

Coromandel/ SHE/ MoEF / 04/ 2024

15th April 2024

To,

The Additional Principal Chief Conservator of Forests(C)

Ministry of Environment & Forest and Climate change

Regional office (South Eastern Zone)

1st & 2nd Floor Handloom Export Promotion Council

34, Cathedral Garden Road

Nungambakkam

Chennai - 600034

Sir,

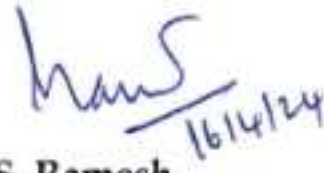
Sub: Half Yearly Report - October 2023 to April 2024.

Here with enclosed our MoEF Clearance - Compliance status & half yearly report of Stack, Ambient Air Quality & Ground water analysis for the period of October - 2023 to April - 2024.

Thanking You,

Yours Faithfully

For Coromandel International Limited,


16/4/24

S. Ramesh

Sr. General Manager - Manufacturing.

CC to:

1. Regional Officer - CPCB, SE Zonal, Chennai
2. Joint Chief Environmental Engineer, Chennai.

Compliance status of Environment Clearance
F. No. J-11011/358/2007-IA II (I)

S. No	Specific Condition	Status
I.	The expansion of the project shall be based on process improvement, technology innovation, improving on stream hours, maximization of equipment capacity and continuous supply of raw materials. No additional Sulphuric acid and phosphoric acid plant shall be installed for additional requirement of Sulphuric and phosphoric acid which shall be met by importing. Due to enhancement of production pollution load shall not increase from the existing load.	Complied with The unit has improved the production capacity and improved the energy recovery system by using advanced technology as per revised EC conditions, after that there is no changes in production equipment and technology 1. Captive Power Plant – Load increased 2. Steam based Thermo - Compressor installed instead of Electrical Blower 3. Low Pressure Steam reused in Multi-Effect Desalination Plant 4. Blow down water are being reused in process
II.	The project authorities shall install efficient scrubbing system to control fluorine emission and bag filters for dust control in phosphoric acid plant.	Phosphoric plant has Fluorine scrubber with Kimre Mesh and the stack emission is 10mg/ Nm ³ against the Norm of 20 mg / Nm ³ . The Rock grinding system have Bag filter which will be controlling dust emission is 50 mg/Nm ³ against the Norm of 125 mg/Nm ³ .
III.	Multistage scrubbing system shall be installed to control ammonia and suspended particulate matter in fertilizer plant.	Fertilizer plants have 5 stage scrubbing system for controlling of Ammonia and dry cyclone and wet Cyclonic scrubber for controlling dust.
IV.	The project authority shall install dust collection system in fertilizer bagging plant.	The bagging section have Dry cyclone and Venturi scrubber for controlling dust.
V.	The Sulphuric Acid Plant shall be based on double conversion double absorption technology and anodic alloy protected acid coolers shall be provided. Start-up scrubbers shall be installed in both Sulphuric acid plants to minimize SO ₂ emission during start-up.	Both Sulphuric Plants are designed DCDA (Double Conversation Double Absorption) Process., Chemetic coolers for acid cooling and Startup scrubber. Also, highly efficient MECS catalyst used for meeting CREP (Corporate Responsibility Environment Protection) requirement.

VI.	The project authority shall install high efficiency scrubber nozzles, additional tailgas scrubber, improve the scrubber efficiency by optimizing the L/G ratio, install additional cyclones in scrubbing system and install mist eliminators in scrubbers.	All scrubbers will have highly efficient Lechlar Nozzle for better absorption. Additional Tail gas scrubber was installed in Fertilizer plant.
VII.	The proponent shall not withdraw groundwater for the plant.	Unit have Sea water used Multi Effect Desalination plant from which the major water requirement is received. Further requirement is fulfilled by Metro Water Supply Board.
VIII.	The company shall develop the green belt in atleast 25% land area to mitigate the effect of fugitive emissions and noise as per the guidelines CPCB.	The unit has developed green belt even inside plant area and has planned to improve further and covered more than 25 % of the area.
IX.	The company shall implement all the recommendations made in the Charter on Corporate Responsibility for Environmental Protection (CREP) for fertilizer industries	Complied with.
	General Condition	
I	The project authorities shall strictly adhere to the stipulations of the SPCB/state government or any statutory body.	Complied with
ii	The gaseous emissions (SO ₂ , SO ₃ , NO _x , NH ₃ , F, fertilizer dust) and particulate matter from various process units shall conform to the standards prescribed by the concerned authorities from time to time. Emission data shall be periodically monitored, and reports submitted to Ministry's Regional Office, CPCB and SPCB.	All the plant stacks are monitored regularly, and the emissions are well within the limit. A monthly report regarding emission has been reported to Ministry's Regional Office, CPCB and SPCB. All the process plant stack installed online monitoring system all the values connected to TNPCB Care Air Centre
iii	All the waste waters generated from the various processes shall be recycled/reuse in the plant and zero discharge shall be maintained. The domestic wastewater shall be treated in septic tanks and treated waste shall be used for irrigation in the green belt	All plants are designed as Zero effluent system. Spilled water is being collected in collection sump and recycled in the process itself. Unit has Sewage treatment plant and treated water was used for gardening.
iv	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. In case of deviations or alterations in the project proposal from those submitted	Any expansion modification will be carried out with MoEF approval. Based on NIPL (No Increase in Pollution Load) basis the Fertilizer production capacity increased from

	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.	3,00,000 MT/Annum to 4,00,000 MT/Annum. Approved by TNPCB based on the Certified compliance obtained by MoEF & CC.
V	At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.	Complied with
Vi	The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.	The unit has installed 2 On- line AAQ monitoring station and another 4 places monitor through High volume air sampler. At any point of time the direction may change as per SPCB requirement 4 places monitor through PM-10& PM-2.5 and additionally the unit having 2 AAQ online sensors Stack monitoring analyzer installed all the values are connected to TNPCB Care Air Centre
Vii	Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided to control the emissions from various vents. The scrubbed water shall be sent to ETP for further treatment	All Stack heights are as per CPCB guidelines. All Scrubbed water collected and reused in the process itself.
Viii	All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N ₂ blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapour losses. All liquid raw material shall be stored in storage Tanks and Drums.	Ammonia storage tank designed as Double integrity, double walled tank. Installed 2 Nos Safety Relief valves, Vacuum relief valves, safety trips & interlocks. Total operation & monitoring is safely carried out by DCS control system. Sulphuric Acid & Phosphoric Acid tanks have dyke arrangement to contain any acid leak.
ix	The company shall undertake following Waste Minimization measures. ➤ Metering and control of quantities	Complied with In PAP plant, we have standardized the

	<p>of active ingredients to minimize waste.</p> <ul style="list-style-type: none"> ➤ Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. ➤ Use of automated filling to minimize spillage. ➤ Use of "Close Feed" system into batch reactors. ➤ Venting equipment through vapour recovery system. ➤ Use of high-pressure hoses for equipment cleaning to reduce wastewater generation. 	<p>defoamer for controlling foam in the reactor.</p> <p>In SAP plant we are using caustic lye instead of lime. This reduced the waste minimization of sulphur slag.</p> <p>By- Product Gypsum has sold to cement industries And sulphur sludge has used as a filler in our fertilizer production unit.</p> <p>N/A</p> <p>N/A</p> <p>Complied with</p> <p>Complied with</p>
X	Fugitive emissions in the work zone environment, product, and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by the State Pollution Control Boards/Central Pollution Control Board.	Workplace environment monitored regularly.
Xi	The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended in October 1994 and January 2000 and Hazardous Waste (Management and Handling) Rules, 1989, as amended from time to time. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous wastes.	<p>Unit has maintained the Hazardous waste as per Manufacture, Storage, and Import of Hazardous Chemicals Rules, 2016.</p> <p>Hazardous Waste authorization is valid up to March 31.03.2027.</p> <p>Unit also have agreement with Tamil Nadu Waste management limited for disposal of Spent catalyst (Vanadium Pent oxide) and other hazardous waste sent to CPCB authorized recycler. The unit is not storing any spent catalyst within the premises</p>
xii	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control	All control rooms have double wall protection and steam vents have silencers.

	measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (daytime) and 70 dBA (nighttime).	Noise level is being regularly monitored and reported to SPCB. The noise levels are within the limit.
Xiii	The company shall develop rainwater harvesting structures to harvest the runoff water for recharge of ground water	The unit have complete rainwater harvesting system
Xiv	Occupational health surveillance of the workers shall be carried out on a regular basis and records shall be maintained as per the Factories Act.	It is being regularly conducted as per Factories Act 1948 and Tamil Nadu Factories Rule 1950
Xv	The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.	The unit is implementing CSR activity- Conducting Medical camp, drinking water supply, Servicing the low-cost medical facility in near by area (Coromandel Medical Outreach Centre) Conducting Environment Awareness Programme (Tree plantation campaign & waste management awareness) and Sponsoring Computer education courses to factories near by village
Xvi	The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.	Unit has ISO 14001 Certification awarded by DNV. Set EMP's every year and to made continual improvement.
Xvii	A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions	Unit has appointed environmental Engineer. We set up the environment Site committee which meets every month and discuss Environment management system and implement.
Xviii	The project authorities shall earmark adequate funds to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.	Complied with
xix	The implementation of the project vis-à-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/SPCB / CPCB. A six-monthly compliance status report shall be	Complied with

	submitted to monitoring agencies and shall be posted on the website of the Company.	
Xx	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://envfor.nic.in . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Published two Local news papers, one in Dinamalar (Tamil News Paper) another in Deccan Chronicle (English News Paper) on 9 th September 2007.
Xxi	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project	At present there is no more Project. If any project arises that will be informed to concerned Authority.

COROMANDEL INTERNATIONAL LIMITED - ENNORE

Corporate Responsibility for Environment Protection (CREP) Status of Action Plan

Point No	Requirement	Action taken	Results Achieved
	A) WASTE WATER MANAGEMENT		
1.	Adequate treatment for removal of oil, Chromium & Fluoride	Process adapted by Coromandel Fertilizers Ltd for Phosphoric acid plant is di-hydrate process which produces 26% P ₂ O ₅ Phosphoric acid and all containing fluoride is collected and totally re circulated to the process.	Complied with
2.	No effluent arising from the process plants & associated facilities will be discharged to the storm water drain	Ennore unit works on the principle of keeping ZERO effluent discharge as all the process water is being recycled and taken back into the system and hence this point is well taken care of and the process water under any circumstances will not go into the storm water drain. Only permitted reject from the MED unit i.e. Desalination Unit is discharged into marine and the same is monitored as per TNPCB guidelines.	Complied with
	B) AIR POLLUTION MANAGEMENT		
3.	Sulphuric Acid plant conversion to DCDA	SAP – I has been converted to DCDA process during 1997 SAP – II has been operating with DCDA from the inception (1995)	Complied with Complied with

4.	Improve the conversion and absorption efficiency to achieve an emission standard of SO ₂ – 2.5 Kg / MT of Acid for plants with capacity of less than 300 T	SAP-I Plant - Catalysts for the converter was replaced with high performance & effective Haldor Topsoe & MECS catalysts.	SO ₂ emission is within the limit
	SO ₂ – 2.0 Kg / MT of Acid – for plant with capacity of more than 300T	SAP- II Plant - Catalysts for the converter was replaced with high performance & effective Haldor Topsoe & MECS catalysts.	SO ₂ emission is within the limit
5.	The stack height shall be provided as per guidelines	Stack height for sulphuric acid plant are provided as per the guide lines	Complied with
6.	Providing dust control system for Rock phosphate grinding unit in PA plant	We have installed adequate control system consisting of cyclone separators followed by improved bag filter systems. The dust emission is well below the standard.	Complied with
7.	Provision of adequate control for Fluoride emission	We have provided Multi-stage scrubbing system (5 stages) to control particulate as well as gaseous fluoride emission .The stack emission is monitored periodically and the results are within the limits.	Complied with
8.	Continuous monitoring system for SO ₂ & HF emission to be installed.	We have installed continuous monitoring system for SO ₂ , NH ₃ , PM & HF stack emission for both SAP-I, SAP – II, APS & PAP plants. The on-line data are connected to TNPCB care Air Centre.	Complied with
9.	Ambient quality monitoring with regard to SO ₂ & NH ₃ parameters	Ambient Air Quality is monitored as per National Ambient Air Quality Standard, Nov 2009 and 2 locations Online continuous ambient air quality monitoring system (CAAQMS) monitored the SO ₂ , NH ₃ parameters are within the limit.	Complied with

	C) SOLID WASTE MANAGEMENT		
10.	Gypsum storage with lining, dykes and approach roads	<p>Gypsum is stored in HDPE layer and with retainer HDPE line wall protection and leachate collection pond also provided (leachate water is recycled back to PA Plant process)</p> <p>Gypsum is dispatched to cement Industries & other industrial customers.</p> <ol style="list-style-type: none"> 1) Adequate approach roads are provided. 2) From Generation point to Storage point- Adequate conveyor system has been installed. 	Complied with
11.	Action plan for proper handling, storage & disposal of Spent catalyst	<ol style="list-style-type: none"> 1) We are storing the spent Vanadium pent oxide catalyst in Containers with HDPE liners as per Hazardous waste management rule. 2) We are a Member of Industrial Waste Management Association. The IWMA identified M/s Ramky group as the service provider for safe disposal of hazardous waste functioning at Gummidipondi (TNWML). 3) Spent catalyst (Vanadium pent oxide) completely disposed to TNWML. 	Complied with

Coromandel International Limited

Ennore, Chennai - 57

AMBIENT AIR QUALITY MONITORED AT FOUR LOCATIONS DURING OCT -23 to MAR - 24

Location	Admin Building					PAP Side					Ammonia Terminal					East Gate				
	PM _{2.5} µg/ Nm ³	PM ₁₀ µg/ Nm ³	SO ₂ µg/ Nm ³	NOX µg/ Nm ³	NH3 µg/ Nm ³	PM _{2.5} µg/ Nm ³	PM ₁₀ µg/ Nm ³	SO ₂ µg/ Nm ³	NOX µg/ Nm ³	NH3 µg/ Nm ³	PM _{2.5} µg/ Nm ³	PM ₁₀ µg/ Nm ³	SO ₂ µg/ Nm ³	NOX µg/ Nm ³	NH3 µg/ Nm ³	PM _{2.5} µg/ Nm ³	PM ₁₀ µg/ Nm ³	SO ₂ µg/ Nm ³	NOX µg/ Nm ³	NH3 µg/ Nm ³
Oct-23	9	43	20	15	12	10	49	14	16	11	4	29	0.5	12	17	17	58	28	13	14
Nov-23	11	52	35	16	17	11	51	19	15	19	4	27	0.5	12	13	19	60	15	15	15
Dec-23	10	45	19	14	12	12	47	13	14	12	4	31	0.5	13	10	18	56	16	14	18
Jan-24	5	32	0.5	13	9	5	34	0.5	14	9	3	29	0.5	12	9	9	46	0.5	13	10
Feb-24	7	38	0.5	14	9	7	38	0.5	15	9	4	30	0.5	12	8	9	49	0.5	14	9
Mar-24	7	41	0.5	15	7	9	47	0.5	15	8	4	31	0.5	12	8	11	51	0.5	16	7

Coromandel International Limited											
Ennore, Chennai -57											
Piezo Bore well Samples result for Oct - 23 to Mar -24											
Location: SAP - 2											
All parameters are in mg/l except pH											
Parameters	pH	TSS	TDS	Cl	Sulphates	Oil & Grease	BOD	COD	T. Phosphates	Ammonical Nitrogen	Fluoride
Oct-23	6.9	48	3900	330	205	<10	<5	60	1.5	<1	1.2
Nov-23	6.9	45	3700	310	190	<10	<5	55	1.4	<1	1.2
Dec-23	6.9	42	3600	300	180	<10	<5	50	1.3	<1	1.1
Jan-24	6.9	40	3500	280	170	<10	<5	50	1.3	<1	1.1
Feb-24	6.9	42	3650	300	176	<10	<5	55	1.3	<1	1.1
Mar-24	6.9	36	3800	300	190	<10	<5	55	1.4	<1	1.1
Location: Near WTP											
All parameters are in mg/l except pH											
Parameters	pH	TSS	TDS	Cl	Sulphates	Oil & Grease	BOD	COD	T. Phosphates	Ammonical Nitrogen	Fluoride
Oct-23	6.8	72	3750	350	210	<10	<5	76	1.6	3	1.3
Nov-23	6.8	68	3600	320	200	<10	<5	70	1.5	3	1.3
Dec-23	6.8	64	3300	310	180	<10	<5	64	1.4	3	1.2
Jan-24	6.9	60	3200	300	174	<10	<5	65	1.4	3	1.2
Feb-24	6.9	64	3300	310	182	<10	<5	70	1.4	3	1.2
Mar-24	6.9	62	3600	340	190	<10	<5	68	1.5	3	1.2

Coromandel International Limited											
Ennore, Chennai -57											
Piezo Bore well Samples result for Oct- 23 to Mar -24											

Location: Near Stores

All parameters are in mg/l except pH

Parameters	pH	TSS	TDS	Cl	Sulphates	Oil & Grease	BOD	COD	T. Phosphates	Ammonical Nitrogen	Fluoride
Oct-23	6.9	68	3800	360	250	<10	<5	74	1.5	3	1.2
Nov-23	6.9	65	3700	340	230	<10	<5	70	1.5	3	1.2
Dec-23	6.9	60	3400	320	210	<10	<5	66	1.4	3	1.1
Jan-24	6.9	58	3300	360	196	<10	<5	68	1.4	3	1.1
Feb-24	6.9	61	3350	305	204	<10	<5	72	1.4	3	1.1
Mar-24	6.9	62	3700	320	204	<10	<5	70	1.5	3	1.2

Location: Near STP

All parameters are in mg/l except pH

Parameters	pH	TSS	TDS	Cl	Sulphates	Oil & Grease	BOD	COD	T. Phosphates	Ammonical Nitrogen	Fluoride
Oct-23	7.1	18	1700	190	68	<10	<5	18	<1	<1	<0.1
Nov-23	7.0	16	1450	132	62	<10	<5	15	<1	<1	<0.1
Dec-23	7.0	14	1450	95	48	<10	<5	12	<1	<1	<0.1
Jan-24	7.0	12	1400	105	45	<10	<5	14	<1	<1	<0.1
Feb-24	7.1	16	1600	160	56	<10	<5	18	<1	<1	<0.1
Mar-24	7.1	18	1750	220	65	<10	<5	16	<1	<1	<0.1

Coromandel International Limited

Ennore, Chennai -57

MED outlet Sea Water analysis report for Oct - 2023 to Mar - 2024

All parameters are in mg/l except pH

[illegible]

Coromandel International Limited			
Ennore, Chennai -57			
Sewage Treated Water Analysis Report for OCT - 2023 to MAR -2024			
All parameters are in mg/l except pH			
Parameters	pH	TSS	BOD
Oct-23	7.4	2	<5
Nov-23	7.4	3	<5
Dec-23	7.3	2	<5
Jan-24	7.1	3	<5
Feb-24	7.2	2	<5
Mar-24	7.5	2	<5