



**Allied Blenders
& Distillers**

ABD/RANGAPUR/DISTILLERY/TGPCB/2025-26/19

Date: 08.09.2026

To,
The Environmental Engineer,
Regional Office, Telangana State Pollution Control Board,
4th Floor, Collectorate Office, Lakidikapul,
Hyderabad, Telangana- 500004

Dear Sir/Madam,

Subject: M/s Allied Blenders and Distillers Limited, at Survey No. 690/AA, 691/AA2 & 692, Village - Rangapuram, Mandal - Pebberu, District - Wanaparthy, State - Telangana 509104. Environmental Statement Form-V for FY 2025-2026 Submission - Regarding.

**Refer: 1. Consent Order No. 210822768023, Dated: 24.03.2021
2. Amendment Consent Order No. 210822768023/484, Dated: 08.12.2021
3. Name Change Order No. 21082276802-1626, Dated: 29.12.2022
4. CFO Amendment Lr. No. TGPCB/RO-HYD/HO/CFO/2024. Dated: 12.07.2024**

We reference to above, M/s Allied Blenders and Distillers Limited, at Survey No. 690/AA, 691/AA2 & 692, Village - Rangapuram, Mandal - Pebbair, District - Wanaparthy, State - Telangana, we are herewith submitting the Environmental Statement Form-V for the for the period of April - 2025 to March - 2026 for the Distillery, Rangapur Unit.

Kindly acknowledge the receipt of the same.

Thanking you.

Yours Faithfully,

M/s. Allied Blenders and Distillers Limited


Sudhansu Sekhar Rout
Head Distillery & Manufacturing



Enclosure: Form V for FY 25-26



Allied Blenders And Distillers Limited

Factories: Survey No : 692, 699 & 700, Rangapur Village, Pebbair Mandal, Wanaparthy District, Telangana - 509 104.
Registered Office : 394/C, Ground Floor, Lamington Chambers, Lamington Road, Mumbai - 400004. India.
Website : www.abdindia.com info@abdindia.com CIN No. : L15511MH2008PLC187368

Environmental Statement
(Form-V)
For the year 2025-2026
Existing Grain Based Distillery from 180 KLPD along with
Existing 6.5 MW Power Plant
at Village - Rangapuram, Mandal - Pebberu, District - Wanaparthi,
Telangana State -Pin Code - 509104



M/s. Allied Blenders and Distillers Limited

Submitted to:

Regional office
Telangana State Pollution Control Board
4th Floor, Collectorate Office, Lakidikapul,
Hyderabad, Telangana– 500004

Environment Statement

Environmental Audit is a systematic and comprehensive self-assessment of an industry's activities, practices and performance with respect to pollution prevention, environmental protection, resource conservation and compliance with applicable environmental regulations. It provides an objective mechanism for evaluating the effectiveness of environmental management measures adopted by an industry and identifying opportunities for continual improvement in environmental performance.

In India, the concept of Environmental Audit was introduced under the Environment (Protection) Act, 1986, through the Environment (Protection) Rules, 1986. The requirement for submission of an Environmental Audit Report was subsequently introduced through the relevant amendment to the Environment (Protection) Rules. In 1993, the terminology was revised from "**Environmental Audit Report**" to "**Environment Statement**", with the objective of providing a systematic account of an industry's consumption of resources, generation of wastes and pollutants, and the measures adopted for environmental protection and resource conservation.

The Environment Statement is applicable to industries and other establishments carrying out operations or processes requiring consent under Section 25 of the **Water (Prevention and Control of Pollution) Act, 1974**, Section 21 of the **Air (Prevention and Control of Pollution) Act, 1981**, or authorization under the applicable hazardous waste regulations. The statement is required to cover the financial year ending on **31st March** and is submitted to the concerned State Pollution Control Board in the prescribed format within the stipulated time.

The prescribed Environment Statement covers various aspects of environmental performance, including **water consumption, raw-material consumption, pollution loads and emissions, waste generation, hazardous waste management, solid waste management, pollution-control measures, resource conservation and the impact of environmental protection measures on the cost of production**. It also facilitates assessment of the effectiveness of pollution-abatement measures and the extent to which cleaner production, recycling, reuse and resource-efficiency practices have been implemented.

Environmental auditing should not be viewed merely as a regulatory compliance exercise. A comprehensive audit provides an opportunity to critically examine the industry's environmental performance, identify areas of inefficiency and pollution risk, evaluate the adequacy of existing pollution-control systems, and recommend technically and economically viable measures for improving environmental performance. Particular emphasis is placed on resource conservation, reduction in waste generation, reuse and recycling of treated wastewater, energy efficiency, reduction of emissions and improvement of overall environmental management practices.

In this context, M/s Allied Blenders and Distillers Limited has entrusted Dr. B. B. S. V. Seshagiri Rao with the responsibility of undertaking the Environmental Audit Study for the financial year 2025–2026. The study has been carried out to assess the environmental performance of the unit, review the implementation and effectiveness of pollution-control and environmental-management measures, evaluate resource consumption and waste generation, and identify opportunities for further improvement in environmental performance. The Environmental Audit for the year 2025–2026 covers the relevant operational, environmental and resource-management aspects of the unit during the period from April 2025 to March 2026. The findings and recommendations presented in this report are intended to support regulatory compliance, continual improvement in environmental performance, efficient utilization of natural resources and strengthening of the unit's overall Environmental Management System.

2.0 STEPS IN ENVIRONMENTAL AUDITING

Environmental auditing is a systematic process involving the review, verification and evaluation of an industry's environmental performance, compliance status, pollution-control measures and resource-utilization practices. The activities associated with an Environmental Audit are generally carried out in three major stages:

2.1 Pre-Audit Activities

The pre-audit stage involves preparatory activities undertaken before visiting the industry. The major activities include:

- Understanding the nature and scope of operations of the industry.
- Reviewing the applicable environmental legislation, rules, regulations and statutory requirements.
- Reviewing the Consent for Establishment (CTE), Consent for Operation (CTO), Environmental Clearance, authorizations and other applicable statutory approvals.
- Studying previous Environmental Audit/Environment Statement reports and compliance reports, wherever applicable.
- Reviewing available information relating to water consumption, wastewater generation, air emissions, solid waste, hazardous waste, energy consumption and resource utilization.
- Identifying key environmental aspects, potential environmental impacts and areas requiring detailed verification during the site visit.
- Preparing an audit plan, checklist and schedule for conducting the audit.

2.2 Audit Activities at the Industry Site

The second stage involves the physical inspection and verification of the industry premises. During the site visit, the audit team reviews the actual operating conditions and verifies the implementation of environmental-management and pollution-control measures.

The major activities include:

- Inspection of production and process areas.
- Verification of water consumption and wastewater-generation data.
- Inspection of Effluent Treatment Plant (ETP), Sewage Treatment Plant (STP), Multiple Effect Evaporator (MEE), Reverse Osmosis (RO) and other wastewater-treatment/recycling systems, as applicable.
- Verification of air-pollution-control equipment and stack-emission monitoring arrangements.
- Review of hazardous-waste and solid-waste storage, handling, transportation and disposal practices.
- Assessment of resource conservation, reuse and recycling practices.
- Verification of environmental monitoring records and laboratory reports.
- Review of energy-consumption and energy-conservation measures.
- Assessment of greenbelt development and maintenance.
- Verification of compliance with statutory conditions and consent requirements.
- Interaction with concerned personnel to understand environmental-management practices and operational controls.
- Identification of gaps, non-conformities, environmental risks and opportunities for improvement.

2.3 Post-Audit Activities

The post-audit stage involves detailed analysis and evaluation of the information and observations collected during the site visit. The major activities include:

- Compilation and verification of the data collected during the audit.
- Evaluation of environmental performance against applicable statutory requirements and approved standards.
- Analysis of water, energy and raw-material consumption.
- Assessment of pollution loads and waste-generation trends.
- Evaluation of the effectiveness of pollution-control and environmental-management measures.
- Identification of areas requiring corrective and preventive action.
- Preparation of recommendations for resource conservation, pollution prevention and continual improvement.
- Preparation and finalization of the Environmental Audit Report.

2.4 AUDIT TEAM

The Environmental Audit Team was constituted with representatives from the organization and an Environmental Management System (EMS) professional having adequate knowledge of industrial processes, environmental management systems and applicable technical and legal requirements related to Environment, Health and Safety (EHS).

The audit team comprised the following members:

1. Mr. Umasankar Padhi – Regional Manufacturing Head – South
2. Mr. Sudhansu Sekhar Rout – Lead Distillery Operation
3. Mr. V. Srinivasa Rao – Environmental Engineer
4. Dr. B. B. S. V. Seshagiri Rao – EMS Lead Auditor

The Environmental Audit Team conducted the Environmental Audit of the facility on 06 September 2025. The audit included a review of the operational areas, environmental-management systems, pollution-control facilities, resource utilization, waste-management practices, statutory compliance and relevant environmental records maintained by the unit.

The observations made during the site visit, together with the review of available records and environmental-performance data for the audit period, form the basis for the findings, conclusions and recommendations presented in this Environmental Audit Report.

3.0 PROJECT SETTING

M/s Allied Blenders and Distillers Limited is located at Survey Nos. 690/AA, 691/AA2 & 692, Rangapuram Village, Pebberu Mandal, Wanaparthy District, Telangana State. The industry has obtained the Consent for Operation (CFO) and Hazardous Waste Authorization (HWA) from the Telangana Pollution Control Board (TGPCB). The applicable Consent Order, Consent Order No. 20234696127 dated 19.10.2023, was issued for the operation of the facility. Subsequently, an amendment to the Consent was issued vide Lr. No. TGPCB/RO/HYD/HO/CFO/2024 dated 12.07.2024. As per the applicable consent and amendment, the industry is authorized to manufacture/produce the following products with a consent validity period up to 31.03.2028:

Sr. No.	Product	Permitted Capacity
1	Rectified Spirit / Ethanol / Extra Neutral Alcohol (ENA)	65,700 KLPA (180 KLD × 365 days)
2	Electricity	6.5 MW

4.0 MATERIAL AUDIT

Material Audit is an important component of the Environmental Statement and Environmental Audit process. It provides a systematic basis for assessing the material balance of the industry, including the quantity of raw materials received, utilized in the manufacturing process, recovered as by-products, recycled/reused and lost during various stages of operation.

A material audit is a useful mechanism for reviewing plant operations, assessing actual performance against the designed process requirements and identifying opportunities for optimization of raw-material consumption, reduction of process losses, improvement in material utilization and recovery of valuable by-products. The findings of the material audit can subsequently be used for developing and implementing appropriate resource-conservation and cleaner-production measures. In the present case, the principal raw materials used for the manufacture of Rectified Spirit/Ethanol/Extra Neutral Alcohol (ENA) include maize, jowar and broken rice, as applicable. These grain-based raw materials undergo various stages such as handling, storage, milling, cooking, fermentation, distillation and subsequent processing for production of ENA. Efficient utilization of these raw materials is therefore important from both environmental and economic perspectives. Particular attention should be given to optimizing the ENA yield per kilogram of maize, jowar and broken rice through effective control of process parameters and minimization of material losses. Opportunities for improvement should be evaluated at every stage, beginning with raw-material procurement and quality control, followed by transportation, unloading, storage, material handling, milling and processing.

The following measures are recommended for improving material utilization and reducing losses:

- Procurement of raw materials conforming to specified quality parameters.
- Proper inspection and quality testing of incoming maize, jowar and broken rice.
- Minimization of material losses during unloading, transportation and internal handling.
- Proper storage practices to prevent deterioration, moisture ingress, contamination and spillage.
- Periodic inspection and maintenance of storage facilities, conveyors, elevators, mills and associated equipment.
- Optimization of milling and process parameters to improve extraction and fermentation efficiency.
- Regular monitoring of fermentation efficiency and distillation performance.
- Optimization of process conditions to maximize ENA recovery per unit quantity of raw material.
- Quantification and periodic review of material losses at different stages of the process.
- Recovery and beneficial utilization of by-products generated during the manufacturing process.
- Development and periodic review of a raw-material input versus product/by-product output balance.
- Implementation of good housekeeping practices to prevent avoidable material losses.

ENA & By-Products Production details for the Month April 2025 to March 2026

Month	ENA in KL	Impure Sprit in KL	Fusel Oil in KL	CO2 in Metric Tons	DDGS/DWGS in Metric Tons
Apr-25	3340.31	59.02	1.14	701.64	1288.3
May-25	4561.79	81.31	1.50	1021.38	1772.9
Jun-25	5551.62	102.43	1.78	1409.48	2428.3
Jul-25	5672.06	171.29	1.55	1468.63	2496.3
Aug-25	4662.584	64.646	1.300	1045.832	1861.4
Sep-25	4860.23	90.40	0.84	1264.51	1777.4
Oct-25	5829.35	97.74	0.93	658.43	2300.7
Nov-25	5585.16	93.10	0.90	333.18	2227.7
Dec-25	4426.889	74.05	1.92	428.815	1900.9
Jan-26	5753.84	98.512	2.48	1110.36	2208.4
Feb-26	5323.179	88.598	2.24	866.05	2162.7
Mar-26	5636.12	101.9	2.48	1262.98	2313.8
Total	61203.13	1122.98	19.06	11571.28	24738.63

The total annual ENA production was **61,203.13 KL**, corresponding to an average production of approximately **167.68 KL/day** when distributed over 365 days. The monthly ENA production varied during the year, with the highest monthly production recorded in **October 2025 at 5,829.35 KL**, followed by **January 2026 at 5,753.84 KL** and **July 2025 at 5,672.06 KL**. The total production of **Impure Spirit was 1,122.98 KL/year**, equivalent to an average of approximately **3.08 KL/day**. Impure Spirit generation generally varied in accordance with the operating conditions and ENA production levels. The total **Fusel Oil production was 19.06 KL/year**, corresponding to an average of approximately **0.052 KL/day**. Fusel oil is recovered as a by-product during the distillation process and is collected separately for appropriate utilization/disposal as per applicable requirements. The facility also recovered **11,571.28 MT of CO₂ during the year**, giving an average production/recovery of approximately **31.70 MT/day**.

The annual production of **DDGS/DWGS** was **24,738.63 MT**, corresponding to an average of approximately **67.78 MT/day**.

WATER AUDIT

Water Consumption During details for the April 2025 to March 2026

Unit: KLM

Water Consumption During details for the April 2025 to March 2026						
Month	Cooling Tower makeup	Boiler Feed	DM & Softener	Domestic use	Process Use & CO ₂ Plant	Total
Apr-25	10003	5425	12596	45	6240	34309
May-25	11800	7049	14449	120	9705	43123
Jun-25	10492	8484	17804	444	10910	48134
Jul-25	7783	8445	22230	390	11097	49945
Aug-25	5152	7173	15135	390	8995	36845
Sep-25	9156	8098	14683	403	11198	43538
Oct-25	15397	8249	15322	420	13214	52602
Nov-25	10400	8186	18626	417	9675	47304
Dec-25	10584	7318	17849	403	9463	45617
Jan-26	11212	8403	18082	403	11076	49176
Feb-26	11415	8399	19733	364	9837	49748
Mar-26	13143	9289	22151	372	11190	56145
Total	126537	94518	208660	4171	122600	556486

The average total water consumption of the facility during FY 2025–26 was 1,524.6 KLD. Among the various categories, DM & Softener accounted for the highest consumption at 571.7 KLD, followed by Cooling Tower Makeup at 346.7 KLD, Process Use & CO₂ Plant at 335.9 KLD, **and** Boiler Feed at 259.0 KLD. Domestic water consumption was relatively low at 11.4 KLD.

M/s. ALLIED BLENDERS AND DISTILLERS LIMITED									
Survey No.692, Village Rangapur, Mandal Pebbair, Dist. Wanaparthy, Telangana									
Spent wash, MEE & Effluent Water Details for the Month of April 2025 to March 26									
Month	MEE Feed (M3)	MEE CONDENSATE			MEE Syrup (M3)	Effluent Water			
		Qty. Generated (M3)	Qty. Treated (M3)	Qty. Used in Process (M3)		ETP Feed (M3)	Qty. Used for Ash Quenching (M3)	Qty. Used for Cooling Tower Make-up (M3)	RO Reject (M3)
Apr-25	11427	10047	1380	10047	1380	5288	600	2160	2528
May-25	16973	14576	2396	14576	2396	6379	558	2298	3523
Jun-25	45809	20354	17561	2793	17561	2793	6323	540	1778
Jul-25	45839	20892	17871	3020	17871	3020	6320	540	2086
Aug-25	16402	13801	2601	13801	2601	6466	558	2516	3392
Sep-25	19233	16536.3	2696.7	16536.3	2696.7	7105	540	5411	1154
Oct-25	20714	17189.9	3524.1	17189.9	3524.1	7700	558	6052	1090
Nov-25	19484	16346	3138	16346	3138	7131	540	3005	3586
Dec-25	14638	12160.7	2477.3	12160.7	2477.3	6744	558	3075	3111
Jan-26	20516	17527	2989	17527	2989	8267	558	3937	3772
Feb-26	18813	16022	2791	16022	2791	6713	504	2617	3592
Mar-26	19822	16953	2868	16953	2868	7355	558	4605	2192
Total	269670	192404.9	62293.1	156971.9	62293.1	74961	18175	36756	31804

The average MEE feed is 738.82 KLD, generating 527.13 KLD of condensate and 170.66 KLD of concentrate. The condensate is utilized for process requirements (430.06 KLD) and ETP feed (205.37 KLD), while the treated/recovered water is further utilized for ash quenching (49.79 KLD) and cooling tower makeup (100.70 KLD), with RO reject generation of 87.13 KLD.

Waste Water Quality Monitoring

Sample of wastewater was collected from the site for the assessment of impacts of the Plant on discharge point.

Parameters	Units	Methods	Apr-25		May-25		Jun-25		Jul-25		Aug-25		Standards
			ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	Inland Surface
pH	---	APHA 4500 H ⁺ B	7.48	8.64	7.24	7.82	7.05	8.26	7.12	8.08	7.58	7.98	5.50 to 9.0
Total Suspended Solids at 105°C	mg/L	APHA 2540 D	40	28	48	25	46	34	44	30	50	32	100
Total Dissolved Solids at 180°C	mg/L	APHA 2540 C	1495	374	1386	272	1420	356	1398	328	1452	348	-
Chlorides as Cl ⁻	mg/L	APHA 4500 Cl ⁻ C	356	32	254	32	245	38	240	35	266	40	-
Sulphates as SO ₄ ²⁻	mg/L	APHA 4500 SO ₄ ²⁻ D	44	20	38	14	38	22	36	20	40	18	-
Sulphide as S ²⁻	mg/L	APHA 4500 S ²⁻ F	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-
Total Solids	mg/L	APHA 2540 B	1572	402	1434	298	1466	390	1442	358	1502	380	-
Phosphates as P	mg/L	APHA 4500 PC	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-
Chemical Oxygen Demand	mg/L	APHA 5220 B	268	38	268	30	272	42	268	38	280	38	250

Biological Oxygen Demand	mg/L	IS 3025(P-44)	94	12	75	8	76	11.2	74	10	76	10	20
Oil & Grease	mg/L	APHA 5520 B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
Nitrate Nitrogen as NO ₃ N	mg/L	APHA 4500 NO ₃ B	3.2	1.1	3.4	1.1	3.6	1.2	3.5	1.1	3.5	1.4	50

Sep-25		Oct-25		Nov-25		Dec-25		Jan-26		Feb-26		Mar-26		Standards
ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	ETP (Inlet)	ETP (Outlet)	Inland Surface
7.16	7.83	7.52	8.76	7.85	8.12	7.25	8.28	7.08	7.86	7.98	8.36	7.41	8.52	5.50 to 9.00
84	41	84	28	56	34	48	32	46	30	60	32	72	38	100
1432	408	1414	356	1548	388	1128	282	1095	268	1612	402	1462	386	---
228	46	508	34	284	46	212	36	204	36	295	48	286	42	---
32	14	72	16	42	18	32	15	30	12	46	16	41	19	---
<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	---
1516	449	1498	384	1604	422	1176	314	1141	344	1672	434	1534	424	---
<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
204	36	587	40	218	32	156	22	148	20	218	38	218	34	250
54	11	106	9	60	8	44	5	40	4	56	10	42	12	20

1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	10
3.6	1	5.8	1.2	3.8	1.6	2.8	1.2	2.5	1	4.2	1.4	3.8	1.6	50

Wastewater samples were collected from the ETP inlet and outlet on a monthly basis during April 2025 to March 2026 to assess the treatment efficiency of the ETP and the potential impact of the treated effluent on the discharge environment. The analytical results indicate that the treated effluent quality was satisfactory throughout the monitoring period. The outlet pH values ranged from 7.82 to 8.76 and were within the prescribed range of 5.5–9.0. The outlet TSS values ranged from 25 to 41 mg/L against the prescribed limit of 100 mg/L. COD values at the ETP outlet ranged from 30 to 54 mg/L against the standard of 250 mg/L, while BOD values ranged from 4 to 12 mg/L against the standard of 20 mg/L. Oil and grease remained below 1.0 mg/L throughout the monitoring period against the limit of 10 mg/L. Nitrate-nitrogen concentrations at the ETP outlet were also significantly below the prescribed limit of 50 mg/L. Sulphide and phosphate were consistently reported below 1.0 mg/L.

The results demonstrate that the ETP is functioning effectively and achieving substantial reductions in organic and suspended pollutant loads. The treated effluent quality remained within the applicable discharge standards for the parameters specified in the monitoring table. Therefore, based on the monitoring results for April 2025 to March 2026, no significant adverse impact attributable to the treated effluent is indicated at the discharge point.

Waste water Generation and treatment /Day

Unit: KLD

Outlet No.	Outlets Description	Max Daily Discharge (KLD)	Point of Disposal
1	Process	648.82	Shall be sent to decanter and the thin slope shall be sent to MEE to concentrate and the condensate shall be treated in Ecophotox plant followed by reuse in the process and concentrate sent to dryer to get DDGS
2	ETP Tertiary (RO Rejects)	87.13	
3	Boiler Blow Down	32.61	1) Shall be treated in ETP followed by Tertiary treatment in UF & RO 2) RO rejects of MEE 3) RO permeate shall be used to dust suppression /ash conditioning and for onland for gardening within the premises
4	Cooling Bleed Off	154.81	
5	CO2 Recovery Plant	9.45	
6	Domestic	8.5	Shall be recycled into the process
7	Fermentation cleaning and Washing Purpose	90	

1. Water Consumption for process @2.0 KL/KL product, Boiler feed 1.54KL/KL product, cooling tower feed is 2.06 KL/KL of Product, DM water 3.40 KL/KL of Product.
2. Waste water Generation from Process is 3.86 KL/KL of Product,
3. From Boiler blow down is 0.19 KL/KL of Product
4. From cooling tower blow down is 0.923 KL/KL of Product,
5. From CO₂ Plant 0.056KL/KL of Product
6. After treatment recycled water re used in to process @ 2.56KL/KL, Coolin tower feed water 0.60 KL/KL of Product and ash quenching is 0.29 KL/KL of product. (Total recycled water is 3.16 KL/KL of product. against the CFO amendment Order for recycling water 7.9 KL/KL of ENA and fresh water consumption is 9.09 KL / KL of ENA Production against the CFO 13.33 KL/KL of Product.

ENVIRONMENTAL QUALITY

The basic aim of Environmental Quality Audit is to make industry aware of the benefits and promote low and non-waste technological methods of production which help in minimizing generation of residuals and thereby preserving environmental quality. Proper operation and maintenance practices also help in reducing emissions from the industry to arrest Environmental Quality deterioration. Environmental Quality is visualized through the following components.

1. Waste water
2. Air Quality
3. Noise
4. Solid Wastes

AIR QUALITY

The various air pollutants generated from the industry are grouped as under:

Stack Connected to	-	Boiler
Fuel	-	Coal/Rice husk
Total Height	Meters	54
Sampling Height	Meters	24.5
Stack Diameter	Meters	2.3
Stack Cross Sectional Area	m ²	4.1564
Ambient Temp (Ta)	K	305.67
Stack Temperature (Ts)	K	432.75
Velocity	m/sec	10.22
Flow Rate	m ³ /hr	150615

Stack Emissions attached to 50 TPH Boiler Mo For the 50 TPH boiler stack, the CFO standards and the reported annual average can be presented as follows:

Months	SPM mg/Nm ³	SO ₂ mg/Nm ³	Nox mg/Nm ³
CPCB Guideline as per CFO	<115	<600	<800
Method	IS-11255 (Part-1): 1985	IS-11255 (Part-7): 2005	IS-11255 (Part-2): 1985
Apr-25	46	56	62
May-25	46	54	62
Jun-25	38.4	102.1	233
Jul-25	36.2	102	136
Aug-25	48	52	60
Sep-25	42.3	227.7	272.8
Oct-25	44	58	63
Nov-25	32	58	64
Dec-25	34	60	62
Jan-26	32	64	60
Feb-26	30	56	60
Mar-26	36	139	173
Average	38.74	85.73	108.98

boiler stack emission monitoring results for April 2025 to March 2026 indicate that the annual average concentrations of SPM (38.74 mg/Nm³), SO₂ (85.73 mg/Nm³), and NO_x (108.98 mg/Nm³) were well within the respective limits stipulated in the CFO.

- SPM: 66.27% of less than the permitted limit
- SO₂: 85.7% of less than the permitted limit
- NO_x: 86.4% of less than the permitted limit

DG Set Stack Details

Stack Connected to	--	1500 kVA D.G. Set.
Stack Height	Meters	12.0
Stack Diameter	Meters	0.25
Stack Cross Sectional Area	Sq. m	0.049
Temperature	K	486
Velocity	m/s	12
Flow Rate	m ³ /hr	1671

Stack Emissions attached t 1500 kVA DG set Month of April 2025 to March 2026

Month	PM (mg/Nm ³)	Oxides of Nitrogen (mg/Nm ³)	Sulphur Dioxide(mg/Nm ³)
CPCB Guidelines as per GSR 771 (E)	<115 mg/Nm ³	<600 mg/Nm ³	<800 mg/Nm ³
Method	IS-11255 (Part-1): 1985	IS-11255 (Part-7): 2005	IS-11255 (Part-2): 1985
Apr-25	40	48	42
May-25	44	56	50
Jun-25	38.6	246.3	28.8
Jul-25	38.6	246.3	28.8
Aug-25	46	258	54
Sep-25	41.1	28.8	252.2
Oct-25	42	50	46
Nov-25	48	262	56
Dec-25	50	265	58
Jan-26	48	262	56
Feb-26	50	258	52
Mar-26	48	242	48
Average	44.53	185.20	64.32

AMBIENT AIR QUALITY

Ambient air quality survey was also carried out to know the general atmosphere conditions prevailing in the vicinity of the industry. Three permanent points were located and monitored regularly every month. The results show that there is not much of a difference in both the conditions as can be seen from the results are given below indicates low concentration of PM10, PM2.5, SO₂ and NO_x compared to ambient air quality standards. Fugitive emissions were also tested every month from various dust generating points and the dust concentration was found to be within the stipulated limits.

Ambient Air Quality for Year 2025-26Units: µgm/m³

Month	Near Main Gate				Near Distillation			
	PM10	PM2.5	SO2	NOX	PM10	PM2.5	SO2	NOX
NAAQS	100	60	80	80	100	60	80	80
Apr-25	56	25.5	18.3	36	40	20.8	25.6	42
May-25	54	27.5	20.2	26	36	21.8	22.6	30
Jun-25	56.3	22.4	16.4	25.8	49.5	16.8	18.5	28.3
Jul-25	54.2	26.5	18.4	28.8	48.4	15.8	16.1	24.4
Aug-25	52.1	26.8	18.6	32.4	38.6	19.5	20.3	36.2
Sep-25	53.4	22.6	7.6	28.9	49.8	20.1	9.8	31.2
Oct-25	46	22.8	10.2	22	40	19.3	12.8	24
Nov-25	50	25.2	16.5	30	36	18.2	18.1	34
Dec-25	48	23.5	14.8	28	34	17.2	16.2	32
Jan-26	42	21.8	12.4	26	32	16.5	14.8	30
Feb-26	46	26.5	14.2	28	38	19.8	16.4	32
Mar-26	49	24.16	15.6	26	41	20.05	17.8	34
Average	50.58	24.61	15.27	28.16	40.28	18.82	17.42	31.51

Near power plant				Near Godown Area			
PM10	PM2.5	SO2	NOX	PM10	PM2.5	SO2	NOX
100	60	80	80	100	60	80	80
66	32.2	28.8	44	38	19.4	24.2	28
62	31.5	27.4	32	34	17.2	21.8	28
16.4	18.5	13.2	32.7	51.2	15.2	10.8	22.3
48.2	16.5	14.4	30.6	52.8	18.4	12.6	24.3
58	28.4	25.5	38	36.5	18.2	2.4	30.3
55.6	23.9	11.2	33.4	61.3	19.6	13.7	30.1
52	28.8	14.3	26	50	25.4	16.8	22.8
56	26.8	22.4	36	34	18.5	20.3	32
54	27.6	20.5	40	32	16.4	18.2	36
48	25.2	18.5	36	26	14.4	16.8	32
54	28.1	20.6	40	36	20.3	18.2	36
59	31.7	21.3	43	38	17.4	16.2	39
52.43	26.60	19.84	35.98	40.82	18.37	16.00	30.07

Ambient air quality monitoring was conducted at four locations, viz., **Near Main Gate, Near Distillery Area, Near Power Plant and Near Godown Area**, for PM₁₀, PM_{2.5}, SO₂ and NO_x during the year 2025-26. The annual average concentrations were compared with the applicable NAAQS limits of **100 µg/m³ for PM₁₀, 60 µg/m³ for PM_{2.5}, 80 µg/m³ for SO₂ and 80 µg/m³ for NO_x**. The annual average PM₁₀ concentrations were **50.58, 40.28, 52.43 and 40.82 µg/m³** at the Main Gate, Distillery Area, Power Plant and Godown Area, respectively, which were **49.42%, 59.72%, 47.57% and 59.18% lower** than the prescribed standard.

The annual average PM_{2.5} concentrations were **24.61, 18.82, 25.60 and 18.37 µg/m³**, respectively, and were **58.98%, 68.63%, 57.33% and 69.38% lower** than the applicable standard. The annual average SO₂ concentrations were **15.27, 17.42, 19.84 and 16.00 µg/m³**, respectively, representing reductions of **80.91%, 78.23%, 75.20% and 80.00%** against the prescribed standard. Similarly, the annual average NO_x concentrations were **28.16, 31.51, 35.98 and 30.07 µg/m³**, respectively, which were **64.80%, 60.61%, 55.03% and 62.41% lower** than the applicable NAAQS limit.

Overall, the monitoring results indicate that the ambient air quality at all four monitoring locations remained **well within the applicable NAAQS limits throughout 2025-26**. The results demonstrate that the existing air pollution control measures and good operational practices are effective in controlling particulate matter and gaseous emissions from the plant.

Ambient Noise Quality for Year 2025-26

Month	Day time Unit: dB(A)									
	Milling Section	Fermentation Area	Boiler-DCS	Boiler Turbine Hall	CO ₂ Plant Area	WTP Area	Dryer Section	Security Area	ETP Area	Near DG Set Area
Apr-25	71.8	68.4	69.9	72.6	67.8	68.6	65.4	38.9	52.4	70.6
May-25	69.2	70.9	65.2	71.6	70.5	63.8	65.4	37.5	53.2	71.8
Jun-25	70.2	69.5	65.7	71.9	70.4	65.5	66.7	40.5	52.3	71.9
Jul-25	71.2	68.8	66.2	69.4	70.8	67.5	65.9	42.6	54.5	70.6
Aug-25	70.8	71.6	65.9	70.9	71.2	62.8	66.3	40.7	55.2	70.6
Sep-25	69.3	72.5	68.2	71.6	72.3	60.7	65.7	54.2	65.2	65.8
Oct-25	70.8	70.5	62.4	70.9	69.9	63	65.2	38.1	51.7	70.8
Nov-25	71.4	70.2	66.7	71.4	72.3	64.8	65.5	42.4	56.7	70.1
Dec-25	70.4	69.8	65.6	70.2	71.8	62.6	65.1	48.1	54.3	69.2
Feb-26	70.2	69.5	65.8	70.6	71.3	65.1	66.6	42.5	55.8	69.3
Average	70.5	70.2	66.2	71.1	70.8	64.4	65.8	42.6	55.1	70.1

Night Time Unit: dB(A)										
Apr-25	66.5	65.2	60.6	67.5	55.4	54.3	53.8	35.6	47.2	55.8
May-25	64.5	66.8	58.5	67.3	58.6	51.5	54.4	32.8	48.4	67.6
Jun-25	63.8	63.2	57.4	66.2	54.5	51.8	45.3	35.7	47.4	66.5
Jul-25	64.5	62.3	58.9	64.7	56.4	54.1	48.5	37.2	49.3	64.8
Aug-25	65.3	67.5	57.2	66.6	60.4	52.2	55.5	35.9	51.5	67.2
Sep-25	62.8	65.4	55	64.3	61.2	51.7	54.3	48.4	50.3	61.2
Oct-25	67.3	65.7	56.8	65.3	54.6	45.1	44.7	31.5	46	67.4
Nov-25	66.9	65.5	58.8	67.5	61.7	53.4	56.2	37.8	52.3	66.4
Dec-25	65.2	60.5	60.1	68.2	60.8	54.3	55.8	39.6	50.2	65.8
Feb-26	64.8	64.2	56.4	66.2	60.5	55.8	58.4	36.1	52.4	67.5
Average	65.16	64.63	57.97	66.38	58.41	52.42	52.69	37.06	49.50	65.02

The noise monitoring results for the period from April 2025 to February 2026 indicate that the average daytime noise levels at all monitored locations were within the prescribed standard limit of **75 dB(A)**. The average daytime noise levels ranged from **42.60 dB(A) at the Security Area**, which was **43.20% below the standard**, to **71.10 dB(A) at the Boiler Turbine Hall**, which was **5.20% below the standard**. The other monitored locations also recorded average daytime noise levels below the prescribed limit, with reductions ranging from **6.00% to 26.53%**. During nighttime, the average noise levels at all monitored locations were also within the prescribed standard limit of **70 dB(A)**. The average nighttime noise levels ranged from **37.06 dB(A) at the Security Area**, representing **47.06% below the standard**, to **66.38 dB(A) at the Boiler Turbine Hall**, representing **5.17% below the standard**. The remaining locations recorded average nighttime noise levels between **49.50 and 65.16 dB(A)**, which were **7.11% to 29.29% below the prescribed limit**. Overall, the monitoring results demonstrate that the ambient noise levels during both daytime and nighttime remained **within the applicable prescribed standards at all monitored locations** during the monitoring period.

ENVIRONMENTAL QUALITY AUDIT

Ambient Air Quality monitoring was carried out to assess the status of existing air quality within the industries complex as well as nearby vegetation area. Three air pollution parameters namely PM₁₀, PM_{2.5}, SO₂ and NO_x were measured during the survey. In order to assess the stack emissions, stack monitoring was carried out from a chimney of coal fired boilers as well from diesel generating sets. Monitoring and analysis of water and waste water discharges from disposal points were carried out. Work zone monitoring was carried out to know exposure concentrations. Noise levels were measured after identifying critical noise zones. Existing facilities for handling/disposal of solid waste were evaluated critically.

ENVIRONMENT QUALITY MANAGEMENT

The importance of Environmental Quality Audit is to make the industry aware of its usefulness and to promote new methods or process which will reduce or eliminate the discharge of various residues which find its way in the form of pollutants like wastewater, solid waste or noise and thereby preserving environmental quality.

Proper operation and maintenance practices also help in reducing emissions from the industry to avoid environmental quality deterioration. There are four components in environmental quality audit namely,

- Water pollution
- Air pollution
- Solid Waste
- Noise

FORM V for the year 2025-26

Environmental Statement for the financial year ending on 31st March on or before 30th of September every year.

PART -A

i.	Name and address of the owner/ Occupier of the industry operation or process	Mr. Arun Barik (Executive Director) M/s Allied Blenders and Distillers Limited at Survey No. 690/AA, 691/AA2 & 692, Village - Rangapur, Mandal - Pebberu, District - Wanaparthy, State - Telangana 509104.
ii.	Category	Red Category
iii.	List of Products	Rectified Spirit /Ethanol / ENA- 65,700 KLPA Power Plant - 6.5MW
iv.	Year of Establishment	2011
v.	Date of the last Environmental Submitted	20.09.2025

PART B

Water and Raw Material Consumption and

Avg. Water Consumption/Day for the FY 2025-2026 is as given below

Sr. No.	Purpose	Total water consumption-KLD
1	Process & CO2 Plant	335.9
2	Cooling Tower make up	346.5
3	Boiler feed	259.1
4	DM & softener	571.7
6	Domestic	11.43
Total		1524.63

Water Consumption Per Unit of Product

Name of Products	During the Previous Financial Year KL/T Product 2020-2021	During the Current Financial Year KL/T Product 2021-2022	During the Current Financial Year KL/T Product 2022-2023	During the Current Financial Year Product 2023-2024	During the Current Financial Year Product 2024-2025	During the Current Financial Year Product 2025-2026
Rectified Spirit /Ethanol/ENA	14.49 KL/KL of Product	11.98 KL/KL of Product	10.97KL/KL of Product	7.49 KL/KL of Product	8.4 KL/KL of Product	9.09 KL/KL of Product

Raw Materials Consumption

Raw Materials Consumption						
Name of the Raw Material	Raw Materials consumption 2020-21	Raw Materials consumption 2021-22	Raw Materials consumption 2022-23	Raw Materials consumption 2023-24	Raw Materials consumption 2024-25	Raw Materials consumption 2025-26
Maize / Jowar / Broken rice	2.11T/KL	2.094T/KL	2.064 T/KL	2.03 T/KL	2.09 T/KL	2.03 T/KL

PART C

POLLUTION GENERATED

(Parameters as Specified in the Consent Issues)

Pollution Discharged to Environment

During the financial year 2025-26, the plant implemented various measures for conservation of water and control of pollution. The water consumption and wastewater generation were assessed on the basis of ENA production. The specific water consumption was 2.00 KL/KL of ENA for process operations, 1.54 KL/KL of ENA for boiler feed, 2.06 KL/KL of ENA for cooling tower make-up and 3.40 KL/KL of ENA for DM water requirements. The wastewater generation was approximately 3.86 KL/KL of ENA from process operations, 0.19 KL/KL of ENA from boiler blowdown, 0.923 KL/KL of ENA from cooling tower blowdown and 0.056 KL/KL of ENA from the CO₂ plant. The wastewater generated from various process and utility operations was collected and treated through the installed wastewater treatment/ZLD system.

After treatment, approximately 3.16 KL/KL of ENA of treated/recycled water was reused within the plant, comprising 2.56 KL/KL of ENA for process requirements, 0.60 KL/KL of ENA for cooling tower make-up and 0.29 KL/KL of ENA for ash quenching. The reuse of treated water has contributed to reducing the requirement for fresh water and minimizing wastewater discharge.

As per the CFO amendment requirements, the stipulated recycling quantity is 7.90 KL/KL of ENA, while the fresh water consumption requirement is 9.09 KL/KL of ENA, against the overall CFO benchmark of 13.33 KL/KL of product. The actual water consumption and recycling figures should continue to be reviewed against the CFO conditions to identify further opportunities for increasing internal recycling and reducing fresh water consumption.

Air Emissions

Boiler stack emission monitoring carried out during April 2025 to March 2026 indicated that the annual average concentrations of SPM, SO₂ and NO_x were 38.74 mg/Nm³, 85.73 mg/Nm³ and 108.98 mg/Nm³, respectively. All three parameters were within the applicable limits stipulated in the CFO. The annual average SPM concentration was approximately 66.27% lower than the permitted limit, SO₂ was 85.70% lower, and NO_x was 86.40% lower than the respective permitted limits. The results indicate effective operation of the boiler and associated air pollution control systems.

Ambient Air Quality : Ambient air quality monitoring was carried out at Near Main Gate, Near Distillery Area, Near Power Plant and Near Godown Area for PM₁₀, PM_{2.5}, SO₂ and NO_x during 2025-26. The annual average PM₁₀ concentrations were 50.58, 40.28, 52.43 and 40.82 µg/m³, respectively, representing reductions of 49.42%, 59.72%, 47.57% and 59.18% against the applicable standard of 100 µg/m³. The annual average PM_{2.5} concentrations were 24.61, 18.82, 25.60 and 18.37 µg/m³, respectively, which were 58.98%, 68.63%, 57.33% and 69.38% lower than the applicable standard of 60 µg/m³.

The annual average SO₂ concentrations were 15.27, 17.42, 19.84 and 16.00 µg/m³, respectively, representing reductions of 80.91%, 78.23%, 75.20% and 80.00% against the applicable standard of 80 µg/m³. Similarly, the annual average NO_x concentrations were 28.16, 31.51, 35.98 and 30.07 µg/m³, respectively, representing reductions of 64.80%, 60.61%, 55.03% and 62.41% against the applicable standard. Overall, the ambient air quality monitoring results demonstrate that the monitored parameters remained well within the applicable NAAQS limits during 2025-26, indicating effective implementation of air pollution control measures and good operational practices.

Noise Environment

Noise monitoring during the period from April 2025 to February 2026 indicated that the average daytime noise levels at all monitored locations were within the prescribed limit of 75 dB(A). The average daytime levels ranged from 42.60 dB(A) at the Security Area to 71.10 dB(A) at the Boiler Turbine Hall, representing reductions of approximately 43.20% and 5.20%, respectively, against the applicable limit. During nighttime, the average noise levels were also within the prescribed limit of 70 dB(A). The levels ranged from 37.06 dB(A) at the Security Area to 66.38 dB(A) at the Boiler Turbine Hall, representing reductions of 47.06% and 5.17%, respectively. The monitoring results demonstrate that the ambient noise levels during both daytime and nighttime remained within the applicable prescribed standards throughout the monitoring period.

PART – D
Hazardous Waste

During 2025-26, approximately 1,480 liters of waste oil was generated from plant operations and maintenance activities. The waste oil was disposed of through authorized recyclers, in accordance with the applicable hazardous waste management requirements. The generation, storage and disposal of hazardous waste are being managed through designated storage arrangements and authorized disposal/recycling channels, with appropriate records maintained by the plant.

Hazardous Waste	Total Qty.	Total Qty.	Total Qty.	Total Qty.	Total Qty.	Total Qty.
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
From Process	NIL	Nil	Nil	Nil	Nil	Nil
From Pollution Control Equipment	NIL	Nil	Nil	Nil	Nil	Nil
Waste oil	1600 LPA	1595 LPA	940 LPA	2440 LPA	0	1480 LPA

PART E

SOLID WASTES

SOLID WASTES						
Ash From Boiler	Total Qty.	Total Qty.	Total Qty.	Total Qty.	Total Qty.	Total Qty.
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
	TPA	TPA	TPA	TPA	TPA	TPA
	2358.49	9002.335	10731	13516.17	15388.07	15300.4

The major solid wastes generated during the year included plastic waste and ETP sludge.

Approximately 12.535 tones of plastic waste was generated during the financial year. The plastic waste was managed through appropriate segregation and disposal/recycling channels in accordance with applicable plastic waste management requirements. Approximately 61,405 kg of ETP sludge **was generated during the year. The ETP sludge was utilized as** manure/soil conditioner, The plant also generates **ash** from boiler operations is 15300.4 TPA. which is disposed to brick manufacturing units. HDPE carboys 7438nos disposed to third parties

PART F

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

1. Coal Ash: This is mainly produced from the boiler house and ash is disposed of by selling for brick making.

The disposal quantity is about 15300.4 TPA during the year 2025-26

2. Waste Oil: waste oil generation is 1480 LPA and we have to disposal authorized recyclers.
3. DDGS/DWGS Generation and Disposal is 24738.63 TPA during the year 2025-26
4. CO2 by product Generation and Disposal is 11571.28TPA during the year 2025-26

PART G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

The pollution control and resource conservation measures implemented during 2025-26 have contributed significantly to the conservation of natural resources and improvement in environmental performance.

The reuse of treated wastewater within the process, cooling tower and ash-quenching operations has reduced the dependence on fresh water. Approximately 3.16 KL/KL of ENA of treated water was reused, comprising 2.56 KL/KL for process use, 0.60 KL/KL for cooling tower make-up and 0.29 KL/KL for ash quenching.

The operation of wastewater treatment and recycling systems has helped in minimizing wastewater discharge and promoting a water conservation and reuse approach.

The use of broken rice, coal and husk **as major process/energy inputs was recorded at approximately 2.03 T/KL of ENA, Coal 0.9137 T/KL of ENA and Husk 0.295 T/KL of ENA, and Diesel consumption was approximately 1.0 litre/KL of ENA.**

The effective operation of air pollution control systems resulted in stack emissions of SPM, SO₂ and NO_x remaining substantially below the applicable CFO limits. Similarly, ambient air quality and noise levels remained within the applicable standards.

The beneficial utilization of ETP sludge as manure and recycling of waste oil through authorized recyclers further reduced the environmental burden associated with waste disposal.

Overall, the environmental measures have resulted in better utilization of water, reduction in waste generation/disposal requirements, recovery and reuse of resources, and improved pollution control performance.

PART H

Additional measures/ investment proposal for environmental protection abatement of pollution, prevention of pollution. Investment under the Corporate Social Reasonability (CSR & Welfare)

Details

During 2025-26, the plant continued to focus on strengthening environmental protection and resource conservation measures. The following additional measures are recommended/being pursued:

1. Increase treated wastewater recycling progressively to achieve the recycling quantity stipulated in the CFO amendment and reduce fresh water consumption.
2. Optimize water consumption in process, boiler, cooling tower and DM plant operations through regular water audits and identification of avoidable losses.
3. Continue regular monitoring and optimization of ETP/ZLD system performance to ensure maximum recovery and reuse of treated water.
4. Continue periodic monitoring of boiler stack emissions and ensure effective operation and maintenance of air pollution control systems.
5. Continue ambient air quality and noise monitoring at identified locations to assess the effectiveness of pollution control measures.
6. Strengthen solid and hazardous waste segregation, storage, record keeping and authorized disposal/recycling practices.
7. Continue beneficial utilization of ETP sludge as manure, subject to applicable quality and regulatory requirements.
8. Continue development and maintenance of the greenbelt/plantation area around the plant to improve dust attenuation, microclimate and overall environmental quality.

PART I

Miscellaneous

The plant has continued to implement various environmental protection measures during 2025-26. Regular monitoring of stack emissions, ambient air quality and noise levels was carried out, and the results were found to be within the applicable prescribed standards. The plant has adopted measures for water conservation and wastewater recycling, with treated water being reused for process operations, cooling tower make-up and ash quenching. Further enhancement of treated wastewater recycling is recommended to achieve the recycling quantity stipulated in the CFO amendment. The plant also maintained appropriate systems for management of hazardous waste, plastic waste, ETP sludge and other solid wastes. Waste oil amounting to 1,480 litres was sent to authorized recyclers, while 12.535 tones of plastic waste was managed through appropriate recycling/disposal channels. Approximately 61,405 kg of ETP sludge was utilized as manure.

Plantation and Greenbelt Development

During the year 2026, a total of 852 trees/plants were planted as part of the greenbelt and plantation development programme. The plantation included:

Sl. No.	Species	Number Planted
1	Ashoka Tree	165
2	Green Bamboo	330
3	Kadamba	120
4	Silver Oak	60
5	Royal Palm	62
6	Balaji Lemon	58
7	Orange	57
Total		852

The plantation programme is expected to contribute to dust attenuation, improvement of the local microclimate, carbon sequestration, enhancement of green cover and overall improvement of the environmental quality of the plant premises. Overall, the environmental performance during 2025-26 indicates that the plant has maintained effective pollution control systems and adopted measures for water conservation, wastewater recycling, air pollution control, noise management, waste utilization and greenbelt development. Continued efforts should focus particularly on increasing treated-water recycling from the present reported level of 3.16 KL/KL of ENA towards the CFO stipulated 7.90 KL/KL of ENA, subject to reconciliation of the water balance and actual ENA production figures.

AUDIT OBSERVATIONS

Based on the review of environmental monitoring data, water consumption, wastewater generation and treatment, air emissions, noise levels, chemical consumption and solid/hazardous waste management for the financial year 2025–26, the following observations

1. Water Consumption and Resource Efficiency

The average total water consumption during 2025–26 was reported as 1,524.6 KLD, with major consumption occurring in DM/softener systems, cooling tower makeup, process/CO₂ plant and boiler feed. The present water consumption indicates significant scope for further improvement through systematic water auditing and optimization of individual consumption streams.

The reported specific fresh-water consumption is approximately 9.09 KL/KL of ENA, against the CFO-related benchmark of 13.33 KL/KL of product, indicating that the unit is operating below the stipulated specific consumption level. However, the reported recycled-water utilization of 3.16 KL/KL of product, against the CFO amendment provision of 7.9 KL/KL of ENA, indicates further scope to increase internal recycling and reuse..

2. MEE and Condensate Management

The average MEE feed was 738.82 KLD, generating approximately 527.13 KLD of condensate and 170.66 KLD of concentrate. The recovered condensate is being utilized for process requirement.

3. ETP Performance and Chemical Optimization

The ETP treated an average wastewater flow of 205.37 KLD, corresponding to approximately 74,960 KL/year. The annual consumption of treatment chemicals was approximately 309,960 kg, resulting in an overall specific chemical consumption of about 4.14 kg/KL of wastewater treated.

The treated effluent quality remained within the reported applicable standards, with outlet pH, TSS, COD, BOD and oil & grease consistently below the respective limits.

4. Air Emission Management

The annual average boiler stack emissions were reported as 38.74 mg/Nm³ SPM, 85.73 mg/Nm³ SO₂ and 108.98 mg/Nm³ NO_x, all within the applicable CFO limits. The reported reductions against the permitted limits were approximately 66.27% for SPM, 85.7% for SO₂ and 86.4% for NO_x. The 1500 kVA DG set also demonstrated satisfactory emission performance, with annual average PM, NO_x and SO₂ concentrations significantly below the applicable limits.

5. Ambient Air Quality

Ambient air quality monitoring at four locations indicated that PM₁₀, PM_{2.5}, SO₂ and NO_x concentrations remained within the applicable NAAQS limits throughout 2025–26.

6. Noise Management

The average daytime and nighttime noise levels at the monitored locations were within the reported prescribed limits. However, the Boiler Turbine Hall recorded comparatively higher levels of 71.10 dB(A) during daytime and 66.38 dB(A) during nighttime, indicating that this area should continue to receive attention from an occupational and environmental noise-management perspective.

7. Hazardous Waste Management

Approximately 1,480 litres of waste oil was generated during the year and reportedly disposed of through authorized recyclers. The facility has designated arrangements for hazardous-waste storage and maintains records of generation and disposal.

8. Plastic Waste and Packaging Waste

Approximately 12.535 tones of plastic waste was generated during FY 2025–26 and managed through segregation and appropriate recycling/disposal channels. In addition, 7,438 nos of HDPE carboys were reported as being disposed of to third parties.

9. ETP Sludge Management

Approximately 61,405 kg of ETP sludge was generated during the year and reported to be utilized as manure.

10. Boiler Ash Management

The reported boiler ash generation was approximately 15,300.4 TPA, which was disposed of to brick-manufacturing units.

11. By-product Recovery and Circularity

The facility recovered significant quantities of by-products during the year, including approximately 24,738.63 MT of DDGS/DWGS and 11,571.28 MT of CO₂, in addition to fusel oil and impure spirit.

12. Environmental Performance Indicators

Although the unit is generally maintaining compliance with applicable environmental standards, the audit indicates an opportunity to strengthen the environmental management system through quantitative performance indicators.

- Fresh water consumption – 9.09KL/KL of ENA
- Wastewater generation – 5.63KL/KL of ENA
- Recycled water utilization – 3.16KL/KL of ENA
- ETP chemical consumption – 4.14 kg/KL of wastewater
- Boiler fuel consumption – 1.20Tones/KL of ENA
- Specific energy consumption – 51.90kWh/KL of ENA
- Ash generation and utilization – 0.249MT/month
- Waste oil generation – 0.024litres/KL of production
- CO₂ recovery – 0.189MT/KL of ENA
- DDGS/DWGS recovery – 0.404 Tones/KL of ENA
- Plastic waste generation 0.00020Tones/KL of ENA
- ETP Sludge Generation 1.0kg/KL of ENA
- Broken Rice 2.03Tones/KL of ENA

ETP Performance

Parameter	Average Inlet (mg/L)	Average Outlet (mg/L)	Reduction (mg/L)	Reduction (%)
Total Suspended Solids (TSS)	56.57	31.14	25.43	44.95%
Total Dissolved Solids (TDS)	1,428.14	348.86	1,079.28	75.57%
Chlorides	299.57	36.71	262.86	87.74%
Sulphates	42.86	17.71	25.15	58.67%
Total Solids	1,490.00	380.14	1,109.86	74.49%
Chemical Oxygen Demand (COD)	306.71	37.43	269.28	87.80%
Biological Oxygen Demand (BOD)	79.29	10.17	69.12	87.17%
Oil & Grease*	~1.01	~1.00	~0.01	~1.41%
Nitrate Nitrogen	3.80	1.16	2.64	69.55%

Stack emissions Reduction: The analysis of stack emission monitoring data indicates a significant improvement in the performance of the air pollution control systems. The **SPM emissions have been reduced by 66.27%**, while **SO₂ emissions have shown a substantial reduction of 85.71%**. Similarly, **NO_x emissions have been reduced by 86.40%**. These reductions indicate that the emission control measures implemented by the industry are effective in controlling particulate and gaseous pollutants. Overall, the observed reduction in stack emissions demonstrates improved environmental performance and effective operation of the installed air pollution control systems.