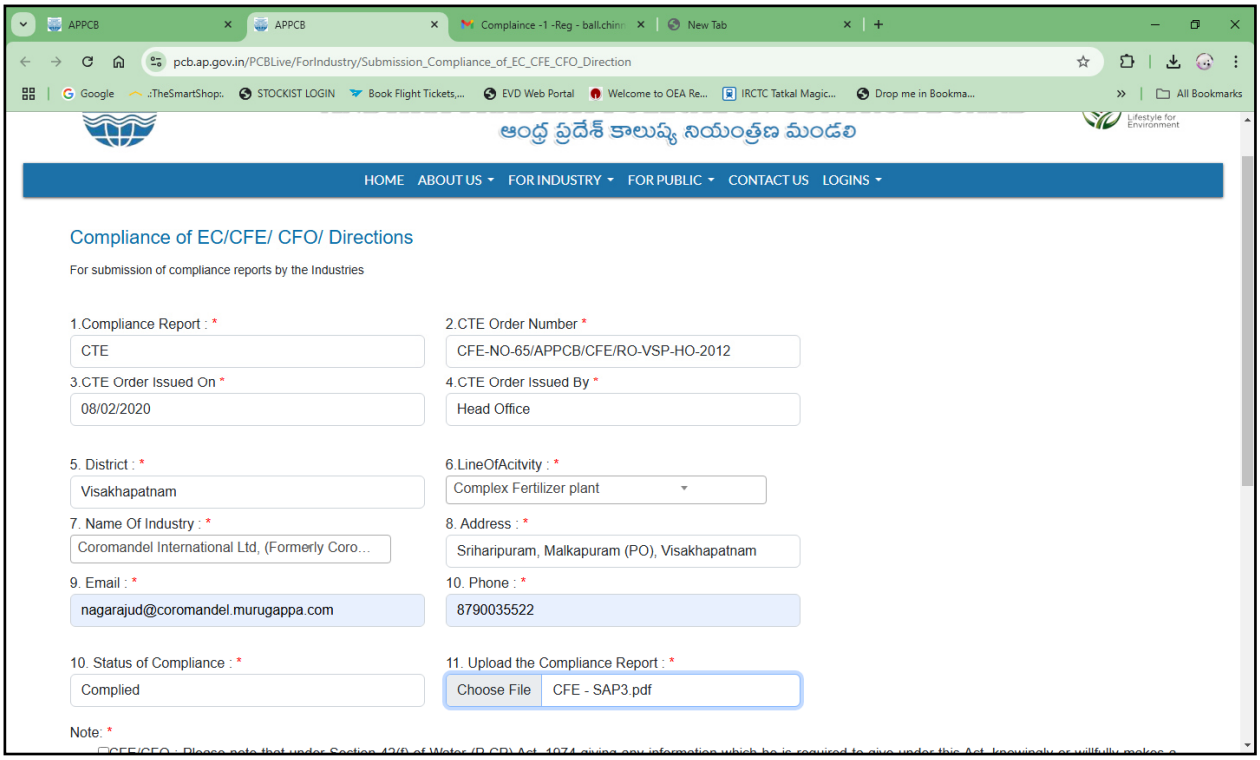
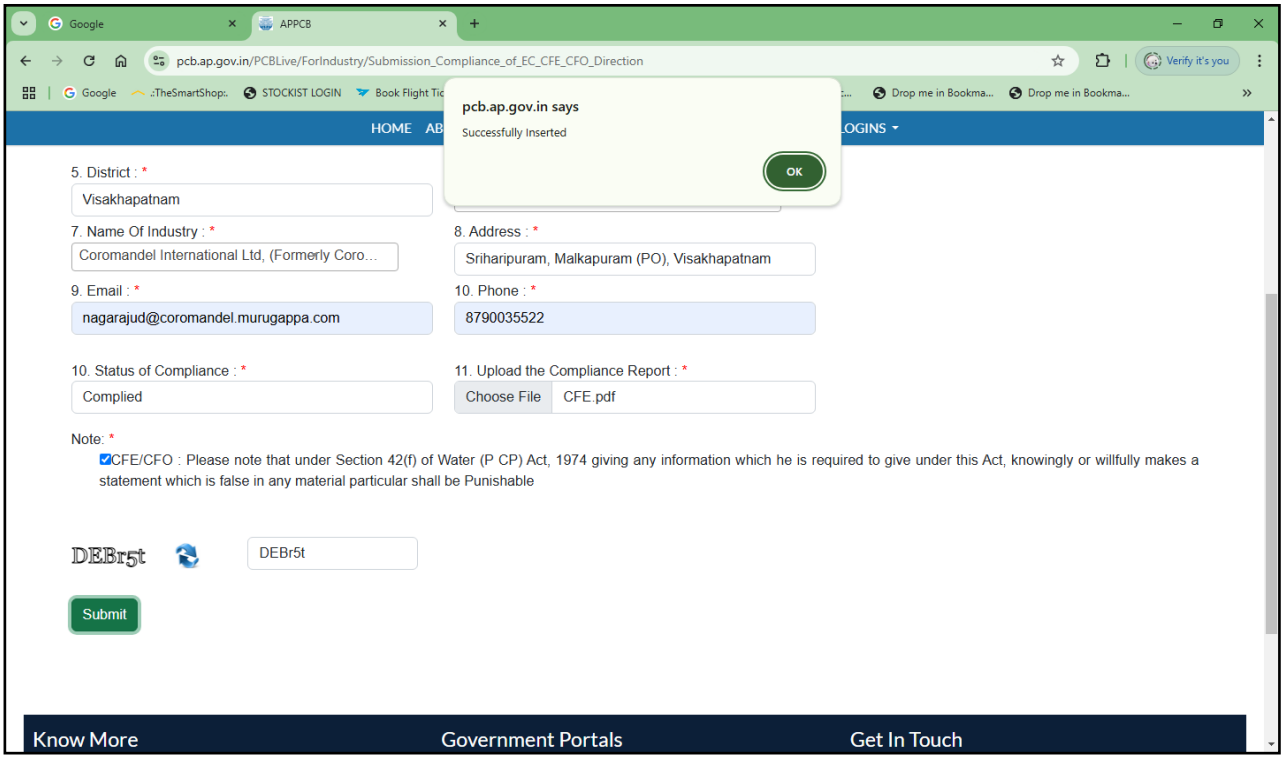
CFE –SAP -3 Date : 08-02-2020

CFE-NO-65/APPCB/CFE/RO-VSP-HO-2012 Date : 08-02-2020





Coromandel
FUTURE POSITIVE

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Malkapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
DID : 91-891-2893+Extn No
Website : www.coromandel.biz
CIN : L24120AP1961PLC000892
GSTIN : 37AAACC7852K1ZC

EHS/APPCB/2024 - 153 **Date: 30.12.2024**

To
The Environmental Engineer,
Andhra Pradesh Pollution Control Board,
Regional Office, Behind RTA Office,
Madhavadhara VUDA Colony,
Visakhapatnam – 530 018

Sub: Submission of Six-monthly compliance report as on 30.12.2024 for Consent for Establishment order **Issued** for Expansion of Sulphuric Acid Plant– Reg

Ref: **1. CFE No - Order No.65 /APPCB/CFE/RO-VSP/HO/2012 – Date 08/02/2020**
2. APPCB Notice No - PCB/RO-VSP/6 months compliance/2018 – Date 05. 07.2018

With reference to the above subject, herewith we are submitting the Six monthly condition wise compliance report as on 30.12.2024 of stipulated conditions in Consent For Operation issued vide Order **No.65 /APPCB/CFE/RO-VSP/HO/2012 08/02/2020** of **M/s Coromandel International Limited, Sriharipuram** Visakhapatnam For Expansion of Sulphuric Acid Plant duly Certified by **M/s TEAM Labs and Consultants** NABL accredited Laboratory after carrying out site visit during the period 18.12.2024 and 19.12.2024 is enclosed for records.

This is for information please.

Thanking you,

Yours faithfully

For Coromandel International Limited

Gnanasundaram M
Vice President & Head Mfg.

NAG 30/12/24

Enclosures: 1. CFE compliance report
2. NABL accreditation Certificate

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

TEAM LABS AND CONSULTANTS

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

B-115,116,117 & 509, ANNAPURNA BLOCK, ADITYA ENCLAVE, AMEERPET, HYDERABAD, TELANGANA, INDIA

in the field of

TESTING

Certificate Number: TC-12956

Issue Date: 24/01/2024 **Valid Until:** 23/01/2026

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: TEAM LABS AND CONSULTANTS

Signed for and on behalf of NABL

N. Venkateswaran
Chief Executive Officer

TEAM
Labs and Consultants

Registered Office : B-115, 116, 117 & 509, Annapoorna Block, Aditya Enclave, Ameerpet, Hyderabad - 530038.
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Consent for Establishment order No: 65 /APPCB/CFE/RO-VSP/HO/2012 dt 08.02.2020

From the period of June -2024 to November-2024

<table>
<tr><th>S.No</th><th>Consent Condition</th><th>Compliance</th></tr>
<tr><td>1</td><td>The proponent shall obtain Consent for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the trail runs</td><td>Noted and being complied.</td></tr>
<tr><td>2</td><td>The applicant shall properly maintain separate energy meters for Effluent Treatment Plant (ETP) and Air pollution Control equipment to record energy consumed. An alternative electric power source sufficient to operate all pollution control systems shall be provided</td><td>Complied</td></tr>
<tr><td>3</td><td>The industry shall properly maintain separate storm water drains. No effluents shall be discharged in to the storm water drains.</td><td>Complied.
Maintained dedicated stormwater drains.</td></tr>
<tr><td>4</td><td>The source of water is GVMC & Sea. The maximum permitted water consumption is
as following after expansion of Sulphuric acid plant
<table>
<tr><th>Sl.no</th><th>Purpose</th><th>Consented quantity as per CFE (Exp) dt: 26.04.2019 (KLD)</th><th>Proposed Quantity (Expansion)</th><th>Quantity after expansion (KLD)</th></tr>
<tr><td>1</td><td>Process & Washes</td><td rowspan="6">10,350
(After expansion)</td><td rowspan="6">1800</td><td rowspan="6">10,350*</td></tr>
<tr><td>2</td><td>Industrial Cooling (Makeup) – fresh water</td></tr>
<tr><td>4</td><td>Boiler Feed</td></tr>
<tr><td>5</td><td>Domestic & other</td></tr>
<tr><td>6</td><td>Customized fertilizer plant</td></tr>
<tr><td></td><td>Subtotal (1)</td></tr>
<tr><td>7</td><td>Industrial Cooling – Sea water</td><td>84,600</td><td>—</td><td>84,600</td></tr>
<tr><td></td><td>Grand total</td><td>94,950</td><td>1800 KLD</td><td>94,950</td></tr>
</table>
* Water consumption shall be restricted to 10,350 KLD as mentioned in the EC Order dt: 14.07.2017.</td><td>Complied</td></tr>
</table>

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<table>
<tr><td>5</td><td>The maximum waste water generation shall not exceed the following afterexpansion of Sulphuric acid plant:

<table>
<tr><th>Sl. No</th><th>Effluents</th><th>Consented quantity as per CFE (Exp) dated 26.04.2019 (KLD)</th><th>Proposed Quantity (Expansion)</th><th>Quantity after expansion (KLD)</th></tr>
<tr><td>1.</td><td>Process & washings</td><td>1800</td><td>—</td><td>1800</td></tr>
<tr><td>2.</td><td>Cooling water blow down</td><td>81,600</td><td>—</td><td>81,600</td></tr>
<tr><td>3</td><td>Domestic</td><td>530</td><td>—</td><td>530</td></tr>
<tr><td colspan="2">Total</td><td>83,930</td><td>—</td><td>83,930</td></tr>
</table>

ETP Details & Mode of Disposal:

<table>
<tr><th>Source of effluent</th><th>Treatment</th><th>Mode of final disposal</th></tr>
<tr><td>Process & washing effluents & Boiler/cooling tower blow downs, DM plant rejects</td><td>ETP consists of Equalization → Reaction tank 1 → Clarifloculator - 1 → Buffer tank → Reaction tank 2 → Clarifloculator - 2 → Reaction tanks 3 cum Neutralization tank → Holding tank → Reaction tank - 4 & filter press.</td><td>• Both treated sewage water and process effluents shall be recycled / reused within factory premises to achieve Zero discharge except during the rainy season.

• In case of low load plant operations and during rainy season, the quantity of effluent generated from Phosphoric acid post enhancement is 1800 KLD which shall be treated in the existing ETP plant and discharged along with once through cooling blow down through Meghadrigedda surplus course that joins sea</td></tr>
<tr><td>Dilution coolers - Once through cooling</td><td>—</td><td>into Meghadrigedda surplus course which joins Sea</td></tr>
<tr><td>Domestic effluents</td><td>STP</td><td>Recycled / reused within the factory premises</td></tr>
</table></td><td>Complied</td></tr>
<tr><td>6</td><td>All the units of the ETP & STP systems shall be impervious to prevent ground water pollution. The ETP & STP systems shall be maintained properly to achieve the standards.</td><td>Complied
Third-party ETP & STP Reports, enclosed as Annexure -01 for reference</td></tr>
<tr><td>7</td><td>Process effluents shall be recycled / reused within factory premises to achieve zero discharge except during the rainy season, as stipulated in Specific condition no. (ix) of EC order dt. 14.07.2017.</td><td>Complied</td></tr>
<tr><td>8</td><td>During rainy season, the treated waste water shall conform to the water discharge standards, as stipulated in condition no.2 of Schedule-B of CFO order dt. 19.03.2018.</td><td>Complied</td></tr>
</table>

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9	The industry shall provide magnetic flow meters with totalisers at the inlet and outlet of ETP.	Complied. Provided magnetic flow meters with totalizers at the inlet and outlet of ETP.
10	Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. All pipe valves, sewers, drains shall be leak proof.	Complied
11.	The Air pollution Control equipment shall be maintained properly and shall complywith the following for controlling air pollution after expansion of Sulphuric acid plant:	Complied All Stacks are connected to CPCB & SPCB sites and also third-Party analysis was done once in month, enclosed as Annexure - 02 for reference

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Sl. No	Details of Stack	Attached to	Capacity	Stack height (Meters)	Details of Air Pollution Control Equipment
1.	Stack – 1	Sulphuric Acid Plant (Old)	1700 TPD	69	Alkali scrubber
2.	Stack – 2	Sulphuric Acid Plant (New)	400 TPD	50	Alkali scrubber
3.	Stack – 3	Phosphoric Acid Plant	700 TPD	33	Evaporator followed by series of barometric condensers
4.	Stack – 4	Rock Phosphate Grinding unit (Old Ball Mill)	40 TPH	45	Bag filters
5.	Stack – 5	Rock Phosphate Grinding unit (New Ball Mill)	20 TPH	45	Bag filters
6.	Stack – 6 to 8	Complex fertilizer Plant Complex A-Train Complex B-Train Complex C-Train	3900 TPD	37.8 37.8 37.3	4 stage scrubbing system (for ammonia recovery and multi cyclone 6 Nos) X 3 Nos.
7.	Stack – 9	Customized fertilizer plant	300 TPD	30	Cyclones followed by wet scrubber
		Drier (2 Nos.) & process coolers (2 Nos.) of customized fertilizer			
8.	Stack – 10	Oil Fired boiler through 5 MW T.G. Set	48 TPH	30 48	Cooler gases
9	Stack – 11	Oil Fired Boiler	31 TPH	30 48	----
10	Stack – 12	Oil Fired Boiler	1.5 TPH	30 48	----
11	Stack – 13	D.G. Set*	6 MW	operating in an emergency condition	Acoustic enclosures
12	Stack – 14	D.G. Set*	4MW		
13	Stack-15	Phosphoric Acid Plant	700 TPD	33	Evaporator followed by

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					series of barometric condensers fumes scrubber
14	Stack 16	Rock Phosphate grinding Units	75 TPH	45	Bag Filters
15	Stack 17	Coal Fired Boiler & Back pressure Turbine	40 TPH & 5 MW	56	ESP
16	Stack-18	Rock Phosphate grinding unit	30 TPH	30	Bag filters

New stack as per CTE expansion

17	Stack-19	Sulphuric Acid Plant	1500 TPD	60 m.	Alkali scrubber

12.	The industry shall properly maintain 400 MTPD evaporation system for Phosphoric Acid including Fluorine recovery system as stipulated in the EC Order.	Complied
13.	A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. a platform with suitable ladder shall be provided below 1 meter of sampling port to accommodate three persons with instruments. A 15 AMP 250 V plug point shall be provided on the platform.	Complied . All stacks provided with sampling ports
14	The industry shall properly maintain online pH measuring facility with auto recording system to the scrubbers provided to treat the process emissions.	Complied. Installed online pH measuring facility with auto recording system.
15	The industry shall implement adequate measures to control all fugitive emissions from the plant.	Noted by Industry and will comply
16	The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoEF, GoI vide notification No.GSR.826 (E), dated.16-11-2009 during construction and regular operational phase of the project at the periphery.	Complied. Third-Party NAAQS reports,found to be complying with standards notified Annexure-03 for reference

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Coromandel International Limited, Visakhapatnam

<table>
<tr><td colspan="3">Solid/Hazardous Waste:</td></tr>
<tr><td>17</td><td>The industry shall comply with the following for disposal of Solid Waste after expansion of Sulphuric acid plant:
<table>
<tr><th>S. No</th><th>Name of the Hazardous waste</th><th>Quantity As per CFE (Exp) dt: 26.04.2019</th><th>Proposed Quantity (Expansion)</th><th>Mode of Disposal</th></tr>
<tr><td>1</td><td>Acid residues (Tank bottom sludge)</td><td>45 TPA</td><td>—</td><td>Recycled into phosphonic acid reactor.</td></tr>
<tr><td>2</td><td>LSHS Sludge</td><td>10 TPA</td><td>—</td><td>TSDF, for incineration</td></tr>
<tr><td>3</td><td>Sulphur mud (Sulphur sludge)</td><td>750 TPA</td><td>550 TPA</td><td>Recycled into the process as a filler material in the granulation plant.</td></tr>
<tr><td>4</td><td>Spent catalyst</td><td>65 TPA</td><td>50 TPA</td><td>Authorized reprocessors recyclers (or) TSDF, Parawada for secured land fill.</td></tr>
<tr><td>5</td><td>Used lubricating oil/drained oil</td><td>50 KLPA</td><td>—</td><td>To authorized Re-processors / Recyclers / to the Cement Industries for co-processing in the kiln.</td></tr>
<tr><td>6</td><td>Detoxified Containers and container liners</td><td>700 Nos</td><td>—</td><td>To authorized agencies, after complete detoxification for re-use/ recycle.</td></tr>
<tr><td>7</td><td>Scrubbing sludge</td><td>450 TPA</td><td>—</td><td>Reuse back in the process</td></tr>
<tr><td>8</td><td>E Waste</td><td>25 TPA</td><td>—</td><td>Authorised e-waste recyclers / dismantlers</td></tr>
<tr><td>9</td><td>Fly ash</td><td>25 TPD</td><td>—</td><td>To cement industries / brick manufacturing units</td></tr>
</table></td><td>Complied.
Hazardous Waste annual return for the year 2023-24 was submitted on 06.05.2024 The copy enclosed as Annexure-04 is for reference.</td></tr>
<tr><td>18</td><td>The following rules and regulations notified by the MoEF &CC, GoI shall be implemented.
a. Hazardous waste and other wastes (Management and Transboundary Movement) Rules, 2016.
b. Plastic Waste Management Rules, 2016.
c. Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.
d. Fly Ash Notification, 2016.
e. Batteries (Management & Handling) Rules, 2010.
f. E-waste (Management (Rules, 2016.</td><td>Noted by Industry for Compliance</td></tr>
</table>

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Coromandel International Limited, Visakhapatnam

	g. Construction and Demolition Waste Management Rules, 2016. h. Solid Waste Management Rules, 2016. i. The Public Liability Insurance Act, 1991 and its amendments thereof.	
Other Conditions:		
19	The industry shall comply with the following: • The industry shall comply with all the conditions stipulated in the CFO order within a year. • The industry shall control the leakages in the Rock Phosphate feeding area by April, 2020. • Setting up new Sulphuric acid plant with State-of-Art technology and to achieve SO_2 emission of 0.75 Kg SO_2 /MT of acid (100%). • Reduction of SO_2 emission in Sulphuric acid plant-1 from 1 Kg SO_2/MT of acid to 0.8 Kg SO_2 /MT of acid through addition of high Vandadium content catalyst in 5^{th} bed of the converter and higher loading of catalyst into the converter. • Using low sulphur coal of 0.50% sulphur content against 0.7% in coal fired boiler. • Addition of lime stone powder into the coal fired boiler for improved absorption of SO_2 from 50% (as per earlier consideration), to 80%	Noted by Industry for Compliance
20	The industry shall submit compliance to the conditions stipulated in the EC and CFE orders to the concerned Regional Officer of APPCB every six months and shall upload the same at APPCB website viz., https://pcb.ap.gov.in/UI/Submission_Compliance-of_EC_CFE_CFO_Direction.aspx.	Complied submitted all EC, CFE, and CFO Reports, enclosed as Annexure-05 for your reference

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21	The industry submitted a copy of letter stating that the MoEF&CC, GoI, New Delhi vide lr.dt:30-05-2018 addressed to M/s. Southern Petro Chemical Industries Corporation (SPIC) clarified that the intermediate product (Phosphoric Acid) is not covered under the purview of the ELA notification 2006 and as such there is no requirement of Environmental Clearance to the said project as stand alone. Similarly, in this case also EC is not required as Sulphuric Acid is one of the raw materials/intermediates for manufacture of Chemical fertilizer.	Noted by Industry
22	The industry shall submit a report on recycling of treated effluent into the process to achieve zero discharge except during rainy season.	Complied The Present Industry is following the Zero discharge concept
23	Green belt shall be developed all along the boundary & vacant spaces with tall growing tress with good canopy and it shall not be less than 33% of the total area.	complied
24	Concealing the factual data or submission of false information / fabricated data and failure to comply with any of the conditions mentioned in this order attracts action under the provisions of relevant pollution control Acts.	Noted by Industry for Compliance
25	Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power Under Sec.27(2) of Water (Prevention and Control of Pollution) Act, 1974 and Under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to revoke the order, to review any or all the conditions imposed herein and to make such modifications as deemed fit and stipulate any additional conditions.	Noted by Industry for Compliance
26	Any person aggrieved by an order made by the State Board Under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty	Noted by Industry for Compliance

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	days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules, 1982, to such authority (hereinafter referred to as the Appellate Authority) constituted Under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.	

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Form-No. TCL/L/GF/RF-138

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NABL Accredited Laboratory

TEST REPORT

Test Report No.	**TLC/V/Env/CFL/24/1124**	**dt.02.11.2024**
Description of Test	**ETP Outlet water Analysis**	
Name of the client	**Coromandel International Limited, Visakhapatnam**	
Location of sampling	**ETP Out let samples**	
Date of Collection	**16-11-2024**	

Analysis report of ETP Outlet water for the Month of – NOVEMBER -2024

S.No.	Parameter	units	ETP Outlet	APPCB LIMIT	Protocol
1	PH		7.6	6.5-8.5	IS:3025 Part 11-1983
2	Total Suspended Solids	mg/l	20	100	IS:3025 Part 17-1984
3	Oil & Grease	mg/l	NIL	10	IS:3025 Part 39-1991
4	Ammonical Nitrogen	mg/l	12	50	APHA4500C
5	Free Ammonical Nitrogen	mg/l	0.2	4.0	APHA4500C
6	Total Kjeldal Nitrogen	mg/l	30	75	APHA4500B
7	Nitrate Nitrogen	mg/l	0.1	20	APHA4500D
8	Cyanides as CN	mg/l	<0.1	0.1	SM 4500CN E
9	Arsenic as As	mg/l	<0.02	0.2	SM3125
10	Vanadium as V	mg/l	<0.1	0.2	SM3125
11	Hexa valent Chromium as Cr 6+	mg/l	<0.02	0.1	SM3125
12	Total Chromium	mg/l	<0.01	2.0	SM3125
13	Fluoride as F-	mg/l	1.0	10	SM 4500 F- D
14	Phosphates as P	mg/l	0.8	5	APHA4500D
15	BOD	mg/l	14	30	IS:3025 Part 44-1993
16	COD	mg/l	70	250	IS:3025 Part 58-2006
17	Temperature difference between intake water and outlet	0C	30	NA	

For TEAM Labs and Consultants

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Form-No. TCL/L/GF/RF-138

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NABL Accredited Laboratory

TEST REPORT

Test Report No.	**TLC/V/Env/CFL/22/0824**	**dt.02.12.2024**
Description of Test	**STP Outlet water Analysis**	
Name of the client	**Coromandel International Limited, Visakhapatnam**	
Location of sampling	**STP Out Let samples**	
Date of Collection	**16.11.2024**	

Analysis report of STP Outlet water for the Month of NOVEMBER-2024

1	PH		7.6	6.5-8.5	IS:3025 Part 11-1983
2	Total Suspended Solids	mg/l	18	100	IS:3025 Part 17-1984
3	Oil & Grease	mg/l	NIL	10	IS:3025 Part 39-1991
4	Ammonical Nitrogen	mg/l	5.5	50	APHA4500C
5	Free Ammonical Nitrogen	mg/l	0.1	4.0	APHA4500C
6	Total Kjeldal Nitrogen	mg/l	18	75	APHA4500B
7	Nitrate Nitrogen	mg/l	0.1	20	APHA4500D
8	Cyanides as CN	mg/l	<0.1	0.1	SM 4500CN E
9	Arsenic as As	mg/l	<0.02	0.2	SM3125
10	Vanadium as V	mg/l	<0.1	0.2	SM3125
11	Hexa valent Chromium as Cr^{6+}	mg/l	<0.02	0.1	SM3125
12	Total Chromium	mg/l	<0.01	2.0	SM3125
13	Fluoride as F^-	mg/l	0.5	10	SM 4500 F- D
14	Phosphates as P	mg/l	0.2	5	APHA4500D
15	BOD	mg/l	17	30	IS:3025 Part 44-1993
16	COD	mg/l	75	250	IS:3025 Part 58-2006
17	Temperature difference between intake water and outlet	^0C	03	5°C	
18	Fecal Coliform (FC)	1000MPN/100ml	500	<1000	

For TEAM Labs and Consultants

TEAM Lab and Consultants

TEAM
Labs and Consultants

ORIGINAL

Form-No. TCL/L/GF/RF-138

Registered Office :
B-115, 116, 117 & 509, Annapoorna Block, Aditya Enclave, Ameerpet, Hyderabad - 530038.
Ph. : (O) 040-23748555 / 23748616, Fax : 040-23748666, Email : teamlabs@gmail.com
Laboratory Recognised by Ministry of Environment, Forests and Climate Change, GoI, New Delhi
NABL Accredited Laboratory

TEST REPORT

Test Report No	TLC/V/Env/CIL/16/1124	dt.02.12.2024
Description of Test	Source Emission Monitoring inside the CIL	
Name of the client	Coromandel International Limited, Visakhapatnam	
Location of sampling	stacks attached to respective plants as per details given	

SOURCE/ STACK EMISSION MONITORING FOR THE MONTH OFNOVEMBER-2024

S.No.	Stack attached to	Flow rate NM^3/Hr	parameters	Conc. mg/NM^3	APPCB Standard Limit
1	Complex A	282609	Particulate matter	18	45 mg/NM^3
			Ammonia	62	165.0 mg/NM^3
			Fluoride	0.9	4.0 mg/NM^3
2	Complex B	257666	Particulate matter	18	45 mg/NM^3
			Ammonia	68	165.0 mg/NM^3
			Fluoride	1.0	4.0 mg/NM^3
3	Complex C	215727	Particulate matter	20	45 mg/NM^3
			Ammonia	48	165.0 mg/NM^3
			Fluoride	1.1	4.0 mg/NM^3
4	Sulphuric acid plant-1	97903	Sulphur dioxide	0.304Kg/MT (220mg/NM^3)	1 Kg/MT
			Sulphur trioxide	0.028Kg/MT (20mg/NM^3)	0.35 Kg/MT
			Acid mist	Nil	20 mg/NM^3
5	Sulphuric acid plant-II	26619	Sulphur dioxide	0.167Kg/MT (105mg/NM^3)	0.65 Kg/MT
			Sulphur trioxide	Nil	0.35 Kg/MT
			Acid mist	Nil	20 mg/NM^3
6	Phosphoric acid plant-1	131104	Particulate matter	28	50 mg/NM^3
			Fluoride	4.3	20 mg/NM^3
7	Rock grinding unit (N-1)PAAP1	6653	Particulate matter	42	50 mg/NM^3
			Total Fluoride	3.8	20 mg/NM^3
8	Rock grinding unit (N-3)PAAP2	7067	Particulate matter	35	50 mg/NM^3
			Total Fluoride	3.1	20 mg/NM^3
9	Wharf Boiler	10769	Particulate matter	42	115 mg/NM^3
10	Phosphoric acid plant-2	37794	Particulate matter	30	50 mg/NM^3
			Total Fluoride	3.9	20 mg/NM^3
11	Rock grinding unit (N-2)PAP1	6237	Particulate matter	47	50 mg/NM^3
			Total Fluoride	4.0	20 mg/NM^3
12	New SAP-3	47948	Sulphur dioxide	0.041Kg/MT (60mg/NM^3)	1 Kg/MT
			Sulphur trioxide	Nil	0.35 Kg/MT
			Acid mist	Nil	20 mg/NM^3
13	DG1	11426	Particulate matter	43	115 mg/NM^3
14	DG2	1180	Particulate matter	48	115 mg/NM^3

For TEAM Labs and Consultants

TEAM Labs and Consultants

TEAM
Labs and Consultants

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NABL Accredited Laboratory

TEST REPORT

Test Report No.	**TLC/V/Env/CIL/17/1124**		**dt.02.12.2024**
Description of Test	**Ambient Air quality Monitoring inside the CIL**		
Name of the client	**Coromandel International Limited, Visakhapatnam**		
Location of sampling	**Stations as per details given**		
Period of Monitoring	**For the Month ofNOVEMBER-2024**		

Summary of Ambient Air quality Monitoring Data for the Month of NOVEMBER-2024

Parameters		AAQ-1 Station at the Top of Cafeteria	AAQ-2 Station near DG sets	AAQ-3 Station at Gate –13 (Near Bagging plant)
PM2.5	Minimum	32	35	33
	Maximum	41	42	41
	98%tile	41	42	41
	Average	37	39	37
PM 10 µg/M^3	Minimum	66	69	64
	Maximum	80	84	78
	98%tile	80	84	78
	Average	74	76	73
SO_2 µg/M^3	Minimum	15.0	20.5	14.2
	Maximum	23.0	25.4	16.6
	Average	19.5	23.3	15.5
	98%tile	23.0	25.4	16.6
NO_X µg/M^3	Minimum	17.4	20.9	16.3
	Maximum	22.7	25.5	19.5
	98%tile	22.7	25.5	19.5
	Average	20.3	22.9	17.5
NH_3 mg/M^3	Minimum	0.020	0.04	0.02
	Maximum	0.04	0.06	0.03
	98%tile	0.04	0.06	0.03
	Average	0.035	0.046	0.025
O3 µg/M^3	Minimum	15	16	15
	Maximum	22	24	20
	98%tile	22	24	20
	Average	19	21	17
CO mg/M^3	Minimum	0.1	0.2	0.1
	Maximum	0.3	0.3	0.3
	98%tile	0.3	0.3	0.3
	Average	0.22	0.25	0.2
Pb µg/M^3		<0.05	<0.05	<0.05
C6H6 ng/M^3		<0.05	<0.05	<0.05
B(a)P ng/M^3		<0.05	<0.05	<0.05
As ng/M^3		<0.05	<0.05	<0.05
Ni ng/M^3		<0.05	<0.05	<0.05

For TEAM Labs and Consultants

TEAM Labs and Consultants

TEAM
Labs and Consultants

ORIGINAL

Form-No. TCL/L/GF/RF-138

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NABL Accredited Laboratory

TEST REPORT

Test Report No.	**TLC/V/Env/CIL/18/1124**	**dt.02.12.2024**
Description of Test	**Ambient Air quality Monitoring inside the CIL unit**	
Name of the client	**Coromandel International Limited, Visakhapatnam**	
Location of sampling	**Stations as per details given**	
Period of Monitoring	**For the Month ofNOVEMBER-2024**	

Summary of Ambient Air quality Monitoring Data for the Month of NOVEMBER-2024

Parameters		AAQ-4 Station at Warf	AAQ-5 Station near VST
PM2.5	Minimum	32	37
	Maximum	40	44
	98%tile	40	44
	Average	37	40
PM 10 µg/M^3	Minimum	64	72
	Maximum	82	84
	98%tile	82	84
	Average	74	77
SO_2 µg/M^3	Minimum	15.0	16.9
	Maximum	17.2	19.5
	Average	16.0	17.9
	98%tile	17.2	19.5
NO_x µg/M^3	Minimum	17.5	18.5
	Maximum	19.4	20.2
	98%tile	19.4	20.2
	Average	18.5	19.7
NH_3 mg/M^3	Minimum	0.02	0.04
	Maximum	0.03	0.06
	98%tile	0.03	0.06
	Average	0.024	0.46
O3 µg/M^3	Minimum	15	16
	Maximum	20	20
	98%tile	20	20
	Average	17	18
CO mg/M^3	Minimum	0.2	0.2
	Maximum	0.3	0.3
	98%tile	0.3	0.3
	Average	0.25	0.28
Pb µg/M^3	<0.05	<0.05	<0.05
C6H6 ng/M^3	<0.05	<0.05	<0.05
B(a)P ng/M^3	<0.05	<0.05	<0.05
As ng/M^3	<0.05	<0.05	<0.05
Ni ng/M^3	<0.05	<0.05	<0.05

For TEAM Labs and Consultants

O/C

Coromandel
FUTURE POSITIVE

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Malkapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
DID : 91-891-2893+Extn No
Website : www.coromandel.biz
CIN : L24120AP1961PLC000892
GSTIN : 37AAACC7852K1ZC

Date:27.09.2024

RN541800066IN IVR:8278541800066
RL MALKAPURAM S.O <530011>
Counter No:1.27/09/2024.14:14
To:THE MEMBER SE.APPCB VIJAYAWADA
PIN:520010. Venkateswarapuram S.O
From:EHS HOD COR.FORM 5 CIL VIZAG
Wt:240gms.REG=17.0
Amt:90.86.Tax:13.86.Amt.Paid:91.00(Cash)
<Track on www.indiapost.gov.in>
<Dial 1800266868> <Wear Masks. Stay Safe>

EHS/APPCB/2024-097

To
The Member Secretary,
A.P. Pollution Control Board,
D.No.33-26-14D/2, Near Sunrise Hospital,
Pushpa Hotel Centre,
Chalamalavari Street, Kasturibaipet,
Vijayawada-520 010

Sub: Submission of Environmental Statement in Form-V for the financial year 2023-24 as per the Environmental Protection Act -1986 reg.

Ref: 1. Consent Order No: APPCB/VSP/65/CFO/HO/1967 - 04/08/2023

Dear Sir,

We are enclosing herewith the Environment Statement for the financial year 2023-24 ending with 31st March 2024 in prescribed Form-V with respect to Coromandel International Ltd. along with relevant annexures.

This is submitted as per the guidelines of Environment protection act -1986

Thanking you

Yours faithfully
For Coromandel International Limited

G. Raju
27/9/24

A.P. Pollution Control Board, Visakhapatnam, Zonal Office

M. Gnanasundaram
VP & Head - Manufacturing

NAG

Encl: As above

Cc: 1. The Joint Chief Environmental Engineer, Zonal Office, APPCB, Visakhapatnam-18

2. The Environmental Engineer, Regional Office, APPCB, Visakhapatnam-18

A.P. Pollution Control Board, Regional Office, Visakhapatnam
27.9.24

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Maikapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
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Website : www.coromandel.biz
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GSTIN : 37AAACC7852K1ZC

Date:27.09.2024

EHS/APPCB/2024-097

To
The Member Secretary,
A.P. Pollution Control Board,
D.No.33-26-14D/2, Near Sunrise Hospital,
Pushpa Hotel Centre,
Chalamalavari Street, Kasturibaipet,
Vijayawada-520 010

Sub: Submission of Environmental Statement in Form-V for the financial year 2023-24 as per the Environmental Protection Act -1986 reg.

Ref: 1. Consent Order No: APPCB/VSP/65/CFO/HO/1967 - 04/08/2023

Dear Sir,

We are enclosing herewith the Environment Statement for the financial year 2023-24 ending with 31st March 2024 in prescribed Form-V with respect to Coromandel International Ltd. along with relevant annexures.

This is submitted as per the guidelines of Environment protection act -1986

Thanking you

Yours faithfully
For Coromandel International Limited

M. Gnanasundaram
VP & Head - Manufacturing

NAG

Encl: As above

Cc: 1. The Joint Chief Environmental Engineer, Zonal Office, APPCB, Visakhapatnam-18

2. The Environmental Engineer, Regional Office, APPCB, Visakhapatnam-18

FORM – V
(See rule 14)

Environmental Statement (Audit Report) for the financial year ending 31st March 2024

PART – A

I)	Name and address of the owner/occupier of the industry, operation or process.	Coromandel International Limited Post Box No. 1116, Sriharipuram, Malkapuram Post Visakhapatnam-530 011
		Occupier: Mr. Sankarasubramanian (MD & CEO)
II	Production Capacity	Complex Plant / Customised/ Water Soluble Fertiliser / Micro Nutrients / Chelated Nutrients / Micronised Sulphur / Urea Phosphate : 4210 TPD Sulfuric Acid Plant-I & II : 2100 TPD Sulfuric Acid Plant – III : 2000 MTPD Phosphoric Acid Plant : 1600 MTPD Bentonite Sulfur : 200 MTPD Sulpho Zinc/Boron : 50 MTPD Fertilizer Pilot Plant : 19 MTPD Phosphoric Acid Pilot Plant : 0.83 TPD By Products: Gypsum : 8000 MTPD Hydrofluorosilicic Acid : 40 MTPD
III	Year of Establishment	1967
II)	Date of the last Environmental Audit Report submitted.	28/09/2023

PART – B
Water and Raw Material Consumption

<table>
<tr><td rowspan="6">I)</td><td colspan="4">Water consumption m³/d (average break-up) year 2023-24</td></tr>
<tr><td colspan="4">Process : 6331
DM WATER : 2744
Cooling : 1971 SEAWATER : 84600 (Apr-Jul-23)
Domestic : 625 100600 (Aug-23 -Mar-24)</td></tr>
<tr><td colspan="2" rowspan="2"></td><td colspan="2">Water consumption per unit of products M³/MT</td></tr>
<tr><td colspan="2">Name of products</td><td>During the previous financial year</td><td>During the current financial year</td></tr>
<tr><td colspan="2"></td><td>(1) 2022-23</td><td>(2) 2023-24</td></tr>
<tr><td colspan="2">Complex Fertilizer</td><td>3.37</td><td>3.79</td></tr>
<tr><td rowspan="3">II</td><td colspan="4">Raw material consumption</td></tr>
<tr><td rowspan="2">Name of raw materials</td><td rowspan="2">Name of products</td><td colspan="2">Consumption of raw material per unit of output (MT/MT)</td></tr>
<tr><td>During the current financial year 2022-23</td><td>During the current financial year 2023-24</td></tr>
<tr><td colspan="5">Ref: Annexure – 1</td></tr>
</table>

PART – C

Pollution generated

(Parameters as specified in the consent issued)

I)	Pollutants	Quantity of pollutants discharged (mass/day)	Concentrations of pollutants discharges (mass/Volume)	Percentages of variation from prescribed standards with reasons
	(a) Water (b) Air	**Ref: Annexure – 2**		

PART – D

Hazardous Wastes

(As specified under hazardous wastes Management and Handling Rules, 1989 and amendment 2016)

Stream	Name of the Hazardous waste	Total Quantity	
		During the previous financial year 2022-23	During the current financial year 2023-24
a) From process			
34.2 of Schedule-I	Acid residues (Tank bottom sludge)	43.5	25
34.2 of Schedule-I	LSHS Sludge	12.87	
Class B (Sl. No. 37) of Schedule-II	Sulfur muck (sulfur sludge)	695	940
18.1 of Schedule-I	Spent catalyst	56.088	48.820
5.1 of Schedule-I	Used lubricating oil/Drained oil	12.125	13.620
33.1 of Schedule-I	Detoxified containers and container liners	0	2438
37.1 of Schedule-I	Scrubbing sludge	695	395
35.3 of Schedule - I	ETP Sludge	755	490
28.4 of Schedule –I	Off specified, expired chemicals & lab chemicals etc.	0	0
--	Glass Wool	0	0
--	Insulation Waste	0	0
b) From pollution control facilities			

Note: All the above the Investment data including Sulphuric acid storage & handling facilities at Wharf Area (Consent Order No: APPCB/VSP/VSP/65/HO/CFO/2020 – 23/12/2020) and Visakha Terminal (Consent Order No: 7055/VSP/APPCB/ZOVSP/CFO/2021- 01/11/2021)

PART –E
Solid Wastes

		Total Quantity (MT)	
		During the previous financial year 2022-23	During the current financial year 2023-24
a)	From process	Not Applicable	
b)	Process pollution control facilities		
c)	Quantity recycled or re-utilized i) sold ii) Disposed		

PART – F

Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes

a) Maintaining **Form-3 and Form-10** (Hazardous Manifest) according to Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.
b) **Form-IV** Hazardous waste annual returns regularly furnishing to APPCB.

S NO	HAZ Cat. No	Hazardous Waste	Disposal Practice
1	34.2 of Schedule-I	Acid residues (Tank bottom sludge)	Reused in the phosphoric acid plant
2	34.2 of Schedule-I	LSHS Sludge	TSDF for incineration or authorized cement manufacturing units for co processing
3	Class B (Sl. No. 37) of Schedule-II	Sulfur muck (sulfur sludge)	Reused into granulation plant after grinding
4	18.1 of Schedule-I	Spent catalyst	Authorized recyclers or TSDF
5	5.1 of Schedule-I	Used lubricating oil/Drained oil	Re-processors or recyclers of waste oil
6	33.1 of Schedule-I	Detoxified containers and container liners	No net generation
7	37.1 of Schedule-I	Scrubbing sludge	Reused in the granulation plant
8	35.3 of Schedule - I	ETP Sludge	Reused in Phosphoric acid plant
9	28.4 of Schedule –I	Off specified, expired chemicals & lab chemicals etc.	TSDF for incineration or authorized cement manufacturing units for co processing
10	33.2 of Schedule-I	Glass wool	TSDF for incineration

11	33.2 of Schedule-I	Insulation puf	TSDF for incineration

Note : All the above the Investment data including Sulphuric acid storage & handling facilities at Wharf Area (Consent Order No: APPCB/VSP/VSP/65/HO/CFO/2020 – 23/12/2020) and Visakha Terminal (Consent Order No: 7055/VSP/APPCB/ZOVSP/CFO/2021- 01/11/2021)
Ref: Annexure – 3

PART – G

Impact of the pollution control measures on conservation of natural resources and consequently on the cost of production.

On account of pollution control measures implemented in last two years following savings could be realized.

Material saved	Savings(Rs. Lakhs/annum)	Quantity(per annum)
Water recycled by rain water harvesting	19.22	29622 m3

PART – H

Additional investment proposal for environmental protection including abatement of pollution:

Sl No	Title of Project	Year	Annual Electrical Saving (kWh)	Electrical Saving kW	Electrical Energy Savings Rs Million	Total Energy Savings MTOE	Total Energy Savings Rs Million	Investment Rs Million	Payback months	Comments
1	Installation of Waste Heat Boiler and Captive Steam Turbo Generator in SAP-III	2023-24	72765000	8570	466	20811	466	4300.0	111	Installation of 87.5 MT/Hr Waste heat Boiler at 69kgf/cm2g & 485 oC & 15.25 MW Condensing Steam Turbo Generator III. High pressure & temperature steam turbine results in lower Specific Steam Consumption of 4.0 MT / MWH. Old Condensing turbine was medium pressure 31kgf/cm2g 315oC with 5.8 MT/MW Specific Steam Consumption. Innovation enabled higher power generation
2	Installation of 11KV Automatic Power Factor controlling system	2023-24	1703451	194	11	487	11	29.5	32	Installation of 11KV Automatic Power Factor controlling system. New generation technology considered as an alternative to conventional technology / method to limit the short circuit levels & control power factor at existing substations. Existing grid power factor maintaining at 0.97 lag, it needs to be 0.995 lag
3	**Replacement of age old rewound motors by IE3 motors**	**2023-24**	168102	21	1.08	48	**1.1**	**4.4**	49	**Replacement of 16 age old rewound motors by IE3 motors**
4	Replacement of 41 nos age old window AC units with 3 star rating units	**2023-24**	48441	11	0.31	14	**0.31**	**2.384**	92	Deployed 3 star rating Units replacing 41 nos age old window AC units

5	Kaizen - Installation of AC controls, close to respective AC Units	2023-24	21406	5	0.14	6	0.14	0	0	Kaizen - Installation of AC controls, closure to respective AC Units, helped avoid contnuous run of other Air Conditioner
	TOTAL		74706400	8802	478.1	21366	478.1	4336.3	109	

Note : All the above the Investment data including Sulphuric acid storage & handling facilities at Wharf Area (Consent Order No: APPCB/VSP/VSP/65/HO/CFO/2020 – 23/12/2020) and Visakha Terminal (Consent Order No: 7055/VSP/APPCB/ZOVSP/CFO/2021- 01/11/2021)

Environment Improvement Measures Refer Annexure - 04

PART – I

Any other particulars in respect of environment protection and abatement of pollution:

A report covering various efforts made by Coromandel International Limited for control of environmental pollution along with details of processes adopted in various units is given in savings made by some other activities and savings through Energy Conservation.

Refer Annexure - 05 & 06

Accolades

2023-24

Certifications

ISO50001 Certification

This is to certify that the management system of

Coromandel International Limited

Unit Name: Visakhapatnam, Main Road, Sithampuram, Mallapuram-Post, Visakhapatnam - 530 011, Andhra Pradesh, India

has been found to conform to the Energy Management System standard:
ISO 50001:2018

This certificate is valid for the following scope:
Manufacture of Sulphuric Acid, Strong & Weak Phosphoric Acid, Complex Fertilizer, by-product Gypsum, hydro fluorosilicic acid, Wharf Activities and Ammonia Storage and Handling, maintenance of Utilities.

NABL Accreditation to Quality Laboratory

INTERNATIONAL LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

in the field of

TESTING

Certificate Number: TC-11942

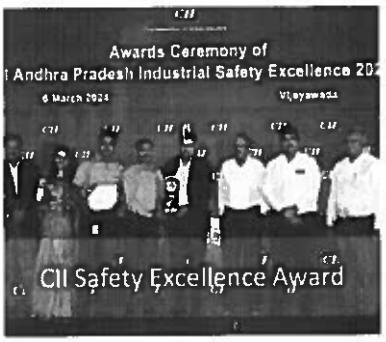
Issue Date: 19/07/2023 Valid Until: 18/07/2025

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.

Name of Legal Identity: COROMANDEL INTERNATIONAL LIMITED

Signed for and on behalf of NABL


British Safety Council Sw[illegible] nour



CII Safety Excellence Award


IQEMS Kalinga Safety Award Platinum Category

IGBC Green Building Gold Award


Visak Port Authority Swach Award

5S Model Plant Award by ABK

2024-25


Visak Port Authority Swatchata Award 2024

Shortlisted CII Energy Award 2024

Your faithfully,
For Coromandel International Limited,

M. Gnanasundaram
VP & Head – Manufacturing

Annexure-1

Raw Material	Product Name/ Complex Grade	Financial Year 2021-22 MT/MT	Financial Year 2022-23 MT/MT	Financial Year 2023-24 MT/MT
Sulfuric acid	28:28:00	0.0378	0.0230	0.0198
Phosphoric acid	28:28:00	0.2869	0.2842	0.2853
Ammonia	28:28:00	0.1320	0.1271	0.1235
Urea	28:28:00	0.4012	0.4104	0.4171
Ammonia	14:35:14	0.1730	0.1730	No Production
Potash	14:35:14	0.2419	0.2452	
Phosphoric acid	14:35:14	0.3607	0.3612	
Ammonia	20:20:00	0.2290	0.2254	0.2260
Phosphoric acid	20:20:00	0.2051	0.2030	0.2038
Sulfuric acid	20:20:00	0.3936	0.3498	0.3995
Ammonium Sulphate	20:20:0	0	0.044	0
Urea	20:20:00	0.0337	0.0418	0.0397
Sulfur	Sulfuric acid	0.3291	0.3266	0.3258
sulfuric acid	Phosphoric acid	2.7884	2.8137	2.8074
Rock phosphate	Phosphoric acid	3.3597	3.402	3.441
Ammonia	10:26:26	0.1236	0.1183	No Production
Potash	10:26:26	0.4472	0.4581	
Phosphoric acid	10:26:26	0.2670	0.2636	
Ammonia	15.15.15.9	No Production	0.1621	
Phosphoric acid	15.15.15.9		0.1529	
Potash	15.15.15.9		0.2651	
Sulfuric acid	15.15.15.9		0.2636	
Phosphoric acid	24.24.00.8S	0.2488	0.2479	0.2474
Sulfuric acid	24.24.00.8S	0.1763	0.1140	0.0995
Ammonia	24.24.00.8S	0.1513	0.1482	0.1460
Urea	24.24.00.8S	0.2812	0.2826	0.2867
Sulfur	24.24.0.8S	0.0792	0.0542	0.0505
Phosphoric acid	UAP 20-20-0	0.2077	No Production	No Production
Sulfuric acid	UAP 20-20-0	0.3537		
Ammonia	UAP 20-20-0	0.1930		
Urea	UAP 20-20-0	0.1039		

Annexure - 2

	Environment Quality Report- Effluent: 2023-24				
I)	**Pollutants**	**Quantity of pollutants discharged (mass/day)**	**Concentrations of pollutants discharges (mass/Volume)**	**APPCB limit mg / lt.**	**Percentages of variation from prescribed standards with reasons**
	Water				
1	pH	--	7.50	6.5 – 8.5	No Variation from Standards
2	Ammonical Nitrogen	--	13.92	50 mg/l	
3	Free Ammonical Nitrogen	--	0.1	4 mg/l	
4	Total Kjeldahl Nitrogen	--	23.17	75 mg/l	
5	Nitrate Nitrogen	--	0.1	20 mg/l	
6	Cyanide as CN	--	BDL	0.1 mg/l	
7	Vanadium as V	--	BDL	0.2 mg/l	
8	Arsenic as As	--	BDL	0.2 mg/l	
9	Phosphate as P	--	0.75	5 mg/l	
10	Suspended solids	--	19.67	100 mg/l	
11	Oil and Grease	--	BDL	10 mg/l	
12	Fluoride as F	--	0.94	10 mg/l	
13	Hexavalent Chromium as Cr	--	BDL	0.1 mg/l	
14	Total Chromium as Cr	--	BDL	2.0 mg/l	
15	BOD	--	10.83	30 mg/l	
16	COD	--	58.50	250 mg/l	
	Air				
		Emissions, TPA	**Emissions, mg/Nm^3**	**APPCB limit mg/Nm^3**	No Variation from Standards
1	**Complex plant A**				
	Ammonia	126.20	68.79	165	
	Fluoride	0.03	0.71	4	
	SPM	30.47	16.61	45	
2	**Complex plant B**				
	Ammonia	138.78	75.70	165	
	Fluoride	0.04	0.85	4	
	SPM	27.65	15.10	45	

3	**Complex plant C**				
	Ammonia	69.55	37.22	165	
	Fluoride	0.03	0.73	4	
	SPM	13.29	7.11	45	
4	**Phosphoric acid plant-I**				
	Total Fluoride	0.1	2.05	20	
	SPM	7.65	6.22	50	
5	**Phosphoric acid plant -II**				
	Total Fluoride	0.14	2.72	20	
	SPM	0.96	3.87	50	
6	**Sulfuric acid plant-I**				
	Sulfur di oxide	7.02	7.69	1 kg/ MT of product	
	Sulfur trioxide	-	Nil	0.35 kg/ MT of product	
	Acid mist	-	Nil	20	
7	**Sulfuric acid plant- II**				
	Sulfur di oxide	2.04	7.64	0.65 kg/ MT of product	
	Sulfur trioxide	-	Nil	0.35 kg/ MT of product	
	Acid mist	-	Nil	20	
8	**Sulfuric acid plant- III**				
	Sulfur di oxide	3.91	5.57	1 kg/ MT of product	
	Sulfur trioxide	-	Nil	0.35 kg/ MT of product	
	Acid mist	-	Nil	20	
8	Boiler-PM	2.20	8.42	115	

EFFLUENT DISCHARGE STANDARDS	
Parameter	**PCB Standards**
pH	6.5 – 8.5
Ammonical Nitrogen	50 mg/l
Free Ammonical Nitrogen	4 mg/l
Total Kjeldahl Nitrogen	75 mg/l
Nitrate Nitrogen	20 mg/l
Cyanide as CN	0.1 mg/l
Vanadium as V	0.2 mg/l
Arsenic as As	0.2 mg/l
Phosphate as P	5 mg/l
Suspended solids	100 mg/l
Oil and Grease	10 mg/l
Fluoride as F	10 mg/l
Hexavalent Chromium as Cr	0.1 mg/l
Total Chromium as Cr	2.0 mg/l
BOD	30 mg/l
COD	250 mg/l
Temp: - Not more than 5 ^{0}C higher than intake water.	

AIR EMISSION STANDARDS		
S.No	Parameter	APPCB limit mg/Nm3
1	Complex plants	
	Ammonia	165
	Fluoride	4
	SPM	45
2	Phosphoric acid plants	
	Total Fluoride	20
	Particulate matter	50
3	Sulfuric acid plant-I	
	Sulfur di oxide	1 kg/MT of prod
	SO3	0.35 kg/MT of prod
	Acid mist	20
4	Sulfuric acid plant- II	
	Sulfur di oxide	0.65 kg/MT of prod
	SO3	0.35 kg/MT of prod
	Acid mist	20
	Sulfuric acid plant- III	
	SO2 (Sulfur di oxide)	1 Kg/MT of Product
	SO3	SO3
5	Acid mist	Acid mist
6	Rock Grinding	50
7	Boiler Stack	115

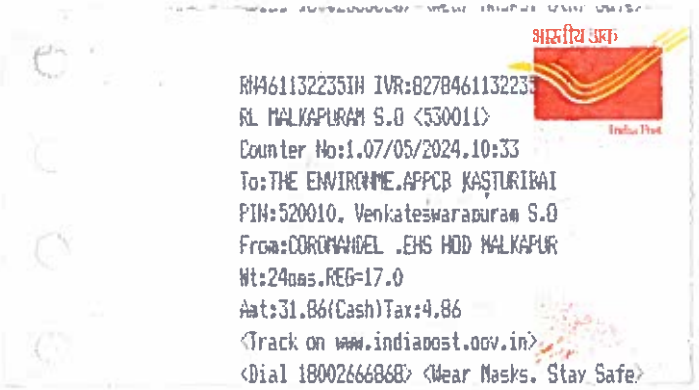
O/C

Coromandel
FUTURE POSITIVE

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Malkapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
DID : 91-891-2893+Extn No
Website : www.coromandel.biz
CIN : L24120AP1961PLC000892
GSTIN : 37AAACC7852K1ZC

EHS/APPCB/2024-040

Date: 06.05.2024



To
The Environmental Engineer,
A.P. Pollution Control Board,
D.No. 33-26-14 D/2,
Near Sunrise Hospital,
Pushpa Hotel Centre,
Chalamalavari Street,
Kasturibaipet, Vijayawada – 520010

Dear Sir,

Sub: Coromandel International Limited- Visakhapatnam–Submission of Hazardous Waste Annual Returns in Form-4 – FY2023-2024 - Regarding.

Ref: Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

We are herewith furnishing annual returns (for the period April'23 to March'24) in **Form-4** as per **"Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" and amendment thereof under E (P) Act, 1986.**

Kindly acknowledge the receipt of same.

Thanking you,

Yours Truly,

For COROMANDEL INTERNATIONAL LIMITED

Gnanasundaram M
Vice President & Head Manufacturing.

NAG/DNR

Encl. As above

CC to: i) The Environmental Engineer, Regional Office, APPCB, Visakhapatnam.

Registered Office : Coromandel House, 1-2-10
Sardar Patel Road, Secunderabad-500 003
Telangana, India

Tel : 91-40-27842034 / 27847212
Fax : 91-40-27844117
E-mail : mail@coromandel murugappa.com

murugappa

Coromandel
FUTURE POSITIVE

Coromandel International Limited
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Tel : 91-40-27842034 / 27847212
Fax : 91-40-27844117
E-mail : mail@coromandel.murugappa.com

murugappa

FORM-4

[See rules 6(5), 13(8), 16(6) and 20(2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

1	Name and address of facility:	:	**Coromandel International Limited,**		
			Sriharipuram, Malkapuram (PO), Visakhapatnam-530011, Andhra Pradesh, India.		
			Phone: 0891-2578400		
2	Authorisation No. and Date of issue:	:	Authorization no. APPCB/VSP/65/CFO/HO/1967		
			Issued date: 30.09.2022 Valid Upto 31.08.2027		
3	Name of the authorised person and full address with telephone, fax number and e-mail:	:	**M. Gnanasundaram**		
			VP-Head Manufacturing		
			Sriharipuram, Malkapuram (PO), Visakhapatnam-530011, Andhra Pradesh, India.		
			Phone: 0891-2578400		
4	Production during the year (product wise), wherever applicable	:	Complex plant	1165048	MT/Annum
		:	Sulphuric acid	861859	
		:	Phosphoric acid	370617	

Part A. To be filled by hazardous waste generators

1	Total quantity of waste generated category wise		:	**Name of the Hazardous waste**	**Quantity generated**	
				1) Acid residues (Tank bottom sludge)	25.000	MT
				2) Sulphur muck (Sulphur sludge)	940.000	MT
				3) Spent Catalyst	48.820	MT
				4) Used lubricating oil/drained oil	13.620	KL
				5) Detoxified Containers	2438.000	No's
				6) LSHS Sludge	4.070	MT
				7) Scrubbing sludge	395.000	MT
				8) ETP sludge	490.000	MT
				9) Off specified ,expired chemicals & lab chemicals etc.	0.000	MT
				10) Glass wool	0.000	MT
				11) Insulation Puf	0.000	MT
2	Quantity dispatched	(i) to disposal facility (Ramky)	:	**Name of the Hazardous waste**	**Quantity dispatched**	
				1) Spent Catalyst	33.820	MT
				2) LSHS Sludge	6.770	MT
				3) Off specified ,expired chemicals & lab chemicals etc.	0	MT
				4) Glass wool	0	MT
				5) Insulation Puf	0	MT
		(ii) to recycler or co-processors or pre-processor		1) Used lubricating oil/drained oil	14.020	KL
				2) Detoxified Containers and container liners	2348	No's
		(iii) Others		---	---	

FORM-4

[See rules 6(5), 13(8), 16(6) and 20(2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

3	Quantity utilised in-house, if any -	:	**Name of the Hazardous waste**	**Quantity utilised**	
			1) Acid residues (Tank bottom sludge)	28	MT
			2) Sulphur muck (Sulphur sludge)	995	MT
			3) Scrubbing sludge	410	MT
			3) ETP sludge	560	MT
4	Quantity in storage at the end of the year –	:	**Name of the Hazardous waste**	**Quantity Storage**	
			1) Acid residues (Tank bottom sludge)	0	MT
			2) Sulphur muck (Sulphur sludge)	0	MT
			3) Spent Catalyst	15	MT
			4) Used lubricating oil/drained oil	0	KL
			5) Detoxified Containers and container liners	90	No's
			6) LSHS Sludge	0	MT
			7) Scrubbing sludge	25	MT
			8) ETP sludge	0	MT
			9) Off specified ,expired chemicals & lab	0	MT
			10) Glass wool	0	MT
			11) Insulation Puf	0	MT

Part B. To be filled by Treatment, storage and disposal facility operators

1	Total quantity received -	:	
2	Quantity in stock at the	:	
3	Quantity treated –	:	
4	Quantity disposed in landfills as such and after treatment –	:	Not applicable
5	Quantity incinerated (if applicable) -	:	
6	Quantity processed other than specified above -	:	
7	Quantity in storage at the end of the year -	:	

Part C. To be filled by recyclers or co-processors or other users

1	Quantity of waste received during the year – (i) domestic sources	:	
2	Quantity in stock at the beginning of the year -	:	
3	Quantity recycled or co-processed or used –	:	Not applicable
4	Quantity of products dispatched (wherever applicable) –	:	
5	Quantity of waste generated -	:	
6	Quantity of waste disposed -	:	
7	Quantity re-exported (wherever applicable)-	:	
8	Quantity in storage at the end of the year -	:	

Date : **06.05.2024**

Place: Visakhapatnam.

Signature of the Occupier or Operator of the disposal facility

COROMANDEL VIZAG

Sustainability Measures

SUB: Environmental – Energy Conservation

Name of the Project: 1650 MTPD Sulphuric Acid plant III

Problems faced before implementation of initiative:

- Higher energy consumption for 45 MT/Hr. steam Generation from Steaming coal

Brief Description: 1650 MTPD Sulphuric Acid Plant III installed, generating 87 MT / Hr., high pressure waste steam at 69kgf/cm^{2}g 485 ^{o}C. High pressure & temperature steam turbine results in lower Specific Steam Consumption of 4.0 MT / MWH. Old Condensing turbine was medium pressure 31kgf/cm^{2}g 315^{o}C with 5.8 MT/MW Specific Steam Consumption. Innovation enabled higher power generation

Technology: Monsanto Enviro Chem Systems USA, Engineering – Thyssenkrupp Industrial Solutions, India.

Cost – Rs 4300 million Annual Savings 72765000 kWh Annual Savings Rs 466 million
Payback 111 month Completed Date Aug 2023

Challenges faced during the project:

1. Technical Know How for modern Energy Efficient Sulphuric Acid Plant
2. Availability of expertise for taking up modern technologies

Prevailing practice in the industry: Maximise deployment of Carbon free Energy.

COROMANDEL VIZAG

Sustainability Measures

SUB: Environmental – Energy Conservation

Name of the Project: Installation of 11KV Automatic Power Factor controlling system

Problems faced before implementation of initiative:

- Grid power factor is at 0.970 lag and power factor to be maintained at unity for ideal conditions.
- Existing installed HT capacitor bank are not sufficient to meet the required capacitive load of the plant which is required to maintain unity power factor. This is due to the increase in plant loads subsequently.

Brief Description: Installation of Automatic Power Factor controlling panels comprising

1. 11 KV Limiting Reactors 2.12 MVAR – 3 no's
2. 100 Kvar,440V,3Ph,50Hz, CLMD 83 Capacitor – 30 no's
3. 11kV, 2500kVAr APFC with 6% inrush current – 1 no.
4. 11kV, 2000kVAr APFC with 6% inrush current – 1 no.

New generation technology considered as an alternative to conventional technology / method to limit the short circuit levels at existing substations

Cost – Rs 29.5 million Annual Savings 1703451 kWh Annual Savings Rs 11 million
Payback 32 month Completed Date Jan 2024

Benefits: 1) After installing additional capacitor bank panels, power factor of around 0.995 lag at grid side is being achieved from Feb-24 which will reduce the losses and improve the power factor which will in turn give us power saving.

Challenges faced during the project:
1) Subsequent increase in Power capacity addition continuously.

Prevailing practice in the industry: Install capacitor banks whenever power load increases

COROMANDEL VIZAG

Sustainability Measures

SUB: Environmental – Energy Conservation

Name of the Project: Replacement of age-old Air conditioner units with modern 3 Star Units

Problems faced before implementation of initiative:

- Higher Energy Consumption

Brief Description: 41 no's age-old Air conditioner units replaced by modern 3 Star Units.

Cost – Rs 2.384 million Annual Savings 48441 kWh Annual Savings Rs 0.1 million
Payback 92 month Completed Date Jan 2024

Benefits:
1) Improved Air Conditioning
2) Lower Energy Consumption

Challenges faced during the project: None.

Prevailing practice in the industry: Maximise deployment of modern 3 Star AC Units.



COROMANDEL VIZAG

Sustainability Measures – Kaizens – Zero cost Measures

SUB: Environmental – Energy Conservation

Name of the Project: Installation of AC controls, closure to respective AC Units

Problems faced before implementation of initiative:

- Higher Energy Consumption
- II AC unit running even when not required, as its temperature control is not close by

Brief Description: Installed AC temperature control sensors closure to respective AC Units,

Cost – Rs NIL million Annual Savings 21406 kWh Annual Savings Rs 0.14 million
Payback 0 month Completed Date Nov 2023

Benefits:

1) Improved Air Conditioning
2) Lower Energy Consumption

Challenges faced during the project: None.

Prevailing practice in the industry: Installation of AC controls closure to place of use is a best practice.

COROMANDEL VIZAG

SUB: Environmental – Sea Water Solution to Raw Water needs.

Name of the Project: 6000 M^3/Day Sea Water Reverse Osmosis Desalination Plant

Problems faced before implementation of initiative:

1. Limited availability of Raw water for plant expansion
2. Regular Line leaks along 10 Kilometer long TSR Water Pipeline.

Brief Description: Sea Water undergoes rapid floatation pretreatment, in Direct Air Floatation system for removal of Algae. Filtration of sea water is carried out by reverse osmosis, which involves forcing water at high pressure through a membrane that retains up to 99% of impurities. Desalinated Water is utilised in process plants as raw water, part of the desalinated water also undergoes post-treatment in mixed bed Ion Exchanger where it is demineralized.

Cost of Project: Coromandel: INR 30 Cr, INR Veolia – 40 Cr, Total INR 70 Cr

Benefits:

1. Support Plant expansion.
2. High purity demineralised water

Challenges faced during the project:

- Higher energy consumption for desalination by Reverse Osmosis 4.8 kWh/M3 Water

Prevailing practice in the industry:

Enabling and securing access to water resources at a permeate salinity / Total dissolved solids level of 200 ppm, by exploiting an inexhaustible natural resource with high salinity of 37000 ppm.

COROMANDEL VIZAG

SUB: Environmental – Nature Conservation - Greening within Fence

Name of the Project: **Greening within Fence** - Miyawaki Plantation

Problems faced before implementation of initiative:

1. Degraded land that has been used for construction and nonagricultural purposes.

Brief Description: Miyawaki Plantation involves plantation of trees, native to the area, with species that complement each other. As saplings receive sunlight from the top and grow upward, rather than sideways. It helps prevent growth of weeds, by avoiding sunlight reaching the soil.

S.no.	Area Of plantation	No. of plants	Year	Cost
1	Phase - 1	3000	2021-22	INR 7,61,607
2	Phase - II	10000	2021-22	INR 47,57,706
3	Phase - III	10000	2022-23	INR 50,00,000
4	Phase - IV	25000	2023-24	INR 1,24,00,000
5	Phase - V	3500	2023-24	INR 12,26,592

Greenery in more than 120 acres out of 320 acres industrial site (37.5%), adherence to better than regulatory norm.

Cost of the project: Rs. 136 Lakh Year 2023-24, No of Plants – 28500 no's

Benefits:

1. Creating Carbon sink in the area.
2. Control of fugitive emissions due to road traffic

Challenges faced during the project:

- Challenging sediment conditions, acidic soils necessitating laying of proper soil.


Phase III


Phase IV


Phase IV


Phase V


Phase V


Garden Competition

Prevailing practice in the industry:

Driving Compliance to APPCB order that 33% of industrial site around a factory is to be green.

COROMANDEL VIZAG

SUB: Environmental – Abating Noise

Name of the Project: **Modern Steam Vent Silencers**

Problems faced before implementation of initiative:

1. High noise during venting of high-pressure steam.

Brief Description: Performance of Vent Silencers is achieved by a 2-stage noise reduction approach.

Stage 1 –The inlet diffuser is effective in attenuating frequencies of sound and distributing the flow evenly to the 2nd stage.

Stage 2 – Sound reduction comprises of absorptive elements positioned within the silencer case thus absorbing acoustic energy out of the steam prior to exiting the atmosphere.

Benefits:

1. Noise-less steam venting.

Challenges faced during the project:

- Design Known how of modern steam vent silencers.

Prevailing practice in the industry:

Enabling Compliance to APPCB order that noise levels in the industry should be within 75 db during daytime and 70 db. during nighttime.

COROMANDEL VIZAG

SUB: Environmental – Dust Control during Solids Material Handling

Name of the Project: **Steam, Air & Water Curtain for Dust Control during Solid Sulphur Handling**

Problems faced before implementation of initiative:

1. Higher dust emissions during Solid Sulphur handling as the following existing measures have limited control of dust emissions.
    a. Rubber & Canvas apron serves to contain dust, however, is limited due to access through several openings in the apron.
    b. Bag filter creates a negative atmosphere and removes airborne dust, is limited due to dilution air entry through several openings and huge power consumption.

Brief Description: **Low pressure smothering steam, Fine mist of Water and Air are released to create positive pressure around the emission points and act as a curtain, at various dust emission points during Solids Sulphur handling in Sulphuric Acid Plant – III.**

Benefits:

1. Environment Compliance – Control of dust under positive pressure.
2. Better work place ambience

Challenges faced during the project:

- Fine mist of water and steam smothering increases acidity in solid sulphur
- Excessive load on Bag filters.

Prevailing practice in the industry:

Ensuring Compliance to APPCB order on fugitive Dust emissions < 50 mg/NM3

COROMANDEL VIZAG

SUB: Environmental – Effluent Control Better than regulatory norms

Name of the Project: Fresh Water Surface Condenser for Turbo Generator III

Problems faced before implementation of initiative:

1. Sea Water has worst Corrosion characteristics, hence special Cu: Ni 70:30 tubes used
2. Higher tube side Scaling due to sea water contaminants, requiring automatic cleaning using circulating rubber sponge balls.
3. Use of sodium hypochlorite, or chlorine, to ensure there is no marine growth on the pipes or the tubes. However, circulating water returning to the sea is affected.

Brief Description: Fresh Water Surface Condenser for Turbo Generator III, which rejects the heat from condensing steam in surface condenser to air in a cooling tower using fresh water as circulating heat transfer medium.

Benefits:

1. Better Environment –
    a. Capacity of air environment to absorb heat is higher than heat rejection to water.
    b. Heat of water needs to be released to air through water evaporation, hence direct discharge of heat to air is better option.
    c. Marine environment is least effected.

Challenges faced during the project:

- Higher liberation of heat in factory premises
- Large quantity of fresh water consumed.

Prevailing practice in the industry:

Fresh Water Surface Condenser is a better option for condensing type-high pressure steam turbine.

COROMANDEL VIZAG

SUB: Environmental – Effluent Control Better than regulatory norms

Name of the Project: **Zero Liquid Discharge Facility**

Problems faced before implementation of initiative:

1. Loss of containment
2. Poor Control of final effluent quality

Brief Description: Installation of Zero Liquid Discharge Systems

Technology used: The major sources of effluent are overflows and spillage of process drains of Sulphuric acid plant, cooling tower blow down and leachate water from Gypsum Pond. Installed water recovery pits along with agitators for water conservation by recovery and reuse.

Benefits:

1. Compliance to APPCB order.
2. Control on liquid effluents.

Challenges faced during the project:

Design and Installation of Gradient Floor for recovery, separate process and storm water drains and recovery pits.

Prevailing practice in the industry: Zero liquid discharge by installing process and storm water drains and recovery pits is well established. All new plants to be designed for ZLD

COROMANDEL VIZAG

SUB: Environmental – Effluent Control Better than regulatory norms

Name of the Project: **Cooling Tower Water Conductivity meter for blowdown control**

Problems faced before implementation of initiative:

1. Lack of online control for blowdown
2. Excessive Water consumption

Brief Description: Installation of Conductivity meter on cooling tower water system, for controlling Blowdown

Benefits:

1. Control on liquid effluents.

Challenges faced during the project:

Letting management realize on the need to have online Conductivity meter for cooling tower blowdown control

Prevailing practice in the industry: Boiler Blowdown control by installing conductivity meter is good water conservation practice.

COROMANDEL VIZAG

SUB: Environmental – Dust Control Better than regulatory norms

Name of the Project: **Dust control while preparing lime solution**

Problems faced before implementation of initiative:

1. Dust generation during mixing of lime in Lime Slurry Preparation Tank

Brief Description: Installation of Air Operated Diaphragm Pump

Benefits:

1. Control on Dust generation.

Challenges faced during the project:

Know how on operation of Air Operated Diaphragm Pump and its applications.

Prevailing practice in the industry: Installation of Air Operated Diaphragm Pump is a best practice in Lime Addition to Lime Slurry Preparation Tank/

Lime Dust generation while dumping into Lime slurry Preparation Tank

Air Operated Diaphragm Pump

Lime Power flow through hose without dust generation

COROMANDEL VIZAG

SUB: Environmental – Emission & Effluent Control measures

Name of the Project: Installation of Continuous Emission Monitoring system

Compliance to CPCB Guidelines: Use of CEMS to continuously collect, record & report emission data of SO2 for monitoring compliance to Sulphuric Acid Plant emission standards.

Problems faced before implementation of initiative:

1. Heights of stacks, Corrosive environment & Stack structure conditions restrict regular maintenance work at height.

Brief Description: Installed Online stack emissions monitoring system The standard CEM system consists of a sample probe, filter, sample line (umbilical), gas conditioning system, calibration gas system, and a series of gas analyzers which reflect the parameters being monitored. A Data Acquisition and Handling System (DAHS) receives the signal output from each analyzer, which is then simultaneously transmitted live to CPCB / APPCB Servers in order to collect and record emissions data

Technology used:

- SO2 measurement – Non-Dispersive Ultraviolet Absorption spectroscopy

Benefits: Self-regulation of Industry

Challenges faced during the project:

- Moisture in stack – availability of suitable material of construction

Prevailing practice in the industry:
Compliance to APPCB order

COROMANDEL VIZAG

SUB: Environmental – Emission & Effluent Control measures

Name of the Project: **Quality Assurance Laboratory Fumes Scrubber**

Problems faced before implementation of initiative:

- Quality Assurance Laboratory Fumes let to atmosphere.

Brief Description: Fumes Scrubber

Technology used: The scrubber system consists of a void tower crossflow Gas Scrubber with a Gas Scrubber Fan drawing gases from the various emission points of the Quality Assurance Laboratory and discharging them to the Stack.

The gases enter the gas scrubber through the bottom. They are washed with an aqueous solution. This solution circulates through the pumps. The make-up is done by process water. The bleed of the scrubber is pumped to ETP for treatment & reuse.

Benefits: Scrubbing of Gases for Fumes control

Challenges faced during the project:

- Water balance & effluent control of scrub liquor

Prevailing practice in the industry: Gas scrubbing ensures sustainable emission control.

COROMANDEL VIZAG

SUB: Environmental – Soil Rejuvenation

Name of the Project: **Garden Compost**

Problems faced before implementation of initiative:

- Lower Soil Nutrients in around Housing Colony.

Brief Description: Garden Compost

Technology used: Small Pits were dug in around each house in housing colony. is as simple as collecting yard waste or the organic materials in your trash (such as fruit and vegetable peels) to fill a pit. Over the course of a year or so, the material will decompose.

Benefits: The decomposed organic material is then added to soil to provide nutrients to sustain plant growth. Compost also helps to improve soil structure and supports soil microbes that are integral to plant health.

Challenges faced during the project: Some people believe learning how to compost is too complicated, it smells bad, and it's messy. This may be true if you compost the wrong way,

Prevailing practice in the industry: Compost is a natural alternative for Garden rejuvenation.

COROMANDEL VIZAG

SUB: Environmental – Monitoring

Name of the Project: **Ammonia Leak Detectors & Siren**

Problems faced before implementation of initiative:

- Non availability of information on Gas leak emissions to employees & Public

Brief Description: Siren and Ammonia Leak detectors installed at Mulagada village and at crossroad at Gate No 9, to alert Public on Ammonia Leak

Benefits: On Site Emergency Control.

Challenges faced during the project: Public unrest on Gas leaks in neighborhood villages.

Prevailing practice in the industry: Installation of leak detectors & Siren is a best practice.

COROMANDEL VIZAG

SUB: Environmental – Water Conservation

Name of the Project**: Sewage Treated Water for Gardening**

Problems faced before implementation of initiative:

- Fresh Water availability limited for Gardening.
- Utilisation of Sewage Treated Water in production process limited.

Brief Description: Installed Sewage Treated Water storage Tank, irrigation water lines for plantation at Harita Vanam

Benefits:

1. Water Conservation by avoiding freshwater use.
2. Ecological conservation by enabling zero effluent discharge.
3. Proper operation of Sewage Treatment Plant is ensured, else presence of pathogenic bacteria will harm Green plantation as well as contaminate groundwater.

Challenges faced during the project: A large percentage of domestic & industrial water users are afraid to use this technology to supply water (direct reuse) because of the potential presence of pathogenic organisms. However, most people are willing to accept reused wastewater for lawn irrigation and for cooling purposes in industrial processes.

Prevailing practice in the industry: Suitability of this technology, especially where there is a water deficit for several months of the year, implementation of wastewater recycling or reuse by industries can reduce demands for water of potable quality, and also reduce impacts on the environment.

COROMANDEL VIZAG

SUB: Environmental – Water Conservation

Name of the Project: **Rainwater Harvesting**

Problems faced before implementation of initiative:

- Fresh Water availability limited.

Brief Description: Installed Rainwater Harvesting System for Control Rooms

Benefits:

1. Water Conservation by avoiding freshwater use.

Challenges faced during the project:

1. Limited storage of rainwater.
2. Lot of dust accumulated in collection area, is washed away into rainwater collection system during rain, clogging drains as well as acidic & huge sediment water to plantation can harm plantation.

Prevailing practice in the industry: Rainwater harvesting is the viable technology used to conserve rainwater by collecting, storing, conveying, and purifying of rainwater that runs off from rooftops, parks, roads, open grounds, etc. for later use.

SUB: Environmental – Water Conservation

Name of the Project: **Startup Tail Gas Scrubber**

Problems faced before implementation of initiative:

- High SO2 emissions through stack during cold startup and process upsets.

Brief Description: Installed Start -up Tail Gas Scrubber where upward process gas flows is scrubbed by countercurrent Sodium Hydroxide solution in a packed Absorber, where SO2 reacts with NaOH to form sulphite and sulphate salts (Na2SO3 , NaHSO3 , Na2SO4).

Scrubber operates with close pH control on absorbing solution.

Benefits:

1. SO2 emission control.

Challenges faced during the project:

1. Density control – Higher density of absorbing solution causes clogging of absorber and leads to SPM carryover.
2. Low pH of Absorbing solution causes loss of Absorption.
3. Requires automatic process control.

Prevailing practice in the industry: Startup Tail Gas Scrubber for Sulphuric Acid Plant is as part of compliance to APPCB / CPCB guidelines.

Annexure-5

Environmental Control Measures
Coromandel International Limited
Visakhapatnam

s.no	EHS (2023-24)	Rs. Lakhs
1	Super heater replacement along with inlet & outlet ducts	650
2	Procurement of Heat Exchanger for evaporators with Carbon fiber reinforced graphite tubes - 1 No	150
3	Dilution cooler - replacement	150
4	Road Sweeping Machine	110
5	Sulphuric acid piping in Complex-ABC Train replacement with Alloy 20	80
6	Lightening protection phase - 3	80
7	B-Tr Dryer separator vessel & C-Tr Pre-scrubber vessel renewal	70
8	Critical flow meters	60
9	LECO sulphur analyzer	55
10	Miyawaki plantation Phase - V	11
11	SAP 1&2 cooling tower blowdown water recovery pumping system	25
12	Desalination plant of 6 MLD Capacity	3000
	Total	**4441**

s.no	EHS (2022-23)	Rs. Lakhs
1	Green Building	20
2	Solar Street lighting	7.1
3	LED lighting	5
4	Replacement of age-old Air conditioner	15
5	Battery Operated Electric Automotive	10
6	Haritha Vanam Red soil	16
7	Miyawaki Phase-III & IV	174
8	Evaporator - II Steam Condensate recovery	33
9	2 km plant bypass road	1370
10	Anion Rinse Water Recovery system	61
11	CAAQMS & OCEMS (New & O&M)	100
12	STP Capacity Enhancement	50
13	ETP sludge storage shed	150
14	Digital Display Board	3.0
15	NOx Analyzer	14

	Total	**2028.1**

s.no	EHS (2021-22)	Rs. Lakhs
1	Water recovery by rainwater harvesting	100
2	Gypsum Pond Leachate Recovery System	670
3	Installation of impervious HDPE Geo permeable membrane liner	650
4	Renovation of Online Continuous Emission Monitoring system	180
5	Renovation of Continuous Ambient Air Quality Monitoring system	70
6	Harithavanam Grass Cover	24
7	Miyawaki PH-II	45.6
8	Prill Tower area Grass	12
9	Colony Plantation	2
10	Green Visakha	271
11	Wharf plantation	2
	Total	**2026.6**

s.no	EHS (2020-21)	Rs. Lakhs
1	Green Visakha Plantation	266
2	CAAQMS at Garage location	49
3	EPR Charges for Plastic Waste Management	80
	Total	**395**

s.no	EHS (2019-20)	Rs. Lakhs
1	Green Visakha Plantation	140
2	HDPE liner for Gypsum Pond	1300
	Total	**1440**

s.no	EHS (2018-19)	Rs. Lakhs
1	Green Visakha Plantation	100.0
2	Gypsum Neutralization Unit	70.0
3	Drains Improvement (PA Plant)	25.0
4	Energy Efficient lighting at plants	20.0
5	Grass plantation at gypsum Pond on trials	5.0
	Total	**220.0**

s.no	EHS (2017-18)	Rs. Lakhs
1	Oil Skimmer	25.0
2	Green Visakha Plantation	50.0
3	PAP & remining stacks analysers	43.0
4	Gypsum Neutralization Unit	1000.0
	Process Drains Improvement (PA Plant)	130.0
	Total	1248.0

s.no	EHS (2016-17)	Rs. Lakhs
1	Oil spill recovery equipment	46.0
2	Sewage Treatment Plant	51.0
3	A , B Train – Online monitoring & Closed Circuit Camera	63 .0
	Total	160.0

s.no	EHS (2015-16)	Rs.Lakhs
1	Ambient Air Quality – 3rd stations (replacement to Cyclone damaged)	50.0
2	Online Monitoring equipment (Complex plant C train)	18.0
3	Plantation (inside + outside)	54.0
4	Improvements in Effluent Handling	55.0
	Total	177.0

s.no	EHS (2014-15)	Status	Rs.Lakhs
1	Replacement of damaged insulation due to HUd-Hud Cyclone	2014-15	230
2	Mechanical Plate exchanger replacement at SAP-I	2014-15	80
3	Pre-scrubber tank replacement	2014-15	18
4	REPL. OF BME CANDLES FOR SAP-1 AND SAP-2	2014-15	40
5	Replacement of Dedusting system ay Ctrain Cyclone ducts	2014-15	32
	Total,Rs/-		**400**

s.no	EHS (2013-14)	Status	Rs.Lakhs
1	Green Belt Development by TERI on Gypsum pond	2013-14	250

2	REPL. OF BME CANDLES FOR SAP-1 AND SAP-2	April'13	62
	Total,Rs/-		**312**

s.no	**EHS (2012-13)**	**Status**	**Rs.Lakhs**
1	3rd online AAQM station	March'13	60
2	Green Visakha -15000 saplings	March'13	58
3	A,B TRAIN COOLER CYCLONE DUCTING,RENEWAL	Nov'12	22
	Total,Rs/-		**140**

s.no	**EHS (2011-12)**	**Status**	**Rs.Lakhs**
1	Portable workplace monitoring system	May'12	10
2.	Green Visakha at Air port	March'13	50
	Total,Rs/-		**60**

	Capex -EHS(2010-11)	Status	Rs. Lacs
1	Effluent / Storm Water drains management	Feb'2011	30.00
2	Ambient Air Quality monitoring Station	March'2011	60.00
3	Effluent Treatment Plant(ETP)	August'2011	1600.00
4	HDPE lining -Gypsum siding area (About 5 acres)	July'2010	150.00
5	Telescopic chutes for Rock Go down	Feb'2011	45.00
6	Structural Stability	2010-11	120.00
7	Replacement of BME candles for FAT & DT	March'2011	40.00
8	AAQM Station at Mulagada village	Nov'2010	22.00
	Total(Lacs)		**2067.00**

2009-10			**(Rupees lakhs)**
Sl. no.	**Measure**	**Year installed**	**Cost Rs. Lakhs**
1.	HDPE lining Gypsum area – 5 acres	2009	100.00
2.	Water Conservation	2009	50.00
3.	Improvement to storm water drain system	2009	30.00
4.	Greenbelt Development	2009	17.00
5.	Start up Alkali Scrubber at 1400 MTPD sulfuric acid plant to reduce SO2 emissions	2009	135.00
6.	Fire water system for AAST	2009	30.00
7.	Ambient air monitoring station(AAQM)	2010	75.0
8.	Study of scrubbing system at complex plant	2009	10.00
9.	Filling of Black cotton soil at 7^{th} gate	2010	15.00
		TOTAL(Lacs)	**462.00**

Sl. no.	Measure	Year installed	Cost Rs. Lakhs
10.	Installed Dry gypsum Disposal system at Phosphoric acid plant	April'2009	2900
11.	BME candles for Final absorption tower of SAP-II	2008	10
12.	Procured road sweeping machine to reduce dust emission during movement of vehicles inside the plant roads	2008	17
13.	Installation of Alkali start-up scrubber for 300 MTPD sulfuric acid plant to reduce SO_2 emission during start-up	2008	99
14.	Installation of new bag-filter in place of existing bag-filter at wharf new silo for reduction of fugitive dust emissions	2008	14
15.	Replacement of bag-filter at old ball mill of rock-grinding unit	2007	18
16.	Installation of Air Pre-heater in Trains 'B' & 'C' of complex plant	2006	320
17.	Installation of Air Pre-heater in Train-A of complex plant	2006	165
18.	Installation of Telescopic chute (2 Nos.) at Wharf New Silo	2006	13
19.	Installation of pipe conveyor at wharf in place of cross conveyor.	2005	175
20.	Hazardous waste handling and disposal system	2004	5
21.	Installation of telescopic chute at rock phosphate storage godown.	2004	30
22.	Replacement of fume gas scrubber at phosphoric acid plant.	2004	150
23.	Installation of de-dusting system at rock phosphate unloading area.	2004	10
24.	Installation of new Screw Unloader System in place of gantry grab bucket system and construction of silo and overhead pipe conveyor at wharf	2003	2000
25.	Installation of new bag filter for storage silo at wharf area in place of existing one.	2003	20
26.	New SO_2 on-line analyser was installed at sulphuric acid plant.	2002	8

Sl. no.	Measure	Year installed	Cost Rs. Lakhs
27.	Ground rock transfer system from rock grinding station to phosphoric acid plant modified from pneumatic system to pipe conveying system.	2002	200
28.	Bag-filter was installed on inclined conveyor at wharf area.	2002	2
29.	Additional bag-filter at rock grinding unit	2001	5
30.	New scrubbing system for train 'B'	2001	550
31.	New scrubbing system for train 'A'	2000	550
32.	Telescopic chutes (2 nos.)	2000	12
33.	Pollution control equipment for new complex Train 'C'	2000	833
	TOTAL Rs./ lakhs		**8106**

BEFORE THE YEAR 2000			
34.	Telescopic chute, emulsifier nozzles & bag filter at wharf area	1999	10
35.	Renewal of bag filter at rock grinding	1998	15
36.	Molten sulfur handling facility	1997	1050
37.	Reinstallation of high capacity effluent pumps	1996	50
38.	Renewal of bag filter at phosphoric acid plant	1995	5
39.	Green-belt development	-	20
40.	Revamping of sulfuric acid plant converter & use of high active ring shaped catalyst.	1994	450
41.	Modification of recirculation pumps in effluent treatment plant	1994	35
42.	Fluorine recovery unit	1994	320
43.	LPG/Naphtha fumes monitor for leak detection	1993	4
44.	Installation of continuous pH meter for DT acid cooler exit water	1993	2
45.	Replacement of cold heat exchanger	1992	80
46.	Fluoride analyser for effluent analysis	1992	4
47.	Installation of continuous SO_2, analyser for stack in sulfuric acid plant	1992	15
48.	Installation of dust control system in bagging plant	1992	12
49.	Installation dust control system at wharf silo	1992	13
50.	Monitoring equipment viz. High volume samplers, ammonia sensors.	1990 & 91	5
51.	Effluent recycle scheme in complex plant	1989	12
52.	Construction of effluent treatment plant	1989	250
53.	Installation of bag filters in rock grinding plant	1989	12
54.	Construction of new F.A.T. in sulfuric acid plant	1989	20
55.	Extension of fume scrubber stack in phosphoric acid plant	1988	6
56.	Installation of fumes scrubber in phosphoric acid plant	1987	30
57.	Installation of mist eliminator candles in sulfuric acid plant	1987	10
58.	Rinse water recovery scheme in utilities plant	1984	3

BEFORE THE YEAR 2000			
59.	Replacement of conventional catalyst to more active type (Ring)	1980	60
60.	Conversion of sulfuric acid process to DCDA technology	1975	250
61.	High efficiency Venturi scrubbers in complex plant	1967	27
62.	Dust cyclones in complex plant	1967	6
63.	Installation of dust cyclones in phosphoric acid plant	1967	4
	TOTAL	**Rs/ lakhs**	**2796**

Note: Total investment from 1967 to 2012-13 = 13631 lakhs
Capital investment for 2013-14 = 312 lakhs
Investments in 2014-15 = 400 lakhs
In 2015-16 = 177 lakhs
In 2016-17 = 160 lakhs
In 2017-18 = 1248 lakhs
In 2018-19 = 220 lakhs
In 2019-20 = 1440 lakhs
In 2020-21 = 395 lakhs
In 2021-22 = 2026 lakhs

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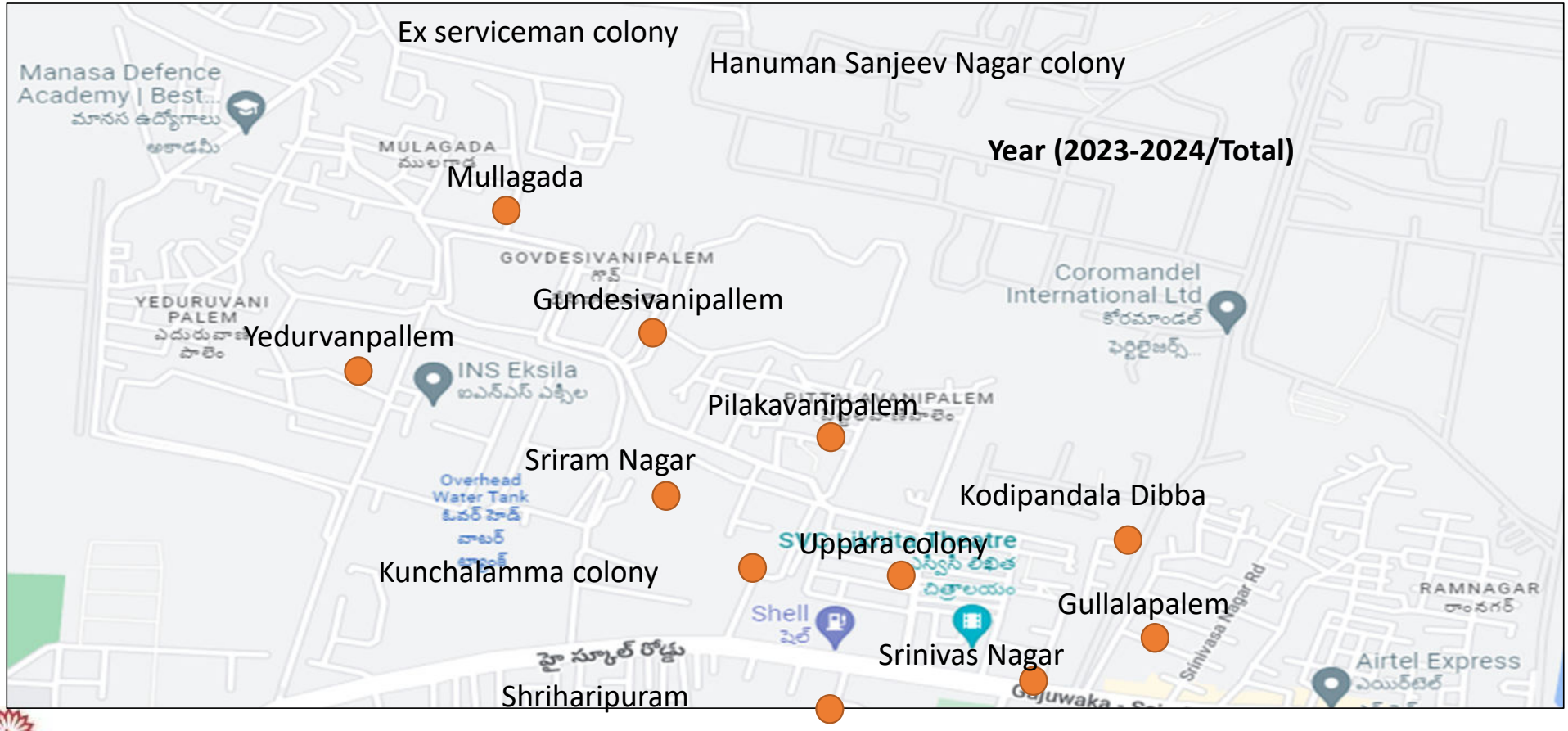
Coromandel

CSR
Annual report 2023-2024

Vizag

Mapping villages-Total bEN -217134



Total number of villages benefitted - 14

Total number of Schools benefitted - 9

Approved Vs Spent– 23-24

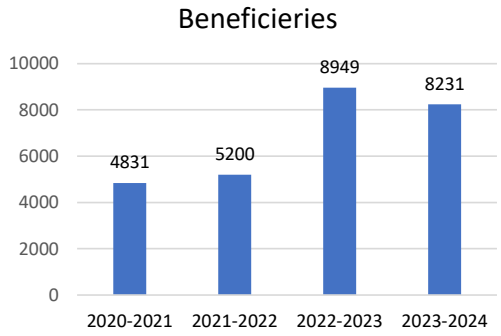
Spent Matrix

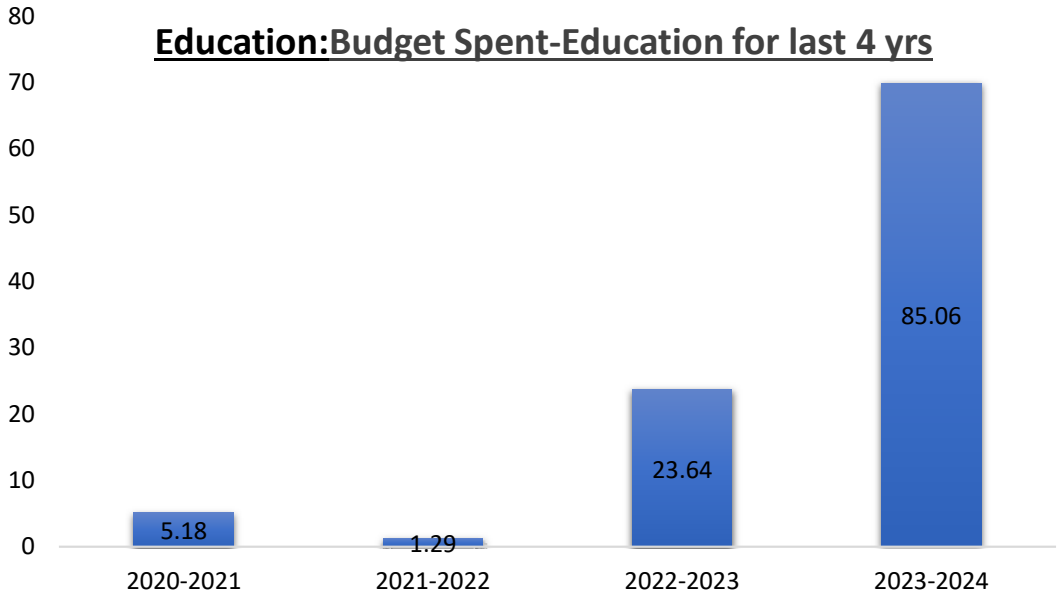
S.No	Domain	Spent (Lacs)
1	Community Development	133.00
2	Health	73.79
3	Education	85.67
	Total	292.46

CSR Initiative-Education

Key Highlights of the Last 4 Year

- Chemistry its FUNdametals
- Renovated Social welfare Girls hostels
- Coromandel Girlchild scholarship
- Champs Life skill development to children
- Karadi path Magic English
- School infra

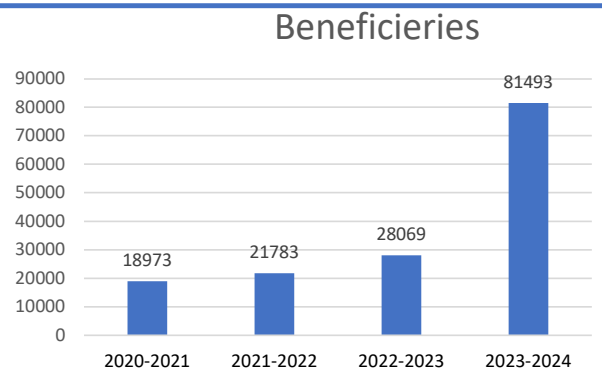


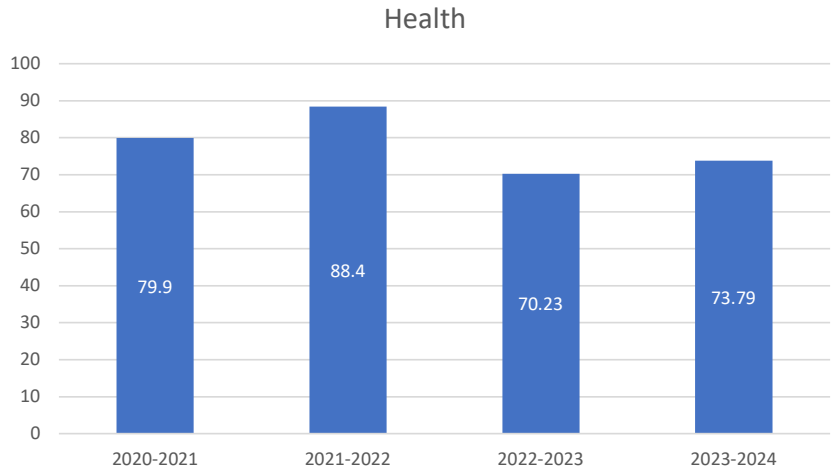


CSR Initiative-Health

Key Highlights of the last 4Years

- New Coromandel Medical centre
- IBCC
- Eye screening camp
- Women & Children Medical camp
- Anti-Larval & Fogging
- Health & Nutrition program

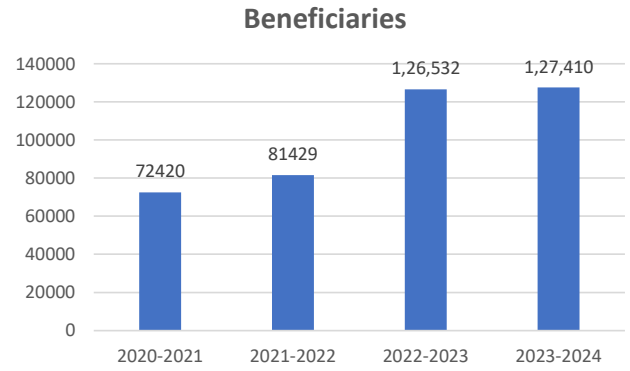


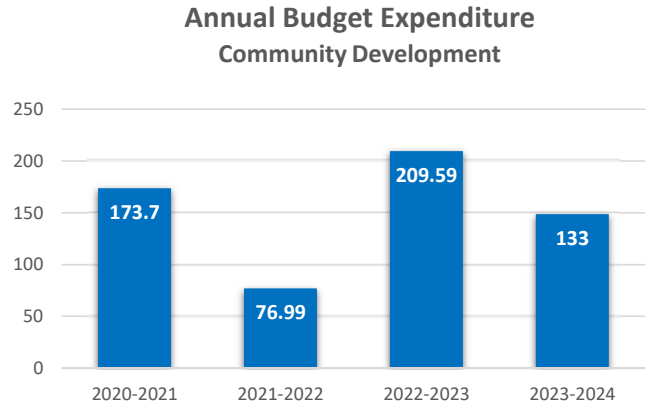


CSR Initiative-Community development

Key Highlights of the Year

- Community infra
- Women livelihood –Ekka
- Community Bore Motor wells
- Community Open Gyms-
- Inter village sports for youth
- Women sports
- RO water plant
- World environment day
- Govt ITI Computer Lab
- Renovated Fire station





Coromandel Prayog Utsav

- Coromandel Proyog Utsav (Mega Science Fair) on 29th Feb 2024.
- Mr. Husaian, Revenue Divisional Officer, Prof. Murthy garu, HoD of Journalism & Mass Communication & Dean Examinations of Andhra University, Mr. Rama Rao, Dy. Director of Social Welfare were the Chief Guests of the program.
- Total No of schools attended :29
- No of projects :150
- Total children attended :450

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Inauguration of Coromandel Science Laboratory @ Mindi High School

- Coromandel Science Laboratory was Inaugurated by Mr. Gudivada Amaranth, IT & Industrial Minister, Mr. Tippala Nagireddy, MLA of Gajuwaka at Govt High school Mindi on 26th June-2023.
- No. of Beneficiaries - 740

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Coromandel Science Laboratory @ Malkapuram GVMC High School inaugurated by Mr. Arun Leslee George, President & CHRO of Coromandel International Limited

30th Aug'23

No. of Beneficiaries - 1190

Coromandel Girl Child Scholarship Program

- Organized Coromandel Girl child Students success meet-2023.
- Coromandel Ladies Association recognized and encouraged 23 children who secured 510 marks and also state level rankers from Malkapuram GVMC High school
- Beneficiaries - 70 scholarship children
- Our scholarship- SSC children attended the examination out of 23 no's got 500 above marks

Teacher training workshop

- Organized 2 days Teachers training workshop on 12th & 13th Oct 2023 at Our CRC
- To ensure teachers in these schools have access to tested teaching learning materials in both print and multimedia formats to empower the students improve their English Language proficiency
- To empower the Teachers, use audio and video tools in govt schools through the implementation of the Karadi path Program.
- Participated Mandel educational officer, cluster recourse person ,Govt school teachers and our HR dept

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New Coromandel Medical Centre Inauguration

- New Coromandel Medical Centre Inaugurated by Shri Nageswarao garu, DMHO along with 58th ward Corporator, Mr.Gnanasundaram-VP & Unit Head, Mr.Jayagopal- CSR Head , Mr.Srinivasrao, DGM-HR
- DMHO appreciated coromandel management for their support towards health care services to the community.
- Initiated on 15th Nov 2023

Women & children Medical camp

- We Organized a dedicated Medical camp for Community Women & children (Up to 13years of age) at Gullalapalem & Mulagada villages and offered various services like ECG,RBS,LFT,HBSAg,CBC,ESR,THYROIS PROFILE,BLOOD GROUP,URIC ACID,CERVICAL CANCER SCREENING etc.
- Provided Six services Gynaecology/Paediatric/Orthopaedic/Nutrition /Dentist/General physician.
- Total conducted 2 villages on 3rd & 10th Dec 2023 total 541 beneficiaries benefitted they're of the programme and expressed their gratitude to the coromandel management for Organized this camp at their villages. Peoples participated from Gullalapalem & Mulagada.

World breast feeding week celebrations

- Coromandel International limited, is closely working around 5 Anghanwades (Mulagada/Pilakavanipalem/Gullalapalem/Sriharipuram/Yeduruvanipalem) nearby plant surrounding areas. We have conducted World Breastfeeding Week celebrations supported with Integrated Child Development Services (ICDS)
- Total pregnant & Lactation women covered 180 Nos and we provided Nutrition kits and participated Local corporator/ICDS Project director/Anganwadi teachers

Integrated Behavior Change Communication (IBCC)

- We have organised IBCC Project- Integrated Behavior Change communication to community.
- Health awareness/Hypertension/hand wash/Adolescent/Nutrition to community members.






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School Medical Camps

- Dental screening, Eye screening and Anemic screening camp 4 Govt primary and 4 High schools and total covered 9 Govt. Schools.
- As per requirement provided Dental kits & Anemic kits to school children.
- 3370 children in 8 Govt. Schools.

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Eye screening camp @ Community

We organized Eye screening camp Yeduruvanipalem and Pilakavanipalem villages and no of Benefitted 490

Anti Larval & Fogging

- Anti-Larval & Fogging Sprayed to Project villages.
- To avoid & control the seasonal diseases like Dengue, Malaria- Anti-Larval & Fogging Spray to 11 major community villages.

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Diabetic awareness Run

- Every year Coromandel Employe We Organized Diabetic Awareness Programme.
- Participated 98 employees provided participate certificates

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Community Hall Inauguration- Gondesivanipalem (58th ward)

- 58th ward Community hall Inaugurated by Anand Kumar YSRCP in charge and MSME Chairman and 58th ward Corporator Mrs.Lavanya and community leaders on 14th Aug 2023
- 110 families benefitted & 600 peoples covered.

Community Hall Inauguration-Hanuman Sanjivani colony (60th ward)

- Community hall Inaugurated by Mr. A Anandkumar MSME Chairman and west zone YSRCP in charge,60th ward corporator Mr.Suresh and community leaders on 14th Aug 2023
- 320 families benefitted 1600 peoples covered.
- 2 community halls works under process

10 Community Borewells installed

- Established 10 community bore wells in 10 locations
- Borewells inaugurated by Mr.Adari Anand kumar YSRCP In charge west zone & MSME Chairperson and 58th ward Corporator.
- 2023-2024 we initiated 4 Motor bore wells four villages

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4 Community Open Gyms Established

- Established 4 Community Open Gyms
  - Yeduruvanipalem
  - Pilakavanipalem
  - Gullalapalem
  - Ex servicemen colony

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Coromandel Inter-village Cricket Tournament 2023-24

- Coromandel encouraged youth and conducted Sports and games every year to create a healthy atmosphere among the community
- Organized Inter-village cricket tournament at Coromandel Cricket Ground
- 18 Teams participated in this event.
- Winners Yeduruvanipalem and Runners Pilakavanipalem

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World Environment day

- World Environment day celebrated and distributed the cloth bags to the Public and 30 Tree plantation at social welfare Girls hostels.
- Local Corporator, Police dept and local community members participated.

Coromandel Ladies Association Initiatives

- World food day
- National Cancer day
- Printer, game kits, stationary support to Social welfare Girl hostel children
- Wheelchairs support
- Blanket supported to poor people
- Women's day celebration

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Skill Development for women

- We established 4 Skill development program. Each program batch consists of 30 women
- Budget Rs. 5Lakhs x 4 = Rs.20.0 Lakhs

1.Maggam work

2.Jute bag

3.Handmade jewellery

4.Beautician

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Women's day celebrations

- 2023- Women's day celebrations, involving Community women members.
- 273 community women participated

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Beat Plastic Pollution

Distribution of cloth bags in presence of District Collector (Dr. A.MALLIKHARJUNA) and Mr. Y.V. Subba Reddy (Chairman – TTD)

Mega Beach cleaning

- Every year Coromandel Employee volunteers participated in Mega beach cleaning event as a part of Social cause.
- Total - 40 Employee voluntarily engaged in the event.
- District Collector,GVMC Commissioner and IT Minister Mr.Amaranath

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Road Safety awareness to Govt schools

- Every year we ensure Road safety awareness to 8 Govt schools. Conducted the quiz competition provided Prizes
- Risk and property Reduced our surround plant area Govt schools

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Renovation of Social welfare Girls Hostels

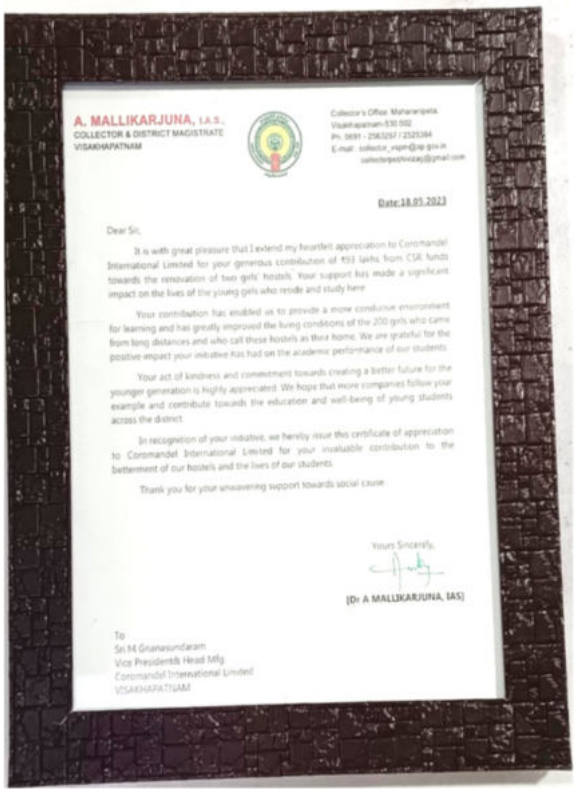
Dayal Nagar Girls Hostel

Nadupuru Girls Hostel

Social welfare Girls Hostels Inaugurated by District Collector


SCIENTISTS INVENTORS
LEADERS
WRITERS

Social welfare Girl's hostel report Hand overered to District collector



A. MALLIKARJUNA, I.A.S.,
COLLECTOR & DISTRICT MAGISTRATE
VISAKHAPATNAM

Collector's Office, Maharanipeta,
Visakhapatnam-530 002
Ph: 0891 - 2563257 / 2525384
E-mail: collector_vspm@ap.gov.in

Date:18.05.2023

Dear Sir,

It is with great pleasure that I extend my heartfelt appreciation to Coromandel International Limited for your generous contribution of ₹93 lakhs from CSR funds towards the renovation of two girls' hostels. Your support has made a significant impact on the lives of the young girls who reside and study here.

Your contribution has enabled us to provide a more conducive environment for learning and has greatly improved the living conditions of the 200 girls who came from long distances and who call these hostels as their home. We are grateful for the positive impact your initiative has had on the academic performance of our students.

Your act of kindness and commitment towards creating a better future for the younger generation is highly appreciated. We hope that more companies follow your example and contribute towards the education and well-being of young students across the district.

In recognition of your initiative, we hereby issue this certificate of appreciation to Coromandel International Limited for your invaluable contribution to the betterment of our hostels and the lives of our students.

Thank you for your unwavering support towards social cause.

Yours Sincerely,

(Dr A MALLIKARJUNA, IAS)

To
Sri M Gnanasundaram
Vice President& Head Mfg
Coromandel International Limited
VISAKHAPATNAM

Appreciation letter From District Collector

Coromandel ladies Association

- Coromandel Ladies Association visited and interacted with Social welfare Girl Children at Nadupuru.
- Ladies Association Provided Stationery and Games kits to school children.
- Ladies Association conducted Health Hygiene awareness session to children.
- 30 tree Plantation carried out by the team.

Coromandel Ladies Association visited to Social welfare Girls PG hostel Dayal Nagar

- Coromandel Ladies Association visited and interacted with Social welfare Girl PG students at Nadupuru.
- Ladies Association supported scanning printer to Hostel students.
- Awareness created on Personal Hygiene by Dr.Madhulatha.
- 30 tree Plantation carried out by the team.

PRSI National CSR Award

- Received First Prize in best CSR Programme for promoting Science & Technology.
- Award presented by Mr. Rajiv Ranjan Misra, Dhruba Jyoti Patil.

murugappa

Malkapuram Police station Renovation

- Renovated Malkapuram Police station and it was inaugurated by Mr.Anand Reddy, DCP Zone 2, Mr. Gnanasundaram-Vice President & Mr. GSV Raja, AVP HR of Coromandel along with Mr. Demudu Babu garu, Station Officer of Malkapuram Police Station

150 Safety Barricades to Police & surrounding communities

Fire Station Renovation jobs @ Pedagantyada

- Inaugurated by Mr.Niranjanreddy, Regional Fire officer, Mr. M. Gnanasundaram, Vice President of Coromandel along with Mr. Renukaiah, District Fire officer

murugappa

Coromandel

Thank You

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Malkapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
DID : 91-891-2893+Extn No
Website : www.coromandel.biz
CIN : L24120AP1961PLC000892
GSTIN : 37AAACC7852K1ZC

EHS/APPCB/2024-072

Date: 01.07.2024

To,
The Environmental Engineer,
A.P Pollution Control Board,
D.NO.33-26-14 D/2,
Near sunrise Hospital,
Pushpa Hotel Centre,
Chalamalavari Street,
Kasturibaipet,
Vijayawada-520010

Sub: Submission of CFE Half Yearly Compliance Reports – **Sulfuric acid plant - 03**

Ref: CFE No: **65/APPCB/CFE/RO-VSP/HO/2012 dt 08.02.2020**

Dear sir,

This has with reference to the above subject we are herewith submitting the CFE Half yearly Compliance report for the period of Dec-2023 to May-2024.

This is for information please.

Thanking you,

Yours faithfully

For Coromandel International Limited

Gnanasundaram M
Vice President & Head Mfg.

NAG/DNR

Enc: CC to 1. Regional Office, APPCB, Visakhapatnam
2. Zonal Office, APPCB, Visakhapatnam

Coromandel International Limited,
Visakhapatnam

Consent for Establishment order No: 65 /APPCB/CFE/RO-VSP/HO/2012 dt 08.02.2020

From the Period of Dec-2023 to May-2024

<table>
<tr><th>S.No</th><th>Consent Condition</th><th>Compliance</th></tr>
<tr><td>1</td><td>The proponent shall obtain Consent for Operation (CFO) from APPCB, as required Under Sec.25/26 of the Water (P&C of P) Act, 1974 and under sec. 21/22 of the Air (P&C of P) Act, 1981, before commencement of the trail runs</td><td>Noted and being complied.</td></tr>
<tr><td>2</td><td>The applicant shall properly maintain separate energy meters for Effluent Treatment Plant (ETP) and Air pollution Control equipment to record energy consumed. An alternative electric power source sufficient to operate all pollution control systems shall be provided</td><td>Complied</td></tr>
<tr><td>3</td><td>The industry shall properly maintain separate storm water drains. No effluents shall be discharged in to the storm water drains.</td><td>Complied.
Maintained dedicated stormwater drains.</td></tr>
<tr><td>4</td><td>The source of water is GVMC & Sea. The maximum permitted water consumption is
as following after expansion of Sulphuric acid plant
<table>
<tr><th>Sl.no</th><th>Purpose</th><th>Consented quantity as per CFE (Exp) dt: 26.04.2019 (KLD)</th><th>Proposed Quantity (Expansion)</th><th>Quantity after expansion (KLD)</th></tr>
<tr><td>1</td><td>Process & Washes</td><td rowspan="5">10,350
(After expansion)</td><td rowspan="5">1800</td><td rowspan="5">10,350*</td></tr>
<tr><td>2</td><td>Industrial Cooling (Makeup) – fresh water</td></tr>
<tr><td>4</td><td>Boiler Feed</td></tr>
<tr><td>5</td><td>Domestic & other</td></tr>
<tr><td>6</td><td>Customized fertilizer plant</td></tr>
<tr><td></td><td>Subtotal (1)</td><td>10,350*</td><td>1800</td><td>10,350*</td></tr>
<tr><td>7</td><td>Industrial Cooling – Sea water</td><td>84,600</td><td>—</td><td>84,600</td></tr>
<tr><td></td><td>Grand total</td><td>94,950</td><td>1800 KLD</td><td>94,950</td></tr>
</table>
* Water consumption shall be restricted to 10,350 KLD as mentioned in the EC Order dt: 14.07.2017.</td><td>Complied</td></tr>
<tr><td>5</td><td>The maximum waste water generation shall not exceed the following after expansion of Sulphuric acid plant:
<table>
<tr><th>Sl. No</th><th>Effluents</th><th>Consented quantity as per CFE (Exp) dated 26.04.2019 (KLD)</th><th>Proposed Quantity (Expansion)</th><th>Quantity after expansion (KLD)</th></tr>
<tr><td>1</td><td>Process & washings</td><td>1800</td><td>—</td><td>1800</td></tr>
<tr><td>2</td><td>Cooling water blow down</td><td>81,600</td><td>—</td><td>81,600</td></tr>
<tr><td>3</td><td>Domestic</td><td>530</td><td>—</td><td>530</td></tr>
<tr><td colspan="2">Total</td><td>83,930</td><td>—</td><td>83,930</td></tr>
</table></td><td>Complied</td></tr>
</table>

Coromandel International Limited,
Visakhapatnam

<table>
<tr><td></td><td>ETP Details & Mode of Disposal:
<table>
<tr><th>Source of effluent</th><th>Treatment</th><th>Mode of final disposal</th></tr>
<tr><td>Process & washing effluents & Boiler/cooling tower blow downs, DM plant rejects</td><td>ETP consists of Equalization → Reaction tank 1 → Clarriflocculator - 1 → Buffer tank → Reaction tank 2 → Clarriflocculator - 2 → Reaction tanks 3 cum Neutralization tank → Holding tank → Reaction tank - 4 & filter press.</td><td>• Both treated sewage water and process effluents shall be recycled / reused within factory premises to achieve Zero discharge except during the rainy season*.
• In case of low load plant operations and during rainy season, the quantity of effluent generated from Phosphoric acid post enhancement is 1800 KLD which shall be treated in the existing ETP plant and discharged along with once through cooling blow down through Meghadrigedda surplus course that joins sea.</td></tr>
<tr><td>Dilution coolers - Once through cooling</td><td>---</td><td>into Meghadrigedda surplus course which joins Sea</td></tr>
<tr><td>Domestic effluents</td><td>STP</td><td>Recycled / reused within the factory premises.</td></tr>
</table></td><td></td></tr>
<tr><td>6</td><td>All the units of the ETP & STP systems shall be impervious to prevent ground water pollution. The ETP & STP systems shall be maintained properly to achieve the standards.</td><td>Complied
Third-party ETP & STP Reports, Here with enclosed as Annexure - 01 for your reference</td></tr>
<tr><td>7</td><td>Process effluents shall be recycled / reused within factory premises to achieve zero discharge except during the rainy season, as stipulated in Specific condition no. (ix) of EC order dt. 14.07.2017.</td><td>Complied</td></tr>
<tr><td>8</td><td>During rainy season, the treated waste water shall conform to the water discharge standards, as stipulated in condition no.2 of Schedule-B of CFO order dt. 19.03.2018.</td><td>Complied</td></tr>
<tr><td>9</td><td>The industry shall provide magnetic flow meters with totalisers at the inlet and outlet of ETP.</td><td>Complied.
Provided magnetic flow meters with totalizers at the inlet and outlet of ETP.</td></tr>
<tr><td>10</td><td>Floor washing shall be admitted into the effluent collection system only and shall not be allowed to find their way in storm drains or open areas. All pipe valves, sewers, drains shall be leak proof.</td><td>Complied</td></tr>
<tr><td>11.</td><td>The Air pollution Control equipment shall be maintained properly and shall comply with the following for controlling air pollution after expansion of Sulphuric acid plant:</td><td>Complied
All Stacks are connected to CPCB & SPCB sites and also third Party analysis was done once in month, Here with enclosed as Annexure - 02 for your reference</td></tr>
</table>

Sl. No	Details of Stack	Attached to	Capacity	Stack height (Meters)	Details of Air Pollution Control Equipment
1	Stack – 1	Sulphuric Acid Plant (Old)	1700 TPD	69	Alkali scrubber
2	Stack – 2	Sulphuric Acid Plant (New)	400 TPD	50	Alkali scrubber
3	Stack – 3	Phosphoric Acid Plant	700 TPD	33	Evaporator followed by series of barometric condensers
4	Stack – 4	Rock Phosphate Grinding unit (Old Ball Mill)	40 TPH	45	Bag filters
5	Stack – 5	Rock Phosphate Grinding unit (New Ball Mill)	20 TPH	45	Bag filters
6	Stack – 6 to 8	Complex fertilizer Plant Complex A-Train Complex B-Train Complex C-Train	3900 TPD	37.8 37.8 37.3	4 stage scrubbing system (for ammonia recovery and multi cyclone 6 Nos.) X 3 Nos.
7	Stack – 9	Customized fertilizer plant Drier (2 Nos.) & process coolers (2 Nos.) of customized fertilizer	300 TPD	30	Cyclones followed by wet scrubber
8	Stack – 10	Oil Fired boiler through 5 MW T.G. Set	48 TPH	30.48	Cooler gases
9	Stack – 11	Oil Fired Boiler	31 TPH	30.48	----
10	Stack – 12	Oil Fired Boiler	1.5 TPH	30.48	----
11	Stack – 13	D.G. Set*	6 MW	operating in an emergency condition	Acoustic enclosures
12	Stack – 14	D.G. Set*	4MW		
13	Stack-15	Phosphoric Acid Plant	700 TPD	33	Evaporator followed by series of barometric condensers fumes scrubber
14	Stack 16	Rock Phosphate grinding Units	75 TPH	45	Bag Filters
15	Stack 17	Coal Fired Boiler & Back pressure Turbine	40 TPH & 5 MW	56	ESP
16	Stack-18	Rock Phosphate grinding unit	30 TPH	30	Bag filters

New stack as per CFE expansion :

17	Stack-19	Sulphuric Acid Plant	1500 TPD	60 m.	Alkali scrubber

12.	The industry shall properly maintain 400 MTPD evaporation system for Phosphoric Acid including Fluorine recovery system as stipulated in the EC Order.	Complied
13.	A sampling port with removable dummy of not less than 15 cm diameter shall be provided in the stack at a distance of 8 times the diameter of the stack from the nearest constraint such as bends etc. a platform with suitable ladder shall be provided below 1 meter of	Complied

<table>
<tr><td></td><td>sampling port to accommodate three persons with instruments. A 15 AMP 250 V plug point shall be provided on the platform.</td><td></td></tr>
<tr><td>14</td><td>The industry shall properly maintain online pH measuring facility with auto recording system to the scrubbers provided to treat the process emissions.</td><td>Complied.
Installed online pH measuring facility with auto recording system.</td></tr>
<tr><td>15</td><td>The industry shall implement adequate measures to control all fugitive emissions from the plant.</td><td>Noted by Industry and will comply</td></tr>
<tr><td>16</td><td>The proponent shall ensure compliance of the National Ambient Air quality standards notified by MoEF, GoI vide notification No.GSR.826 (E), dated.16-11-2009 during construction and regular operational phase of the project at the periphery.</td><td>Complied.
Third-Party NAAQS report, Here with enclosed as Annexure-03 for your reference</td></tr>
<tr><td colspan="3">Solid/Hazardous Waste:</td></tr>
<tr><td>17</td><td>The industry shall comply with the following for disposal of Solid Waste after expansion of Sulphuric acid plant:
<table>
<tr><th>S. No</th><th>Name of the Hazardous waste</th><th>Quantity As per CFE (Exp) dt: 26.04.2019</th><th>Proposed Quantity (Expansion)</th><th>Mode of Disposal</th></tr>
<tr><td>1</td><td>Acid residues (Tank bottom sludge)</td><td>45 TPA</td><td>—</td><td>Recycled into phosphoric acid reactor.</td></tr>
<tr><td>2</td><td>LSHS Sludge</td><td>10 TPA</td><td>—</td><td>TSDF, for incineration</td></tr>
<tr><td>3</td><td>Sulphur muck (Sulphur sludge)</td><td>750 TPA</td><td>550 TPA</td><td>Recycled into the process as a filler material in the granulation plant.</td></tr>
<tr><td>4</td><td>Spent catalyst</td><td>65 TPA</td><td>50 TPA</td><td>Authorized reprocessors recyclers (or) TSDF, Parawada for secured land fill</td></tr>
<tr><td>5</td><td>Used lubricating oil/drained oil</td><td>50 KLPA</td><td>—</td><td>To authorized Re-processors / Recyclers / to the Cement industries for co-processing in the kiln.</td></tr>
<tr><td>6</td><td>Detoxified Containers and container liners</td><td>700 Nos.</td><td>—</td><td>To authorized agencies, after complete detoxification for re-use/ recycle.</td></tr>
<tr><td>7</td><td>Scrubbing sludge</td><td>450 TPA</td><td>—</td><td>Reuse back in the process</td></tr>
<tr><td>8</td><td>E Waste</td><td>25 TPA</td><td>—</td><td>Authorised e-waste recyclers / dismantlers.</td></tr>
<tr><td>9</td><td>Fly ash</td><td>25 TPD</td><td>—</td><td>To cement industries / brick manufacturing units</td></tr>
</table></td><td>Complied.
Hazardous Waste annual return for the year 2023-24 is submitted on 06.05.2024 Submitted Form-IV annual returns PCB ack. The copy enclosed as Annexure-04 is for your reference.</td></tr>
<tr><td>18</td><td>The following rules and regulations notified by the MoEF & CC, GoI shall be implemented.</td><td rowspan="2">Noted and Being Follwed</td></tr>
<tr><td></td><td>a. Hazardous waste and other wastes (Management and Transboundary Movement) Rules, 2016.
b. Plastic Waste Management Rules, 2016.
c. Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989.</td></tr>
</table>

	d. Fly Ash Notification, 2016. e. Batteries (Management & Handling) Rules, 2010. f. E-waste (Management (Rules, 2016. g. Construction and Demolition Waste Management Rules, 2016. h. Solid Waste Management Rules, 2016. i. The Public Liability Insurance Act, 1991 and its amendments thereof.	
Other Conditions:		
19	The industry shall comply with the following: • The industry shall comply with all the conditions stipulated in the CFO order within a year. • The industry shall control the leakages in the Rock Phosphate feeding area by April, 2020. • Setting up new Sulphuric acid plant with State-of-Art technology and to achieve SO_2 emission of 0.75 Kg SO_2 /MT of acid (100%). • Reduction of SO_2 emission in Sulphuric acid plant-1 from 1 Kg SO_2/MT of acid to 0.8 Kg SO_2 /MT of acid through addition of high Vandadium content catalyst in 5^{th} bed of the converter and higher loading of catalyst into the converter. • Using low sulphur coal of 0.50% sulphur content against 0.7% in coal fired boiler. • Addition of lime stone powder into the coal fired boiler for improved absorption of SO_2 from 50% (as per earlier consideration), to 80%	Complied
20	The industry shall submit compliance to the conditions stipulated in the EC and CFE orders to the concerned Regional Officer of APPCB every six months and shall upload the same at APPCB website viz., https://pcb.ap.gov.in/UI/Submission Compliance-of EC CFE CFO Direction.aspx.	Complied submitted all EC, CFE, and CFO Reports ,Here with enclosed as **Annexure-05** for your reference
21	The industry submitted a copy of letter stating that the MoEF&CC, GoI, New Delhi vide lr.dt:30-05-2018 addressed to M/s. Southern Petro Chemical Industries Corporation (SPIC) clarified that the intermediate product (Phosphoric Acid) is not covered under the purview of the ELA notification 2006 and as such there is no requirement of Environmental Clearance to the said project as stand	Noted

	alone. Similarly, in this case also EC is not required as Sulphuric Acid is one of the raw materials/intermediates for manufacture of Chemical fertilizer.	
22	The industry shall submit a report on recycling of treated effluent into the process to achieve zero discharge except during rainy season.	Complied The Present Industry is following the Zero discharge concept
23	Green belt shall be developed all along the boundary & vacant spaces with tall growing tress with good canopy and it shall not be less than 33% of the total area.	complied
24	Concealing the factual data or submission of false information / fabricated data and failure to comply with any of the conditions mentioned in this order attracts action under the provisions of relevant pollution control Acts.	Noted
25	Notwithstanding anything contained in this conditional letter or consent, the Board hereby reserves its right and power Under Sec.27(2) of Water (Prevention and Control of Pollution) Act, 1974 and Under Sec.21(4) of Air (Prevention and Control of Pollution) Act, 1981 to revoke the order, to review any or all the conditions imposed herein and to make such modifications as deemed fit and stipulate any additional conditions.	Noted
26	Any person aggrieved by an order made by the State Board Under Section 25, Section 26, Section 27 of Water Act, 1974 or Section 21 of Air Act, 1981 may within thirty days from the date on which the order is communicated to him, prefer an appeal as per Andhra Pradesh Water Rules, 1976 and Air Rules, 1982, to such authority (hereinafter referred to as the Appellate Authority) constituted Under Section 28 of Water (Prevention and Control of Pollution) Act, 1974 and Section 31 of the Air (Prevention and Control of Pollution) Act, 1981.	Noted and Complied

TEAM
Labs and Consultants

ORIGINAL

Form-No. TCL/L/GF/RF-138

Registered Office :
B-115, 116, 117 & 509, Annapoorna Block, Aditya Enclave, Ameerpet, Hyderabad - 530038.
Ph. : (O) 040-23748555 / 23748616, Fax : 040-23748666, Email : teamlabs@gmail.com
Laboratory Recognised by Ministry of Environment, Forests and Climate Change, GoI, New Delhi
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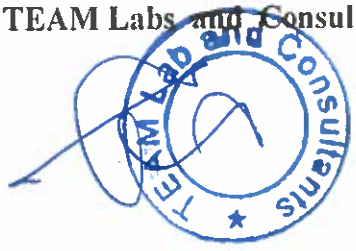
TEST REPORT

Test Report No.	TLC/V/Env/CFL/24/0524	dt.01.06.2024
Description of Test	ETP Outlet water Analysis	
Name of the client	Coromandel International Limited, Visakhapatnam	
Location of sampling	ETP Out let samples	
Date of Collection	20.05.2024	

Analysis report of ETP Outlet water for the Month ofMAY-2024

S.No.	Parameter	units	ETP Outlet	APPCB LIMIT	Protocol
1	PH		7.8	6.5-8.0	IS:3025 Part 11-1983
2	Total Suspended Solids	mgpl	18	100	IS:3025 Part 17-1984
3	Oil & Grease	mgpl	NIL	10	IS:3025 Part 39-1991
4	Ammonical Nitrogen	mgpl	15	50	APHA4500C
5	Free Ammonical Nitrogen	mgpl	0.1	4	APHA4500C
6	Total Kjeldal Nitrogen	mgpl	25	100	APHA4500B
7	Nitrates	mgpl	0.1	10	APHA4500D
8	Cyanides as CN	mgpl	<0.1	0.2	SM 4500CN E
9	Arsenic as As	mgpl	<0.02	0.2	SM3125
10	Vanadium as V	mgpl	<0.1	0.2	SM3125
11	Hexa valent Chromium as Cr^{6+}	mgpl	<0.02	0.1	SM3125
12	Fluoride as F^-	mgpl	1.0	10	SM 4500 F- D
13	Phosphates as P	mgpl	0.5	5.0	APHA4500D
14	BOD	mgpl	14	100	IS:3025 Part 44-1993
15	COD	mgpl	68	250	IS:3025 Part 58-2006

For TEAM Labs and Consultants



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ORIGINAL

Form-No. TCL/L/GF/RF-138

TEST REPORT

Test Report No.	TLC/V/Env/CFL/22/0524	dt.01.06.2024
Description of Test	STP Outlet water Analysis	
Name of the client	Coromandel International Limited, Visakhapatnam	
Location of sampling	STP Out let samples	
Date of Collection	17.05.2024	

Analysis report of STP Outlet water for the Month ofMAY-2024

S.No.	Parameter	units	STP Outlet	APPCB LIMIT	Protocol
1	PH		7.5	6.5-8.0	IS:3025 Part 11-1983
2	Total Suspended Solids	mgpl	18	100	IS:3025 Part 17-1984
3	Oil & Grease	mgpl	NIL	10	IS:3025 Part 39-1991
4	Ammonical Nitrogen	mgpl	6.0	50	APHA4500C
5	Free Ammonical Nitrogen	mgpl	0.1	4	APHA4500C
6	Total Kjeldal Nitrogen	mgpl	16	100	APHA4500B
7	Nitrates	mgpl	0.1	10	APHA4500D
8	Cyanides as CN	mgpl	<0.1	0.2	SM 4500CN E
9	Arsenic as As	mgpl	<0.02	0.2	SM3125
10	Vanadium as V	mgpl	<0.1	0.2	SM3125
11	Hexa valent Chromium as Cr^{6+}	mgpl	<0.02	0.1	SM3125
12	Total Chromium	mgpl	<0.02	2.0	SM3125
13	Fluoride as F^-	mgpl	0.7	10	SM 4500 F- D
14	Phosphates as P	mgpl	0.3	5.0	APHA4500D
15	BOD	mgpl	15	100	IS:3025 Part 44-1993
16	COD	mgpl	75	250	IS:3025 Part 58-2006
17	Temperature difference between intake water and outlet	^0C	3	5^0 c	

For TEAM Labs and Consultants

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TEST REPORT

Test Report No	TLC/V/Env/CIL/16/0524	dt.01.06.2024
Description of Test	Source Emission Monitoring inside the CFL	
Name of the client	Coromandel International Limited, Visakhapatnam	
Location of sampling	stacks attached to respective plants as per details given	

SOURCE/ STACK EMISSION MONITORING FOR THE MONTH OF MAY-2024

S.No.	Stack attached to	Flow rate NM^3/Hr	parameters	Conc. mg/NM^3	APPCB Standard Limit
1	Complex A	201756	Particulate matter	19	45 mg/NM^3
			Ammonia	65	165.0 mg/NM^3
			Fluoride	1.1	4.0 mg/NM^3
2	Complex B	192853	Particulate matter	22	45 mg/NM^3
			Ammonia	45	165.0 mg/NM^3
			Fluoride	0.9	4.0 mg/NM^3
3	Complex C	201756	Particulate matter	21	45 mg/NM^3
			Ammonia	55	165.0 mg/NM^3
			Fluoride	1.1	4.0 mg/NM^3
4	Sulphuric acid plant-I	97302	Sulphur dioxide	0.343Kg/MT (250mg/NM^3)	1 Kg/MT
			Sulphur trioxide	0.034Kg/MT (25mg/NM^3)	0.35 Kg/MT
			Acid mist	Nil	20 mg/NM^3
5	Sulphuric acid plant-II	32245	Sulphur dioxide	0.154Kg/MT (80$mg/NM^{3)}$	0.65 Kg/MT
			Sulphur trioxide	Nil	0.35 Kg/MT
			Acid mist	Nil	20 mg/NM^3
6	Phosphoric acid plant-1	111280	Particulate matter	42	50 mg/NM^3
			Fluoride	5.8	20 mg/NM^3
7	Rock grinding unit (Old)	7900	Particulate matter	48	50 mg/NM^3
			Total Fluoride	4.0	20 mg/NM^3
8	Wharf Boiler	9908	Particulate matter	44	115 mg/NM^3
9	Phosphoric acid plant-2	36517	Particulate matter	42	50 mg/NM^3
			Total Fluoride	4.7	20 mg/NM^3
10	Rock grinding unit (New)	7746	Particulate matter	49	50 mg/NM^3
			Total Fluoride	3.9	20 mg/NM^3
11	New SAP-3	59413	Sulphur dioxide	0.058Kg/MT (60mg/NM^3)	1 Kg/MT
			Sulphur trioxide	Nil	0.35 Kg/MT
			Acid mist	Nil	20 mg/NM^3
12	Boiler	108857	Particulate matter	40	50 mg/NM^3

For TEAM Labs and Consultants

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TEST REPORT

Test Report No.	TLC/V/Env/CIL/17/0524	dt.01.06.2024
Description of Test	Ambient Air quality Monitoring inside the CFL	
Name of the client	Coromandel International Limited, Visakhapatnam	
Location of sampling	Stations as per details given	
Period of Monitoring	For the Month of MAY-2024	

Summary of Ambient Air quality Monitoring Data for the Month of MAY-2024

Parameters		AAQ-1 Station at the Top of Cafeteria	AAQ-2 Station near DG sets	AAQ-3 Station at Gate –13 (Near Bagging plant)
PM2.5	Minimum	31	38	37
	Maximum	42	44	42
	98%tile	42	44	42
	Average	38	41	40
PM 10 µg/M^3	Minimum	67	70	72
	Maximum	78	84	78
	98%tile	78	84	78
	Average	73	78	75
SO_2 µg/M^3	Minimum	13.8	21.0	14.6
	Maximum	23.5	29.5	16.3
	Average	19.7	26.6	15.4
	98%tile	23.5	29.5	16.3
NO_X µg/M^3	Minimum	18.6	21.8	18.8
	Maximum	22.9	25.8	22.0
	98%tile	22.9	25.8	22.0
	Average	20.8	24.1	20.9
NH_3 mg/M^3	Minimum	0.025	0.04	0.02
	Maximum	0.04	0.06	0.04
	98%tile	0.04	0.06	0.04
	Average	0.04	0.05	0.035
O3 µg/M^3	Minimum	16	18	16
	Maximum	22	22	22
	98%tile	22	22	22
	Average	19	21	20
CO mg/M^3	Minimum	0.1	0.2	0.1
	Maximum	0.2	0.3	0.3
	98%tile	0.2	0.3	0.3
	Average	0.15	0.21	0.2
Pb µg/M^3	<0.05	<0.05	<0.05	<0.05
C6H6 ng/M^3	<0.05	<0.05	<0.05	<0.05
B(a)P ng/M^3	<0.05	<0.05	<0.05	<0.05
As ng/M^3	<0.05	<0.05	<0.05	<0.05
Ni ng/M^3	<0.05	<0.05	<0.05	<0.05

For TEAM Labs and Consultants

TEAM Lab and Consultants

TEAM
Labs and Consultants

ORIGINAL

Form-No. TCL/L/GF/RF-138

Registered Office :
B-115, 116, 117 & 509, Annapoorna Block, Aditya Enclave, Ameerpet, Hyderabad - 530038.
Ph. : (O) 040-23748555 / 23748616, Fax : 040-23748666, Email : teamlabs@gmail.com
Laboratory Recognised by Ministry of Environment, Forests and Climate Change, GoI, New Delhi
NABL Accredited Laboratory

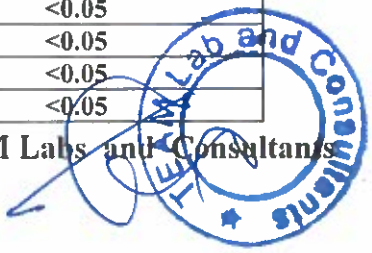
TEST REPORT

Test Report No.	TLC/V/Env/CIL/18/0524	dt.01.06.2024
Description of Test	Ambient Air quality Monitoring inside the CFL unit	
Name of the client	Coromandel International Limited, Visakhapatnam	
Location of sampling	Stations as per details given	
Period of Monitoring	For the Month of MAY-2024	

Summary of Ambient Air quality Monitoring Data for the Month of MAY-2024

Parameters		AAQ-4 Station at Warf	AAQ-5 Station near VST
PM2.5	Minimum	35	36
	Maximum	42	42
	98%tile	42	42
	Average	39	39
PM 10 µg/M^3	Minimum	69	68
	Maximum	80	80
	98%tile	80	80
	Average	75	74
SO_2 µg/M^3	Minimum	12.5	12.2
	Maximum	15.0	15.5
	Average	13.9	13.8
	98%tile	15.0	15.5
NO_X µg/M^3	Minimum	16.4	18.3
	Maximum	21.4	22.1
	98%tile	21.4	22.1
	Average	19.7	20.1
NH_3 mg/M^3	Minimum	0.02	0.04
	Maximum	0.03	0.07
	98%tile	0.03	0.07
	Average	0.025	0.058
O3 µg/M^3	Minimum	16	18
	Maximum	22	22
	98%tile	22	22
	Average	18.8	19.8
CO mg/M^3	Minimum	0.1	0.1
	Maximum	0.3	0.3
	98%tile	0.3	0.3
	Average	0.21	0.2
Pb µg/M^3	<0.05	<0.05	<0.05
C6H6 ng/M^3	<0.05	<0.05	<0.05
B(a)P ng/M^3	<0.05	<0.05	<0.05
As ng/M^3	<0.05	<0.05	<0.05
Ni ng/M^3	<0.05	<0.05	<0.05

For TEAM Labs and Consultants



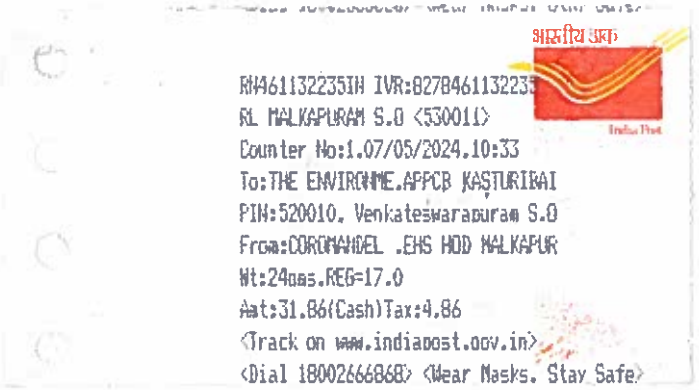
O/C

Coromandel
FUTURE POSITIVE

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Malkapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
DID : 91-891-2893+Extn No
Website : www.coromandel.biz
CIN : L24120AP1961PLC000892
GSTIN : 37AAACC7852K1ZC

EHS/APPCB/2024-040

Date: 06.05.2024



To
The Environmental Engineer,
A.P. Pollution Control Board,
D.No. 33-26-14 D/2,
Near Sunrise Hospital,
Pushpa Hotel Centre,
Chalamalavari Street,
Kasturibaipet, Vijayawada – 520010

Dear Sir,

Sub: Coromandel International Limited- Visakhapatnam–Submission of Hazardous Waste Annual Returns in Form-4 – FY2023-2024 - Regarding.

Ref: Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

We are herewith furnishing annual returns (for the period April'23 to March'24) in **Form-4** as per **"Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016" and amendment thereof under E (P) Act, 1986.**

Kindly acknowledge the receipt of same.

Thanking you,

Yours Truly,

For COROMANDEL INTERNATIONAL LIMITED

Gnanasundaram M
Vice President & Head Manufacturing.

NAG/DNR

Encl. As above

CC to: i) The Environmental Engineer, Regional Office, APPCB, Visakhapatnam.

Registered Office : Coromandel House, 1-2-10
Sardar Patel Road, Secunderabad-500 003
Telangana, India

Tel : 91-40-27842034 / 27847212
Fax : 91-40-27844117
E-mail : mail@coromandel murugappa.com

murugappa

Coromandel
FUTURE POSITIVE

Coromandel International Limited
Post Box No. 1116, Sriharipuram, Malkapuram Post
Visakhapatnam - 530 011, Andhra Pradesh, India
Tel : 91-891-2578400
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EHS/APPCB/2024-040 **Date: 06.05.2024**

To
The Environmental Engineer,
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Registered Office : Coromandel House, 1-2-10
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Telangana, India

Tel : 91-40-27842034 / 27847212
Fax : 91-40-27844117
E-mail : mail@coromandel.murugappa.com

murugappa

FORM-4

[See rules 6(5), 13(8), 16(6) and 20(2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

1	Name and address of facility:	:	**Coromandel International Limited,**		
			Sriharipuram, Malkapuram (PO), Visakhapatnam-530011, Andhra Pradesh, India.		
			Phone: 0891-2578400		
2	Authorisation No. and Date of issue:	:	Authorization no. APPCB/VSP/65/CFO/HO/1967		
			Issued date: 30.09.2022 Valid Upto 31.08.2027		
3	Name of the authorised person and full address with telephone, fax number and e-mail:	:	**M. Gnanasundaram**		
			VP-Head Manufacturing		
			Sriharipuram, Malkapuram (PO), Visakhapatnam-530011, Andhra Pradesh, India.		
			Phone: 0891-2578400		
4	Production during the year (product wise), wherever applicable	:	Complex plant	1165048	MT/Annum
		:	Sulphuric acid	861859	
		:	Phosphoric acid	370617	

Part A. To be filled by hazardous waste generators

1	Total quantity of waste generated category wise		:	**Name of the Hazardous waste**	**Quantity generated**	
				1) Acid residues (Tank bottom sludge)	25.000	MT
				2) Sulphur muck (Sulphur sludge)	940.000	MT
				3) Spent Catalyst	48.820	MT
				4) Used lubricating oil/drained oil	13.620	KL
				5) Detoxified Containers	2438.000	No's
				6) LSHS Sludge	4.070	MT
				7) Scrubbing sludge	395.000	MT
				8) ETP sludge	490.000	MT
				9) Off specified ,expired chemicals & lab chemicals etc.	0.000	MT
				10) Glass wool	0.000	MT
				11) Insulation Puf	0.000	MT
2	Quantity dispatched	(i) to disposal facility (Ramky)	:	**Name of the Hazardous waste**	**Quantity dispatched**	
				1) Spent Catalyst	33.820	MT
				2) LSHS Sludge	6.770	MT
				3) Off specified ,expired chemicals & lab chemicals etc.	0	MT
				4) Glass wool	0	MT
				5) Insulation Puf	0	MT
		(ii) to recycler or co-processors or pre-processor		1) Used lubricating oil/drained oil	14.020	KL
				2) Detoxified Containers and container liners	2348	No's
		(iii) Others		---	---	

FORM-4

[See rules 6(5), 13(8), 16(6) and 20(2)]

FORM FOR FILING ANNUAL RETURNS

[To be submitted to State Pollution Control Board by 30th day of June of every year for the preceding period April to March]

3	Quantity utilised in-house, if any -	:	**Name of the Hazardous waste**	**Quantity utilised**	
			1) Acid residues (Tank bottom sludge)	28	MT
			2) Sulphur muck (Sulphur sludge)	995	MT
			3) Scrubbing sludge	410	MT
			3) ETP sludge	560	MT
4	Quantity in storage at the end of the year –	:	**Name of the Hazardous waste**	**Quantity Storage**	
			1) Acid residues (Tank bottom sludge)	0	MT
			2) Sulphur muck (Sulphur sludge)	0	MT
			3) Spent Catalyst	15	MT
			4) Used lubricating oil/drained oil	0	KL
			5) Detoxified Containers and container liners	90	No's
			6) LSHS Sludge	0	MT
			7) Scrubbing sludge	25	MT
			8) ETP sludge	0	MT
			9) Off specified ,expired chemicals & lab	0	MT
			10) Glass wool	0	MT
			11) Insulation Puf	0	MT

Part B. To be filled by Treatment, storage and disposal facility operators

1	Total quantity received -	:	
2	Quantity in stock at the	:	
3	Quantity treated –	:	
4	Quantity disposed in landfills as such and after treatment –	:	Not applicable
5	Quantity incinerated (if applicable) -	:	
6	Quantity processed other than specified above -	:	
7	Quantity in storage at the end of the year -	:	

Part C. To be filled by recyclers or co-processors or other users

1	Quantity of waste received during the year – (i) domestic sources	:	
2	Quantity in stock at the beginning of the year -	:	
3	Quantity recycled or co-processed or used –	:	Not applicable
4	Quantity of products dispatched (wherever applicable) –	:	
5	Quantity of waste generated -	:	
6	Quantity of waste disposed -	:	
7	Quantity re-exported (wherever applicable)-	:	
8	Quantity in storage at the end of the year -	:	

Date : **06.05.2024**

Place: Visakhapatnam.

Signature of the Occupier or Operator of the disposal facility

EHS2-Vizag-Coromandel

From: Nagarjuna-P-Mgr-EHS-Vizag-Coromandel
Sent: 07 May 2024 15:53
To: rovspappcb@gmail.com
Cc: EHS2-Vizag-Coromandel; Nageswara Rao G-AsstMgr-EHS-Vizag-Coromandel; Subhradip Mondal-Mgr-Environment-Vizag-Coromandel; Nagaraju D-AGM-EHS-Vizag-Coromandel; Vinod Kumar Mishra-Sr.GM-EHS-Vizag-Coromandel
Subject: Reg. Submission of Hazardous waste annual report of form-iv for the period of April 2023- Mar 2024
Attachments: Hazardous Waste Annual Returns (Form -4) 2023- to 2024.pdf

Dear Sir,

Herewith submitting **Hazardous waste annual report of Form-4 for the period of April 2023- Mar 2024** by Coromandel International Limited, Visakhapatnam.

Same original copy along with backup documents send to head office, Vijayawada through register post.
Same copy again submitted to your regional office , Visakhapatnam on **07.05.2024** as per your instruction.

Regards,
Nagarjuna P
Manager-Environment
9100443439

SAVE ENVIRONMENT SAVE LIFE

Coromandel
FUTURE POSITIVE
Coromandel International Limited
Sriharipuram, Malkapuram PO
Visakhapatnam-530 011
Andhrapradesh, India.
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W: www.coromandel.biz
A MURUGAPPA GROUP COMPANY