responsibility. We have also spent Rs.1.5 crores towards the installation of 50 Nm3/hour Medical Oxygen generation unit.																				

		The action plan in this regard has been submitted to the Regional office vide letter no. SE/E-8B2/22 dated 18.02.2022.
10.n	Safety and visual reality training shall be provided to employees	Safety and visual reality training has been provided to all employees through a systematic safety refresher training program.
10.o	For the DG sets emission limits and the stack height shall be in conformity with the extant regulations and the CPCB guidelines Acoustic enclosure shall be provided to DG set for controlling the noise pollution.	We ensure emission levels and stack height shall be in conformity as per CPCB guidelines for DG sets and enclosures shall be provided to control noise pollution.
10.p	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms	We have adequate fire protection system as per norms which is maintained in good condition by regular preventive maintenance. Frequent Emergency mock drills are also conducted to improve awareness among the employees and workers.
10.q	Occupational health surveillance of the workers shall be done on regular basis and records maintained as per the factories Act	Occupational Health surveillance is being carried out for employees on regular basis and records are maintained as per the Factories Act.
10 r.	Continuous online 24*7 monitoring system for stack emission shall be installed for measurement of fuel gas discharge and the pollutions concentration and the data to be transmitted to the CPCB and SPCB server. For online continuous monitoring effluent the unit shall install web camera with night version capability and flow meters in the channel /drain carrying effluent within the premises.	Online Continuous monitoring system has been installed in Reformer stack for SO2 and NOx parameters and NH3 and PM in urea Prilling tower and SO2 and NOx in Aux Boiler III stack and data is transmitted to the CPCB and TNPCB server. There is no channel/drain carrying effluent within the premises.
10.s	Process Safety and risk assessment studies shall be further carried out using advanced models and the mitigating measures shall be undertaken accordingly	A process Safety and risk assessment study has been carried out by using DNV Phast models and the mitigating measures are undertaken.
11	The Project proponent shall strictly comply the sector specific conditions as mentioned in the ministry office memorandum no. 22-34/2018- IA. III. Dated 9th august 2018 The said OM is available at the ministry website the grant of environment clearance is further subject to compliance of other generic conditions as under.	We shall comply with all the applicable conditions mentioned in the ministry office memorandum no. 22-34/2018- IA. III. Dated 9th August 2018.

S.NO	GENERAL CONDITION	COMPLIANCE STATUS
11 (i).	The project authorities must strictly adhere to the stipulation made by the state pollution control board (SPCB) state Government and /or any other statutory authority	We shall strictly adhere to the stipulation made by the state pollution control board (SPCB) state Government and /or any other statutory authority
11 (ii).	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment forest and climate change. In case of deviation or alterations in the project proposal from those submitted to this ministry for clearance, a fresh reference shall be made to the ministry to assess the adequacy of conditions imposed and to add additional Environmental protection measures required if any.	We ensure No further expansion or modification in the plant was carried out without prior approval of the MoEF.
11 (iii).	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 at least one stations each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	The locations of existing ambient air quality monitoring station were set up in consultation with TNPCB in the predominant downwind direction and where maximum ground level concentrations are anticipated. In addition to that 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.
11 (iv)	The Nation Ambient air quality Emission Standards by the ministry vide G.S.R No. 826(E) dated 16th November, 2009 shall be complied with.	Ambient Air Quality Monitoring is being carried out by our Environment Monitoring Cell at 9 locations manually. In addition to this Continuous Ambient Air Quality monitoring stations are also available and the parameters are maintained with in norms.
11 (v)	The overall noise levels in and around the plant area shall be kept will within the standards by providing noise control measures including acoustic hoods, silencers enclosures etc. an all sources of noise	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

	generation. The ambient noise level shall conform to the standards prescribed under environment (protection) Act 1986 rules 1989 viz. 75dBA (day time) and 70dBA (night time)	all sources of noise generations.
11(vi)	The company shall harvest rain water from the roof tops of the buildings to recharge ground water and to utilize the same for different industrial operations within the plant	We have provided Rain water harvesting system and the collected water is used for various activities.
11 (vii)	Training shall be imparted to all employees on Safety and health aspects of chemical handling. Pre-employment and routine periodical medical examination for all employees shall be under taken on regular basis. Training to all employees on handling of chemicals shall be imparted.	We ensure that almost every employee is given training on Safety and health aspects of chemical handling. We shall assure that Pre-employment and routine periodical medical examination for all employees shall be under taken on regular basis. Training is regularly given to all employees every month on handling of chemicals through safety refresher trainings, pep talks and on the spot trainings.
11 (viii)	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 risk mitigation measures and public hearing shall be implemented.	We shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the ministry. We ensure fulfilling all the recommendations made in the EIA/EMP in respect of environmental management risk mitigation measures
11(ix)	The company shall undertake all measures for improving socio-economic conditions of the surrounding area CSR activities shall be undertaken by involving local villagers administration and other stake holders. Also eco-developmental measures shall be undertaken for overall improvement of the environment.	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. 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. Wide spread programs were conducted on

	<p>"Beat plastic pollution".</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 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>
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		<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>
11(x)	A separate Environmental Management cell equipped with full-fledged laboratory facilities shall be set up to carry out the environmental management and monitoring functions.	<p>A separate environmental management cell equipped with full-fledged laboratory facilities is available.</p> <p>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.</p>
11(xi)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the ministry of Environment	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

	<p>forest and climate changes well as the state Government along with the implementation schedule for all conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.</p>	<p>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"> 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). CAAQ monitoring station was installed a cost of Rs. 55 Lakhs, and data being uploaded to Care Air Centre, TNPCB, Chennai at d) IETP online analyzer was installed at the cost of Rs.10 lakhs and TSS analyzer is installed at the cost of 2.5 lakhs. e) Online continuous emission monitoring SO2 analyzer at a cost of Rs.30 lakhs and NOx analyzer at the cost of 1 lakhs was installed in Reformer stack f) We have installed online monitoring in urea prilling tower for ammonia and PM at a cost of Rs.40 lakhs g) Online SO2 and NOx Analyzers for Boilers stack is being installed at the cost of Rs. 17.7 lakhs. h) We have installed online continuous emission monitoring system for the parameters So2 and Nox in GT/HRSG stack at a cost of 80 lakhs.
11 (xii)	<p>A copy of the clearance letter shall be sent by the project proponent to concerned panchayat, Zila parisad/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 sent a copy of the clearance letter to concerned panchayat, Zila parisad/municipal corporation, urban local body and the local NGO if any from whom suggestions/representations, if any were received while processing the proposal</p>

11 (xiii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored date (both in hard copies as well as by e-mail) to the respective zonal office of CPCB and SPCB. A copy of Environmental clearance and six monthly compliance status report shall be posted on the website of the company.	We ensure to submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored date (both in hard copies as well as by e-mail) to the respective zonal office of CPCB and SPCB. We ensure copy of Environmental clearance and six monthly compliance status report is posted on the website of our company.
11 (xiv)	The Environmental statement for each financial year ending 31st 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 respective regional offices of MoEF & CC by e-mail.	We have submitted Environmental statement for the last financial year ending 31st March in form V. And it has also been put on the website of our company along with the status of compliance of environmental clearance conditions. It will be sent to respective regional offices of MoEF & CC by e-mail.
11 (xv)	The project proponent shall inform the public that the project has accorded environmental clearance by the ministry and copies of the clearance letter are available with the SPCB/committee and may also be seen at website of the ministry at http://moef.nic . This shall be advertised with in sevendays from the date of issue of the clearance letter at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned regional of the ministry.	We have informed the public that we have been accorded environmental clearance by the ministry, and Newspaper advertisements were given in two local newspaper within seven days and copies of the same were submitted to MoEF, RO.
12.	The ministry reserves the right to stipulated additional conditions, if found necessary at subsequent stages and the projects proponent shall implement all the said conditions in a time bound manner. The ministry may revoke or suspend the environmental clearance if implementation of any of the above conditions is not found satisfactory	Noted. We assure to comply.

13.	Concealing factual date or submission of false/fabricated date and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (protection) Act 1986	Noted. We assure to comply.
14	Any appeal against this environmental clearance shall lie with the National Green Tribunal. If prepared within a period of 30days as prescribed under section16 of the National Green tribunal Act 2010.	Noted.
15	The above conditions will be enforced inter-alia under the provisions of the water Act (prevention & control of pollution) Act 1974 the Air (prevention & control of pollution) Act 1981. The Environment (protection) Act 1986, The Hazardous waste (Management, Handling and Transboundary movement) rules 2016 and the public liability insurance Act 1991 read with subsequent amendments therein.	Noted. We assure to comply.

Compliance of "Charter on Corporate Responsibility for Environmental Protection" by M/s. SPIC Ltd., 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 gas based) is less than 10 cu.m/MT urea production.
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.	We have adopted glycine-based technology for absorption system in Ammonia Plant in June 1998. Cooling water systems were switched over to non-chromate based (Phosphate system) treatment programme since 1998.
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.
4.	Proper and complete nitrification and denitrification will be ensured, wherever such process is used for effluent treatment, by September 2003.	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.

Sl.No.	Charter Condition	Status of Compliance
		There is no process effluent in urea plant as everything is recycled back to the process.
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. We have taken several steps to reduce the pollution load below the prescribed norms.</p> <p>We have installed online continuous emission monitoring system for the measurement of Ammonia and PM and the data is being uploaded to TNPCB and CPCB since June 2018.</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,

Sl.No.	Charter Condition	Status of Compliance
		<p>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 .</p> <ul style="list-style-type: none"> We have installed online continuous emission monitoring system for the measurement of Ammonia and PM and the data is being uploaded to TNPCB and CPCB since June 2018.
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.	<p>DCDA process is adopted since 1994. Now it is under M/s Greenstar Fertilizers</p> <p>we had completely renewed the old catalyst and achieved SO₂ emission less than 1.0 kg/ton of H₂SO₄ produced</p> <p>(Now the unit with M/s Greenstar Fertilizers Ltd.)</p>
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.	<p>In the Unit Sulphuric acid manufacturing process is based on DCDA system. In order to improve the conversion efficiency further, fresh V₂O₅ catalyst was charged in Sulphuric Acid Plant converter. By this, the stipulated 1.0 kg/ton of acid produced is complied with.</p> <p>(Now the unit is with M/s Greenstar Fertilizers Ltd)</p>
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.	<p>In the Unit, the stack height provided in SA plant is 60M which is sufficient to meet the stringent standard of 1.0 kg/ton of 100% H₂SO₄.</p> <p>Tail Gas scrubber has been installed at Sulphuric acid plant to keep the emission always under norms even during start up and shut down.</p> <p>(Now the unit is at M/s Greenstar Fertilizers Ltd)</p>

Sl.No.	Charter Condition	Status of Compliance
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 150 mg/NM ³ . (Now the unit is at M/s Greenstar Fertilizers Ltd)
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. (Now the unit is at M/s Greenstar Fertilizers Ltd)
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.	We have provided continuous online analyzer for monitoring of SO ₂ concentration in SA stack and is uploaded to TNPCB and CPCB (Now the unit is at M/s Greenstar Fertilizers Ltd)
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.	Ambient air samples are collected twice in a week in all the 9 permanent ambient air stations. The parameters analysed are SO ₂ , NO _x , PM, Fluoride and Ammonia. As part of CREP compliance, the parameters SO ₃ and acid mist are also analyzed by the Unit in ambient air. As per Supreme Court Monitoring Committee directions online display of Ambient Air Data has been started by the Unit. The parameters uploaded are Ambient

Sl.No.	Charter Condition	Status of Compliance
		temperature, relative humidity, Ambient Ammonia level, Ambient SO ₂ , Ambient HF, NO ₂ , NO _x , PM ₁₀ , PM _{2.5} , Ambient HF.

III. SOLID WASTE MANAGEMENT

S.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	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. Fluoride levels in the monitoring wells are well within the standard. (Now it is with M/s Greenstar Fertilizers Ltd.)
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 sealed drums and disposed in compliance with Hazardous waste rules.

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.Tamilnad 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, sea 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>