emami PAPER MILLS

Letter No.-EPML/ENV/10/2025
Date: 26.09.2025

To
Member Secretary,
State Pollution Control Board, Odisha
Parivesh Bhawan, A/118, Nilakantha Nagar,
Unit-VIII, Bhubaneswar-751012

Sub: Submission of Environmental statement for the year 2024-25

Sir,

This has reference to the above subject, we are submitting herewith the Environmental Statement for the year 2024-25.

Hope you will find the same in order.

Thanking you,

Yours faithfully
For Emami Paper Mills Ltd.

Authorized Signatory

EMAMI PAPER MILLS LTD. BALASORE 756020

Cc to

The Director, MoEF & CC, Eastern Regional Office, A/3, Chandrasekharpur, Bhubaneswar – 751023.

The Regional Officer, SPCB, Balasore.

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emami GROUP

ENVIRONMENTAL STATEMENT

FOR

THE FINANCIAL YEAR ENDING

ON 31ST MARCH, 2025

(2024-25)

M/s. EMAMI PAPER MILLS LIMITED

Balgopalpur, Rasulpur, Balasore, Odisha

1. INTRODUCTION:

M/s. Emami Paper Mills Limited (EPML) established in 1982 is a part of the Emami Group of Industries. This unit is more environment-friendly paper mills in Eastern India and it started in 1983 as an agro based mill, primarily based on rice straw and Sabai grass, for the manufacturing of writing and printing paper with a capacity of producing 7480 TPA. EPML has gradually expanded the capacity to 3,40,000 TPA and is now producing News Print, Writing & Printing Paper and Paperboard using recycled fiber and purchased pulp as raw materials.

However, at the moment, the plant primarily produces industrial packaging paper and board grades of paper, accounting for 65% of total production, with the remaining 35% primarily used for the production. Today, the mill has made significant improvements in the treatment of machine back water as well as liquid wastewater generated during manufacturing processes. The upgraded Effluent Treatment System (both anaerobic and aerobic) was implemented to restrict the release of biological and chemical oxygen demand, suspended solids, and other pollutants as specified in the Consent to Operate (CTO). The mill also implemented and upgraded the upstream process with the installation of dissolve air flotation (DAF), filtration systems, and a modern pressure filter to purify the machine back water and re-use it in the process, thus reducing the pollutant load and reducing the volume of discharge to end-of-pipe treatment.

The Company customers in Newsprint are: Hindustan Times, The Times of India, Dainik Jagran, Dainik Bhaskar, ABP (The Telegraph, Ananda Bazar Patrika), Prabhat Khabar, Sanmarg and Bartaman, amongst others.

The customers for Writing and Printing Paper are: Government Presses, , Yugbodh Prakashan- Raipur, State Bank of India, UCO Bank, Swapna Printing Press-Kolkata, among others.

The customers for Paperboard product are: Parkson’s, TCPL, Boxpak and amongst others.

1. MANUFACTURING PROCESS DESCRIPTION:

Raw Materials:

The major raw materials used are Imported and indigenous Waste paper & imported purchased Pulp.

Secondary Fiber Treatment:

a) Waste paper is slushed in high consistency pulper with water, caustic, sodium silicate, and soap/surfactant. The slushed pulp slurry is screened in different stages to remove unwanted materials and passed through a de-inking cell for removal of dispersed ink particles from the pulp. De-inked pulp is subsequently passed through three stages centri cleaner & thickened in disc filter. Thickened pulp is subsequently bleached by oxidative bleaching & passes through disperser where macro specks & dirt's are further dispersed into micro particles. The micro ink/ specks particles are removed through secondary deinking cell and thickend in disc filter and again thickened pulp is bleached by sodium hydrosulphite.

No chlorine or chlorine base chemicals is used for bleaching purpose. Hence no toxic chemical is released from the manufacturing process. The deinking pulp sent for News Print manufacturing.

b) The purchased pulp is slushed in high consistency pulper with water and sent to stock preparation for further processing.

Stock Preparation:

In the fibre preparation plant, the stock/pulp is refined and chemical additives like alum, OBA's, Dyes etc will be added. The pulp received at 3.5% consistency is diluted with machine back water to a consistency of 0.6 to 0.8 % depending on the substance required.

The bleached pulp is finally pumped to the paper machine wire through Head Box for formation of wet paper web.

Paper Making:

The water is removed through wire drainage, suction boxes, couch rolls, presses and ultimately through dryers.

To impart surface properties, size press treatment (applying different chemicals e.g. starch, optical brightening agent etc. at size press section of paper machine), coating (for board) and calendaring on the paper/board is done. Water mark on paper is imparted by dandy rolls at the wet end. The paper formed gets reeled on big roll and is tested in the laboratory for its quality and goes for finishing operation.

Finishing:

From the parent roll, the paper/board is cut to small size reels / sheets in the rewinder and packed at Reel handling & wrapping system. The packed paper/board products go to customers.

FLOW DIAGRAM OF MANUFACTURING PROCESS

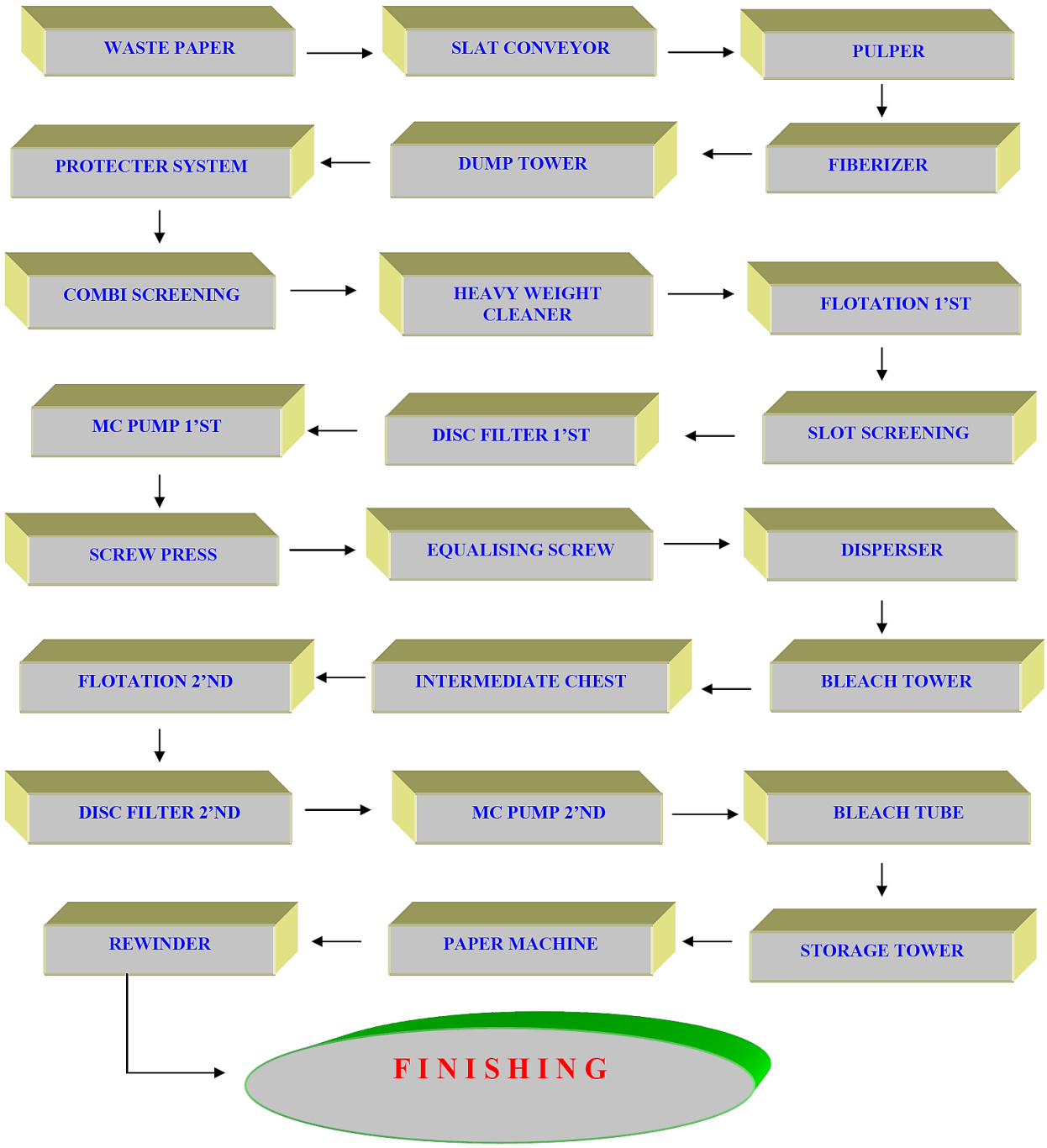

Figure No. 1 : Flow Diagram of Manufacturing Process

2. EFFLUENT TREATMENT PLANT:

Unit has set up waste water treatment plant with activated sludge process with clarification systems and sewage treatment plant with various stages are as follows: -

Effluent generated from PM-1, PM-2, and PM-3 & Board plant is taken to Equalization tanks (3 nos. with capacity 4444M3) for proper mixing and agitation with air. Necessary pH is maintained there as per the requirement. Thereafter the influent is pumped to flash mixer followed by flocculation tank where organic coagulant & flocculant is added & then goes to PC2 & PC3 clarifier via stilling tank. The capacity of PC2 is 603 M3 having dia 16mt & depth 3.0mt & PC3 capacity 1962 M3 having dia 25mt & depth 4.0mt.

DIP#3 de-inking cell rejections taken to Primary Clarifloculator-I (Capacity 703 M3 of dia 20mt & depth 3.5mt) and its overflow taken to flash mixer for further reduction of suspended solid.

The over flow of PC-2 & PC-3 is taken to UASBR system of capacity 5580M3 through hill screen & Buffer tank. The UASBR 1 & 2 over flow goes to diffused aeration systems of AT 3,4,5,6 &7 having capacity 10436 M3 (Aeration tank 3 & 4 having size 30 meters length x 15 meters breadth x 5.5 meters depth each and 5 no. is 26 meters length x 12 meters breadth x 4.7 meters depth and 6 & 7 having sizes 16 meters length x 24 meters breadth x 5.5 meters depth each) A total of 860 numbers of diffusers and 1720 nos. membranes has been provided at the bottom of the chamber where 10,000 cubic meter of air is passed per hour and activated sludge process is followed. In aeration system nutrients are added suitably to maintain/develop good MLSS in the system.

Then the mixed liquor suspended solid effluent is passed to secondary clarifiers (Capacity 2311 M3 having dia 29mt & depth 3.5mt – Sc1) & (Capacity 1099 M3 having dia 20mt & depth 3.5mt- Sc2).The secondary clarifiers over flow is then passed to new sump pit where chlorination/hypo is being done and the treated water is taken to MGF system for further treatment.

Thereafter treated water is partly recycled to plant for use, partly taken for cultivation and some amount is discharged to sapna nallha, which ultimately meets river Sono at a distance of 5 Km from the plant. Flow diagram of augmented ETP is attached herewith.

The sludge collected from the bottom of primary clarifiers and secondary clarifiers are pumped to the respective sludge tank. The primary sludge is then transferred to the sludge tower at Sludge dewatering plant (Screw Press). Then it is mixed with polyelectrolyte and taken to the prethickner and then to the

screw press. Back water from the prethickner and screw press is taken back to ETP system for treatment. At
Screw press sludge with 50-55% dryness comes through conveyor for burning in the boiler as fuel. The secondary sludge from secondary clarifiers is taken to sludge tower and then to belt press/Decanter for dewatering and to get suitable dryness sludge by adding organic polymer. The sludge is mainly used as manure for cultivation purpose. (Flow diagram attached as Annexure-D)

STP PROCESS DESCRIPTION:

The sewage from various sources is collected and homogenized in a receiving sump after passing through Bar-screen and Oil & grease Chambers, sewage is taken to the equalization tank for homogenization, effluent is then pumped through sewage transfer pump 1/2 to Moving Bed Bio Reactor (MBBR 1 & 2) for further process. From MBBR the effluent is transferred to the Tube settler, the bio - floc formed in MBBR 1 & 2 are settled in the tube settler. The settling area contains tube media having deg. Angle through which the floc formed get settled at the bottom of tank. The clear water from the Tube settler outlet is collected in to the Chlorine contact tank where Sodium Hypo Chloride is dosed to cause disinfection. The treated water is transferred to filter feed tank and then through Dual Media Filter and Activated Carbon Filters through the Filter feed pump.
Both these filters remove the finer suspended solids which carry forward from the tube settler. The filters also help in polishing the treated sewage for BOD removal. Then the filtered water passed through UV to remove the fecal bacteria and then final treated water goes to storage tank and then used for gardening & plantation purpose.
The Sludge from the MBBR 1 & 2, & Tube settler is collected in to the sludge holding tank, this Biomass is then taken to ETP aeration system for better Biomass development.

VERMICOMPOSTING PROCESS:
Collection of vegetable waste, leafy materials, garden biomass etc. from canteen and colony is done & subjected to vermicomposting process where earthworms are there to decompose the material.
Thus organic bio-fertilizer is produced from the above process and then used for gardening etc.

FORM-V

ENVIRONMENT STATEMENT
FOR THE FINANCIAL YEAR ENDING 31st MARCH, 2025

PART-A

i.	**Name and Address of the occupier of this industry operation or process**	: Shri Vivek Chawla Chief Executive Officer Emami Paper Mills Limited, Balgopalpur(V), Rasulpur(Post) Baleswar(Dist), Odisha - 756020
ii.	**Industry Category**	: Paper & Paperboard(Red-Category)
iii.	**Production Capacity**	:
	- **Installed**	: As per CTE , Dt : 20.11.2021 • Writing, Printing, News Print & Industrial Paper Board – 3,40,000TPA • Co-generation Power – 33.5MW
	- **Licensed**	: As per CTO, Dt : 28.03.2023 • Writing, Printing, News Print & Industrial Paper Board – 3,40,000TPA • Co-generation Power – 33.5MW
iv.	**Year of Establishment**	: 1983
v.	**Date of last environmental Audit Statement submitted**	: 14.09.2024

PART-B
WATER & RAW MATERIAL CONSUMPTION

1. Water consumption m3/day

- Process	7716
- Cooling	1504
- Domestic	142

Name of Product	Water consumption per unit of Product	
	During the previous financial year	During the current financial year
Paper & Paperboard	11.34	11.05

Note:

- RG Finished Production: FY 2023-24: 305761 TPA & FY 2024-25: 309309 TPA

2. Raw Material Consumption

Name of Raw Material	Name of Product	Consumption of raw material kg per unit	
		During the previous financial year	During the current financial year
Waste Paper	Writing and Printing, Newsprint paper & Paperboard	349	433
Purchased pulp		604	607
Caustic Lye		1.38	1.45
Sodium Silicate		2.05	2.68
Ferric Chloride		0.01	0.01
Poly Aluminum Chloride		9.27	7.73
Sodium Bicarbonate		0.01	0.01
Starch		25.34	24.55
Sodium Hydrosulphite		0.70	0.83
Hydrogen Peroxide		2.14	2.65
Sulphuric Acid		0.50	0.52
Screw press Coagulant		0.04	0.03

Screw press Floculant		0.09	0.09
Nutrient-1		0.03	0.02
Nutrient-2		0.01	0.01
Nutrient-3 - Micronutrient		0.05	0.05
ETP Coagulant		---	0.01
ETP Floculant		0.01	0.01
Clay		7.78	7.91
Binder		13.26	15.52
Insolubiliser kzc900, kzc30		0.67	0.74
Dispersant PA40		0.08	0.09
WGCC		125.90	111.88
Coal		910.35	902

PART-C

POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT
(Parameter as specified in the Consent issued)

a. WATER

Pollutants	Quantity of pollutants Discharged (mass/day) (Kg/day)	Concentration of pollutants in discharges (mass/volume) (in mg/lit)	% of variation from prescribed standards with Reason
pH at 25˚C	---	7.59	Within the norms
Suspended Solids, ppm	258	33.15	-do-
Total Dissolved Solids, ppm	5835	750	-do-
BOD3@27˚C	180	23.2	-do-
COD, ppm	1710	219.8	-do-
Sulphates as SO4, ppm	1027	132.0	-do-
Total Nitrogen as N	7.0	0.90	-do-
Fluoride as F	3.27	0.42	-do-
Dissolved Phosphate as P, ppm	0.39	0.05	-do-

b. AIR:

Boiler No.	Pollutants	Quantity of pollutants Discharged (kg/day)	Concentration of pollutants in (mg/Nm3)	% of variation from prescribed standards with Reason
AFBC-1 (5MW)	SPM	30.84	35.7	Within the norm
	SO_2	243.56	281.9	-do-
	NOx	133.06	154.0	-do-
AFBC-2 (18MW)	SPM	78.46	34.1	-do-
	SO_2	769.63	334.5	-do-
	NOx	440.61	191.5	-do-
AFBC-3 (10.5MW)	SPM	58.97	35.1	-do-
	SO_2	489.55	291.4	-do-
	NOx	230.33	137.1	-do-

PART-D

HAZARDOUS WASTE
(As specified under Hazardous Wastes (Management & Handling) Rules, 1989 and its amendments thereof)

Hazardous Wastes	Total Quantity(Kg)	
	During the previous financial year	During the current financial year
a. Process		
Used Oil	10754.1	10880.2
Waste containing oil	435	2210
Spent Resin	220	0
Imported Waste paper	75599000	56872000
b. From pollution control facilities	0	0

PART - E
SOLID WASTE

	Total Quantity(TPA)	
	During the previous financial year	During the current financial year
(a)From Process (Coal ash /Cinder from boiler)	157551.3	160380
(b)From Pollution control facilities (Sludge from ETP Combined Wastewater treatment system)	11189.6	11610
(c)(1)Quantity recycled or re-utilized within the unit	11189.6	11610
(2) Sold	Nil	0
(3) Disposed	157551.3	160380

PART-F

Please specify the Characteristics (In terms of concentration and quantum) of Hazardous as well as Solid Wastes and indicate disposal practices adopted for both these categories of wastes:

- **HAZARDOUS WASTES:**

Sl. No.	Name of the HW Waste	Characteristics	Quantity (TPA)	Disposal practices adopted
1	Used Oil	Liquid with color blackish brown contains heavy metals, hydrocarbons, combustion products, carbon black, and degraded additives.	10.880	Used oil is being stored in impervious containers under the cover shed with adequate capacity having spill collection facility followed by sale to actual users having valid authorization from SPCB.

2	Waste/Residue containing oil	Cotton waste oil is an oily, oil-impregnated solid material that is hydrophobic, dense, and has a high calorific value.	2.21	Storage in containers under well ventilated covered shed followed by disposal to Co-processing in authorized Cement Kiln
3	Spent Resin	Spent resin having spherical or powdered form, having a high water content (50-60% for nuclear grade), exhibiting different ionic forms (e.g., H+ or OH-) and containing captured radionuclides or other impurities.	Nil	Storage in containers under well ventilated covered shed followed by disposal to Co-processing in authorized Cement Kiln
4	Imported Waste paper	Solid having organic and inorganic material	56872	Utilization as raw material in manufacturing process

- **SOLID WASTES:**

Sl. No.	Name of the Waste	Characteristics	Quantity (TPA)	Disposal practices adopted
i.	Coal ash/Cinder	Silica/ash etc.	160380	100% fly ash is being disposed to outside brick manufacturers units.
ii	Sludge from E.T.P	Cellulose, Sand, Grit, etc.	11610	Sludge from ETP after dewatering at sludge dewatering plant, used as fuel in the power boiler/excess is being disposed to agencies for manufacturing inferior grade board.

PART – G

Impact of Pollution abatement measures taken on Conservation of natural resources, on the cost of production

Pertaining to the Paper industry, the stringent pollution control norms and CREP
Implementation has helped the industry to project its image as an environment conscious industry and also helped the industry for its sustainable development. Subsequently, the cost of Production also has gone up.

Pollution abatment measures taken –

A) Water Pollution Control System adopted in our unit:

i. Manual Bar screens in the individual plant drains and Mechanical bar Screen in main drain of ETP
ii. Equalization system for better mixing
iii. Flash mixture followed by flocculation tank for the combined effluent
iv. Chemical preparation & dozing system
v. Primary clarifiers (3 nos.)
vi. Hill screen for plastic rejects removal before Buffer tank
vii. UASBR system for better TSS, COD, BOD reduction
viii. Diffused Aeration System with Activated Sludge Process
ix. Secondary clarifiers (2 nos)
x. Decanter for the secondary sludge treatment
xi. MGF system etc.
xii. Sewage treatment Plant
xiii. Vermicomposting system

B) Air Pollution Control System adopted in our unit:

i. Dust suppression system consists of water mist spraying in coal conveyer / crushing zone / transfer point.
ii. ESPs with 3 fields in operation for the Co-generation units in flue gas path. Each is having a standby field for future expansion.
iii. Closed Pneumatic Ash Handling System, Fly Ash & Bed Ash Silos with vent filter arrangement and ash conditioner with spray arrangement. The recycled water from the ETP/Water treatment Plant is used for conditioning the fly ash.
iv. The water sprinkling system (Total around 25nos.) arrangement is in place to suppress fugitive emissions at equalization tank front road,

Secondary coal crushing unit front road, RCC road near CC-1 area and coal transportation road. The recycled water from the ETP/Water treatment Plant is used for dust control.

v. Stack (chimney) with 64mt height (5MW), 70mt height (18MW) & 70mt height (10.5MW)
vi. Plantation in & around the plant area.
vii. Mechanical wheel washing system with auto water spray arrangement is installed to control fugitive emissions.

C) Solid Waste Management Practice followed:

i. Fly Ash Utilization:

100% fly ash is provided to outside brick manufacturers (about-352 nos.) for manufacturing bricks.

ii. ETP sludge:

ETP Sludge having De-watering system consists of chemical dosing system, drum thickener, screw press and a set of belt conveyors. Total ETP sludge is utilized as fuel in the boiler.

D) Hazardous Waste Management Practice:

It is being practiced as per the guideline given in the authorization letter hazardous waste (Management, Handling & Transboundary Movement) Rules 2008.

E) Implemented various Water Conservation measure to reduce overall specific waste water discharge:

The following Water Conservation measure were implemented during the FY 2024-25 to reduce specific waste water discharge:

- The specific water consumption has decreased from 12.6 m3/ton in 2021-22 to 11.05 m3/ton in 2024-25 by implementation of various water conservation initiatives in the process.
- Fresh water is replaced with diablo and tertiary fine screen reject filtrate at DIP-1 has led to a water saving of 100M^3/Day.
- Fresh water is replaced with DAF water in WGCC preparation at DIP-3 has resulted to a water saving of 90 M^3/Day.
- Fresh water is replaced with tertiary water in screw press for Drum wash and chemical dilution at Screw press of power plant and achieved reduction of fresh water 150 M^3/Day.

- Gemba walk (Plant rounds) were conducted by respective teams in regular interval with the objective to eliminate leakages, overflows and wastage of fresh water.

F) Implemented various energy Conservation measure to reduce Specific GHG emissions:

The following energy Conservation measure were implemented during the FY 2024-25 to reduce Specific GHG emissions and carbon foot print of the organization:

- Biogas generation from ETP UASBR is being utilized in Power Boiler # 2 at a flow of approx. 80 M^3/Hr which is equivalent to coal saving of around 2.8 tons per day (980 Tons/Annum).
- Condensate return from PM-1 increased from 80 to 84% and in PM-2 increased from 70 to 80% as a result condensate recovery increased by 38 tons per day which is resulted in saving of around one ton of coal per day in addition to the RO water saving of 38 M3 per day.
- By conducting compressed air leakage survey and arresting them air consumption reduced by around 400 Nm3/day resulting in the power saving of 1200 kWh per day (@ 50 kwh/hour).
- Impeller of Makeup water pump for Boiler Deaerator is trimmed and head is reduced from 80 meters to 70meters achieving a power saving of 120 kWh per day.
- Side stream filter pump with 9.3 kw motor is stopped permanently by interconnecting TG-2 Auxiliary CTCP delivery line with side stream filter inlet line resulting in a power saving of 132 kwh per day.
- At ETP irrigation pumps (22kw*2/45 kw*1) for transferring treated water to cultivation land have been shut by utilizing a common pump of 37 kw with a common header arrangement and distribution piping for backwater recycling and irrigation of cultivation land. Power saving of 600 kWh per day (@ 25 kwh/hour) has been achieved by stopping the cultivation pumps.

G) RAIN WATER HARVESTING:

There are 20nos of recharge wells with gravel filtration system to recharge storm water to maintain the ground water table. Annual recharge potential is 2603874m3.

PART – H

Additional measures / Investment proposal for Environmental protection abatment of pollution, prevention of pollution.

In order to comply the CREP (Corporate Responsibly for Environment Protection) guidelines, we have already switched over to 100% Waste Paper & purchased pulp.

Environmental Benefits:

1. No sources of black liquor generation.
2. Total Chlorine free bleaching followed.
3. Peroxide bleaching in place of hypo & chlorine.
4. Pollution load to ETP reduced drastically.
5. Effluent generation quantity reduced.
6. 100% Fly ash used for making bricks.
7. UASBR followed by Activated sludge process with diffused aeration system
8. 100% sludge is used as co-fuel in power boiler.
9. Dust suppression system in coal handling plant to avoid fugitive dust emission.
10. Installation of pre-treatment system (Clarifloculator at Board Plant) for recycling water and reuse for saving fresh water consumption.
11. Installed Continuous emission monitoring system(CEMS) for all boiler stack emissions to measure SPM, SO2 & NOx parameters and Real Time Effluent Quality Monitoring System (RTEQMS) to measure treated effluent quality parameters like pH, TSS, COD & BOD and online data is being uploading to CPCB&SPCB web server.

Investment Proposals for environmental protection and sustainability in future:

- To conserve natural resources and to develop alternate sources of power.
- Implementation of environmental friendly technologies in various processes to reduce effect on environment.
- Reduction of water and energy consumption.
- Reduction in carbon foot print of the company.
- Reuse/recycling of materials and waste.

PART – I

Any other particulars for improving the quality of the environment

The company is fully conscious about its Social obligation for environmental protection and doing its best in this respect and continues its effort with full co-operation and moral support from concerned authorities for better environment with increased productivity and without any adverse effect to

working environment and to the locality. The following measures have also been implemented for environmental protection and abatement of pollution.

1. Green Belt Development:

Plantation for the year 2024-25

Sl.No	Name of the Site	No of Seedlings planted/Distributed	Name of Seedlings planted/Distributed
1	Factory Board Mill Area	400	Mango
2	ETP & Decanter adjoining area	1750	Acacia Mengium
3	Colony (Emami Officers Colony Area)	350	Almond
4	Development of Nursery & Free distribution of seedlings to 44 surrounding villages	62520	Fruit bearing plants

The industry has taken adequate measures to control pollution inside plant area.

- The Industry has successfully introduced schemes for local farmers for cultivation of their land during dry spell by use of treated effluent.
- Focus on Safety, Health and Environment.
- Implementation of various water & Energy saving schemes for reduction in Specific consumption levels.