

Ref: S&E/E-23/20

Date: 14.10.20

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 – 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  
5) 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 April 2020 to September 2020.

Thanking you,

Yours faithfully,

For "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 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 the 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 are using naphtha as fuel in our fired heaters. Regarding the boilers, earlier, LSHS was used in auxiliary boilers and off-site boilers but subsequent to the commissioning of fluidized catalytic units at Cochin Refineries, Indian Oil Corporation is unable to supply the requirement of LSHS for our boilers. LSHS non-availability has been presented to the Director, MOEF, New Delhi vide our letter ED/EMD/01 dt. 20-2-2001. We have also informed to the Ministry of Fertilizers and Chemicals vide our letter dt.24.08.2000. Hence, due to the non-availability of LSHS, fuel oil is being used in our auxiliary and off-site boilers. Because of the various energy conservation

		<p>methods in SPIC, the offsite boilers are stopped and kept as stand by and the total fuel oil consumption in our boilers has been reduced to nearly 8 KL/hr.</p> <p>We are in the process of using Natural gas as fuel in place of Furnace oil for our boilers.</p>
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.	<p>The generated Chromium and arsenic sludge are encapsulated in lined pit as per CPCB guidelines in the year 2006.</p> <p>We have adopted alternate technology and because of this chromium and arsenic are not used in the process at present.</p>
6	Three fixed ambient air quality-monitoring stations should be set up in consultation with Tamilnadu Pollution Control Board for continuous monitoring of SO <sub>2</sub> , NH <sub>3</sub> and SPM. Sensors should be provided to detect P <sub>2</sub> O <sub>5</sub> , SO <sub>2</sub> and NH <sub>3</sub> 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 one each in SPIC and Greenstar Fertilizers Ltd. Are installed and the parameters such as PM<sub>10</sub>, PM<sub>2.5</sub>, NO, Nox, NO<sub>2</sub>, NH<sub>3</sub> and SO<sub>2</sub> is 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 NH<sub>3</sub> 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	The Treated effluent is fully recycled and reused in the Phosphatic Fertilizers plant of Greenstar fertilizers Ltd. Because of this the treated effluent



	point in the open channel before final discharge into sea for measuring pH, Ammoniacal nitrogen, Phosphate as P, Fluoride, Arsenic, Oil and grease.	is discharged only occasionally in to the sea through a pipe line, due to which we do not have an open channel. 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. Since arsenic is not used in the process it is not monitored.																				
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.																				
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"><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>56.28</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>34.82%</td><td>87.30%</td><td>62.68%</td></tr></table> Multi species saplings have been planted and are maintained. Every year during World Environment Day plantation drive is being organized to develop green belt.	Area	SPIC	Greenstar	Township	Combined	Total area (Hectares)	47.11	56.28	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139.228	% Greenbelt area	40.62%	34.82%	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	No additional conditions are stipulated.																				

	protect the environment, if considered necessary at any time.	
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**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> <ol style="list-style-type: none"> <li>SPIC has already taken initiative for the conversion. Basic engineering has already been completed with M/s Haldor Topsoe.</li> <li>SPIC is in the process of getting natural gas from Ramanathapuram area through IOC.</li> <li>IOC is in the process of laying dedicated gas pipe line between Ramanathapuram to Tuticorin.</li> <li>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</li> <li>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.</li> </ol>
2	The gaseous emission [SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> 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	<p>The gaseous emissions (SO<sub>2</sub>, NO<sub>x</sub>, NH<sub>3</sub> and Urea Dust &amp; 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</p>

	<p>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>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"> <li>1. Sulphuric acid plant converter catalyst (has been renewal at a cost of Rs.4.4 crores helped achieve less than 1.0 Kg/T of SO<sub>2</sub> emission.</li> <li>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.</li> <li>3. Reformer burners 90 numbers were replaced with low NOx burners.</li> <li>4. Additional scrubber was provided in DAP and SSP plant to reduce fluoride emission.</li> <li>5. To reduce Ammonia and urea dust in Prilling tower, spray water system is arranged.</li> </ol> <p>(Units - DAP and ALF<sub>3</sub> are now with M/s. Greenstar Fertilizers)</p>
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/Nm<sup>3</sup>.</p>	<p>We have provided two sets dry cyclone and one set of wet cyclone with stacks to limit the pollutant within 50 mg/Nm<sup>3</sup>.</p>
4	<p>SO<sub>2</sub> emission level shall be 2 kg/T of the 100% H<sub>2</sub>SO<sub>4</sub> produced and Acid Mist concentration shall be within 10 mg/nm<sup>3</sup>. Monitoring of Prilling Tower shall be carried out as per the CPCB Guidelines.</p> <p>Recovered Hydrofluoro Silicic Acid from the Fluorine recovery unit shall be reused in the process.</p>	<p>The SO<sub>2</sub> emissions from Sulphuric acid plants stack is below 1Kg/T of H<sub>2</sub> SO<sub>4</sub> produced and acid mist concentration is within 10 mg/nm<sup>3</sup>. Sulphuric acid plant converter catalyst has been renewal at a cost of Rs.4.4 crores helped achieve less than 1.0 Kg/T of SO<sub>2</sub> 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.</p>



		(Units – Sulphuric acid plant and ALF <sub>3</sub> are now with M/s. Greenstar Fertilizers)
5	Regular monitoring of ambient air quality for SPM, RPM, SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> , 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>Ambient Air Quality monitoring is being carried out regularly for SPM, RPM, SO<sub>2</sub>, NO<sub>x</sub>, NH<sub>3</sub>, 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 were set up in consultation with TNPCB and the predominant downwind direction and where maximum ground level concentrations are anticipated are also included.</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, SO<sub>2</sub>, NH<sub>3</sub>, and NO, NO<sub>2</sub>, NO<sub>x</sub>, wind direction, wind speed, RH and temperature are transferred to Care Air Centre, TNPCB Chennai.</p>
6	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. Dust collected at these points will be reprocessed in the urea plant.	<p>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.</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 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.</p>
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	Adequate measures like routine maintenance, preventive maintenance of equipment etc. are taken to control fugitive emissions in the work zone environment, product raw material

	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.	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 <sup>3</sup> /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 19 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 <sup>3</sup> /yr of Spent Nickel Catalyst, 3m <sup>3</sup> /yr of Spent Co, Mo Spent Catalyst, 20m <sup>3</sup> /yr of Spent Iron Catalyst, 4m <sup>3</sup> /yr of Spent ZnO Catalyst & 5m <sup>3</sup> /yr V <sub>2</sub> O <sub>5</sub> 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.	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 were sent to Tamil Nadu Waste Management Ltd. V <sub>2</sub> O <sub>5</sub> 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	<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.</p> <p>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 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>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.</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"> <li>✓ Water consumption of the unit per MT of Urea produced (Naphtha based) is less than 8 m<sup>3</sup>/MT.</li> <li>✓ The unit has adopted glycine based technology for absorption system in Ammonia plant in June 1998.</li> <li>✓ Cooling water systems were switched over to non-Chromate based treatment programme in 1998.</li> <li>✓ There is no process effluent in urea plant as everything is recycled back to the process.</li> <li>✓ 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</li> <li>✓ No effluent is discharged into storm water drain.</li> <li>✓ The storm water quality is monitored</li> </ul>

		<p>during the time of monsoon.</p> <ul style="list-style-type: none"><li>✓ Urea Prilling tower is based on forced draft system. The air pollution control equipment have been installed to reduce the concentration of pollutants.</li><li>✓ 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/Nm<sup>3</sup>.</li><li>✓ Tail gas scrubber is provided in sulphuric acid plant at a cost of 80 lakhs.</li><li>✓ Gypsum is disposed to cement manufacturing units and is also utilized in agriculture as a soil conditioner.</li><li>✓ The spent catalysts are collected in mild steel drum and disposed to Tamilnadu Waste Management Limited.</li></ul>																				
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. The detailed are given below.</p> <table><tr><th>Area</th><th>SPIC</th><th>Greenstar</th><th>Township</th><th>Combined</th></tr><tr><td>Total area (Hectares)</td><td>47.11</td><td>56.28</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>34.82%</td><td>87.30%</td><td>62.68%</td></tr></table>	Area	SPIC	Greenstar	Township	Combined	Total area (Hectares)	47.11	56.28	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139.228	% Greenbelt area	40.62 %	34.82%	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.  ➤ Environmental clearance was obtained from MoEF for the modernization cum expansion of fertilizer manufacturing unit by M/s SPIC. On 07.01.20.
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 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 standard by providing noise control measures including acoustic hoods,	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

	silencers, enclosures etc. on all sources of noise generations	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 Senior Manager 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 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"> <li>a) Flameproof AAQMS Apparatus for tank farm area at the cost of 2.0 lakhs.</li> <li>b) Bio Assay study was carried out at the exit of IETP – Rs 40,000</li> <li>c) Revamping of AAQ monitoring station with new analyzers to measure additional parameters and erection of new display</li> </ul>



		<p>board and uploading of the data to Care Air Centre, TNPCB, 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 SO<sub>2</sub> 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 SO<sub>2</sub> analyzer at a cost of Rs.30 lakhs and NO<sub>x</sub> 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</p>
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		<p>PA plant at a cost of Rs.30 lakhs.</p> <p>l) Online HF analyzer has been installed for ambient air monitoring at a cost of Rs.21lakhs</p> <p>m) Online SO2 and NOx Analysers for Boilers stack has been installed at the cost of Rs. 17.7 lakhs.</p> <p>n) Online PM analyser has been installed in DAP and SSP plant RG mill stack at a cost of Rs.6.25 lakhs.</p> <p>o) Online HF analyser for SSP, DAP II and PA stacks has been ordered at the cost of Rs. 45 lakhs.</p>
9	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>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.</p> <p>M/s SPIC has constructed Toilet building, Hand washing unit under "Clean India project" carried out at Mukkani government school, Two numbers RO unit constructed at Kulayankaraisal govt school, 35 numbers of calibers and structures at a worth of 1.5 lakhs given physically challenged people, building, water tank at St Antony's High school in M. Xavierpuram. Synthetic water tank and accessories were provided by SPIC</p>



		<p>Nagar rotary club to M. Thangamal puram. Panchayat union primary School Pottalkadu and Panchayat union middle school has been adopted by SPIC Nagar Lions club.</p> <p>Free note books are being distributed every year to the poor students.</p> <p>Coastal Cleanup drive is being organized every year to put forth the importance of safeguarding the marine ecosystem.</p> <p>In coordination with District authorities, M/s SPIC has participated in Desilting of water bodies and removal seemaikaruvelam trees.</p> <p>In association with Tuticorin Administration has introduced Reverse Vending Machines at Muthu Nagar beach, Tuticorin for disposal of Waste Plastic Bottles at a cost of Rs. 12 lakhs to promote plastic free district drive.</p> <p>24 hours drinking water facility for the Soosai nagar residents were provided and improved the existing common bathroom structure for better usage.</p> <p>Wide spread programs were conducted on "Beat plastic pollution".</p> <p>We have also supported District administration for de silting of Uppathu odai canal.</p> <p>Rotary club of SPIC nagar donates, Rs. 800000 for 8 year old child Heart Operation.</p> <p>We have Constructed Community Hall at nearby village at a cost of Rs. 12 lakhs .</p> <p>Solar power plant at a cost of Rs. 1.25 lakhs for old Age homes.</p> <p>We have donated Rs. 1 Lakh for transgender society.</p> <p>We have donated study material and other educational aids to Toovipuram Government School children.</p> <p>150 number of trees were planted along the Thoothukudi – Thiruchendur main road.</p> <p>Constructed community hall worth Rs.12</p>
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		<p>Lakhs to adopted village at Pottalkadu.</p> <p>Provided solar power generation unit worth Rs.2.5 lakhs to old age home at Tuticorin.</p> <p>In order to fight COVID-19 pandemic the below mentioned contributions were Made .</p> <p>We have donated Rs.2 lakhs to Thoothukudi Government Hospital to procure hospital infrastructure like mattresses for Corona emergency ward.</p> <p>We have donated 1250 kgs. of Rice and 1500 grocery kits for marginalized communities and 50 grocery kits to local auto drivers.</p> <p>We have donated masks, sanitization solutions to the public, police officers, fire services department.</p> <p>We have donated 250 nos. of food packets daily to the public in surrounding areas.</p> <p>We have donated high pressure jet pump for sanitization purpose to Thoothukudi Corporation.</p> <p>Rs. 2 lakhs worth grocery items were donated to Seva Bharathi trust in Thirupathi Andra Pradesh.</p> <p>We have donated 100 kit to the public and corona workers at Thoothukudi taluk office, and 25 kits to Thoothukudi corporation revenue sections engineers, 50 food packets to Thoothukudi Magalir kulu.</p> <p>We have carried out Building Renovation work worth rupees 13 lakhs at the District Collectorate Thoothukudi.</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	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

	shall be submitted to them regularly and shall be placed on the web site of the company	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 <a href="http://enviro.nic.in">http://enviro.nic.in</a> . 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.



**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 <sup>th</sup> March, 2008 remains the same. The PP shall comply with all the other conditions in the EC dated 05 <sup>th</sup> March, 2008.	We have complied with all the conditions in the EC dated 05 <sup>th</sup> 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 – Amendment / Bifurcation in the name of M/s Southern Petrochemical Industries Corporation Limited.

**CONDITIONS**

S.NO	SPECIFIC CONDITION	COMPLIANCE STATUS
5	Based on recommendation of the EAC, the ministry of Environment Forest and climate change hereby accords approval to the	Complied The present water consumption is 15178 m3/day and it is drawn from

	<p>amendment/ bifurcation of the environment clearance dated 5<sup>th</sup> 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>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. 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 5<sup>th</sup> March 2008 remain unchanged.</p>	<p>This is a communication order informing the bifurcation of Environmental Clearance dated 5<sup>th</sup> 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 05<sup>th</sup> March, 2008.</p>

**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

**Present Status:** We are in the process of obtaining Consent to Establish from TNPCB.

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 are in the process of obtaining CTE under water (Prevention and control of pollution) Act 1947 and the Air (Prevention and control of pollution) Act 1981 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 conforming 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 <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> 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	The gaseous emissions (SO <sub>2</sub> , NO <sub>x</sub> , NH <sub>3</sub> and HC and particulate matter from various process units are monitored on monthly basis and the emission levels are within limits. 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.



	efficiency .Stack emission shall be monitored regularly	<p>Company has taken all measures</p> <ol style="list-style-type: none"> <li>1. Reformer burners 90 numbers were replaced with low NOx burners.</li> <li>2. To reduce Ammonia and urea dust in Prilling tower, spray water system is arranged.</li> <li>3. 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 data is being uploaded to TNPCB and CPCB.</li> </ol>
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	On the basis of availability of Natural gas, we shall use natural gas/mixed feedstock for boilers.
10.i	Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc., flame arresters shall be provided	Naphtha and Ammonia are stored in Tanks. Flame arresters are also provided in flammable storage tanks.

	on tank farm, and solvent transfer through pumps.																					
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>56.28</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>34.82%</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	56.28	118.723	222.113	Greenbelt Area (Hectares)	19.14	19.6	103.648	139.228	% Greenbelt area	40.62%	34.82%	87.30%	62.68%
Area	SPIC	Greenstar	Township	Combined																		
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% Greenbelt area	40.62%	34.82%	87.30%	62.68%																		
10.m	As committed Rs 10 crores shall be allocated towards corporate Environment responsibility (CER) item wise details along with time bond action plan shall be prepared and submitted to the ministry's regional Office.	We shall allocate Rs.10 crore towards corporate Environment responsibility (CER) and action plan shall be prepared and submit to Regional office.																				
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 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 vision capability and flow meters in the channel /drain carrying effluent within the premises.	Online Continuous monitoring system has been installed in Reformer stack for SO <sub>2</sub> and NO <sub>x</sub> parameters and NH <sub>3</sub> and PM in urea Prilling tower and data is transmitted to the CPCB and TNPCB server. There are 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	Process Safety and risk assessment studies 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.

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S.NO	GENERIC 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 location of existing ambient air quality monitoring stations were set up in consultation with TNPCB and the predominant downwind direction and where maximum ground level concentrations are anticipated are also included. 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 <sub>2</sub> , NH <sub>3</sub> , and NO, NO <sub>2</sub> , NO <sub>x</sub> , 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	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

	sources of noise 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)	control measures including acoustic hoods, silencers, enclosures etc. on 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.	<p>We ensure that almost every employees are given training on Safety and health aspects of chemical handling.</p> <p>We shall assure that Pre-employment and routine periodical medical examination for all employees shall be under taken on regular basis.</p> <p>Training is regularly given to all employees every month on handling of chemicals through safety refresher trainings, pep talks and on the spot trainings.</p>
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.	<p>We shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the ministry.</p> <p>We ensure fulfilling all the recommendations made in the EIA/EMP in respect of environmental management risk mitigation measures</p>
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.	<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</p>

		<p>conducting medical camp in near by villages such as Soosai nagar and Muthiapuram using Mobile health van.</p> <p>M/s SPIC has constructed Toilet building, Hand washing unit under "Clean India project" carried out at Mukkani government school, Two numbers RO unit constructed at Kulayankaraisal govt school, 35 numbers of calibers and structures at a worth of 1.5 lakhs given physically challenged people, building, water tank at St Antony's High school in M. Xavierpuram. Synthetic water tank and accessories were provided by SPIC Nagar rotary club to M. Thangamal puram. Panchayat union primary School Pottalkadu and Panchayat union middle school has been adopted by SPIC Nagar Lions club.</p> <p>Free note books are being distributed every year to the poor students.</p> <p>Coastal Cleanup drive is being organized every year to put forth the importance of safeguarding the marine ecosystem.</p> <p>In coordination with District authorities, M/s SPIC has participated in Desilting of water bodies and removal seemaikaruvelam trees.</p> <p>In association with Tuticorin Administration has introduced Reverse Vending Machines at Mutthu Nagar beach, Tuticorin for disposal of Waste Plastic Bottles at a cost of Rs. 12 lakhs to promote plastic free district drive.</p> <p>24 hours drinking water facility for the Soosai nagar residents were provided and improved the existing common bathroom structure for better usage.</p> <p>Wide spread programs were conducted on "Beat plastic pollution".</p>
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		<p>We have also supported District administration for de silting of Uppathu odal canal.</p> <p>Rotary club of SPIC nagar donates, Rs. 800000 for 8 year old child Heart Operation.</p> <p>We have Constructed Community Hall at nearby village at a cost of Rs. 12 lakhs .</p> <p>Solar power plant at a cost of Rs. 1.25 lakhs for old Age homes.</p> <p>We have donated Rs. 1 Lakh for transgender society.</p> <p>We have donated study material and other educational aids to Toovipuram Government School children.</p> <p>150 number of trees were planted along the Thoothukudi – Thiruchendur main road.</p> <p>Constructed community hall worth Rs.12 Lakhs to adopted village at Pottalkadu.</p> <p>Provided solar power generation unit worth Rs.2.5 lakhs to old age home at Tuticorin.</p> <p>In order to fight COVID-19 pandemic the below mentioned contribution were made.</p> <p>We have donated Rs.2 lakhs to Thoothukudi Government Hospital to procure hospital infrastructure like mattresses for Corona emergency ward.</p> <p>We have donated 1250 kgs. of Rice and 1500 grocery kits for marginalized communities and 50 grocery kits to local auto drivers.</p> <p>We have donated masks, sanitization solutions to the public, police officers, fire services department.</p> <p>We have donated 250 nos. of food packets daily to the public in surrounding areas.</p> <p>We have donated high pressure jet</p>
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		<p>pump for sanitization purpose to Thoothukudi Corporation.</p> <p>Rs. 2 lakhs worth grocery items were donated to SevaBharathi trust in Thirupathi, Andra Pradesh.</p> <p>We have donated 100 kit to the public and corona workers at Thoothukudi taluk office, and 25 kits to Thoothukudi corporation revenue sections engineers, 50 food packets to Thoothukudi Magalir kulu.</p> <p>We have carried out Building Renovation work worth rupees 13 lakhs at the District Collectorate Thoothukudi.</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 Senior Manager 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 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>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> <p>a) Flameproof AAQMS Apparatus for tank farm area at the cost of 2.0 lakhs.</p> <p>b) Bio Assay study was carried out at the exit of IETP – Rs</p>

		<p>40,000</p> <p>c) CAAQ monitoring station was installed a cost of Rs. 55 Lakhs, and data being uploaded to Care Air Centre, TNPCB, Chennai at</p> <p>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.</p> <p>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</p> <p>f) We have installed online monitoring in urea prilling tower for ammonia and PM at a cost of Rs.40 lakhs</p> <p>g) Online SO2 and NOx Analyzers for Boilers stack is being installed at the cost of Rs. 17.7 lakhs.</p>
11 (xii)	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	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
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	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



	report shall be posted on the website of the company.	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 <a href="http://moef.nic">http://moef.nic</a> . 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	Noted .

	under section 16 of the National Green Tribunal Act 2010.	
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 <sup>3</sup> /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 <sup>3</sup> /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 (Naphtha based) is less than 12 cu.m/MT urea production.
2.	Use of arsenic for CO <sub>2</sub> 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.

Sl.N o.	Charter Condition	Status of Compliance
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.	<p>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.</p> <p>The Unit has already adopted non-chromate treatment programme in cooling water system from June 1998.</p> <p>The Unit (now it is M/s Greenstar Fertilizers Ltd) Phosphatic fertilizer plant washings and drains containing phosphate and fluoride is reused for slurring gypsum and hence the unit is zero discharge effluent.</p>
4.	Proper and complete nitrification and denitrification will be ensured, wherever such process is used for effluent treatment, by September 2003.	<p>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.</p> <p>There is no process effluent in urea plant as everything is recycled back to the process.</p>
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 once in a month both inside and outside factory premises.</p> <p>23 wells inside factory (10 wells at M/s SPIC and 13 wells at M/s Greenstar) and 12 wells outside the factory]</p> <p>Samples are collected once in a month and analyzed for pH, Phosphate, Fluoride, Ammoniacal Nitrogen, Arsenic, Urea Nitrogen, Hexavalent chromium and Nitrate nitrogen.</p> <p>As per directions of TNPCB, monitoring wells have been provided in all the four directions of chromium sludge pond and Arsenic sludge encapsulated pit. Regular monthly samples are collected and analyzed by us and once in three months by TNPCB.</p>



Sl.No.	Charter Condition	Status of Compliance
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> <p>During rain, in Phosphatic fertilizer plant (now at M/s Greenstar) the rainwater is collected in a sump and pumped to gypsum slurry tank for slurring gypsum.</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 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	In the Unit Urea prilling tower is based on forced draft system. The air pollution control equipment has been installed to reduce the

Sl.No.	Charter Condition	Status of Compliance
	<p>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>concentration of pollutants.</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> </ul>
3.	<p>The sulphuric acid plants having SCSA system will switch over to DCDA system by March 2004 to meet the emission standard for SO<sub>2</sub> as 2 kg/tonne of H<sub>2</sub>SO<sub>4</sub> produced. An action plan for this will be submitted by June 2003.</p>	<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 SO<sub>2</sub> emission less than 1.0 kg/ton of H<sub>2</sub>SO<sub>4</sub> produced</p>

Sl.No.	Charter Condition	Status of Compliance
4.	Sulphuric acid plants having DCDA system will improve the conversion and absorption efficiencies of the system as well as scrubbers to achieve $\text{SO}_2$ 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 $\text{V}_2\text{O}_5$ 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% $\text{H}_2\text{SO}_4$ .  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/ $\text{NM}^3$ 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/ $\text{NM}^3$ .  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/ $\text{NM}^3$ )	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 maximum of 2.1 mg/ $\text{nm}^3$ .  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 $\text{SO}_2$ 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 $\text{SO}_2$ concentration in SA stack and is uploaded to TNPCB and CPCB  Now the unit is at M/s Greenstar Fertilizers Ltd



Sl.No.	Charter Condition	Status of Compliance
9.	Regular monitoring of ambient air quality with regard to SO <sub>2</sub> , NO <sub>x</sub> , PM, SO <sub>3</sub> , 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 SO<sub>2</sub>, NO<sub>x</sub>, PM, Fluoride and Ammonia.</p> <p>As part of CREP compliance, the parameters SO<sub>3</sub> and acid mist are also analyzed 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 SO<sub>2</sub>, Ambient HF, NO<sub>2</sub>, NO<sub>x</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, 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.	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 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

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