BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

O.A. NO. 411 OF 2025

IN THE MATTER OF:

Indrajeet ...Applicant

Versus

State of Haryana & Ors. …Respondents

INDEX

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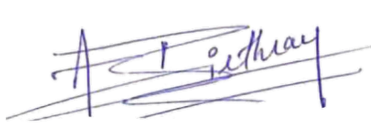

ABHISHEK BIRTHRAY/DIVYA JAIN
ADVOCATE ON BEHALF OF RESPONDENT NO. 4

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PRINCIPAL BENCH, NEW DELHI

O.A. NO. 411 OF 2025

IN THE MATTER OF:

Indrajeet ...Applicant

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ADDITIONAL AFFIDAVIT ON BEHALF OF RESPONDENT NO. 4

I Amarendra Senapati, s/o. Girish Chandra Senapati aged about 54 years authorised representative of Respondent No. 4. I have been duly authorised vide Power of Attorney dated by the Respondent No.4 and am fully acquainted with the facts and circumstances of the case, therefore, competent to swear and affirm this additional affidavit. A copy of the Board Resolution dated 12.6.2025 is annexed herewith as **Annexure-1.**

1. I say that this Hon'ble Tribunal vide order dated 11.03.2026 was pleased direct the Respondent herein to,

   "*... provide the total water usage and water balance indicating recycling and reuse of water and adopting ZLD for the unit.*"

2. In this regard I state that Panipat Refinery and Petrochemical Complex utilizes water judiciously in its processes and is focused on minimizing intake from external sources through reuse, recovery, and recycling. I further say that the Plant sources water from the refinery, which is utilized as make-up process water. Additionally, rainwater collected through the storm water channel is recycled to the PCTP section and reused within the system, particularly in view of the Plant operating at a lower capacity.

   The below stated quarterly water balance data for FY 2025–26 demonstrates consistent reuse of treated water and rainwater, along with available capacity in the PCTP for additional reprocessing of rainwater. A copy of water balance report for below mentioned Quarters is annexed herewith as **Annexure-2.**

Quarter	Water Intake from Refinery (MT)	Other water including rainwater recycle (MT)	Total Water used in the process (MT)	Outside Discharge (MT)	Capacity available for additional reprocessing of Rainwater in PCTP
Q1 (Apr-Jun'25)	51369	62701	114070	Nil	63.3%

NOTARY Reg. No. 11396 S.C. PATIL ADVOCATE PANIPAT Govt. of India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

Q2 (Jul – Sep'25)	24935	91246	116181	**Nil**	33.3%
Q3 (Oct – Dec'25)	64622	41369	105991	**Nil**	68.3 %
Q4 (Jan – Mar'26)	80168	34848	115016	**Nil**	78.3%

3. I say that there has been no discharge outside the Plant, thereby demonstrating strict adherence to environmental norms and the principle of zero liquid discharge. The quarterly data clearly establishes substantial reuse of rainwater and availability of additional capacity in the PCTP (ranging from 33.3% to 78.3%) for further reprocessing, if required. The above data also evidences that the Plant is operating within the prescribed environmental norms, with adequate infrastructure and available capacity to further enhance rainwater reuse and minimize dependence on external water sources.

4. I say that the Plant has always been in compliance with the statutory norms and never has there been any instance of violation of any norm by the Plant. It is pertinent to bring it to the kind attention of this Hon'ble Tribunal that the Plant is regularly visited by (a) Institute of Chemical Technology Mumbai(Nominated by Central Pollution Control Board), who on 13.09.2024 visited along with coordination with Respondent No.3 to Purpose of Audit: To ensure industries operate within the limits for wastewater discharge and air emissions as mandated by State Pollution Control Boards (SPCBs) and the CPCB to identify potential environmental hazards, such as chemical spills or inadequate waste management, to prevent environmental damage and legal liability and to evaluate the efficiency of effluent treatment plants (ETPs) and pollution control devices, recommending improvements to reduce waste at the source; (b) Commission for Air Quality Management Team comprising of officials of Respondent No.3 (MS HSPCB, CEE(HSPCB), SE (HSPCB), EE(HSPCB), AEE(HSPCB)), Director CAQM visited the Plant on 04.07.2025 (A copy of the gate pass dated: 03.07.2025 issued by Respondent No. 4 to facilitate the said visit is annexed herewith as **Anenxure-3)** and; (c) on 29.10.2025 Central Pollution Control Board representative visited the Plant to audit, monitor, control, and abate air pollution in Delhi-NCR and adjoining areas through scientific research, compliance tracking, and cross-state coordination and to ensure that the Plant operates within the limits for air emissions as mandated by State Pollution Control Boards (SPCBs).

5. I say that no violation of any statutory norm was observed, recorded, or reported by any of the aforesaid authorities during the said inspections, and no adverse finding of any nature was made against the Plant.

NOTARY Reg. No. 11399 S.C. PATIL ADVOCATE PANIPAT

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

6. I say that it is also pertinent to bring it to the kind attention of this Hon'ble Tribunal that the Respondent No.3 on 19.01.2026, received by the Respondent No. 4 on 05.03.2026, served a Show Cause Notice to submit compliance of the suggestions made by the Joint Committee. The said Show Cause Notice was duly responded in detail by the Respondent No. 4 on 19.03.2026 (within the time granted). A copy of each of the Show Cause Notice dated 19.01.2026 and reply of the Respondent No.4 dated 19.03.2026 are annexed herewith as **Annexure-4(colly).**

7. I say that it is pertinent to bring it to the kind attention of this Hon'ble Tribunal that instead of passing any order let alone a reasoned and speaking order on the said show cause notice, the Respondent in total arbitrary and high headed manner issued a notice on 22.04.2026, directing the Respondent No.4 to appear before the Environmental Compensation Finalization Committee on 23.04.2026 and present its case on levy of environmental compensation on the Plant . I say that the proposed levy of environmental compensation on the Plant purportedly in terms of the order dated 11.03.2026 of this Hon'ble Tribunal is arbitrary. A copy of the said Notice dated 22.04.2026 is annexed herewith as **Annexure-5.**

8. I say that the said notice, granting barely one day's time, is illusory and has been issued merely to create an impression of compliance with the principles of natural justice. It is further submitted that Respondent No. 4 has not been furnished with any order or material pursuant to which such environmental compensation is proposed to be levied, rendering the said notice dated 22.04.2026 arbitrary, non-transparent, and unsustainable in law. I say that the Respondent No.4 vide its reply dated 23.04.2026, lodged its protest to such short notice and sought one week time to make proper representation. The Respondent No.4 further informed through its said reply that it has not been served with any order passed by the competent authority. A copy of the said reply is annexed herewith as **Annexure-6**.

9. I say that the 2G Ethanol Plant ('Plant') at IOCL Panipat Refinery has been installed as per directives from GOI and it is 1st of its kind in the country aiming to enhance availability of bioethanol for meeting ethanol blending requirement in petrol, mitigate severe environmental problems caused by burning of paddy straw especially in North India, reduce import dependency of fossils fuel & opening avenues for incremental income to farmers.

Bioethanol is near carbon neutral renewable fuel which burns cleaner and helps in more complete combustion of petrol it is blended into due to presence of oxygen molecule. 2G Ethanol plant uses paddy straw (agricultural waste) as feed to produce ethanol. The design capacity of the Plant is 100 KL/day which is aimed to produce 3 crore litres of second-generation ethanol per year from 2,03,760 MT of paddy

NOTARY Reg. No. 11399 S.C. PATIL ADVOCATE PANIPAT

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

straw thereby saving around 282,066 MT of carbon -di-oxide emissions. I say that the plant has been running at lower capacity compared to design.

10. I say that since commissioning of the Plant in April 2023, the Plant has produced 43.26 lac litres of ethanol till date by using 61812 MT of Paddy Straw. which has resulted in estimated 85,565 MT of carbon di-oxide reduction.

11. I say that as there were factual inaccuracies in the observations of Joint Committee in its report dated 05.01.2026, the Respondent No.4, on 18.03.2025, filed its objections to the said report.

12. I say that several of the recommendations therein appear to be premised from the following assumptions:

- There is no segregation between storm water and waste water drains and the storm water drains carry trade effluent.
- Plant is discharging untreated wastewater from the collection tank into Drain 2 through a pipe-line which leads to Yamuna River.
- Presence of coloured water in the storm water drain indicate presence of leachate from sludge stored for sun drying.
- Plant does not have a sludge management plan in place.

13. In this regard, I say that the aforesaid assumptions are erroneous and contrary to the actual facts. The true and correct position is set out hereinbelow for the kind consideration of this Hon'ble Tribunal.

13.1 I say that the storm water drains and wastewater drains are independently designed in such a way that there is no possibility of discharging wastewater to outside open drain. A perusal of the layout plan of the Plant shows clear segregation of the storm water and process drains. I say that the notes of **M/s. Praj Industries Limited**, on the said layout plan, on whose indigenous technology the Plant is based, expressly records and denotes such segregation. The storm water drains are distinctly identified and highlighted in green in the said layout, leaving no ambiguity as to their separate alignment and function. A copy of the layout plan of the Plant is annexed herewith as **Annexure-7.**

13.2 I say that the process wastewater is generated in the Plant during product sampling, flushing, cleaning and maintenance process.

13.3 I say that the Plant has ten (10) effluent pits (shown in red) for the collection and re-processing of the process wastewater.

NOTARY Reg. No. 11399 S.C. PATIL ADVOCATE PANVEL Govt. of India

24 APR 2026

NOTARIAL REG. ENTRY NO..... 1113

13.4 I say that the nature and usage of said 10 effluent pits are detailed herein below:

Pit No.	Nature of Activity	Effluent Processed to	Outcome
1.	Wet Washing	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section → Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel component in biomass pellets.
2.	Pretreatment, Hydrolysis and Co-Fermentation	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section→Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel component in biomass pellets.
3.	Distillation & Dehydration	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section→Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel

NOTARY Regd. No. 11999 S.C. PATIL ADVOCATE Belgaum Govt. of India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

			component in biomass pellets.
4.	Evaporation	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section→Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel component in biomass pellets.
5.	Solid-Liquid Separation	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section→Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel component in biomass pellets.
6.	Bulk Chemical Storage	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section→Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel component in biomass pellets.
7.	Ethanol Product Day and bulk storage	Distillation & Dehydration Section	Reprocessing in Distillation & Dehydration Section

NOTARY Reg. No. 11399 S.C. PATIL ADVOCATE PANIPAT Govt. of India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

8.	Cooling Tower	Treated in UF & RO system	Treated water is stored in Treated Water Tank (T-1101) for reuse in the process
9.	Boiler	Treated in UF & RO system	Treated water is stored in Treated Water Tank (T-1101) for reuse in the process.
10.	DM water plant	Treated in UF& RO system	Treated water is stored in Treated Water Tank (T-1101) for reuse in the process.

13.5 I say that the said process wastewater (pit no. 1, 2,3,4,5 & 6) is pumped to solid liquid separation system (SLS) for reprocessing. In solid liquid separation section of the process, solid component of slurry is removed in the form of lignin cake through forced filtration. Lignin cake is thereafter used for making biomass pellets which are used by different vendors. Liquid part is sent to Evaporation section for further processing. At the Evaporation Section, the liquid part subjected to heating. After this heating process the process condensate and concentrated syrup are generated. The process condensate is sent to PCTP for further treatment and concentrated syrup is sold to vendors for utilization in making biomass pellet, CBG plants etc.

13.6 I say that the effluent from pit no(s). 8, 9 and 10 is re-utilised as make-up in cooling tower and wet washing section and for that purpose it is stored in the tank.

13.7 I say that PCTP consists of

- Anaerobic Hybrid Reactor (AHR),
- Aeration system (Conventional & Extended),
- Clarifiers (Primary & Secondary),
- Ultra-Filtration & Reverse Osmosis (UFRO) as main treatment equipment.

13.8 I say that the Treated Water, RO Reject and Sludge are generated in PCTP.

- Treated water is fertilized as water make-up in Cooling Tower and in the wet washing section

NOTARY Regd. No. 11380 S.C. PATIL ADVOCATE PANIPAT GOVT. of India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

- RO Reject is recycled to Evaporation section
- Sludge is further concentrated in Decanter.
- The concentrated sludge is temporarily collected in the Plant and used for land application/manure and water from Decanter is recycled to PCTP.

13.9 I say that the water in storm water channel which incidentally contains biomass dust is collected in storm water pond and from storm water pond it is pumped to PCTP (reflected in Layout plan) through overhead pipes for reprocessing and reutilization. Photographs showing the said overhead pipes are annexed herewith as **Annexure-8 (colly).**

13.10 I say that the above stated facts show that the process wastewater generated in the Plant is reused and recycled and is not discharged out of the Plant premises. I say that no effluent of any nature is discharged from the Plant into the storm water drain.

13.11 I say that no leachate is generated in the Plant. From a scientific standpoint, "leachate" is generated when liquid percolate through accumulated solid waste in an uncontrolled environment, thereby carrying soluble and suspended contaminants and potentially rendering such liquid hazardous in nature.

13.12 I say that the residue produced after the manufacture of ethanol is in the form of sludge, which is a stabilized process by-product, and is in semi-solid nature with marginal moisture content.

13.13 I say that the sludge generated in the Plant is a biological sludge and generated from wet washing section, screw press installed in clarifier and filter press in Effluent Treatment Section. I say that the process of de-watering the sludge is undertaken solely for the purpose of facilitating its reuse as manure/land application.

13.14 I say that the said biological sludge, which is non-hazardous in nature, is temporarily collected at designated place in the Plant (2 Locations) and further used for land application/manure. The designated sludge storage area is having RCC flooring with side walls that do not permit percolation or seepage. In case of any rain during any time which may come in contact with this biological sludge, while, the same would stay contained due to is having RCC flooring with side walls, however, even if in any event. any water escapes from this biological sludge, the same would percolate into adjacent process water drains.

NOTARY Reg. No. 11399 S.C. PATIL ADVOCATE PANIPAT India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

13.15 I say that, without prejudice to the above, even in case of overflow on account of heavy rainfall, the water shall only go into process channels and process effluent pits and will not go into storm water drain.

13.16 I say that residue from sludge is neither toxic or hazardous in nature nor is discharged into the storm water drain.

13.17 I say that the sludge is handled strictly in accordance with applicable environmental norms and standard operating practices, including controlled collection, storage and disposal/utilization.

13.18 I say that the Plant follows a structured sludge management system.

13.19 With respect to the presence of colored water in the storm water drain, it is submitted that the observed coloration is solely attributable to the incidental spillage of biomass, specifically paddy particles, generated during the shredding and milling processes. The biomass is supplied to the 2G Ethanol Plant in the form of bales and is initially subjected to size reduction through shredders. During this mechanical process, a certain quantity of biomass dust is inevitably generated. This dust, consisting primarily of paddy residues, may occasionally come into contact with stormwater, leading to discoloration. It is respectfully clarified that such biomass material is organic, biodegradable, and non-toxic in nature, and does not pose any adverse environmental or pollution-related risks. Photograph of the paddy storage and grinding process is annexed herewith as **Annexure-9 (Colly).** Furthermore, appropriate operational and housekeeping measures are being taken to avoid such occurrences as well. Details of the same were provided in para no. 11 hereof.

13.20 I say that the pipe-line which the Joint Committee in its report dated 05.01.2026 has suggested to be dismantled, was approved under the CTO issued by HSPCB exclusively for discharge of excess storm water during intense rainfall events, after meeting the prescribed conditions.

13.21 I say that the said line was temporarily utilized during the construction phase solely for the discharge of hydro-tested water generated during tank installation activities. Upon completion of construction, the said line was physically blinded, rendering it non-operational since inception. Thereafter, for clarity purposes, the disconnected pipe was further capped at the outlet fall point I say that with aforementioned arrangements there was and is no possibility of any discharge from this line.

NOTARY Reg. No. 11388 S.C. PATIL ADVOCATE PANAJI Govt. of India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

13.22 I say that till date, the Plant has successfully collected, treated, and reused 100% of the storm water and process wastewater generated within the premises, and no water, since hydrotesting, has ever been discharged into Drain No. 2 or into river Yamuna.

14. I say that the Plant has already implemented robust preventive measures to protect groundwater and surface water. Total 18 nos. rainwater harvesting pits have been constructed in the Plant in which only clean roof-top rainwater is diverted to the rainwater harvesting pits to ensure that there is no possibility of contamination or mixing of storm water with recharge water. Accordingly, no stormwater, other than the clean rooftop rainwater collected through the designated harvesting system, is utilized for groundwater recharge.

15. I say that, since the Plant is operating at a very low capacity, the process condensate generation is also significantly lower than the design capacity of 1,440 m^3 per day. Accordingly, till date, the Plant has efficaciously collected, treated and reused all generated storm water and process effluent within the process system itself. I say that the Respondent No.4 has since the beginning of Plant operation ensured that the storm water does not get mixed with the effluent generated in the Unit.

16. The below stated data would show that even with maximum rainfall (considering since commissioning of the plant), at current capacity, sufficient storage is available:

Actual througput and max. actual rainfall (As per IMD report)				
S.N.	**Attribute**	**UOM**	**Value**	**Remarks**
a	Total Inflow	KL/day	1008 (= 42 x 24)	
	Max. Rain monthly rain fall as per IMD Report	mm/month	291.9	Max rain fall has been observed in Jul 2023 as per IMD Report.
		mm/day	9.42	
b	Total rain fall received in 2G ethanol plant	KL/day	1257.84	
c	Processing capacity	Kl/day	1440 (= 60 x 24)	
d	Net Inflow	KL/day	825.84 (a + b – c)	
e	Total available storage	KL	4247 (Storm water pond: 3470 KL; PCTP Tank: 777)	Sufficient storage capacity available for processing of storm water with max rain

With the above stated, even if the plant was to run on 100% of its capacity, it shall have sufficient storage available for procession of storm water with maximum rain:

NOTARY Regd. No. 11369 S.C. PATIL ADVOCATE PANIPAT Govt. of India

24 APR 2026

NOTARIAL REG.
ENTRY NO. 1113

Max. throughout and max. actual rainfall (As per IMD report)				
S.No.	**Attribute**	**UOM**	**Value**	**Remarks**
a	Total Inflow	KL/day	1440	
	Max. Rain monthly rain fall as per IMD Report	mm/month	291.9	Max rain fall has been observed in Jul 2023 as per IMD Report
		mm/day	9.42	
b	Total rain fall received in 2G ethanol plant	KL/day	1257.84	
c	Processing capacity	Kl/day	1440 (= 60 x 24)	
d	Net Inflow	KL/day	1257.84 (a + b – c)	
e	Total available storage	KL	4247 (Storm water pond: 3470 KL; PCTP Tank: 777)	Sufficient storage capacity available for processing of storm water with max rain

17. I say that, the Plant is in full compliance with the CTO conditions.

18. I say that that the Plant is operating strictly in ZLD mode, as mandated under the EC granted by MoEF&CC and the CTO granted by HSPCB.

19. I say that in any event, considering the biomass management, additional proactive and preventive measures, in the event when the Plant will be running at its full capacity, are diligently undertaken to ensure continued strict adherence to applicable norms and safeguards:

    a. Blocking of internal channels at seven (7) identified locations.
    b. Reversing flow directions at selected locations.
    c. As an additional safeguard one partition is being created in storm water pond.
    d. Continue to treat channels in contamination-prone areas (boiler, wet washing, PT section, SLS) as process water channels.
    e. Creation of an additional collection pit near the wet washing section for biomass-laden storm water, routed to SLS / lagoon tank for reprocessing.
    f. Provision of dedicated pumping systems for storm water and contaminated water (which comes in contact with Biomass) for enhanced management and handling.
    g. To ensure continuous compliance and transparency, an OCEMS online analyser shall be installed at the storm water discharge line to Drain No. 2 and integrated with HSPCB and CPCB online portals.

NOTARY Regd. No. 11356 S.G. PATIL ADVOCATE PANIPAT of India

24 APR 2026

NOTARIAL REG. ENTRY NO. 1113

20. I say that the Respondent No.4 is committed to ensuring that the Plant operates in full compliance with all applicable statutory and environmental norms, and that its operations remain aligned with environmental safeguards and standards

DEPONENT

अमरेन्द्र सेनापति
Amarendra Senapati
महाप्रबंधक (स्वा.सु.एवम्.प.और उ.सु.प्र.)
General Manager (HSE&PSM)
पानीपत रिफाइनरी (आई.ओ.सी.एल.) 132140
Panipat Refinery (I.O.C.L.) 132140

VERIFICATION:

Verified at Panipat on this 24th day of April, 2026 that the contents of above affidavit are true and correct to my knowledge and no part of the same is false and nothing material has been concealed therefrom.

DEPONENT

अमरेन्द्र सेनापति
Amarendra Senapati
महाप्रबंधक (स्वा.सु.एवम्.प.और उ.सु.प्र.)
General Manager (HSE&PSM)
पानीपत रिफाइनरी (आई.ओ.सी.एल.) 132140
Panipat Refinery (I.O.C.L.) 132140

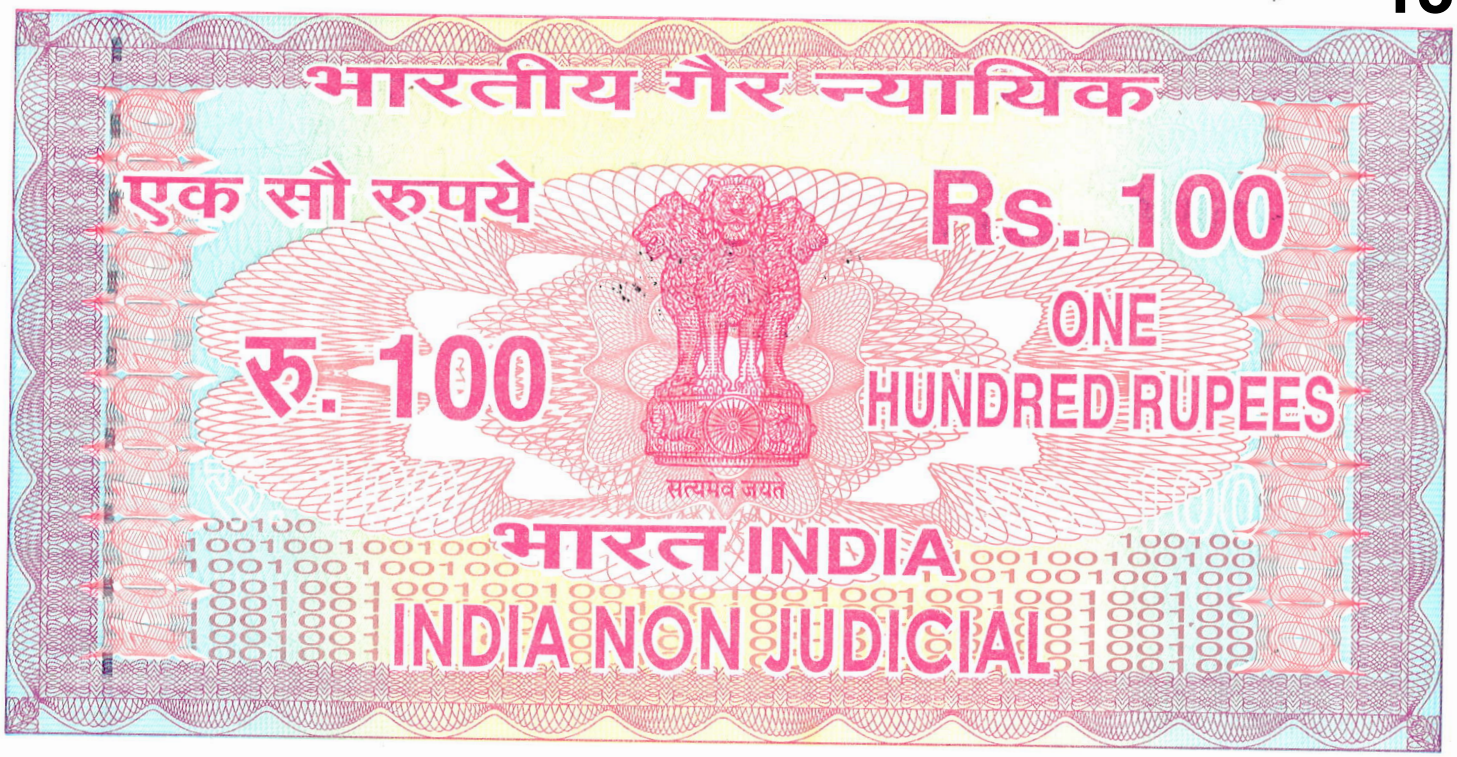
NOTARY
Regd. No. 11399
S.C. PATIL
ADVOCATE
PANIPAT
Govt. of India

ATTESTED
Notary, PANIPAT
24 APR 2026

1113

Certified that the above was declaration
Verification before me at Panipat
by the deponent who has identified by
Sh. .....

Notary, PANIPAT



हरियाणा HARYANA

Z 953593

GENERAL POWER OF ATTORNEY

WHEREAS in pursuance of Resolution passed by Board of Directors of Indian Oil Corporation Limited (IOCL), a company incorporated under the Companies Act having its registered office at G-9 Ali Yavar Jung Marg, Bandra (East), Mumbai-400 051, at their meeting held on 17.07.2024, an approval was accorded for granting a General Power of Attorney in favour of SHRI ARVIND KUMAR, DIRECTOR (REFINERIES) of IOCL interalia authorizing him to sub-delegate powers in favour of officials of the Refineries Division.

AND WHEREAS in pursuance of above, General Power of Attorney dated 24.07.2024 was issued in favour of SHRI ARVIND KUMAR, DIRECTOR (REFINERIES) of IOCL.

AND WHEREAS in exercise of the powers and authorities, including power of sub-delegation, conferred on SHRI ARVIND KUMAR, DIRECTOR (REFINERIES) of IOCL, duly appointed, constituted Attorney of the Corporation, do hereby, nominated, constituted and appointed Sh. M.L. DAHRIYA, EXECUTIVE DIRECTOR & REFINERY HEAD, PANIPAT REFINERY AND PETROCHEMICAL COMPLEX, P.O. Panipat Refinery, Distt. Panipat, Haryana, as his Attorney and Attorney of the IOCL with full power and authority, including power of sub-delegation, to do and execute the defined acts, deeds, matters and things or any of them as mentioned in the Power of Attorney dated 06.08.2024.

AND WHEREAS in pursuance of above, I, **M L Dahriya, Executive Director & Refinery Head,** Indian Oil Corporation Limited, Panipat Refinery & Petrochemical Complex, P.O. Panipat Refinery, Distt. Panipat, Haryana, holding Power of Attorney dated 06.08.2024, do hereby appoint the following officers of Panipat Refinery & Petrochemical Complex (hereinafter called "the Attorney") as my Attorney and the Attorney of the said corporation with full power and authority to do and execute the following acts, deeds, matters and things or any of them, that is to say:

1. To institute, appear in, defend, prosecute, conduct, refer to arbitration, abandon, settle, adjust and compound any legal and other proceedings, claims, actions, demand or

dispute whatsoever by or against the Corporation or in which the Corporation may be concerned or interested including taking of all necessary actions required to protect the interest of the Corporation.

2. To appear before all the tax authorities established / created under the various tax laws, to sign and file returns, produce accounts, suffer and pay assessment of taxes, to accept service of processes, to make all applications, correspondence, appeals statements, revision applications, petitions and motions in all taxation matters including approaching any High Court or Supreme Court of India and to claim recover, receive and adjust all refunds of taxes, levies, duties, fees, etc.

3. To appoint or discontinue or substitute Income Tax Experts, Solicitors or Advocates; Counsel, Chartered Accountants and to appear and act on his behalf and on behalf of the Corporation in all or any of the taxation matters before any authorities, Courts and Tribunals.

4. To sign, verify, declare and execute Vakalatnamas, plaints, written statements, counter claims, petitions, appeals, reviews, applications, affidavits, power of attorney and papers of every description that may be necessary to be signed, verified and executed for the purpose of any suit, auctions, appeals, reviews, legal applications, arbitrations, criminal or civil proceedings and proceedings of any kind whatsoever in any court of law or justice whether of Original, Appellate, Testamentary or Revisional jurisdiction established by lawful authority or any other authority.

5. To appear before all civil, criminal, revenue, judicial and quasi-judicial officer or offices exercising administrative functions and before all local and public or other bodies and authorities as occasion may require.

6. To enter into, to become parties to, to sign, to seal, to execute and if necessary, to register / cause to be registered all instruments, deeds, agreements, contracts, receipts, indemnities, counter indemnities, guarantees, counter-guarantees, bonds, and / or other documents for and on behalf of the Corporation.

7. To sign, endorse, deliver and register mortgages, transfer of mortgages, pledges, hypothecations, charges, releases, re-conveyances, conveyances, exchanges, assignments and /or any other documents or deeds that may be deemed necessary by the said Attorney or which occasion may require.

8. To take on lease, hire, rent, sub-lease, leave and license, or otherwise howsoever, any movable or immovable property required for the purpose of the business of the Corporation at such rent, hire charges, compensation or fee or consideration and on conditions as he may think fit.

9. To contact with any person for leasing, giving on lease and license or in any other mode subject to such conditions as the said Attorney shall see fit or any of the premises and any such persons to let into possession thereof and to set fines for new leases, to accept surrenders of leases and to sign and give lawful notices to quit to any tenants or tenants of the said land, lands and hereditaments.

10. To demand, sue, recover and receive all or any sums of money, debts, dues, chattels, goods, effects, merchandise and things of whatsoever nature of description which at any time hereafter shall or may become due to or payable to or deliverable to or recoverable by or belonging to the Corporation (either solely or jointly with others) by virtue of any security, bond, bill, accounts, note, or in any other way and manner whatsoever and all interest due in respect thereof.

11. For all or any of the purpose aforesaid, to execute all such bonds, guarantees, indemnities, covenants, obligations, and to enter into, sign and execute all necessary documents, instruments assurances deeds, conveyances, leases, mortgages, assignments, surrenders, releases and transfers whatsoever on behalf of the Corporation as the said Attorney may think necessary and proper.

12. For the purpose of the business and affairs of the Corporation to enter into such arbitration agreements, submissions and references and to appoint such arbitrators or umpires or nominees of the Corporation as the said Attorney may deem fit and proper.

13. To cause these presents to be registered in the books of any company or Corporation whatsoever or in any Public or Government offices or elsewhere as occasion may require.

14. To concur in doing any of the acts and things hereinbefore mentioned in conjunction with any other person or persons interested in the premises.

15. And generally, to make all such arrangement and to do all such acts, deeds, matters and things on behalf of the Corporation as may be usual, necessary or expedient in the conduct and management of their business.

Sl.No.	Name (S/Sh.)	Designation
1	Ajay Kaila	Executive Director (Core Group)
2	Churaman	Executive Director (Projects)
3	Sudhanshu Shekhar	Chief General Manager
4	P K Sinha	Chief General Manager (Projects)
5	S M Naik	Chief General Manager (Projects)
6	Hemant Agarwal	Chief General Manager (Tech Services)
7	Nabajyoti Bora	Chief General Manager-ES & Inspection, M&C
8	Rajesh K Ganvir	Chief General Manager (H,S&E)
9	Ritesh Thapliyal	Chief General Manager (P&U-Instt)
10	Kushal Chaudhuri	Chief General Manager (Technical)
11	Om Prakash	Chief General Manager (Human Resource)
12	Vikas Gupta	Chief General Manager (Projects)
13	Rakesh Kumar Dubey	Chief General Manager (Finance)
14	Manish Tewari	Chief General Manager (Core Group)
15	Subhash Kumar Sinha	General Manager (Projects)
16	Amy Gurtoo	General Manager (Mat & Cont)
17	B K Barman	General Manager (Maint)
18	Kaushik Boral	General Manager (ES & Inspection)
19	Sandeep Mahajan	General Manager (Production)
20	Amarendra Senapati	General Manager (Projects)
21	Sham Lal Bangotra	General Manager (P&U-Instt)
22	Sushil Kumar Gupta	General Manager (Tech Services)
23	Chandan Pal	General Manager (Production)
24	Jignesh Mahendrarai Bhachech	General Manager (P&U-Instt)
25	Mritunjay Singh	General Manager (Core Group)
26	Satyajeet Singh	General Manager (Maint)
27	Kalyan Upadhayay	General Manager (Mat & Cont)
28	Sumit Anand	General Manager (Finance)

NOTARY Regd. No. 2438 D.P. SHARMA ADVOCATE PANIPAT (HR.) Govt. of India

29	Kundan Kumar Jha	General Manager (Fire & Safety)
30	Angshuman Bhattacharya	General Manager (Human Resource)
31	Jayant Kumar	General Manager (HS&E & Pro Safe Mangt)
32	Shashi Kant Kumar	General Manager (Production)
33	Sanjay Kumar	General Manager (Employee Services)
34	Vikas Kumar	General Manager (Production)
35	Manav Gedam	General Manager (Tech Services)
36	Chandan Kumar Sinha	Dy General Manager (Production)
37	Kingshuk Sen	Dy General Manager (H,S&E)
38	Purnendu Kumar Dash	Dy General Manager (Instt)
39	Rajesh Supkar	Dy General Manager (Maint-Elect)
40	Sulochan Sen Kumar	Dy General Manager (Fire & Safety)
41	Bijay Kumar Muduli	Dy General Manager (Inspection)
42	Prasanta Bora	Dy General Manager (Materials)
43	Vana Srinivas	Dy General Manager (Projects)
44	Dinesh Singh	Dy General Manager (Contracts)
45	Debojyoti Barua	Dy General Manager (Employee Services)
46	S S Meshram	Dy General Manager (Info Systems)
47	Mohit Rastogi	Dy General Manager (Tech Services)
48	Dinesh Jain	Dy General Manager (Maint)
49	Anil Priya Gautam	Dy General Manager (Maint)
50	Sandip Maji	Dy General Manager (Production)
51	Anil Kumar Mittal	Dy General Manager (Core Group)
52	Diwakar Chaturvedi	Dy General Manager (Projects)
53	Charles Sargunaraj R N	Dy General Manager (Instt)
54	Bhabani Prasad Sahu	Dy General Manager (Maint-Civil)
55	Kumar Ojaswi	Dy General Manager (Maint-Elect)
56	Satyander Singh Saini	Dy General Manager (Tech Services)
57	Sudarshan Kumar	Dy General Manager (Inspection)
58	Rajesh Kumar Pandey	Dy General Manager (Production)
59	Vijay Angral	Dy General Manager (Projects)
60	Mohammad Arshad Hussain	Dy General Manager (Vigilance)
61	Manoranjan Sinku	Dy General Manager (Contracts)
62	Anandaraj K.	Dy General Manager (Production)
63	Biju Shah	Dy General Manager (Tech Services)
64	Shrikant Gajbhe	Dy General Manager (Fire & Safety)
65	Vishal Mittal	Dy General Manager (Maint)
66	Manoj Jain	Dy General Manager (Power & Utilities)
67	Naresh Kumar	Dy General Manager (Power & Utilities)
68	Piyush Diwakar	Dy General Manager (Production)
69	Rajvinder Singh	Dy General Manager (Engg Services)
70	Hiraram Sahu	Dy General Manager (Materials)
71	Chandan Sahoo	Dy General Manager (Production)
72	M K Yadav	Dy General Manager (Projects)
73	Dr Yajuvendra Singh Jhala	Dy General Manager (Quality Control)
74	E Panthya	Dy General Manager (Tech Services)

75	Nitinkumar Dineshchandra Shah	Dy General Manager (Projects)
76	Vijay Kumar	Dy General Manager (Core Group)
77	Codati Karthik	Dy General Manager (Core Group)
78	Anush Raj	Dy General Manager (Core Group)
79	S Shiv Kartik	Dy General Manager (Finance)
80	Pankaj Tripathi	Dy General Manager (MS, LRN & DEV)
81	Shailendra Kumar Sinha	Dy General Manager (Maint)
82	R A Tongale	Dy General Manager (Rel & Turnaround)
83	Ravindra Bhagwan Dhumale	Dy General Manager (Maint-Civil)
84	Vikrant Sharma	Dy General Manager (Production)
85	Jigneshkumar Nandkishor Desai	Dy General Manager (Production)
86	Ranjit Kumar	Dy General Manager (Projects)
87	R K Pathak	Chief Manager (Employee Services)
88	Asutosh Pandey	Chief Manager (Employee Services)
89	Shantanu Pramanik	Chief Engg Services Manager
90	Kanhaiya Kr Singh	Chief Materials Manager
91	Vipin Gupta	Chief Inspection Manager
92	Balasubramaniyan Ramachandran	Chief Production Manager
93	Rajendra Prasad	Chief Tech Services Manager
94	Dipankar Phukan	Chief Tech Services Manager
95	Manoj Kumar Yadav	Chief Tech Services Manager
96	Samir Kumar Sinha	Chief Maintenance Manager (Civil)
97	Himanshu Uniyal	Chief Maintenance Manager (Civil)
98	Rajeev Kumar	Chief Maintenance Manager (Civil)
99	Akhilesh Gupta	Chief Instrumentation Manager
100	Dr Hemant Kumar Singh	Chief Quality Control Manager
101	Sivaraman Sankar	Chief Maintenance Manager
102	Vivek Chandra	Chief Maintenance Manager
103	Manish Chandra Bhatt	Chief Maintenance Manager
104	Vishal Singh	Chief Power & Utilities Manager
105	Pradeep Kumar	Chief Manager (Fire & Safety)
106	Sumit Singhal	Chief Manager (H,S&E)
107	Dada Tanbaji Nannaware	Chief Maintenance Manager (Elect)
108	Nityananda Mit	Chief Maintenance Manager (Elect)
109	Ashish Khandelwal	Chief Maintenance Manager (Elect)
110	Utkalika Mohanty	Chief Maintenance Manager (Elect)
111	Sanjay Kumar Yadav	Chief Maintenance Manager (Elect)
112	Harendra Singh Jhinkwan	Chief Instrumentation Manager
113	Brijendra Kumar Meena	Chief Instrumentation Manager
114	Ashwani .	Chief Instrumentation Manager
115	Pankaj Kumar	Chief Manager (Security)
116	Janardan.	Chief Production Manager
117	Vishwanath Chourasia	Chief Production Manager
118	Suraj Sharma	Chief Production Manager
119	Nittya Nand	Chief Production Manager
120	Awdhesh Kumar Mishra	Chief Production Manager

121	Deena Nath Yadav	Chief Production Manager
122	Rakesh Kumar	Chief Production Manager
123	Madan Uttam	Chief Production Manager
124	Jagjit Singh	Chief Production Manager
125	Ashok Kumar Mahajan	Chief Manager (Contracts)
126	Davinder Jeet Singh	Chief Project Manager
127	Ravindra Kumar	Chief Project Manager
128	Kishore Kumar Bhagat	Chief Project Manager
129	Sanjay Kumar Bachchan	Chief Project Manager
130	Mayank Garg	Chief Project Manager
131	Ujjwal Mishra	Chief Employee Relations Manager
132	Ravinder Singh	Senior Project Manager
133	Arvind Kumar	Senior Project Manager
134	Vivek Dwivedi	Senior Project Manager
135	Prahlad Prasad Kushwaha	Senior Project Manager
136	Manoj Kumar	Senior Project Manager
137	Prem Kumar Basavaiah	Senior Project Manager
138	Priyankar	Senior Project Manager
139	Shahnawaz Niyaz	Senior Project Manager
140	Bal Krishna Maurya	Senior Project Manager
141	Santanu Paul	Senior Project Manager
142	Jayakumar Kaliyaperumal	Senior Project Manager
143	Lal Babu	Senior Project Manager
144	Kamal deep Chawla	Senior Production Manager
145	Mahesh Ram Arya	Senior Production Manager
146	Rajiv Vats	Senior Production Manager
147	B S Patwa	Senior Manager (Employee Services)
148	Joginder Kumar	Senior Manager (Employee Services)
149	Avinash Kumar	Senior Instrumentation Manager
150	Sanup Kumar	Senior Instrumentation Manager
151	Anindya Mukherjee	Senior Instrumentation Manager
152	Umesh Chandra Verma	Senior Instrumentation Manager
153	Anuraj Gupta	Senior Manager (Process Safety Managt)
154	Pradeep Kumar	Senior Manager (Fire & Safety)
155	Vijay Kumar Sinha	Senior Power & Utilities Manager
156	Somnath Chattapadhyay	Senior Power & Utilities Manager
157	Anuj Garg	Senior Maintenance Manager
158	Pankaj Verma	Senior Maintenance Manager
159	Antony Joseph	Senior Maintenance Manager
160	Dr. Navneet Maheshwari	Senior Quality Control Manager
161	Avinash Xalxo	Senior Engg Services Manager
162	Pardha Saradhi Sundru	Senior Engg Services Manager
163	Jayanta Kumar Basak	Senior Engg Services Manager
164	Sandeep Bansal	Senior Materials Manager
165	Vinod Kumar Malik	Senior Materials Manager
166	Apeksha Singh	Senior Manager (Contracts)

NOTARY Regd. No. 2438 D.P. SINDHAL ADVOCATE PANIPAT Govt. of India

167	Rajeev Bachra	Senior Projects Manager
168	Santosh Kumar Pandey	Senior Projects Manager
169	Ravi Shankar Tiwari	Senior Power & Utilities Manager
170	Sudeep Kansal	Senior Power & Utilities Manager
171	Shrikant Sudhakar Kulkarni	Senior Power & Utilities Manager
172	Shriman Narayan Mani Tripathi	Senior Materials Manager
173	Ravi Kant Verma	Senior Materials Manager
174	Atul Prasad	Senior Production Manager
175	Nikhil Anand	Senior Tech Services Manager
176	Asha Mangipudi	Senior Tech Services Manager
177	Irshad Ahmad	Senior Manager (Fire & Safety)
178	Vishal Kumar	Senior Maintenance Manager (Civil)
179	Vikash Kumar	Senior Maintenance Manager (Civil)
180	Dr. Geeta Dutta	Additional Chief Medical Officer
181	Vivek Sharma	Senior Manager (Corp Comm & CSR)
182	Sugandha Dogra	Senior Manager (Law)
183	Shivendra Singh Chouhan	Manager (Contracts)
184	Sanjay B Jogiya	Materials Manager
185	Gopal Ji	Materials Manager
186	Narender Kumar	Materials Manager
187	Ajay Kumar	Materials Manager
188	Ankit Kumar Gangwar	Maintenance Manager (Civil)
189	Pardeep Singh Bankoti	Maintenance Manager (Civil)
190	Rinku Yadav	Maintenance Manager (Civil)
191	Umesh Das	Maintenance Manager (Civil)
192	Dheeraj Verma	Manager (H,S&E)
193	Ajit Singh Jaloriya	Assistant Manager (H,S&E)
194	Anirudh Singh Kotwal	Assistant Manager (Employee Relations)

Any act by the above-mentioned officers by virtue of these presents shall be binding on the company-Panipat Refinery & Petrochemical Complex.

In witness thereof, seal of Indian Oil Corporation Limited (Refineries Division), Panipat Refinery & Petrochemical Complex is hereunto affixed, signed, sealed and delivered by Shri **M L Dahriya, Executive Director & Refinery Head** of the said company on this day 12th June 2025.

(M L Dahriya)
Executive Director & Refinery Head
Panipat Refinery & Petrochemical Complex

Witness:

1)

2)

Ujjwal Mishra
Chief Employee Relations Manager
Panipat Refinery (I.O.C.L.) 132140

Anirudh Singh Kotwal
Assistant Manager (ER)
Panipat Refinery & Petrochemical Complex

M L Dahriya
ED & REFINERY HEAD
Panipat Refinery (I.O.C.L.) 132140

NOTARY
Regd. No. 2438
D.P. SINDHAL
ADVOCATE
PANIPAT
Govt. of India

ATTESTED
Notary, PANIPAT
12/6/2025

2G Ethanol Plant : Operation data & water balance (April'25-June"25)

	in (MT)
Steam	33576
Raw Water in	51369
Moisture in Biomass	2070
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.04.2025	8531
Rain Water recycle	18355
Total of last three month	**114070**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	349
Evaporation loss (Cooling Tower)	96096
Moisture loss from Boiler Stack Loss (Biomass burnt)	647
Moisture in Lignin	1863
Moisture in Syrup	815
Moisture in Wet washing Mud	6117
Moisture in PCTP Sludge	860
Drinking water	228
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 30.06.2025	7095
Total of last three month	**114070**

Total biomass consumed in last three months	8279	MT
Total Ethanol Produced in last three months	643	KL
Lignin generated in last three month	3508	MT
Syrup Generated in last three month	1685	MT

PCTP Processing	47082	MT
[Rain Water+ Process Comndensate+ETP Reject]	22	MT/h

ETP Processing	35945	MT
CT Blow Down/ DM reject/ Boiler Blow Down	17	MT/h

Surface Area of 2G plant	133546.4	M2
Total Rainfall (approx) [April-June'25]	21594.4	MT

April'25	0.013
May'25	0.113
June'25	0.036

* Steam is being taken from refinery as temporary arrangement.

Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)	Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)	Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)
10/1/2025	302	11/1/2025	47	12/1/2025	0	10/1/2025	0	11/1/2025	27	12/1/2025	0	10/1/2025	0	11/1/2025	80	12/1/2025	92
10/2/2025	53	11/2/2025	47	12/2/2025	0	10/2/2025	29	11/2/2025	27	12/2/2025	0	10/2/2025	65	11/2/2025	108	12/2/2025	0
10/3/2025	69	11/3/2025	47	12/3/2025	19	10/3/2025	41	11/3/2025	26	12/3/2025	0	10/3/2025	60	11/3/2025	130	12/3/2025	33
10/4/2025	47	11/4/2025	0	12/4/2025	15	10/4/2025	30	11/4/2025	143	12/4/2025	0	10/4/2025	30	11/4/2025	139	12/4/2025	0
10/5/2025	47	11/5/2025	170	12/5/2025	0	10/5/2025	30	11/5/2025	214	12/5/2025	0	10/5/2025	56	11/5/2025	115	12/5/2025	0
10/6/2025	0	11/6/2025	298	12/6/2025	0	10/6/2025	0	11/6/2025	192	12/6/2025	0	10/6/2025	125	11/6/2025	105	12/6/2025	0
10/7/2025	113	11/7/2025	138	12/7/2025	2	10/7/2025	0	11/7/2025	15	12/7/2025	0	10/7/2025	49	11/7/2025	90	12/7/2025	0
10/8/2025	151	11/8/2025	3	12/8/2025	0	10/8/2025	68	11/8/2025	20	12/8/2025	0	10/8/2025	88	11/8/2025	135	12/8/2025	95
10/9/2025	0	11/9/2025	302	12/9/2025	0	10/9/2025	0	11/9/2025	0	12/9/2025	0	10/9/2025	0	11/9/2025	124	12/9/2025	84
10/10/2025	0	11/10/2025	283	12/10/2025	122	10/10/2025	0	11/10/2025	114	12/10/2025	0	10/10/2025	0	11/10/2025	176	12/10/2025	116
10/11/2025	0	11/11/2025	303	12/11/2025	60	10/11/2025	0	11/11/2025	196	12/11/2025	0	10/11/2025	0	11/11/2025	155	12/11/2025	135
10/12/2025	0	11/12/2025	277	12/12/2025	146	10/12/2025	0	11/12/2025	198	12/12/2025	0	10/12/2025	0	11/12/2025	138	12/12/2025	134
10/13/2025	0	11/13/2025		12/13/2025	394	10/13/2025	0	11/13/2025		12/13/2025	18	10/13/2025	0	11/13/2025		12/13/2025	146
10/14/2025	0	11/14/2025	99	12/14/2025	393	10/14/2025	0	11/14/2025	38	12/14/2025	0	10/14/2025	0	11/14/2025	131	12/14/2025	144
10/15/2025	0	11/15/2025	305	12/15/2025	402	10/15/2025	0	11/15/2025	28	12/15/2025	0	10/15/2025	0	11/15/2025	136	12/15/2025	136
10/16/2025	0	11/16/2025	265	12/16/2025	157	10/16/2025	0	11/16/2025	0	12/16/2025	0	10/16/2025	0	11/16/2025	125	12/16/2025	26
10/17/2025	0	11/17/2025	188	12/17/2025	378	10/17/2025	0	11/17/2025	0	12/17/2025	21	10/17/2025	0	11/17/2025	151	12/17/2025	116
10/18/2025	0	11/18/2025	227	12/18/2025	396	10/18/2025	0	11/18/2025	27	12/18/2025	7	10/18/2025	0	11/18/2025	128	12/18/2025	115
10/19/2025	57	11/19/2025	287	12/19/2025	131	10/19/2025	30	11/19/2025	0	12/19/2025	46	10/19/2025	73	11/19/2025	126	12/19/2025	122
10/20/2025	0	11/20/2025	249	12/20/2025	398	10/20/2025	0	11/20/2025	24	12/20/2025	183	10/20/2025	0	11/20/2025	130	12/20/2025	118
10/21/2025	0	11/21/2025	48	12/21/2025	395	10/21/2025	0	11/21/2025	131	12/21/2025	185	10/21/2025	0	11/21/2025	119	12/21/2025	119
10/22/2025	44	11/22/2025	48	12/22/2025	406	10/22/2025	69	11/22/2025	186	12/22/2025	109	10/22/2025	0	11/22/2025	124	12/22/2025	130
10/23/2025	46	11/23/2025	0	12/23/2025	100	10/23/2025	219	11/23/2025	202	12/23/2025	0	10/23/2025	80	11/23/2025	140	12/23/2025	127
10/24/2025	46	11/24/2025	0	12/24/2025	313	10/24/2025	200	11/24/2025	204	12/24/2025	19	10/24/2025	91	11/24/2025	129	12/24/2025	119
10/25/2025	0	11/25/2025	0	12/25/2025	405	10/25/2025	202	11/25/2025	196	12/25/2025	5	10/25/2025	132	11/25/2025	110	12/25/2025	78
10/26/2025	0	11/26/2025	49	12/26/2025	407	10/26/2025	192	11/26/2025	164	12/26/2025	65	10/26/2025	119	11/26/2025	117	12/26/2025	75
10/27/2025	46	11/27/2025	49	12/27/2025	412	10/27/2025	24	11/27/2025	82	12/27/2025	11	10/27/2025	117	11/27/2025	131	12/27/2025	68
10/28/2025	46	11/28/2025	49	12/28/2025	400	10/28/2025	27	11/28/2025	9	12/28/2025	0	10/28/2025	105	11/28/2025	132	12/28/2025	121
10/29/2025	46	11/29/2025	49	12/29/2025	415	10/29/2025	27	11/29/2025	7	12/29/2025	0	10/29/2025	116	11/29/2025	102	12/29/2025	68
10/30/2025	44	11/30/2025	0	12/30/2025	410	10/30/2025	69	11/30/2025	0	12/30/2025	0	10/30/2025	98	11/30/2025	124	12/30/2025	127
10/31/2025	47			12/31/2025	178	10/31/2025	27.51			12/31/2025	0	10/31/2025	90			12/31/2025	114
TOTAL	1204	TOTAL	3825	TOTAL	6854	TOTAL	1285	TOTAL	2471	TOTAL	669	TOTAL	1494	TOTAL	3650	TOTAL	2759

Total steam (July -Sept'25)	24211

Mud removal data from wet washing section

Sr.No	Month	Unit	Biomass Consumption Quantity	% of Average Mud content with biomass	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
1	Oct'2025	MT	41.022	8	92.85	3.28176	45.9	42.62
2	Nov'2025	MT	810.234	8	93.1	64.81872	939.4	874.58
3	Dec'2025	MT	1839.6	8	93.3	147.16944	2196.6	2049.39
Total		**MT**	**2690.874**			**215.27**	**3181.86**	**2966.59**

3075.284571

Sludge/mud recovered data from the PCTP section of last three months

Sr.No	Month	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	Oct'2025	MT	341	84.7	52.173	288.827
2	Nov'2025	MT	330	85.2	48.84	281.16
3	Dec'2025	MT	341	85.1	50.809	290.191
Total		**MT**	**1012**		**151.822**	**860.178**

Intermedate tanks of units

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	V-9203	Flash vessel -1	Hydrolysis section	100%	68	19	12.92	55.08
2	V-9204	Flash vessel -2	Hydrolysis section	100%	68	19	12.92	55.08
3	R-9201 A	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
4	R-9201B	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
5	R-9202 A	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
6	R-9202 B	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
7	R-9202 C	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
8	R-9202 D	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
9	R-9304 A	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
10	R-9304 B	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
11	R-9305A	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
12	R-9305B	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
13	R-9305C	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
14	R-9305D	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
15	T-9301	Beer well	Co-fermentation section	100%	2792	11	307.12	2484.88
16	Y-9301	Drain pit for the floor washing	Co-fermentation section	100%	42.75	11	4.7025	38.0475
17	T-9721	Spent wash hold-up tank	Solid liquid separation	100%	736	11	80.96	655.04
18	T-9722	Thin slop tank	Solid liquid separation	100%	136	4.5	6.12	129.88
19	T-9725	Lagoon tank	Solid liquid separation	100%	5638	11	620.18	5017.82
20	T-9724	Syrup tank	Solid liquid separation	100%	215	55	118.25	96.75
21	T-9723	Cloth washing tank	Solid liquid separation	100%	30	1	0.3	29.7
22	T-9726	Squze water tank	Solid liquid separation	100%	30	1	0.3	29.7
23	Y-9725	Drain pit for the floor washing	Solid liquid separation	100%	36.75	8	2.94	33.81
24	Y-9101	Drain pit for the floor washing	Wet washing section	100%	21.6	5	1.08	20.52
25	Y-9501	Drain pit for the floor washing	Evaporation	100%	8	8	0.64	7.36
26	T-9507	Thin slop hold-up tank	Evaporation	100%	1750	8	140	1610
27	Y-9402	Drain pit for the floor washing	D&D section	100%	12	10	1.2	10.8
28	Y-9801	Drain pit for the floor washing	Product tank	100%	8.4	0	0	8.4
29	Y-9901	Drain pit for the floor washing	Bulk chemical	100%	8.8	5	0.44	8.36
30	Y-9310	Drain pit for the floor washing	Molasses area	100%	8	10	0.8	7.2

PCTP tanks data

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	T-9781	Collection tank	PCTP	100%	777	0.3	2.331	774.669
2	T-9782	Neutralisation tank	PCTP	100%	34	0.3	0.102	33.898
3	T-9783	Buffer tank	PCTP	100%	260	0.3	0.78	259.22
4	R-9781	AHR	PCTP	100%	6813	0.3	20.439	6792.561
5	T-9784	Conventional aeration tank	PCTP	100%	1915	0.3	5.745	1909.255
6	T-9785	Clarifier -1	PCTP	100%	364	0.2	0.728	363.272
7	T-9786	Extended aeration tank	PCTP	100%	1150	0.2	2.3	1147.7
8	T-9787	Clarifier -2	PCTP	100%	312	0.2	0.624	311.376
9	T-9788	Flash mixer	PCTP	100%	5	0.2	0.01	4.99
10	T-9789	Flocculator	PCTP	100%	20	0.2	0.04	19.96
11	T-9790	Tube settler	PCTP	100%	60	0.2	0.12	59.88
12	T-9791	Chlorine contact tank	PCTP	100%	150	0.1	0.15	149.85
13	T-9792	UF feed tank	PCTP	100%	280	0.1	0.28	279.72
14	T-9796	RO feed tank	PCTP	100%	270	0.1	0.27	269.73
15	T-9794	RO permeate /TRW	PCTP	100%	122	0	0	122
16	T-9795	RO reject	PCTP	100%	52.5	0	0	52.5
17	T-1101	RO permeate /TRW tank	PCTP	100%	3215	0	0	3215
18	T-1801 A	Fire water tank	PCTP	100%	1245	0	0	1245
19	T-1801 B	Fire water tank	PCTP	100%	1245	0	0	1245
20	T-1802	Fire water tank	PCTP	100%	423	0	0	423

2G Ethanol Plant : Operation data & water balance (April'25-June"25)

	in (MT)
Steam	33576
Raw Water in	51369
Moisture in Biomass	2070
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.04.2025	8531
Rain Water recycle	18355
Total of last three month	**114070**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	349
Evaporation loss (Cooling Tower)	96096
Moisture loss from Boiler Stack Loss (Biomass burnt)	647
Moisture in Lignin	1863
Moisture in Syrup	815
Moisture in Wet washing Mud	6117
Moisture in PCTP Sludge	860
Drinking water	228
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 30.06.2025	7095
Total of last three month	**114070**

Total biomass consumed in last three months	8279	MT
Total Ethanol Produced in last three months	643	KL
Lignin generated in last three month	3508	MT
Syrup Generated in last three month	1685	MT

PCTP Processing	47082	MT
[Rain Water+ Process Comndensate+ETP Reject]	22	MT/h

ETP Processing	35945	MT
CT Blow Down/ DM reject/ Boiler Blow Down	17	MT/h

Surface Area of 2G plant		133546.4	M2
Total Rainfall (approx) [April-June'25]		21594.4	MT
Rain water	April'25	0.013	
	May'25	0.113	
	June'25	0.036	

2G Ethanol Plant : Operation data & water balance (Jan-March'26)

	in (MT)
Steam	20001
Raw Water in	80168
Moisture in Biomass	1201
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.01.2026	6723
Rain Water recycle	6753
Total of last three month	**115016**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	346
Evaporation loss (Cooling Tower)	95040
Moisture loss from Boiler Stack Loss (Biomass burnt)	467
Moisture in Lignin	51
Moisture in Syrup	9
Moisture in Wet washing Mud	3233
Moisture in PCTP Sludge	841
Drinking water	225
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 31.03.206	14804
Total of last three month	**115016**

Total biomass consumed in last three months	4804	MT
Total Ethanol Produced in last three months	170	KL
Lignin generated in last three month	95	MT
Syrup Generated in last three month	19	MT

PCTP Processing	28392	MT
[Rain Water+ Process Comndensate+ETP Reject]	13	MT/h

ETP Processing	35550	MT
CT Blow Down/ DM reject/ Boiler Blow Down	17	MT/h

Surface Area of 2G plant	133546.4	M2
Total Rainfall (approx) [Jan-Mar'26]	7852.5	MT

Rain water	Jan'26	0.033
	Feb'26	0.005
	March'26	0.021

2G Ethanol Plant : Operation data & water balance (July -Sept'25)

	in (MT)
Steam	23688
Raw Water in	24935
Moisture in Biomass	834
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.07.2025	7268
Rain Water recycle	59286
Total of last three month	**116181**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	265
Evaporation loss (Cooling Tower)	95040
Moisture loss from Boiler Stack Loss (Biomass burnt)	0
Moisture in Lignin	825
Moisture in Syrup	310
Moisture in Wet washing Mud	3563
Moisture in PCTP Sludge	860
Drinking water	230
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 30.09.2025	15088
Total of last three month	**116181**

Total biomass consumed in last three months	3336	MT
Total Ethanol Produced in last three months	177	KL
Lignin generated in last three month	1556	MT
Syrup Generated in last three month	643	MT

PCTP Processing	83374	MT
[Rain Water+ Process Comndensate+ETP Reject]	40	MT/h

ETP Processing	34365	MT
CT Blow Down/ DM reject/ Boiler Blow Down	16	MT/h

	Surface Area of 2G plant	133546.4	M2
	Total Rainfall (approx) [Jul-Sept'25]	68936.6	MT
Rain water	Jul'25	0.149	
	Aug'25	0.226	
	Sept'25	0.142	

2G Ethanol Plant : Operation data & water balance (Oct-Dec'25)

	in (MT)
Steam	24211
Raw Water in	64622
Moisture in Biomass	816
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.10.2025	14712
Rain Water recycle	1459
Total of last three month	**105991**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	353
Evaporation loss (Cooling Tower)	97152
Moisture loss from Boiler Stack Loss (Biomass burnt)	143
Moisture in Lignin	229
Moisture in Syrup	607
Moisture in Wet washing Mud	2967
Moisture in PCTP Sludge	860
Drinking water	230
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 31.12.2025	3449
Total of last three month	**105991**

Total biomass consumed in last three months	3264	MT
Total Ethanol Produced in last three months	574	KL
Lignin generated in last three month	431	MT
Syrup Generated in last three month	1253	MT

PCTP Processing	42917	MT
[Rain Water+ Process Comndensate+ETP Reject]	19	MT/h

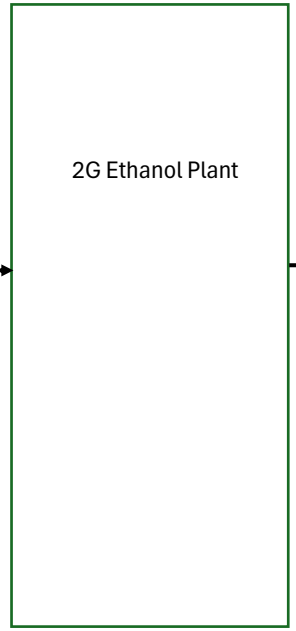
ETP Processing	36340	MT
CT Blow Down/ DM reject/ Boiler Blow Down	16	MT/h

Surface Area of 2G plant	133546.4	M2
Total Rainfall (approx) [Oct-Dec'25]	1696.0	MT

Oct'25	0.013
Nov'25	0.000
Dec'25	0.000

2G Ethanol Plant : Overall Mass balance (April-June'25)

	in (MT)
Steam	33576
Raw Water in	51369
Biomass	8279
Chemicals	794
Hold up in intermediate stock (slurry/ Fermented Wash) as on 01.04.2025	10036
Rain Water recycle	18355
Total of last three month	**122409**



	in (MT)
Ethanol Generation	509.8745358
CO2 loss from fermentation	489.879456
Drift loss (Cooling Tower)	349
Evaporation loss (Cooling Tower)	96096
Boiler Stack Loss/Ash	2589
Lignin	3508
Syrup	1685
Wet washing Mud	6573
PCTP Sludge	1012
Drinking water	227.5
Hold up in intermediate stock (slurry/ Fermented Wash) as on 30.09.2025	8347
Total of last three month	**121386**

		M2
Surface Area of 2G plant	133546.4	MT
Total Rainfall (approx) [April-June'25]	21594.4	
April'25	0.013	
May'25	0.113	
June'25	0.036	

* Steam is being taken from refinery as temporary arrangement.

⊟2025	808.1
⊞Jan	6.1
⊞Feb	10.9
⊞Mar	17.2
⊞Apr	12.6
⊞May	113.2
⊞Jun	35.9
⊞Jul	155.6
⊞Aug	272.2
⊞Sep	171.7
⊞Oct	12.7
⊞Nov	0
⊞Dec	0
⊟2026	37.5
⊞Jan	32.9
⊞Feb	4.6

Mar- 21.3 upto 26.03.2026

Process condensate	Spent Lees		
1882.73	0.00	45185.52	
3406.93	0.00	81766.32	
2459.72	0.00	59033.28	
6950.08	0.00	166801.9	
9440.01	0.00	226560.2	
6360.90	6442.01	307269.8	
9382.62	8091.82	419386.6	
10607.37	2072.27	304311.4	
9238.83	0.00	221731.9	
8097.68	0.00	194344.3	
9576.22	0.00	229829.3	
7529.83	0.00	180715.9	
5047.85	3907.13	214919.5	
4602.91	10187.08	354959.8	
6698.80	6886.39	326044.6	
6271.67	0.00	150520.1	
4782.84	0.00	114788.2	
1294.32	0.00	31063.68	
483.82	0.00	11611.68	
1223.99	0.00	29375.76	
1428.57	0.00	34285.68	
2713.07	0.00	65113.68	
7005.18	0.00	168124.3	
9622.57	0.00	230941.7	
5814.92	0.00	139558.1	
7119.76	0.00	170874.2	
10202.52	0.00	244860.5	
11750.05	0.00	282001.2	
9174.04	7611.80	402860.2	
12220.63	9117.40	512112.7	
12912.91	10300.17	557113.9	
10098.74	8391.61	443768.4	
12150.07	1023.58	316167.6	
10535.89	0.00	252861.4	
14479.06	0.00	347497.4	
12325.80	0.00	295819.2	
10369.30	0.00	248863.2	
9441.56	0.00	226597.4	
8560.43	0.00	205450.3	
8684.48	4829.05	324324.7	
8649.13	9195.41	428269	
8308.89	4038.26	296331.6	
6796.76	0.00	163122.2	
4960.82	0.00	119059.7	
6660.27	0.00	159846.5	
4554.18	0.00	109300.3	
4618.21	0.00	110837	
9058.85	0.00	217412.4	
6992.60	0.00	167822.4	
6233.39	0.00	149601.4	
11985.65	0.00	287655.6	
3962.45	0.00	95098.8	
6664.37	0.00	159944.9	
7701.85	0.00	184844.4	
4626.01	0.00	111024.2	
9735.41	0.00	233649.8	
10498.80	0.00	251971.2	
12323.45	0.00	295762.8	

PNA.101FT951001.PV 4/1/2025 6:00 AM 7/1/2025 6:00 AM

PNA.101FT940703.PV

	PNA.101FT951001.PV		PNA.101FT940703.PV	
Timestamp	1FT951001.PV - Average	Confidence	V - Average	Confidence
4/1/2025 6:00	1882.73	100	4.94	100
4/2/2025 6:00	3406.93	100	5.29	100
4/3/2025 6:00	2459.72	100	5.68	100
4/4/2025 6:00	6950.08	100	5.28	99
4/5/2025 6:00	9440.01	100	5.7	100
4/6/2025 6:00	6360.9	100	6442.01	100
4/7/2025 6:00	9382.62	100	8091.82	100
4/8/2025 6:00	10607.37	100	2072.27	100
4/9/2025 6:00	9238.83	100	5.49	100
4/10/2025 6:00	8097.68	100	5.28	100
4/11/2025 6:00	9576.22	99	5.38	99
4/12/2025 6:00	7529.83	100	5.27	100
4/13/2025 6:00	5047.85	100	3907.13	100
4/14/2025 6:00	4602.91	100	10187.08	100
4/15/2025 6:00	6698.8	99	6886.39	99
4/16/2025 6:00	6271.67	100	4.96	100
4/17/2025 6:00	4782.84	100	4.87	100
4/18/2025 6:00	1294.32	100	4.93	100
4/19/2025 6:00	483.82	99	5.2	99
4/20/2025 6:00	1223.99	100	5.11	100
4/21/2025 6:00	1428.57	100	4.91	100
4/22/2025 6:00	2713.07	99	5.05	99
4/23/2025 6:00	7005.18	100	4.78	100
4/24/2025 6:00	9622.57	100	4.49	100
4/25/2025 6:00	5814.92	98	5.17	98
4/26/2025 6:00	7119.76	100	5.84	100
4/27/2025 6:00	10202.52	100	4.74	100
4/28/2025 6:00	11750.05	100	4.72	100
4/29/2025 6:00	9174.04	100	7611.8	100
4/30/2025 6:00	12220.63	100	9117.4	100
5/1/2025 6:00	12912.91	100	10300.17	100
5/2/2025 6:00	10098.74	100	8391.61	100
5/3/2025 6:00	12150.07	100	1023.58	100
5/4/2025 6:00	10535.89	100	5.22	100
5/5/2025 6:00	14479.06	99	5.2	99
5/6/2025 6:00	12325.8	99	4.6	99
5/7/2025 6:00	10369.3	100	4.6	100
5/8/2025 6:00	9441.56	100	4.68	100
5/9/2025 6:00	8560.43	99	4.87	99
5/10/2025 6:00	8684.48	99	4829.05	99
5/11/2025 6:00	8649.13	100	9195.41	100
5/12/2025 6:00	8308.89	100	4038.26	100
5/13/2025 6:00	6796.76	100	4.95	100
5/14/2025 6:00	4960.82	99	5.25	99
5/15/2025 6:00	6660.27	100	5.18	100
5/16/2025 6:00	4554.18	100	5.21	100
5/17/2025 6:00	4618.21	98	5.33	98
5/18/2025 6:00	9058.85	99	5.36	99
5/19/2025 6:00	6992.6	98	5.41	98
5/20/2025 6:00	6233.39	99	5.52	99
5/21/2025 6:00	11985.65	99	5.62	99
5/22/2025 6:00	3962.45	99	5.61	99
5/23/2025 6:00	6664.37	99	5.27	98
5/24/2025 6:00	7701.85	100	5.3	100
5/25/2025 6:00	4626.01	100	5.83	100
5/26/2025 6:00	9735.41	100	6.06	100
5/27/2025 6:00	10498.8	100	5.6	100

10670.88	0.00	256101.1	
9497.06	7196.58	400647.4	
9804.49	11141.02	502692.2	
8581.67	10929.56	468269.5	
11140.53	4052.90	364642.3	
8219.06	0.00	197257.4	
10075.74	0.00	241817.8	
9800.46	0.00	235211	
12268.90	0.00	294453.6	
13943.89	0.00	334653.4	
14699.20	7656.94	536547.4	
15672.15	11032.29	640906.6	
15828.95	11939.32	666438.5	
16309.57	10569.74	645103.4	
15496.90	1024.18	396505.9	
13093.29	0.00	314239	
14048.43	0.00	337162.3	
11542.58	0.00	277021.9	
11871.62	0.00	284918.9	
4949.86	0.00	118796.6	
-20.48	0.00	-491.52	
3001.45	0.00	72034.8	
3484.36	0.00	83624.64	
3477.98	0.00	83471.52	
6562.01	0.00	157488.2	
7814.30	9623.19	418499.8	
7217.38	9005.23	389342.6	
6634.05	10298.37	406378.1	
7789.41	11869.39	471811.2	
6820.30	10008.32	403886.9	
6911.19	2390.85	223249	
4484.34	0.00	107624.2	
7099.74	0.00	170393.8	
3547.65	0.00	85143.6	
		0	
		23266813	23266.81
			267.4346

5/28/2025 6:00	12323.45	100	5.14	100
5/29/2025 6:00	10670.88	99	5.43	99
5/30/2025 6:00	9497.06	99	7196.58	99
5/31/2025 6:00	9804.49	99	11141.02	99
6/1/2025 6:00	8581.67	99	10929.56	99
6/2/2025 6:00	11140.53	99	4052.9	99
6/3/2025 6:00	8219.06	99	5.26	99
6/4/2025 6:00	10075.74	100	4.82	100
6/5/2025 6:00	9800.46	100	4.81	100
6/6/2025 6:00	12268.9	99	4.69	99
6/7/2025 6:00	13943.89	99	6.12	99
6/8/2025 6:00	14699.2	99	7656.94	99
6/9/2025 6:00	15672.15	100	11032.29	100
6/10/2025 6:00	15828.95	100	11939.32	100
6/11/2025 6:00	16309.57	100	10569.74	100
6/12/2025 6:00	15496.9	99	1024.18	99
6/13/2025 6:00	13093.29	100	5.44	100
6/14/2025 6:00	14048.43	100	5.27	100
6/15/2025 6:00	11542.58	100	5.71	100
6/16/2025 6:00	11871.62	100	5.72	100
6/17/2025 6:00	4949.86	42	5.78	42
6/18/2025 6:00	-20.48	0	5.84	0
6/19/2025 6:00	3001.45	50	5.84	50
6/20/2025 6:00	3484.36	100	5.7	100
6/21/2025 6:00	3477.98	100	5.61	100
6/22/2025 6:00	6562.01	99	5.74	99
6/23/2025 6:00	7814.3	99	9623.19	99
6/24/2025 6:00	7217.38	100	9005.23	100
6/25/2025 6:00	6634.05	99	10298.37	99
6/26/2025 6:00	7789.41	100	11869.39	99
6/27/2025 6:00	6820.3	99	10008.32	99
6/28/2025 6:00	6911.19	99	2390.85	99
6/29/2025 6:00	4484.34	99	6.08	99
6/30/2025 6:00	7099.74	99	5.74	99
7/1/2025 6:00	3547.65	99	5.65	99

Lignin Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % lignin	Moisture % with lignin	Associated water with generated lignin	Quantity Dispatched	Associated water with Dispatched lignin
1	April'2025	MT	1231.31	47.4	52.6	647.66906	1188.310	625.05106
2	May'2025	MT	997	46.8	53.2	530.404	493	262.276
3	June'2025	MT	1279.54	46.5	53.5	684.5539	543.540	290.7939
Total		**MT**	**3507.85**			**1862.62696**	**2224.85**	**1178.12096**

Syrup Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % Syrup	Moisture % with Syrup	Associated water with generated Syrup	Quantity Dispatched	Associated water with Dispatched lignin
1	April'2025	MT	639.18	52.4	47.6	304.24968	605.430	288.18468
2	May'2025	MT	651.56	50.9	49.1	319.91596	648	318.168
3	June'2025	MT	394.62	51.6	48.4	190.99608	395.620	191.48008
Total		**MT**	**1685.36**			**815.16172**	**1649.05**	**797.83276**

Date	April '25 Biomass Consumption in MT			Date	May'25 Biomass Consumption in MT			Date	June'25 Biomass Consumption in MT			
	Process	Boiler	Total		Process	Boiler	Total		Process	Boiler	Total	
4/1/2025	95.04	10.08	105.12	5/1/2025	43	0	43	6/1/2025	68.00	39.01	107.01	
4/2/2025	37.98	23.04	61.02	5/2/2025	72.99	14.004	86.994	6/2/2025	58.01	45.47	103.482	
4/3/2025	132.012	0	132.012	5/3/2025	70.992	45	115.992	6/3/2025	81.00	38.61	119.61	
4/4/2025	105	10	115	5/4/2025	11.016	46.008	57.024	6/4/2025	48.01	9.52	57.528	
4/5/2025	95.004	47.988	142.992	5/5/2025	63	48.006	111.006	6/5/2025	74.02	55.62	129.636	
4/6/2025	85.014	76.014	161.028	5/6/2025	55.08	55.08	110.16	6/6/2025	61.00	37.67	98.676	
4/7/2025	85.014	88.002	173.016	5/7/2025	84.06	0	84.06	6/7/2025	84.01	41.99	126	
4/8/2025	60.012	77.004	137.016	5/8/2025	91.998	0	91.998	6/8/2025	61.00	23.78	84.78	
4/9/2025	44.01	71.01	115.02	5/9/2025	52.992	0	52.992	6/9/2025	65.02	44.53	109.548	
4/10/2025	90	64.998	154.998	5/10/2025	54	0	54	6/10/2025	55.01	34.40	89.404	
4/11/2025	86.994	66.006	153	5/11/2025	52.002	0	52.002	6/11/2025	55.01	0.00	55.008	
4/12/2025	91.008	72	163.008	5/12/2025	55.008	0	55.008	6/12/2025	76.00	0.00	75.996	
4/13/2025	90	73.008	163.008	5/13/2025	88.002	0	88.002	6/13/2025	61.00	0.00	61.002	
4/14/2025	35.01	80.01	115.02	5/14/2025	83.07	0	83.07	6/14/2025	0.00	0.00	0	
4/15/2025	81	46.98	127.98	5/15/2025	82.008	0	82.008	6/15/2025	0.00	0.00	0	
4/16/2025	83.016	56.016	139.032	5/16/2025	81	0	81	6/16/2025	0.00	0.00	0	
4/17/2025	86.004	55.008	141.012	5/17/2025	81	0	81	6/17/2025	0.00	0.00	0	
4/18/2025	77.004	0	77.004	5/18/2025	81	0	81	6/18/2025	0.00	0.00	0	
4/19/2025	85.014	0	85.014	5/19/2025	65.016	0	65.016	6/19/2025	0.00	0.00	0	
4/20/2025	84.996	0	84.996	5/20/2025	54	0	54	6/20/2025	10.00	0.00	9.999	
4/21/2025	84.996	0	84.996	5/21/2025	22.032	0	22.032	6/21/2025	38.02	0.00	38.016	
4/22/2025	10.008	0	10.008	5/22/2025	31.014	5.58	36.594	6/22/2025	131.00	0.00	131.004	
4/23/2025	0	0	0	5/23/2025	106.992	67.986	174.978	6/23/2025	96.00	0.00	96.0012	
4/24/2025	12.006	0	12.006	5/24/2025	36	72.99	108.99	6/24/2025	92.02	0.00	92.016	
4/25/2025	83.016	29.988	113.004	5/25/2025	80.01	67.014	147.024	6/25/2025	109.00	0.00	109	
4/26/2025	66.996	75.996	142.992	5/26/2025	72	54	126	6/26/2025	113.00	0.00	113	
4/27/2025	25.002	91.008	116.01	5/27/2025	61.002	65.016	126.018	6/27/2025	88.99	0.00	88.992	
4/28/2025	13.068	82.008	95.076	5/28/2025	71.01	83.016	154.026	6/28/2025	9.99	0.00	9.99	
4/29/2025	72	25.02	97.02	5/29/2025	36	75.006	111.006	6/29/2025	85.00	0.00	84.996	
4/30/2025	60.012	200	260.012	5/30/2025	40.986	48.006	88.992	6/30/2025	61.00	0.00	61.002	
				5/31/2025	75	50.004	125.004					
TOTAL	**2056.2**	**1421.184**	**3477.4**	**TOTAL**	**1953.3**	**796.716**	**2750.00**	**TOTAL**	**1681.1**	**370.6**	**2051.70**	8279.112

boiler biomass con	2588.5
process	5690.6

Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)
4/1/2025	46	5/1/2025	235	6/1/2025	332
4/2/2025	133	5/2/2025	288	6/2/2025	328
4/3/2025	322	5/3/2025	288	6/3/2025	301
4/4/2025	271	5/4/2025	0	6/4/2025	200
4/5/2025	285	5/5/2025	286	6/5/2025	290
4/6/2025	265	5/6/2025	296	6/6/2025	290
4/7/2025	308	5/7/2025	289	6/7/2025	290
4/8/2025	208	5/8/2025	295	6/8/2025	288
4/9/2025	142	5/9/2025	251	6/9/2025	286
4/10/2025	261	5/10/2025	232	6/10/2025	258
4/11/2025	283	5/11/2025	189	6/11/2025	289
4/12/2025	292	5/12/2025	305	6/12/2025	293
4/13/2025	280	5/13/2025	309	6/13/2025	63
4/14/2025	163	5/14/2025	308	6/14/2025	53
4/15/2025	310	5/15/2025	310	6/15/2025	51
4/16/2025	305	5/16/2025	313	6/16/2025	54
4/17/2025	306	5/17/2025	312	6/17/2025	53
4/18/2025	274	5/18/2025	315	6/18/2025	51
4/19/2025	301	5/19/2025	310	6/19/2025	107
4/20/2025	303	5/20/2025	271	6/20/2025	304
4/21/2025	304	5/21/2025	127	6/21/2025	298
4/22/2025	81	5/22/2025	133	6/22/2025	
4/23/2025	46	5/23/2025	300	6/23/2025	
4/24/2025	58	5/24/2025	265	6/24/2025	286
4/25/2025	298	5/25/2025	0	6/25/2025	305
4/26/2025	294	5/26/2025	0	6/26/2025	308
4/27/2025	158	5/27/2025	319	6/27/2025	309
4/28/2025	90	5/28/2025	320	6/28/2025	169
4/29/2025	279	5/29/2025	290	6/29/2025	278
4/30/2025	285	5/30/2025	219	6/30/2025	223
		5/31/2025	220		
TOTAL	6952	TOTAL	7595	TOTAL	6356

Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)
4/1/2025	0	5/1/2025	120	6/1/2025	240
4/2/2025	0	5/2/2025	0	6/2/2025	0
4/3/2025	0	5/3/2025	0	6/3/2025	0
4/4/2025	0	5/4/2025	0	6/4/2025	0
4/5/2025	123	5/5/2025	0	6/5/2025	0
4/6/2025	232	5/6/2025	0	6/6/2025	0
4/7/2025	234	5/7/2025	0	6/7/2025	0
4/8/2025	0	5/8/2025	0	6/8/2025	228
4/9/2025	0	5/9/2025	145	6/9/2025	230
4/10/2025	0	5/10/2025	185	6/10/2025	229
4/11/2025	0	5/11/2025	192	6/11/2025	231
4/12/2025	0	5/12/2025	0	6/12/2025	0
4/13/2025	231	5/13/2025	0	6/13/2025	0
4/14/2025	228	5/14/2025	0	6/14/2025	0
4/15/2025	0	5/15/2025	0	6/15/2025	0
4/16/2025	0	5/16/2025	0	6/16/2025	0
4/17/2025	0	5/17/2025	0	6/17/2025	0
4/18/2025	0	5/18/2025	0	6/18/2025	0
4/19/2025	0	5/19/2025	0	6/19/2025	0
4/20/2025	0	5/20/2025	0	6/20/2025	0
4/21/2025	0	5/21/2025	0	6/21/2025	0
4/22/2025	0	5/22/2025	0	6/22/2025	125
4/23/2025	0	5/23/2025	0	6/23/2025	224
4/24/2025	0	5/24/2025	0	6/24/2025	228
4/25/2025	0	5/25/2025	0	6/25/2025	229
4/26/2025	0	5/26/2025	0	6/26/2025	232
4/27/2025	0	5/27/2025	0	6/27/2025	198
4/28/2025	132	5/28/2025	0	6/28/2025	0
4/29/2025	235	5/29/2025	132	6/29/2025	0
4/30/2025	195	5/30/2025	234	6/30/2025	0
		5/31/2025	232		
TOTAL	1610	TOTAL	1240	TOTAL	2394

Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)
4/1/2025	79	5/1/2025	123	6/1/2025	96
4/2/2025	30	5/2/2025	124	6/2/2025	110
4/3/2025	45	5/3/2025	134	6/3/2025	99
4/4/2025	N/A	5/4/2025	123	6/4/2025	107
4/5/2025	N/A	5/5/2025	124	6/5/2025	117
4/6/2025	N/A	5/6/2025	132	6/6/2025	122
4/7/2025		5/7/2025	127	6/7/2025	121
4/8/2025	N/A	5/8/2025	115	6/8/2025	111
4/9/2025	50	5/9/2025	131	6/9/2025	108
4/10/2025	46	5/10/2025	121	6/10/2025	129
4/11/2025	49	5/11/2025	121	6/11/2025	86
4/12/2025	122	5/12/2025	96	6/12/2025	42
4/13/2025	135	5/13/2025	82	6/13/2025	22
4/14/2025	160	5/14/2025	85	6/14/2025	40
4/15/2025	140	5/15/2025	83	6/15/2025	35
4/16/2025	103	5/16/2025	49	6/16/2025	82
4/17/2025	92	5/17/2025	NA	6/17/2025	81
4/18/2025	66	5/18/2025	0	6/18/2025	28
4/19/2025	45	5/19/2025	0	6/19/2025	30
4/20/2025	54	5/20/2025	0	6/20/2025	90
4/21/2025	93	5/21/2025	42	6/21/2025	121
4/22/2025	120	5/22/2025	50	6/22/2025	
4/23/2025	130	5/23/2025	102	6/23/2025	
4/24/2025	123	5/24/2025	103	6/24/2025	121
4/25/2025	123	5/25/2025	0	6/25/2025	121
4/26/2025	171	5/26/2025	0	6/26/2025	121
4/27/2025	150	5/27/2025	104	6/27/2025	na
4/28/2025	148	5/28/2025	102	6/28/2025	na
4/29/2025	142	5/29/2025	121	6/29/2025	na
4/30/2025	138	5/30/2025	144	6/30/2025	na
	75	5/31/2025	121		
TOTAL	2629	TOTAL	2659	TOTAL	2139

Total steam (April-June'25) 33576

Mud removal data from wet washing section

Sr.No	Month	Unit	Biomass Consumption Quantity	% of Average Mud content with biomass	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
1	April'2025	MT	2056.236	8	92.85	164.49888	2300.7	2136.18
2	May'2025	MT	1953.28	8	93.1	156.2624	2264.7	2108.41
3	June'2025	MT	1681.0962	8	93.3	134.487696	2007.3	1872.79
Total		**MT**	**5690.6122**			**455.25**	**6572.64**	**6117.39**

6503.5568

Sludge/mud recovered data from the PCTP section of last three months

Sr.No	Month	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	April'2025	MT	341	84.7	52.173	288.827
2	May'2025	MT	330	85.2	48.84	281.16
3	June'2025	MT	341	85.1	50.809	290.191
Total		**MT**	**1012**		**151.822**	**860.178**

Intermedate tanks of units

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	V-9203	Flash vessel -1	Hydrolysis section	100%	68	19	12.92	55.08
2	V-9204	Flash vessel -2	Hydrolysis section	100%	68	19	12.92	55.08
3	R-9201 A	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
4	R-9201B	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
5	R-9202 A	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
6	R-9202 B	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
7	R-9202 C	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
8	R-9202 D	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
9	R-9304 A	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
10	R-9304 B	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
11	R-9305A	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
12	R-9305B	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
13	R-9305C	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
14	R-9305D	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
15	T-9301	Beer well	Co-fermentation section	100%	2792	11	307.12	2484.88
16	Y-9301	Drain pit for the floor washing	Co-fermentation section	100%	42.75	11	4.7025	38.0475
17	T-9721	Spent wash hold-up tank	Solid liquid separation	100%	736	11	80.96	655.04
18	T-9722	Thin slop tank	Solid liquid separation	100%	136	4.5	6.12	129.88
19	T-9725	Lagoon tank	Solid liquid separation	100%	5638	11	620.18	5017.82
20	T-9724	Syrup tank	Solid liquid separation	100%	215	55	118.25	96.75
21	T-9723	Cloth washing tank	Solid liquid separation	100%	30	1	0.3	29.7
22	T-9726	Squze water tank	Solid liquid separation	100%	30	1	0.3	29.7
23	Y-9725	Drain pit for the floor washing	Solid liquid separation	100%	36.75	8	2.94	33.81
24	Y-9101	Drain pit for the floor washing	Wet washing section	100%	21.6	5	1.08	20.52
25	Y-9501	Drain pit for the floor washing	Evaporation	100%	8	8	0.64	7.36
26	T-9507	Thin slop hold-up tank	Evaporation	100%	1750	8	140	1610
27	Y-9402	Drain pit for the floor washing	D&D section	100%	12	10	1.2	10.8
28	Y-9801	Drain pit for the floor washing	Product tank	100%	8.4	0	0	8.4
29	Y-9901	Drain pit for the floor washing	Bulk chemical	100%	8.8	5	0.44	8.36
30	Y-9310	Drain pit for the floor washing	Molasses area	100%	8	10	0.8	7.2

PCTP tanks data

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	T-9781	Collection tank	PCTP	100%	777	0.3	2.331	774.669
2	T-9782	Neutralisation tank	PCTP	100%	34	0.3	0.102	33.898
3	T-9783	Buffer tank	PCTP	100%	260	0.3	0.78	259.22
4	R-9781	AHR	PCTP	100%	6813	0.3	20.439	6792.561
5	T-9784	Conventional aeration tank	PCTP	100%	1915	0.3	5.745	1909.255
6	T-9785	Clarifier -1	PCTP	100%	364	0.2	0.728	363.272
7	T-9786	Extended aeration tank	PCTP	100%	1150	0.2	2.3	1147.7
8	T-9787	Clarifier -2	PCTP	100%	312	0.2	0.624	311.376
9	T-9788	Flash mixer	PCTP	100%	5	0.2	0.01	4.99
10	T-9789	Flocculator	PCTP	100%	20	0.2	0.04	19.96
11	T-9790	Tube settler	PCTP	100%	60	0.2	0.12	59.88
12	T-9791	Chlorine contact tank	PCTP	100%	150	0.1	0.15	149.85
13	T-9792	UF feed tank	PCTP	100%	280	0.1	0.28	279.72
14	T-9796	RO feed tank	PCTP	100%	270	0.1	0.27	269.73
15	T-9794	RO permeate /TRW	PCTP	100%	122	0	0	122
16	T-9795	RO reject	PCTP	100%	52.5	0	0	52.5
17	T-1101	RO permeate /TRW tank	PCTP	100%	3215	0	0	3215
18	T-1801 A	Fire water tank	PCTP	100%	1245	0	0	1245
19	T-1801 B	Fire water tank	PCTP	100%	1245	0	0	1245
20	T-1802	Fire water tank	PCTP	100%	423	0	0	423

2G Ethanol Plant : Operation data & water balance (Jan-March'26)

	in (MT)
Steam	20001
Raw Water in	80168
Moisture in Biomass	1201
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.01.2026	6723
Rain Water recycle	6753
Total of last three month	**115016**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	346
Evaporation loss (Cooling Tower)	95040
Moisture loss from Boiler Stack Loss (Biomass burnt)	467
Moisture in Lignin	51
Moisture in Syrup	9
Moisture in Wet washing Mud	3233
Moisture in PCTP Sludge	841
Drinking water	225
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 31.03.206	14804
Total of last three month	**115016**

Total biomass consumed in last three months	4804	MT
Total Ethanol Produced in last three months	170	KL
Lignin generated in last three month	95	MT
Syrup Generated in last three month	19	MT

PCTP Processing	28392	MT
[Rain Water+ Process Comndensate+ETP Reject]	13	MT/h

ETP Processing	35550	MT
CT Blow Down/ DM reject/ Boiler Blow Down	17	MT/h

Surface Area of 2G plant	133546.4	M2
Total Rainfall (approx) [Jan-Mar'26]	7852.5	MT

Rain water	Jan'26	0.033
	Feb'26	0.005
	March'26	0.021

2G Ethanol Plant : Overall Mass balance (Jan-March'26)

	in (MT)
Steam	20001
Raw Water in	80168
Biomass	4804
Chemicals	794
Hold up in intermediate stock (slurry/ Fermented Wash) as on 01.01.2026	7936
Rain Water recycle	6675
Total of last three month	**120377**

2G Ethanol Plant

	in (MT)
Ethanol Generation	135.011727
CO2 loss from fermentation	129.7171495
Drift loss (Cooling Tower)	346
Evaporation loss (Cooling Tower)	95040
Boiler Stack Loss/Ash	1868
Lignin	95
Syrup	19
Wet washing Mud	3468
PCTP Sludge	990
Drinking water	225
Hold up in intermediate stock (slurry/ Fermented Wash) as on 31.03.2026	17417
Total of last three month	**119732**

		M2
Surface Area of 2G plant	133546.4	MT

Total Rainfall (approx) [Jan-March'26]	7852.5
Jan'26	0.033
Feb'26	0.005
March'26	0.021

* Steam is being taken from refinery as temporary arrangement.

1/1/2026 6:00	10548.19	253156.6
1/2/2026 6:00	11310.51	271452.2
1/3/2026 6:00	12072.85	289748.4
1/4/2026 6:00	12835.18	308044.3
1/5/2026 6:00	13597.52	326340.5
1/6/2026 6:00	14359.85	344636.4
1/7/2026 6:00	4333.36	104000.6
1/8/2026 6:00	1713.73	41129.52
1/9/2026 6:00	1616.46	38795.04
1/10/2026 6:00	4134.6	99230.4
1/11/2026 6:00	7929.83	190315.9
1/12/2026 6:00	9051.32	217231.7
1/13/2026 6:00	14489.65	347751.6
1/14/2026 6:00	13276.41	318633.8
1/15/2026 6:00	12652.52	303660.5
1/16/2026 6:00	12611.81	302683.4
1/17/2026 6:00	11431.25	274350
1/18/2026 6:00	10002.23	240053.5
1/19/2026 6:00	10135.62	243254.9
1/20/2026 6:00	10598.84	254372.2
1/21/2026 6:00	10721.33	257311.9
1/22/2026 6:00	7745.24	185885.8
1/23/2026 6:00	3863.72	92729.28
1/24/2026 6:00	1254.87	30116.88
1/25/2026 6:00	1252.07	30049.68
1/26/2026 6:00	1257.64	30183.36
1/27/2026 6:00	1264.37	30344.88
1/28/2026 6:00	1271.06	30505.44
1/29/2026 6:00	1276.39	30633.36
1/30/2026 6:00	1282.01	30768.24
1/31/2026 6:00	1815.5	43572
2/1/2026 6:00	2424.24	58181.76
2/2/2026 6:00	9612.92	230710.1
2/3/2026 6:00	8063.63	193527.1
2/4/2026 6:00	3166.41	75993.84
2/5/2026 6:00	9426.84	226244.2
2/6/2026 6:00	6635.03	159240.7
2/7/2026 6:00	7694.24	184661.8
2/8/2026 6:00	7207.41	172977.8
2/9/2026 6:00	5882.75	141186
2/10/2026 6:00	9657.34	231776.2
2/11/2026 6:00	13150.97	315623.3
2/12/2026 6:00	6829.99	163919.8
2/13/2026 6:00	12061.6	289478.4
2/14/2026 6:00	14849.79	356395
2/15/2026 6:00	14748.86	353972.6
2/16/2026 6:00	16223.73	389369.5
2/17/2026 6:00	9859.58	236629.9
2/18/2026 6:00	3657.59	87782.16
2/19/2026 6:00	1740.74	41777.76
2/20/2026 6:00	1740.89	41781.36
2/21/2026 6:00	2402.2	57652.8
2/22/2026 6:00	4246.66	101919.8
2/23/2026 6:00	6114.68	146752.3
2/24/2026 6:00	7982.69	191584.6
2/25/2026 6:00	9850.72	236417.3
2/26/2026 6:00	11718.73	281249.5

PNA.101FT951001.PV 1/1/2026 6:00 AM 4/1/2026 6:00 AM

PNA.101FT940703.PV

	PNA.101FT951001.PV		PNA.101FT940703.PV	
Timestamp	V - Average	Confidence	V - Average	Confidence
1/1/2026 6:00	10542.26	100	5.93	100
1/2/2026 6:00	11304.6	100	5.91	100
1/3/2026 6:00	12066.95	100	5.9	100
1/4/2026 6:00	12829.3	100	5.88	100
1/5/2026 6:00	13591.65	100	5.87	100
1/6/2026 6:00	14354	100	5.85	100
1/7/2026 6:00	4327.68	100	5.68	100
1/8/2026 6:00	1708.09	100	5.64	100
1/9/2026 6:00	1610.83	100	5.63	100
1/10/2026 6:00	4129.08	100	5.52	100
1/11/2026 6:00	7924.27	100	5.56	100
1/12/2026 6:00	9045.88	100	5.44	100
1/13/2026 6:00	14484.25	100	5.4	100
1/14/2026 6:00	13271.12	100	5.29	100
1/15/2026 6:00	11349.03	100	1303.49	100
1/16/2026 6:00	12606.75	100	5.06	100
1/17/2026 6:00	11426.1	100	5.15	100
1/18/2026 6:00	9997.12	100	5.11	100
1/19/2026 6:00	10130.41	100	5.21	100
1/20/2026 6:00	10593.28	100	5.56	100
1/21/2026 6:00	10715.55	100	5.78	100
1/22/2026 6:00	7739.46	100	5.78	100
1/23/2026 6:00	3858.09	100	5.63	100
1/24/2026 6:00	1249.21	100	5.66	100
1/25/2026 6:00	1246.38	100	5.69	100
1/26/2026 6:00	1252.1	100	5.54	100
1/27/2026 6:00	1258.9	100	5.47	100
1/28/2026 6:00	1265.75	100	5.31	100
1/29/2026 6:00	1270.76	100	5.63	100
1/30/2026 6:00	1276.22	100	5.79	100
1/31/2026 6:00	1809.6	100	5.9	100
2/1/2026 6:00	2418.46	100	5.78	100
2/2/2026 6:00	9607.19	100	5.73	100
2/3/2026 6:00	8057.68	99	5.95	99
2/4/2026 6:00	3160.42	98	5.99	98
2/5/2026 6:00	9420.85	100	5.99	100
2/6/2026 6:00	6629.02	99	6.01	99
2/7/2026 6:00	7688.12	100	6.12	100
2/8/2026 6:00	7201.28	100	6.13	100
2/9/2026 6:00	5876.5	100	6.25	100
2/10/2026 6:00	9060.45	100	596.89	100
2/11/2026 6:00	5963.8	100	7187.17	100
2/12/2026 6:00	4904.7	100	1925.29	100
2/13/2026 6:00	7881.56	100	4180.04	100
2/14/2026 6:00	7879.65	100	6970.14	100
2/15/2026 6:00	8120.42	100	6628.44	100
2/16/2026 6:00	8393.23	100	7830.5	100
2/17/2026 6:00	8692.24	100	1167.34	100
2/18/2026 6:00	3651.16	100	6.43	100
2/19/2026 6:00	1734.44	100	6.3	100
2/20/2026 6:00	1734.58	100	6.31	100
2/21/2026 6:00	2395.99	100	6.21	100
2/22/2026 6:00	4240.4	100	6.26	100
2/23/2026 6:00	6108.33	100	6.35	100
2/24/2026 6:00	7976.25	100	6.44	100
2/25/2026 6:00	9844.18	100	6.54	100

2/27/2026 6:00	10362.24	248693.8	
2/28/2026 6:00	8550.59	205214.2	
3/1/2026 6:00	15943.81	382651.4	
3/2/2026 6:00	13191.72	316601.3	
3/3/2026 6:00	18671.13	448107.1	
3/4/2026 6:00	8809.51	211428.2	
3/5/2026 6:00	8761.13	210267.1	
3/6/2026 6:00	7267.72	174425.3	
3/7/2026 6:00	5642.42	135418.1	
3/8/2026 6:00	6135.77	147258.5	
3/9/2026 6:00	6623.61	158966.6	
3/10/2026 6:00	1643.11	39434.64	
3/11/2026 6:00	1356.96	32567.04	
3/12/2026 6:00	1469.24	35261.76	
3/13/2026 6:00	1305.43	31330.32	
3/14/2026 6:00	5931.13	142347.1	
3/15/2026 6:00	7200.51	172812.2	
3/16/2026 6:00	7075.13	169803.1	
3/17/2026 6:00	7329.79	175915	
3/18/2026 6:00	8000.52	192012.5	
3/19/2026 6:00	13140.25	315366	
3/20/2026 6:00	14854.55	356509.2	
3/21/2026 6:00	15448.94	370774.6	
3/22/2026 6:00	9710.67	233056.1	
3/23/2026 6:00	7334.46	176027	
3/24/2026 6:00	7827.95	187870.8	
3/25/2026 6:00	7742.88	185829.1	
3/26/2026 6:00	10615.29	254767	
3/27/2026 6:00		0	
3/28/2026 6:00		0	
3/29/2026 6:00		0	
3/30/2026 6:00		0	
3/31/2026 6:00		0	
4/1/2026 6:00		0	
	0	0	
		0	
		16238463	16238.46
			186.649

2/26/2026 6:00	11712.1	100	6.63	100
2/27/2026 6:00	10355.41	100	6.83	100
2/28/2026 6:00	8543.75	100	6.84	100
3/1/2026 6:00	15936.85	100	6.96	100
3/2/2026 6:00	13184.64	100	7.08	100
3/3/2026 6:00	18664.01	100	7.12	100
3/4/2026 6:00	8802.49	100	7.02	100
3/5/2026 6:00	8753.95	100	7.18	100
3/6/2026 6:00	7260.5	100	7.22	100
3/7/2026 6:00	5635.13	100	7.29	100
3/8/2026 6:00	6128.01	100	7.76	100
3/9/2026 6:00	6615.53	100	8.08	100
3/10/2026 6:00	1635.1	100	8.01	100
3/11/2026 6:00	1349.02	100	7.94	100
3/12/2026 6:00	1461.34	100	7.9	100
3/13/2026 6:00	1297.73	100	7.7	100
3/14/2026 6:00	5923.68	100	7.45	100
3/15/2026 6:00	7192.82	100	7.69	100
3/16/2026 6:00	7067.63	100	7.5	100
3/17/2026 6:00	7322.54	100	7.25	100
3/18/2026 6:00	7994.08	100	6.44	100
3/19/2026 6:00	8332.41	100	4807.84	100
3/20/2026 6:00	8530.91	100	6323.64	100
3/21/2026 6:00	8567.7	100	6881.24	100
3/22/2026 6:00	9391.75	100	318.92	100
3/23/2026 6:00	7327.52	100	6.94	100
3/24/2026 6:00	7821.04	100	6.91	100
3/25/2026 6:00	7736.4	100	6.48	100
3/26/2026 6:00	10609.15	100	6.14	100
3/27/2026 6:00	7994.41	100	6.03	100
3/28/2026 6:00	6076.99	100	6.04	100
3/29/2026 6:00	4248.82	100	6.15	100
3/30/2026 6:00	3956.53	100	6.19	100
3/31/2026 6:00	-5507.47	20	5.88	20
4/1/2026 6:00	-30998.3	0	5.84	0

Lignin Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % lignin	Moisture % with lignin	Associated water with generated lignin	Quantity Dispatched	Associated water with Dispatched lignin
1	Jan'2026	MT	25.25	47.4	52.6	13.2815	75.25	39.5815
2	Feb'2026	MT	70	46.8	53.2	37.24	0	0
3	March'2026	MT		46.5	53.5	0		0
Total		**MT**	**95.25**			**50.5215**	**75.25**	**39.5815**

Syrup Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % Syrup	Moisture % with Syrup	Associated water with generated Syrup	Quantity Dispatched	Associated water with Dispatched lignin
1	Jan'2026	MT	19	52.4	47.6	9.044	0	0
2	Feb'2026	MT	0	50.9	49.1	0	0	0
3	March'2026	MT		51.6	48.4	0		0
Total		**MT**	**19**			**9.044**	**0**	**0**

Date	Jan '26 Biomass Consumption in MT			Date	Feb'26 Biomass Consumption in MT			Date	March'26 Biomass Consumption in MT			
	Process	Boiler	Total		Process	Boiler	Total		Process	Boiler	Total	
1/1/2026	117	0	117	2/1/2026	0	67.014	67.014	3/1/2026	140.004	0	140.004	
1/2/2026	83.016	0	83.016	2/2/2026	0	66.006	66.006	3/2/2026	143.01	0	143.01	
1/3/2026	37.998	0	37.998	2/3/2026	0	23.994	23.994	3/3/2026	86.004	0	86.004	
1/4/2026	0	0	0	2/4/2026	0	68.004	68.004	3/4/2026	90	0	90	
1/5/2026	0	0	0	2/5/2026	0	70.002	70.002	3/5/2026	22.05	0	22.05	
1/6/2026	0	0	0	2/6/2026	0	78.012	78.012	3/6/2026	15.012	0	15.012	
1/7/2026	0	0	0	2/7/2026	0	125.01	125.01	3/7/2026	49.014	0	49.014	
1/8/2026	0	0	0	2/8/2026	0	116.01	116.01	3/8/2026	0	0	0	
1/9/2026	0	0	0	2/9/2026	0	100.998	100.998	3/9/2026	0	0	0	
1/10/2026	0	0	0	2/10/2026	0	0	0	3/10/2026	0	0	0	
1/11/2026	0	0	0	2/11/2026	0	43.002	43.002	3/11/2026	0	0	0	
1/12/2026	0	29.988	29.988	2/12/2026	0	96.012	96.012	3/12/2026	19.998	0	19.998	
1/13/2026	0	39.996	39.996	2/13/2026	0	80.01	80.01	3/13/2026	96.012	0	96.012	
1/14/2026	0	34.992	34.992	2/14/2026	0	81	81	3/14/2026	96.012	0	96.012	
1/15/2026	0	9.99	9.99	2/15/2026	0	99	99	3/15/2026	100.998	0	100.998	
1/16/2026	0	0	0	2/16/2026	0	64.998	64.998	3/16/2026	100.08	0	100.08	
1/17/2026	0	0	0	2/17/2026	0	19.998	19.998	3/17/2026	101.034	0	101.034	
1/18/2026	0	0	0	2/18/2026	0	9	9	3/18/2026	115.002	0	115.002	
1/19/2026	7.992	0	7.992	2/19/2026	0	5.004	5.004	3/19/2026	129.996	0	129.996	
1/20/2026	0	0	0	2/20/2026	0	0	0	3/20/2026	163.998	0	163.998	
1/21/2026	60.012	0	60.012	2/21/2026	0	0	0	3/21/2026	144	0	144	
1/22/2026	32.004	0	32.004	2/22/2026	1.008	0	1.008	3/22/2026	157.014	0	157.014	
1/23/2026	0	29.988	29.988	2/23/2026	0	0	0	3/23/2026	162	0	162	
1/24/2026	0	54.99	54.99	2/24/2026	0	0	0	3/24/2026	154.998	0	154.998	
1/25/2026	0	50.004	50.004	2/25/2026	60.03	26.01	86.04	3/25/2026	120.006	0	120.006	
1/26/2026	0	39.996	39.996	2/26/2026	127.008	73.008	200.016	3/26/2026	12.01	0	12.01	
1/27/2026	0	33.768	33.768	2/27/2026	142.002	78.9984	221.0004	3/27/2026	0	0	0	
1/28/2026	0	44.064	44.064	2/28/2026	50.004	3.762	53.766	3/28/2026	0	0	0	
1/29/2026	0	36.99	36.99					3/29/2026	0	0	0	
1/30/2026	0	41.994	41.994					3/30/2026	0	0	0	
1/31/2026	0	26.0001	26.0001					3/31/2026	0	0		
TOTAL	**338.0**	**472.7601**	**810.8**	**TOTAL**	**380.1**	**1394.8524**	**1774.90**	**TOTAL**	**2218.3**	**0**	**2218.3**	4803.939

Boiler consumption Total	1867.6125
Process total	2936.3

Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)
1/1/2026	407	2/1/2026	0	3/1/2026	215
1/2/2026	323	2/2/2026	0	3/2/2026	392
1/3/2026	261	2/3/2026	0	3/3/2026	373
1/4/2026	47	2/4/2026	0	3/4/2026	397
1/5/2026	50	2/5/2026	0	3/5/2026	128
1/6/2026	23	2/6/2026	0	3/6/2026	0
1/7/2026	23	2/7/2026	0	3/7/2026	75
1/8/2026	34	2/8/2026	0	3/8/2026	124
1/9/2026	34	2/9/2026	0	3/9/2026	0
1/10/2026	48	2/10/2026	0	3/10/2026	0
1/11/2026	45	2/11/2026	0	3/11/2026	16
1/12/2026	47	2/12/2026	0	3/12/2026	88
1/13/2026	47	2/13/2026	0	3/13/2026	399
1/14/2026	44	2/14/2026	0	3/14/2026	375
1/15/2026	46	2/15/2026	0	3/15/2026	385
1/16/2026	46	2/16/2026	0	3/16/2026	408
1/17/2026	46	2/17/2026	0	3/17/2026	407
1/18/2026	46	2/18/2026	0	3/18/2026	416
1/19/2026	65	2/19/2026	0	3/19/2026	414
1/20/2026	46	2/20/2026	0	3/20/2026	416
1/21/2026	243	2/21/2026	0	3/21/2026	415
1/22/2026	156	2/22/2026	0	3/22/2026	420
1/23/2026	0	2/23/2026	0	3/23/2026	427
1/24/2026	0	2/24/2026	0	3/24/2026	427
1/25/2026	0	2/25/2026	203	3/25/2026	419
1/26/2026	0	2/26/2026	374	3/26/2026	
1/27/2026	0	2/27/2026	378	3/27/2026	
1/28/2026	0	2/28/2026	354	3/28/2026	
1/29/2026	0			3/29/2026	
1/30/2026	0			3/30/2026	
1/31/2026	0			3/31/2026	
TOTAL	2127	TOTAL	1309	TOTAL	7135

Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)
1/1/2026	0	2/1/2026	0	3/1/2026	0
1/2/2026	0	2/2/2026	0	3/2/2026	0
1/3/2026	0	2/3/2026	0	3/3/2026	0
1/4/2026	0	2/4/2026	0	3/4/2026	0
1/5/2026	0	2/5/2026	0	3/5/2026	0
1/6/2026	0	2/6/2026	0	3/6/2026	0
1/7/2026	0	2/7/2026	0	3/7/2026	0
1/8/2026	0	2/8/2026	0	3/8/2026	0
1/9/2026	0	2/9/2026	65	3/9/2026	0
1/10/2026	0	2/10/2026	146	3/10/2026	0
1/11/2026	0	2/11/2026	47	3/11/2026	0
1/12/2026	0	2/12/2026	106	3/12/2026	0
1/13/2026	0	2/13/2026	124	3/13/2026	0
1/14/2026	0	2/14/2026	124	3/14/2026	0
1/15/2026	0	2/15/2026	121	3/15/2026	0
1/16/2026	0	2/16/2026	26	3/16/2026	0
1/17/2026	0	2/17/2026	0	3/17/2026	0
1/18/2026	0	2/18/2026	0	3/18/2026	119
1/19/2026	0	2/19/2026	0	3/19/2026	196
1/20/2026	0	2/20/2026	0	3/20/2026	205
1/21/2026	0	2/21/2026	0	3/21/2026	8
1/22/2026	50	2/22/2026	155	3/22/2026	0
1/23/2026	0	2/23/2026	158	3/23/2026	0
1/24/2026	0	2/24/2026	39	3/24/2026	0
1/25/2026	0	2/25/2026	0	3/25/2026	11
1/26/2026	0	2/26/2026	0	3/26/2026	
1/27/2026	0	2/27/2026	0	3/27/2026	
1/28/2026	0	2/28/2026		3/28/2026	
1/29/2026	0			3/29/2026	
1/30/2026	0			3/30/2026	
1/31/2026	0			3/31/2026	
TOTAL	50	TOTAL	1111	TOTAL	539

Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)
1/1/2026	132	2/1/2026	121	3/1/2026	121
1/2/2026	124	2/2/2026	95	3/2/2026	119
1/3/2026	97	2/3/2026	115	3/3/2026	125
1/4/2026	81	2/4/2026	102	3/4/2026	130
1/5/2026	110	2/5/2026	84	3/5/2026	128
1/6/2026	83	2/6/2026	152	3/6/2026	129
1/7/2026	42	2/7/2026	148	3/7/2026	121
1/8/2026	53	2/8/2026	114	3/8/2026	121
1/9/2026	68	2/9/2026	115	3/9/2026	89
1/10/2026	88	2/10/2026	107	3/10/2026	0
1/11/2026	90	2/11/2026	229	3/11/2026	84
1/12/2026	110	2/12/2026	118	3/12/2026	87
1/13/2026	108	2/13/2026	152	3/13/2026	88
1/14/2026	102	2/14/2026	145	3/14/2026	95
1/15/2026	141	2/15/2026	138	3/15/2026	114
1/16/2026	144	2/16/2026	126	3/16/2026	104
1/17/2026	137	2/17/2026	93	3/17/2026	118
1/18/2026	135	2/18/2026	0	3/18/2026	120
1/19/2026	132	2/19/2026	85	3/19/2026	116
1/20/2026	129	2/20/2026	85	3/20/2026	131
1/21/2026	121	2/21/2026	95	3/21/2026	122
1/22/2026	84	2/22/2026	123	3/22/2026	121
1/23/2026	62	2/23/2026	140	3/23/2026	117
1/24/2026	58	2/24/2026	116	3/24/2026	120
1/25/2026	0	2/25/2026	98	3/25/2026	138
1/26/2026	0	2/26/2026	115	3/26/2026	
1/27/2026	0	2/27/2026	115	3/27/2026	
1/28/2026	75	2/28/2026	112	3/28/2026	
1/29/2026	76			3/29/2026	
1/30/2026	74			3/30/2026	
1/31/2026	72			3/31/2026	
TOTAL	2728	TOTAL	3238	TOTAL	1765

Total steam (July -Sept'25) **20001**

Mud removal data from wet washing section

Sr.No	Month	Unit	Biomass Consumption Quantity	% of Average Mud content with biomass	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
1	Jan'2026	MT	338.022	8	92.85	27.04176	378.2	351.16
2	Feb'2026	MT	380.052	8	93.1	30.40416	440.6	410.24
3	March'2026	MT	2218.252	8	93.3	177.46016	2648.7	2471.20
Total		**MT**	**2936.326**			**234.91**	**3467.51**	**3232.60**

3355.801143

Sludge/mud recovered data from the PCTP section of last three months

Sr.No	Month	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	Jan'2026	MT	341	84.7	52.173	288.827
2	Feb'2026	MT	308	85.2	45.584	262.416
3	March'2026	MT	341	85.1	50.809	290.191
Total		**MT**	**990**		**148.566**	**841.434**

Intermedate tanks of units

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	V-9203	Flash vessel -1	Hydrolysis section	100%	68	19	12.92	55.08
2	V-9204	Flash vessel -2	Hydrolysis section	100%	68	19	12.92	55.08
3	R-9201 A	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
4	R-9201B	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
5	R-9202 A	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
6	R-9202 B	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
7	R-9202 C	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
8	R-9202 D	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
9	R-9304 A	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
10	R-9304 B	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
11	R-9305A	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
12	R-9305B	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
13	R-9305C	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
14	R-9305D	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
15	T-9301	Beer well	Co-fermentation section	100%	2792	11	307.12	2484.88
16	Y-9301	Drain pit for the floor washing	Co-fermentation section	100%	42.75	11	4.7025	38.0475
17	T-9721	Spent wash hold-up tank	Solid liquid separation	100%	736	11	80.96	655.04
18	T-9722	Thin slop tank	Solid liquid separation	100%	136	4.5	6.12	129.88
19	T-9725	Lagoon tank	Solid liquid separation	100%	5638	11	620.18	5017.82
20	T-9724	Syrup tank	Solid liquid separation	100%	215	55	118.25	96.75
21	T-9723	Cloth washing tank	Solid liquid separation	100%	30	1	0.3	29.7
22	T-9726	Squze water tank	Solid liquid separation	100%	30	1	0.3	29.7
23	Y-9725	Drain pit for the floor washing	Solid liquid separation	100%	36.75	8	2.94	33.81
24	Y-9101	Drain pit for the floor washing	Wet washing section	100%	21.6	5	1.08	20.52
25	Y-9501	Drain pit for the floor washing	Evaporation	100%	8	8	0.64	7.36
26	T-9507	Thin slop hold-up tank	Evaporation	100%	1750	8	140	1610
27	Y-9402	Drain pit for the floor washing	D&D section	100%	12	10	1.2	10.8
28	Y-9801	Drain pit for the floor washing	Product tank	100%	8.4	0	0	8.4
29	Y-9901	Drain pit for the floor washing	Bulk chemical	100%	8.8	5	0.44	8.36
30	Y-9310	Drain pit for the floor washing	Molasses area	100%	8	10	0.8	7.2

PCTP tanks data

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	T-9781	Collection tank	PCTP	100%	777	0.3	2.331	774.669
2	T-9782	Neutralisation tank	PCTP	100%	34	0.3	0.102	33.898
3	T-9783	Buffer tank	PCTP	100%	260	0.3	0.78	259.22
4	R-9781	AHR	PCTP	100%	6813	0.3	20.439	6792.561
5	T-9784	Conventional aeration tank	PCTP	100%	1915	0.3	5.745	1909.255
6	T-9785	Clarifier -1	PCTP	100%	364	0.2	0.728	363.272
7	T-9786	Extended aeration tank	PCTP	100%	1150	0.2	2.3	1147.7
8	T-9787	Clarifier -2	PCTP	100%	312	0.2	0.624	311.376
9	T-9788	Flash mixer	PCTP	100%	5	0.2	0.01	4.99
10	T-9789	Flocculator	PCTP	100%	20	0.2	0.04	19.96
11	T-9790	Tube settler	PCTP	100%	60	0.2	0.12	59.88
12	T-9791	Chlorine contact tank	PCTP	100%	150	0.1	0.15	149.85
13	T-9792	UF feed tank	PCTP	100%	280	0.1	0.28	279.72
14	T-9796	RO feed tank	PCTP	100%	270	0.1	0.27	269.73
15	T-9794	RO permeate /TRW	PCTP	100%	122	0	0	122
16	T-9795	RO reject	PCTP	100%	52.5	0	0	52.5
17	T-1101	RO permeate /TRW tank	PCTP	100%	3215	0	0	3215
18	T-1801 A	Fire water tank	PCTP	100%	1245	0	0	1245
19	T-1801 B	Fire water tank	PCTP	100%	1245	0	0	1245
20	T-1802	Fire water tank	PCTP	100%	423	0	0	423

2G Ethanol Plant : Operation data & water balance (July -Sept'25)

	in (MT)
Steam	23688
Raw Water in	24935
Moisture in Biomass	834
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.07.2025	7268
Rain Water recycle	59286
Total of last three month	**116181**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	265
Evaporation loss (Cooling Tower)	95040
Moisture loss from Boiler Stack Loss (Biomass burnt)	0
Moisture in Lignin	825
Moisture in Syrup	310
Moisture in Wet washing Mud	3563
Moisture in PCTP Sludge	860
Drinking water	230
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 30.09.2025	15088
Total of last three month	**116181**

Total biomass consumed in last three months	3336	MT
Total Ethanol Produced in last three months	177	KL
Lignin generated in last three month	1556	MT
Syrup Generated in last three month	643	MT

PCTP Processing	83374	MT
[Rain Water+ Process Comndensate+ETP Reject]	40	MT/h

ETP Processing	34365	MT
CT Blow Down/ DM reject/ Boiler Blow Down	16	MT/h

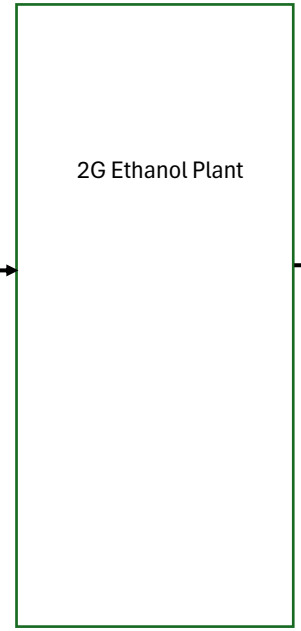
Surface Area of 2G plant	133546.4	M2
Total Rainfall (approx) [Jul-Sept'25]	68936.6	MT

Jul'25	0.149
Aug'25	0.226
Sept'25	0.142

* Steam is being taken from refinery as temporary arrangement

2G Ethanol Plant : Overall Mass balance (July -Sept'25)

	in (MT)
Steam	23688
Raw Water in	25608
Biomass	3336
Chemicals	794
Hold up in intermediate stock (slurry/ Fermented Wash) as on 01.07.2025	8580
Rain Water recycle	58596
Total of last three month	**120602**



	in (MT)
Ethanol Generation	140.4141
CO2 loss from fermentation	134.9076647
Drift loss (Cooling Tower)	265
Evaporation loss (Cooling Tower)	95040
Boiler Stack Loss/Ash	0
Lignin	1556
Syrup	643
Wet washing Mud	3830
PCTP Sludge	1012
Drinking water	230
Hold up in intermediate stock (slurry/ Fermented Wash) as on 30.09.2025	17750
Total of last three month	**120602**

* Steam is being taken from refinery as temporary arrangement.

PNA.101FT951001.PV_Timestamp	PNA.101FT951001.PV_Value	
7/1/2025 6:00 AM	5966.21	143189
7/2/2025 6:00 AM	5605.26	134526.2
7/3/2025 6:00 AM	5641.94	135406.6
7/4/2025 6:00 AM	7627.99	183071.8
7/5/2025 6:00 AM	5290.95	126982.8
7/6/2025 6:00 AM	3900.88	93621.12
7/7/2025 6:00 AM	4351.32	104431.7
7/8/2025 6:00 AM	5607.44	134578.6
7/9/2025 6:00 AM	3905.48	93731.52
7/10/2025 6:00 AM	4017.65	96423.6
7/11/2025 6:00 AM	5093.28	122238.7
7/12/2025 6:00 AM	6263.79	150331
7/13/2025 6:00 AM	4799.51	115188.2
7/14/2025 6:00 AM	1291.42	30994.08
7/15/2025 6:00 AM	4977.55	119461.2
7/16/2025 6:00 AM	5207.11	124970.6
7/17/2025 6:00 AM	7108.33	170599.9
7/18/2025 6:00 AM	3211.34	77072.16
7/19/2025 6:00 AM	4599.6	110390.4
7/20/2025 6:00 AM	12876.14	309027.4
7/21/2025 6:00 AM	499.73	11993.52
7/22/2025 6:00 AM	306.6	7358.4
7/23/2025 6:00 AM	6085.46	146051
7/24/2025 6:00 AM	10416.84	250004.2
7/25/2025 6:00 AM	7349.7	176392.8
7/26/2025 6:00 AM	12478.12	299474.9
7/27/2025 6:00 AM	14787.9	354909.6
7/28/2025 6:00 AM	15923.07	382153.7
7/29/2025 6:00 AM	7193.88	172653.1

7/30/2025 6:00 AM	15088.33	362119.9
7/31/2025 6:00 AM	16190.49	388571.8
8/1/2025 6:00 AM	14616.39	350793.4
8/2/2025 6:00 AM	5095.19	122284.6
8/3/2025 6:00 AM	5876.75	141042
8/4/2025 6:00 AM	4519.61	108470.6
8/5/2025 6:00 AM	8126.09	195026.2
8/6/2025 6:00 AM	4296.33	103111.9
8/7/2025 6:00 AM	8086.63	194079.1
8/8/2025 6:00 AM	4631.4	111153.6
8/9/2025 6:00 AM	9718.03	233232.7
8/10/2025 6:00 AM	8992.76	215826.2
8/11/2025 6:00 AM	7939.75	190554
8/12/2025 6:00 AM	9554.54	229309
8/13/2025 6:00 AM	8740.98	209783.5
8/14/2025 6:00 AM	8557.45	205378.8
8/15/2025 6:00 AM	12141.14	291387.4
8/16/2025 6:00 AM	8814.65	211551.6
8/17/2025 6:00 AM	6059.1	145418.4
8/18/2025 6:00 AM	7765.71	186377
8/19/2025 6:00 AM	6941.66	166599.8
8/20/2025 6:00 AM	5580.22	133925.3
8/21/2025 6:00 AM	10912.92	261910.1
8/22/2025 6:00 AM	14989.04	359737
8/23/2025 6:00 AM	13257.75	318186
8/24/2025 6:00 AM	10821.88	259725.1
8/25/2025 6:00 AM	10827.57	259861.7
8/26/2025 6:00 AM	10467.01	251208.2
8/27/2025 6:00 AM	10731.2	257548.8
8/28/2025 6:00 AM	7617.26	182814.2

8/29/2025 6:00 AM	6275.44	150610.6
8/30/2025 6:00 AM	12138.95	291334.8
8/31/2025 6:00 AM	10132.77	243186.5
9/1/2025 6:00 AM	9193.17	220636.1
9/2/2025 6:00 AM	11864.21	284741
9/3/2025 6:00 AM	12972.99	311351.8
9/4/2025 6:00 AM	9876.26	237030.2
9/5/2025 6:00 AM	11634.63	279231.1
9/6/2025 6:00 AM	11824.3	283783.2
9/7/2025 6:00 AM	6426.92	154246.1
9/8/2025 6:00 AM	5522.41	132537.8
9/9/2025 6:00 AM	5591.89	134205.4
9/10/2025 6:00 AM	5654.08	135697.9
9/11/2025 6:00 AM	5791.61	138998.6
9/12/2025 6:00 AM	5749.8	137995.2
9/13/2025 6:00 AM	6412.57	153901.7
9/14/2025 6:00 AM	7081.74	169961.8
9/15/2025 6:00 AM	6368.14	152835.4
9/16/2025 6:00 AM	5753.88	138093.1
9/17/2025 6:00 AM	5737.71	137705
9/18/2025 6:00 AM	5721.27	137310.5
9/19/2025 6:00 AM	5955.35	142928.4
9/20/2025 6:00 AM	8090.34	194168.2
9/21/2025 6:00 AM	7433.84	178412.2
9/22/2025 6:00 AM	21936.88	526485.1
9/23/2025 6:00 AM	25405.03	609720.7
9/24/2025 6:00 AM	18469.23	443261.5
9/25/2025 6:00 AM	21342.88	512229.1
9/26/2025 6:00 AM	7983.06	191593.4
9/27/2025 6:00 AM	5992.21	143813

9/28/2025 6:00 AM	5969.79	143275	
9/29/2025 6:00 AM	5995.72	143897.3	
9/30/2025 6:00 AM	6006.03	144144.7	
10/1/2025 6:00 AM	6026.87	144644.9	
		18568183	18568.18
			213.4274

Lignin Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % lignin	Moisture % with lignin	Associated water with generated lignin	Quantity Dispatched	Associated water with Dispatched lignin
1	July'2025	MT	587.73	47.4	52.6	309.14598	108.68	57.16568
2	August'2025	MT	692	46.8	53.2	368.144	0	0
3	September'2025	MT	276.76	46.5	53.5	148.0666	1574.43	842.32005
Total		**MT**	**1556.49**			**825.35658**	**1683.11**	**899.48573**

Syrup Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % Syrup	Moisture % with Syrup	Associated water with generated Syrup	Quantity Dispatched	Associated water with Dispatched lignin
1	July'2025	MT	382.795	52.4	47.6	182.21042	383.07	182.34132
2	August'2025	MT	260.192	50.9	49.1	127.754272	209.07	102.65337
3	September'2025	MT	0	51.6	48.4	0	104.79	50.71836
Total		**MT**	**642.987**			**309.964692**	**696.93**	**335.71305**

Date	July '25 Biomass Consumption in MT			Date	Aug'25 Biomass Consumption in MT			Date	Sep'25 Biomass Consumption in MT		
	Process	Boiler	Total		Process	Boiler	Total		Process	Boiler	Total
7/1/2025	65.99	0	65.99	8/1/2025	0	0	0	9/1/2025	57.996	0	57.996
7/2/2025	84	0	84	8/2/2025	0	0	0	9/2/2025	55.008	0	55.008
7/3/2025	85.096	0	85.096	8/3/2025	0	0	0	9/3/2025	54	0	54
7/4/2025	86.994	0	86.994	8/4/2025	21.996	0	21.996	9/4/2025	0	0	0
7/5/2025	88.2	0	88.2	8/5/2025	55.008	0	55.008	9/5/2025	0	0	0
7/6/2025	85.99	0	85.99	8/6/2025	51.012	0	51.012	9/6/2025	0	0	0
7/7/2025	88.004	0	88.004	8/7/2025	55.008	0	55.008	9/7/2025	0	0	0
7/8/2025	73.01	0	73.01	8/8/2025	54.99	0	54.99	9/8/2025	0	0	0
7/9/2025	80.31	0	80.31	8/9/2025	55.998	0	55.998	9/9/2025	0	0	0
7/10/2025	88.99	0	88.99	8/10/2025	56	0	56	9/10/2025	0	0	0
7/11/2025	88.84	0	88.84	8/11/2025	61.2	0	61.2	9/11/2025	0	0	0
7/12/2025	70.99	0	70.99	8/12/2025	68.004	0	68.004	9/12/2025	0	0	0
7/13/2025	60.99	0	60.99	8/13/2025	72	0	72	9/13/2025	21.996	0	21.996
7/14/2025	30	0	30	8/14/2025	55.008	0	55.008	9/14/2025	50.994	0	50.994
7/15/2025	48	0	48	8/15/2025	72	0	72	9/15/2025	41.004	0	41.004
7/16/2025	50	0	50	8/16/2025	7.992	0	7.992	9/16/2025	51.012	0	51.012
7/17/2025	0	0	0	8/17/2025	36	0	36	9/17/2025	37.998	0	37.998
7/18/2025	0	0	0	8/18/2025	54	0	54	9/18/2025	19.998	0	19.998
7/19/2025	12	0	12	8/19/2025	57.996	0	57.996	9/19/2025	55.008	0	55.008
7/20/2025	30	0	30	8/20/2025	54.99	0	54.99	9/20/2025	46.998	0	46.998
7/21/2025	36	0	36	8/21/2025	61.002	0	61.002	9/21/2025	10.998	0	10.998
7/22/2025	71	0	71	8/22/2025	63.99	0	63.99	9/22/2025	0	0	0
7/23/2025	0	0	0	8/23/2025	51.012	0	51.012	9/23/2025	0	0	0
7/24/2025	0	0	0	8/24/2025	65	0	65	9/24/2025	0	0	0
7/25/2025	0	0	0	8/25/2025	66.006	0	66.006	9/25/2025	0	0	0
7/26/2025	0	0	0	8/26/2025	59.994	0	59.994	9/26/2025	0	0	0
7/27/2025	0	0	0	8/27/2025	57.996	0	57.996	9/27/2025	0	0	0
7/28/2025	30	0	30	8/28/2025	0	0	0	9/28/2025	0	0	0
7/29/2025	10	0	10	8/29/2025	23.994	0	23.994	9/29/2025	0	0	0
7/30/2025	0	0	0	8/30/2025	60.966	0	60.966	9/30/2025	0	0	0
7/31/2025	0	0	0	8/31/2025	69.84	0	69.84				
TOTAL	**1364.4**	**0**	**1364.4**	**TOTAL**	**1469.0**	**0**	**1469.00**	**TOTAL**	**503.0**	**0**	**503.0**

3336.416

Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)	Date	MP steam consumption in PT (MT)	Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)	Date	MP steam consumption in D&D (MT)	Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)	Date	LP steam consumption in Evaporation (MT)
7/1/2025	278	8/1/2025	42	9/1/2025	42	7/1/2025	0	8/1/2025	176	9/1/2025	176	7/1/2025	0	8/1/2025	82	9/1/2025	82
7/2/2025	304	8/2/2025	43	9/2/2025	300	7/2/2025	0	8/2/2025	167	9/2/2025	0	7/2/2025	0	8/2/2025	50	9/2/2025	0
7/3/2025	304	8/3/2025	42	9/3/2025	302	7/3/2025	0	8/3/2025	0	9/3/2025	0	7/3/2025	0	8/3/2025	40	9/3/2025	0
7/4/2025	306	8/4/2025	97	9/4/2025	186	7/4/2025	0	8/4/2025	0	9/4/2025	0	7/4/2025	0	8/4/2025	82	9/4/2025	0
7/5/2025	303	8/5/2025	242	9/5/2025	46	7/5/2025	0	8/5/2025	0	9/5/2025	0	7/5/2025	0	8/5/2025	87	9/5/2025	55
7/6/2025	300	8/6/2025	162	9/6/2025	46	7/6/2025	0	8/6/2025	180	9/6/2025	0	7/6/2025	0	8/6/2025	87	9/6/2025	0
7/7/2025	300	8/7/2025	131	9/7/2025	21	7/7/2025	0	8/7/2025	0	9/7/2025	0	7/7/2025	0	8/7/2025	92	9/7/2025	77
7/8/2025	299	8/8/2025	249	9/8/2025	0	7/8/2025	0	8/8/2025	60	9/8/2025	0	7/8/2025	94	8/8/2025	66	9/8/2025	
7/9/2025	300	8/9/2025	242	9/9/2025	15	7/9/2025	0	8/9/2025	172	9/9/2025	0	7/9/2025	85	8/9/2025	67	9/9/2025	0
7/10/2025	301	8/10/2025	285	9/10/2025	17	7/10/2025	0	8/10/2025	42	9/10/2025	0	7/10/2025	85	8/10/2025	58	9/10/2025	62
7/11/2025	302	8/11/2025	253	9/11/2025	23	7/11/2025	0	8/11/2025	0	9/11/2025	50	7/11/2025	0	8/11/2025	72	9/11/2025	59
7/12/2025	302	8/12/2025	251	9/12/2025	19	7/12/2025	0	8/12/2025	0	9/12/2025	0	7/12/2025	86	8/12/2025	77	9/12/2025	64
7/13/2025	179	8/13/2025	251	9/13/2025	212	7/13/2025	0	8/13/2025	0	9/13/2025	0	7/13/2025	0	8/13/2025	75	9/13/2025	67
7/14/2025	123	8/14/2025	253	9/14/2025	296	7/14/2025	0	8/14/2025	0	9/14/2025	0	7/14/2025	0	8/14/2025	75	9/14/2025	71
7/15/2025	171	8/15/2025	256	9/15/2025	297	7/15/2025	81.2	8/15/2025	153	9/15/2025	0	7/15/2025	0	8/15/2025	94	9/15/2025	0
7/16/2025	187	8/16/2025	68	9/16/2025	297	7/16/2025	195	8/16/2025	207	9/16/2025	0	7/16/2025	0	8/16/2025	74	9/16/2025	0
7/17/2025	44	8/17/2025	145	9/17/2025	297	7/17/2025	171	8/17/2025	132	9/17/2025	28	7/17/2025	0	8/17/2025	58	9/17/2025	66
7/18/2025	44	8/18/2025	354	9/18/2025	296	7/18/2025	0	8/18/2025	0	9/18/2025	28	7/18/2025	92	8/18/2025	72	9/18/2025	64
7/19/2025	95	8/19/2025	390	9/19/2025	186	7/19/2025	0	8/19/2025	0	9/19/2025	29	7/19/2025	92	8/19/2025	79	9/19/2025	67
7/20/2025	126	8/20/2025	391	9/20/2025	296	7/20/2025	0	8/20/2025	0	9/20/2025	25	7/20/2025	96	8/20/2025	74	9/20/2025	52
7/21/2025	125	8/21/2025	420	9/21/2025	119	7/21/2025	0	8/21/2025	0	9/21/2025	28	7/21/2025	0	8/21/2025	85	9/21/2025	34
7/22/2025	173	8/22/2025	250	9/22/2025	47	7/22/2025	0	8/22/2025	0	9/22/2025	0	7/22/2025	0	8/22/2025	99	9/22/2025	55
7/23/2025	69	8/23/2025	298	9/23/2025	47	7/23/2025	0	8/23/2025	0	9/23/2025	0	7/23/2025	31	8/23/2025	75	9/23/2025	89
7/24/2025	44	8/24/2025	287	9/24/2025	46	7/24/2025	0	8/24/2025	0	9/24/2025	42	7/24/2025	57	8/24/2025	80	9/24/2025	113
7/25/2025	44	8/25/2025	281	9/25/2025	47	7/25/2025	0	8/25/2025	0	9/25/2025	154	7/25/2025	63	8/25/2025	92	9/25/2025	131
7/26/2025	125	8/26/2025	292	9/26/2025	293	7/26/2025	0	8/26/2025	0	9/26/2025	26	7/26/2025	70	8/26/2025	98	9/26/2025	80
7/27/2025	121	8/27/2025	293	9/27/2025	0	7/27/2025	0	8/27/2025	0	9/27/2025	0	7/27/2025	85	8/27/2025	95	9/27/2025	0
7/28/2025	121	8/28/2025	50	9/28/2025	0	7/28/2025	0	8/28/2025	0	9/28/2025	0	7/28/2025	86	8/28/2025	84	9/28/2025	0
7/29/2025	89	8/29/2025	111	9/29/2025	0	7/29/2025	0	8/29/2025	0	9/29/2025	0	7/29/2025	101	8/29/2025	0	9/29/2025	0
7/30/2025	89	8/30/2025	301	9/30/2025	0	7/30/2025	136.2	8/30/2025	0	9/30/2025	0	7/30/2025	101	8/30/2025	43	9/30/2025	0
7/31/2025	43	8/31/2025	302			7/31/2025	166.3	8/31/2025	0			7/31/2025	75	8/31/2025	45		
TOTAL	5610	TOTAL	7031	TOTAL	3793	TOTAL	749.7	TOTAL	1288	TOTAL	586	TOTAL	1298	TOTAL	2258	TOTAL	1075

Total steam (July -Sept'25) **23688**

Mud removal data from wet washing section

Sr.No	Month	Unit	Biomass Consumption Quantity	% of Average Mud content with biomass	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
1	July'2025	MT	1364.42	8	92.85	109.1536	1526.6	1417.47
2	August'2025	MT	1469	8	93.1	117.52	1703.2	1585.67
3	September'2025	MT	503	8	93.3	40.24	600.6	560.36
	Total	**MT**	**3336.42**			**266.91**	**3830.41**	**3563.50**

3813.051429

Sludge/mud recovered data from the PCTP section of last three months

Sr.No	Month	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	July'2025	MT	341	84.7	52.173	288.827
2	August'2025	MT	341	85.2	50.468	290.532
3	September'2025	MT	330	85.1	49.17	280.83
	Total	**MT**	**1012**		**151.811**	**860.189**

July '25 Biomass Consumption V/S wet washing section mud generation & water loss

Date	Unit	Biomass Consumption Quantity	% of Average Mud content with biomass	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
7/1/2025	MT	65.99	8	80	5.2792	26.396	21.1168
7/2/2025	MT	84	8	80	6.72	33.6	26.88
7/3/2025	MT	85.096	8	80	6.80768	34.0384	27.23072
7/4/2025	MT	86.994	8	80	6.95952	34.7976	27.83808
7/5/2025	MT	88.2	8	80	7.056	35.28	28.224
7/6/2025	MT	85.99	8	80	6.8792	34.396	27.5168
7/7/2025	MT	88.004	8	80	7.04032	35.2016	28.16128
7/8/2025	MT	73.01	8	80	5.8408	29.204	23.3632
7/9/2025	MT	80.31	8	80	6.4248	32.124	25.6992
7/10/2025	MT	88.99	8	80	7.1192	35.596	28.4768
7/11/2025	MT	88.84	8	80	7.1072	35.536	28.4288
7/12/2025	MT	70.99	8	80	5.6792	28.396	22.7168
7/13/2025	MT	60.99	8	80	4.8792	24.396	19.5168
7/14/2025	MT	30	8	80	2.4	12	9.6
7/15/2025	MT	48	8	80	3.84	19.2	15.36
7/16/2025	MT	50	8	80	4	20	16
7/17/2025	MT	0	8	80	0	0	0
7/18/2025	MT	0	8	80	0	0	0
7/19/2025	MT	12	8	80	0.96	4.8	3.84
7/20/2025	MT	30	8	80	2.4	12	9.6
7/21/2025	MT	36	8	80	2.88	14.4	11.52
7/22/2025	MT	71	8	80	5.68	28.4	22.72
7/23/2025	MT	0	8	80	0	0	0
7/24/2025	MT	0	8	80	0	0	0
7/25/2025	MT	0	8	80	0	0	0
7/26/2025	MT	0	8	80	0	0	0
7/27/2025	MT	0	8	80	0	0	0
7/28/2025	MT	30	8	80	2.4	12	9.6
7/29/2025	MT	10	8	80	0.8	4	3.2
7/30/2025	MT	0	8	80	0	0	0
7/31/2025	MT	0	8	80	0	0	0
							436.61

August '25 Biomass Consumption V/S wet washing section mud generation & water loss

Date	Unit	Biomass Consumption Quantity	of Average Mud content with bioma	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
8/1/2025	MT	0	8	80	0	0	0
8/2/2025	MT	0	8	80	0	0	0
8/3/2025	MT	0	8	80	0	0	0
8/4/2025	MT	21.996	8	80	1.75968	8.7984	7.03872
8/5/2025	MT	55.008	8	80	4.40064	22.0032	17.60256
8/6/2025	MT	51.012	8	80	4.08096	20.4048	16.32384
8/7/2025	MT	55.008	8	80	4.40064	22.0032	17.60256
8/8/2025	MT	54.99	8	80	4.3992	21.996	17.5968
8/9/2025	MT	55.998	8	80	4.47984	22.3992	17.91936
8/10/2025	MT	56	8	80	4.48	22.4	17.92
8/11/2025	MT	61.2	8	80	4.896	24.48	19.584
8/12/2025	MT	68.004	8	80	5.44032	27.2016	21.76128
8/13/2025	MT	72	8	80	5.76	28.8	23.04
8/14/2025	MT	55.008	8	80	4.40064	22.0032	17.60256
8/15/2025	MT	72	8	80	5.76	28.8	23.04
8/16/2025	MT	7.992	8	80	0.63936	3.1968	2.55744
8/17/2025	MT	36	8	80	2.88	14.4	11.52
8/18/2025	MT	54	8	80	4.32	21.6	17.28
8/19/2025	MT	57.996	8	80	4.63968	23.1984	18.55872
8/20/2025	MT	54.99	8	80	4.3992	21.996	17.5968
8/21/2025	MT	61.002	8	80	4.88016	24.4008	19.52064

8/22/2025	MT	63.99	8	80	5.1192	25.596	20.4768
8/23/2025	MT	51.012	8	80	4.08096	20.4048	16.32384
8/24/2025	MT	65	8	80	5.2	26	20.8
8/25/2025	MT	66.006	8	80	5.28048	26.4024	21.12192
8/26/2025	MT	59.994	8	80	4.79952	23.9976	19.19808
8/27/2025	MT	57.996	8	80	4.63968	23.1984	18.55872
8/28/2025	MT	0	8	80	0	0	0
8/29/2025	MT	23.994	8	80	1.91952	9.5976	7.67808
8/30/2025	MT	60.966	8	80	4.87728	24.3864	19.50912
8/31/2025	MT	69.84	8	80	5.5872	27.936	22.3488
							470.08

SEP '25 Biomass Consumption V/S wet washing section mud generation & water loss

Date	Unit	Biomass Consumption Quantity	of Average Mud content with bioma	Moisture % with mud	Mud Quantity generated (dry basis)	Mud generated wet basis	Moisture/water loss in mud
9/1/2025	MT	57.996	8	80	4.63968	23.1984	18.55872
9/2/2025	MT	55.008	8	80	4.40064	22.0032	17.60256
9/3/2025	MT	54	8	80	4.32	21.6	17.28
9/4/2025	MT	0	8	80	0	0	0
9/5/2025	MT	0	8	80	0	0	0
9/6/2025	MT	0	8	80	0	0	0
9/7/2025	MT	0	8	80	0	0	0
9/8/2025	MT	0	8	80	0	0	0
9/9/2025	MT	0	8	80	0	0	0
9/10/2025	MT	0	8	80	0	0	0
9/11/2025	MT	0	8	80	0	0	0
9/12/2025	MT	0	8	80	0	0	0
9/13/2025	MT	21.996	8	80	1.75968	8.7984	7.03872
9/14/2025	MT	50.994	8	80	4.07952	20.3976	16.31808
9/15/2025	MT	41.004	8	80	3.28032	16.4016	13.12128
9/16/2025	MT	51.012	8	80	4.08096	20.4048	16.32384
9/17/2025	MT	37.998	8	80	3.03984	15.1992	12.15936
9/18/2025	MT	19.998	8	80	1.59984	7.9992	6.39936
9/19/2025	MT	55.008	8	80	4.40064	22.0032	17.60256
9/20/2025	MT	46.998	8	80	3.75984	18.7992	15.03936
9/21/2025	MT	10.998	8	80	0.87984	4.3992	3.51936
9/22/2025	MT	0	8	80	0	0	0
9/23/2025	MT	0	8	80	0	0	0
9/24/2025	MT	0	8	80	0	0	0
9/25/2025	MT	0	8	80	0	0	0
9/26/2025	MT	0	8	80	0	0	0
9/27/2025	MT	0	8	80	0	0	0
9/28/2025	MT	0	8	80	0	0	0
9/29/2025	MT	0	8	80	0	0	0
9/30/2025	MT	0	8	80	0	0	0
			8	80	0	0	0
							160.96

Sludge/mud recovered data from the PCTP section (JULY'2025)

Sr.No	Date	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	7/1/2025	MT	11	85	1.65	9.35
2	7/2/2025	MT	11	85	1.65	9.35
3	7/3/2025	MT	11	85	1.65	9.35
4	7/4/2025	MT	11	85	1.65	9.35
5	7/5/2025	MT	11	85	1.65	9.35
6	7/6/2025	MT	11	85	1.65	9.35
7	7/7/2025	MT	11	85	1.65	9.35
8	7/8/2025	MT	11	85	1.65	9.35
9	7/9/2025	MT	11	85	1.65	9.35
10	7/10/2025	MT	11	85	1.65	9.35
11	7/11/2025	MT	11	85	1.65	9.35
12	7/12/2025	MT	11	85	1.65	9.35
13	7/13/2025	MT	11	85	1.65	9.35
14	7/14/2025	MT	11	85	1.65	9.35
15	7/15/2025	MT	11	85	1.65	9.35
16	7/16/2025	MT	11	85	1.65	9.35
17	7/17/2025	MT	11	85	1.65	9.35
18	7/18/2025	MT	11	85	1.65	9.35
19	7/19/2025	MT	11	85	1.65	9.35
20	7/20/2025	MT	11	85	1.65	9.35
21	7/21/2025	MT	11	85	1.65	9.35
22	7/22/2025	MT	11	85	1.65	9.35
23	7/23/2025	MT	11	85	1.65	9.35
24	7/24/2025	MT	11	85	1.65	9.35
25	7/25/2025	MT	11	85	1.65	9.35
26	7/26/2025	MT	11	85	1.65	9.35
27	7/27/2025	MT	11	85	1.65	9.35
28	7/28/2025	MT	11	85	1.65	9.35

29	7/29/2025	MT	11	85	1.65	9.35
30	7/30/2025	MT	11	85	1.65	9.35
31	7/31/2025	MT	11	85	1.65	9.35
	TOTAL		341		51.15	289.85

Sludge/mud recovered data from the PCTP section (August 2025)

Sr.No	Date	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	8/1/2025	MT	11	85	1.65	9.35
2	8/2/2025	MT	11	85	1.65	9.35
3	8/3/2025	MT	11	85	1.65	9.35
4	8/4/2025	MT	11	85	1.65	9.35
5	8/5/2025	MT	11	85	1.65	9.35
6	8/6/2025	MT	11	85	1.65	9.35
7	8/7/2025	MT	11	85	1.65	9.35
8	8/8/2025	MT	11	85	1.65	9.35
9	8/9/2025	MT	11	85	1.65	9.35
10	8/10/2025	MT	11	85	1.65	9.35
11	8/11/2025	MT	11	85	1.65	9.35
12	8/12/2025	MT	11	85	1.65	9.35
13	8/13/2025	MT	11	85	1.65	9.35
14	8/14/2025	MT	11	85	1.65	9.35
15	8/15/2025	MT	11	85	1.65	9.35
16	8/16/2025	MT	11	85	1.65	9.35
17	8/17/2025	MT	11	85	1.65	9.35
18	8/18/2025	MT	11	85	1.65	9.35
19	8/19/2025	MT	11	85	1.65	9.35
20	8/20/2025	MT	11	85	1.65	9.35
21	8/21/2025	MT	11	85	1.65	9.35
22	8/22/2025	MT	11	85	1.65	9.35
23	8/23/2025	MT	11	85	1.65	9.35
24	8/24/2025	MT	11	85	1.65	9.35
25	8/25/2025	MT	11	85	1.65	9.35
26	8/26/2025	MT	11	85	1.65	9.35
27	8/27/2025	MT	11	85	1.65	9.35
28	8/28/2025	MT	11	85	1.65	9.35
29	8/29/2025	MT	11	85	1.65	9.35
30	8/30/2025	MT	11	85	1.65	9.35
31	8/31/2025	MT	11	85	1.65	9.35
	TOTAL		341		51.15	289.85

Sludge/mud recovered data from the PCTP section (SEP' 2025)

Sr.No	Date	Unit	Mud/Sludge recovered	Moisture % with mud /sludge	Mud/sludge recovered dry basis	Water loss with generated mud /sludge
1	9/1/2025	MT	11	85	1.65	9.35
2	9/2/2025	MT	11	85	1.65	9.35
3	9/3/2025	MT	11	85	1.65	9.35
4	9/4/2025	MT	11	85	1.65	9.35
5	9/5/2025	MT	11	85	1.65	9.35
6	9/6/2025	MT	11	85	1.65	9.35
7	9/7/2025	MT	11	85	1.65	9.35
8	9/8/2025	MT	11	85	1.65	9.35
9	9/9/2025	MT	11	85	1.65	9.35
10	9/10/2025	MT	11	85	1.65	9.35
11	9/11/2025	MT	11	85	1.65	9.35
12	9/12/2025	MT	11	85	1.65	9.35
13	9/13/2025	MT	11	85	1.65	9.35
14	9/14/2025	MT	11	85	1.65	9.35
15	9/15/2025	MT	11	85	1.65	9.35
16	9/16/2025	MT	11	85	1.65	9.35
17	9/17/2025	MT	11	85	1.65	9.35
18	9/18/2025	MT	11	85	1.65	9.35
19	9/19/2025	MT	11	85	1.65	9.35
20	9/20/2025	MT	11	85	1.65	9.35
21	9/21/2025	MT	11	85	1.65	9.35
22	9/22/2025	MT	11	85	1.65	9.35
23	9/23/2025	MT	11	85	1.65	9.35
24	9/24/2025	MT	11	85	1.65	9.35
25	9/25/2025	MT	11	85	1.65	9.35
26	9/26/2025	MT	11	85	1.65	9.35
27	9/27/2025	MT	11	85	1.65	9.35
28	9/28/2025	MT	11	85	1.65	9.35
29	9/29/2025	MT	11	85	1.65	9.35
30	9/30/2025	MT	11	85	1.65	9.35
	TOTAL		330		49.5	280.5

Date	July'25 PCTP Data In m3			Date	Aug'25 PCTP Data In M3p			Date	Sep'25 PCTP Data In m3		
	AHR feed	RO Permeate/TRW	RO Reject		AHR feed	RO Permeate/TRW	RO Reject		AHR feed	RO Permeate/TRW	RO Reject
7/1/2025	239	0	0	8/1/2025	886	0	0	9/1/2025	91	0	0
7/2/2025	0	0	0	8/2/2025	411	0	0	9/2/2025	77	0	0
7/3/2025	375	0	0	8/3/2025	373	0	0	9/3/2025	159	0	0
7/4/2025	261	0	0	8/4/2025	203	0	0	9/4/2025	250	0	0
7/5/2025	231	0	0	8/5/2025	292	0	0	9/5/2025	184	0	0
7/6/2025	209	0	0	8/6/2025	238	0	0	9/6/2025	180	0	0
7/7/2025	225	0	0	8/7/2025	190	0	0	9/7/2025	55	0	0
7/8/2025	110	0	0	8/8/2025	300	0	0	9/8/2025	0	0	0
7/9/2025	215	0	0	8/9/2025	563	0	0	9/9/2025	0	0	0
7/10/2025	264	0	0	8/10/2025	363	0	0	9/10/2025	0	0	0
7/11/2025	269	0	0	8/11/2025	361	0	0	9/11/2025	0	0	0
7/12/2025	224	0	0	8/12/2025	380	0	0	9/12/2025	0	39	16
7/13/2025	264	0	0	8/13/2025	329	0	0	9/13/2025	0	60	20
7/14/2025	150	0	0	8/14/2025	213	0	0	9/14/2025	0	44	17
7/15/2025	184	0	0	8/15/2025	688	0	0	9/15/2025	218	30	11
7/16/2025	350	0	0	8/16/2025	670	0	0	9/16/2025	110	40	13
7/17/2025	436	0	0	8/17/2025	490	0	0	9/17/2025	43	40	12
7/18/2025	470	0	0	8/18/2025	360	0	0	9/18/2025	45	77	26
7/19/2025	229	0	0	8/19/2025	432	0	0	9/19/2025	46	57	17
7/20/2025	202	0	0	8/20/2025	158	0	0	9/20/2025	98	54	16
7/21/2025	102	0	0	8/21/2025	39	0	0	9/21/2025	268	55	17
7/22/2025	14	0	0	8/22/2025	133	0	0	9/22/2025	660	20	7
7/23/2025	104	0	0	8/23/2025	333	108	37	9/23/2025	716	121	42
7/24/2025	287	0	0	8/24/2025	225	52	27	9/24/2025	795	62	20
7/25/2025	499	0	0	8/25/2025	143	207	60	9/25/2025	935	444	163
7/26/2025	462	0	0	8/26/2025	137	135	50	9/26/2025	708	140	58
7/27/2025	499	0	0	8/27/2025	116	0	0	9/27/2025	624	0	0
7/28/2025	462	0	0	8/28/2025	30	0	0	9/28/2025	825	43	17
7/29/2025	427	0	0	8/29/2025	0	0	0	9/29/2025	767	54	18
7/30/2025	385	0	0	8/30/2025	70	0	0	9/30/2025	193	65	21
7/31/2025	1011	0	0	8/31/2025	108	0	0				
Total	**9159**	**0**	**0**		**9234**	**502**	**174**		**8047**	**1445**	**511**

Intermedate tanks of units

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	V-9203	Flash vessel -1	Hydrolysis section	100%	68	19	12.92	55.08
2	V-9204	Flash vessel -2	Hydrolysis section	100%	68	19	12.92	55.08
3	R-9201 A	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
4	R-9201B	Pre-hydrolysis reactor	Hydrolysis section	100%	150	19	28.5	121.5
5	R-9202 A	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
6	R-9202 B	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
7	R-9202 C	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
8	R-9202 D	Enzymetic hydrolysis reactor	Hydrolysis section	100%	2696	19	512.24	2183.76
9	R-9304 A	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
10	R-9304 B	Pre-fermenter	Co-fermentation section	100%	287	10	28.7	258.3
11	R-9305A	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
12	R-9305B	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
13	R-9305C	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
14	R-9305D	Main fermenter	Co-fermentation section	100%	2792	11	307.12	2484.88
15	T-9301	Beer well	Co-fermentation section	100%	2792	11	307.12	2484.88
16	Y-9301	Drain pit for the floor washing	Co-fermentation section	100%	42.75	11	4.7025	38.0475
17	T-9721	Spent wash hold-up tank	Solid liquid separation	100%	736	11	80.96	655.04
18	T-9722	Thin slop tank	Solid liquid separation	100%	136	4.5	6.12	129.88
19	T-9725	Lagoon tank	Solid liquid separation	100%	5638	11	620.18	5017.82
20	T-9724	Syrup tank	Solid liquid separation	100%	215	55	118.25	96.75
21	T-9723	Cloth washing tank	Solid liquid separation	100%	30	1	0.3	29.7
22	T-9726	Squze water tank	Solid liquid separation	100%	30	1	0.3	29.7
23	Y-9725	Drain pit for the floor washing	Solid liquid separation	100%	36.75	8	2.94	33.81
24	Y-9101	Drain pit for the floor washing	Wet washing section	100%	21.6	5	1.08	20.52
25	Y-9501	Drain pit for the floor washing	Evaporation	100%	8	8	0.64	7.36
26	T-9507	Thin slop hold-up tank	Evaporation	100%	1750	8	140	1610
27	Y-9402	Drain pit for the floor washing	D&D section	100%	12	10	1.2	10.8
28	Y-9801	Drain pit for the floor washing	Product tank	100%	8.4	0	0	8.4
29	Y-9901	Drain pit for the floor washing	Bulk chemical	100%	8.8	5	0.44	8.36
30	Y-9310	Drain pit for the floor washing	Molasses area	100%	8	10	0.8	7.2

PCTP tanks data

S.N	Tank no.	Description	Section	Tank level (%)	Tank Volume (M3)	Service fluid TS%	Solid volume	water Volume
1	T-9781	Collection tank	PCTP	100%	777	0.3	2.331	774.669
2	T-9782	Neutralisation tank	PCTP	100%	34	0.3	0.102	33.898
3	T-9783	Buffer tank	PCTP	100%	260	0.3	0.78	259.22
4	R-9781	AHR	PCTP	100%	6813	0.3	20.439	6792.561
5	T-9784	Conventional aeration tank	PCTP	100%	1915	0.3	5.745	1909.255
6	T-9785	Clarifier -1	PCTP	100%	364	0.2	0.728	363.272
7	T-9786	Extended aeration tank	PCTP	100%	1150	0.2	2.3	1147.7
8	T-9787	Clarifier -2	PCTP	100%	312	0.2	0.624	311.376
9	T-9788	Flash mixer	PCTP	100%	5	0.2	0.01	4.99
10	T-9789	Flocculator	PCTP	100%	20	0.2	0.04	19.96
11	T-9790	Tube settler	PCTP	100%	60	0.2	0.12	59.88
12	T-9791	Chlorine contact tank	PCTP	100%	150	0.1	0.15	149.85
13	T-9792	UF feed tank	PCTP	100%	280	0.1	0.28	279.72
14	T-9796	RO feed tank	PCTP	100%	270	0.1	0.27	269.73
15	T-9794	RO permeate /TRW	PCTP	100%	122	0	0	122
16	T-9795	RO reject	PCTP	100%	52.5	0	0	52.5
17	T-1101	RO permeate /TRW tank	PCTP	100%	3215	0	0	3215
18	T-1801 A	Fire water tank	PCTP	100%	1245	0	0	1245
19	T-1801 B	Fire water tank	PCTP	100%	1245	0	0	1245
20	T-1802	Fire water tank	PCTP	100%	423	0	0	423

2G Ethanol Plant : Operation data & water balance (Oct-Dec'25)

	in (MT)
Steam	24211
Raw Water in	64622
Moisture in Biomass	816
Moisture in Molasces/ Enzyme/ other Chemicals	170
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 01.10.2025	14712
Rain Water recycle	1459
Total of last three month	**105991**

2G Ethanol Plant

	in (MT)
Drift loss (Cooling Tower)	353
Evaporation loss (Cooling Tower)	97152
Moisture loss from Boiler Stack Loss (Biomass burnt)	143
Moisture in Lignin	229
Moisture in Syrup	607
Moisture in Wet washing Mud	2967
Moisture in PCTP Sludge	860
Drinking water	230
Hold up water in intermediate stock (slurry/ Fermented Wash) as on 31.12.2025	3449
Total of last three month	**105991**

Total biomass consumed in last three months	3264	MT
Total Ethanol Produced in last three months	574	KL
Lignin generated in last three month	431	MT
Syrup Generated in last three month	1253	MT

PCTP Processing	42917	MT
[Rain Water+ Process Comndensate+ETP Reject]	19	MT/h

ETP Processing	36340	MT
CT Blow Down/ DM reject/ Boiler Blow Down	16	MT/h

Surface Area of 2G plant	133546.4	M2
Total Rainfall (approx) [Oct-Dec'25]	1696.0	MT

Oct'25	0.013
Nov'25	0.000
Dec'25	0.000

2G Ethanol Plant : Overall Mass balance (July -Sept'25)

	in (MT)
Steam	24211
Raw Water in	64622
Biomass	3264
Chemicals	794
Hold up in intermediate stock (slurry/ Fermented Wash) as on 01.10.2025	17368
Rain Water recycle	1442
Total of last three month	**111701**

2G Ethanol Plant

	in (MT)
Ethanol Generation	455.4041779
CO2 loss from fermentation	437.5451905
Drift loss (Cooling Tower)	353
Evaporation loss (Cooling Tower)	97152
Boiler Stack Loss/Ash	573
Lignin	431
Syrup	1253
Wet washing Mud	3182
PCTP Sludge	1012
Drinking water	230
Hold up in intermediate stock (slurry/ Fermented Wash) as on 31.12.2025	1800.93+225 6.55
Total of last three month	**105079**

		M2
Surface Area of 2G plant	133546.4	MT
Total Rainfall (approx) [Oct-Dec'25]	1696.0	
Oct'25	0.013	
Nov'25	0.000	
Dec'25	0.000	

* Steam is being taken from refinery as temporary arrangement.

6012.67	144304.1
6033.43	144802.3
6039.24	144941.8
13999.26	335982.2
35459.11	851018.6
34897.15	837531.6
33713.42	809122.1
32529.69	780712.6
31345.96	752303
30162.23	723893.5
28978.49	695483.8
27794.76	667074.2
26611.03	638664.7
25427.3	610255.2
24243.56	581845.4
23059.83	553435.9
21876.1	525026.4
20692.36	496616.6
19508.63	468207.1
18324.9	439797.6
17141.16	411387.8
15957.43	382978.3
14773.7	354568.8
13589.97	326159.3
12406.24	297749.8
11222.51	269340.2
10038.78	240930.7
8855.04	212521
7671.31	184111.4
8419.28	202062.7
8200.51	196812.2
11214.53	269148.7
8395.4	201489.6
13711.43	329074.3
19223.19	461356.6
29329.73	703913.5
31033.5	744804
21524.54	516589
13404.87	321716.9
18425.7	442216.8
19209.67	461032.1
36880.86	885140.6
33950.41	814809.8
34666.05	831985.2
28377.32	681055.7
21180.54	508333
20773.11	498554.6
32241.45	773794.8
38373.02	920952.5
15978.79	383491
43582.58	1045982
22833.08	547993.9
22539.16	540939.8
23030.09	552722.2
26433.83	634411.9
27097.9	650349.6
25701.18	616828.3
25271.38	606513.1

PNA.101FT951001.PV 10/1/2025 6:00 AM 1/1/2026 6:00 AM
PNA.101FT940703.PV

	PNA.101FT951001.PV		PNA.101FT940703.PV		
Timestamp	V - Average	Confidence	V - Average	Confidence	Total
10/1/2025 6:00	6006.03	100	6.64	100	6012.67
10/2/2025 6:00	6026.87	100	6.56	100	6033.43
10/3/2025 6:00	6032.64	100	6.6	100	6039.24
10/4/2025 6:00	13992.5	100	6.76	100	13999.26
10/5/2025 6:00	35452.11	100	7	100	35459.11
10/6/2025 6:00	34890.17	100	6.98	100	34897.15
10/7/2025 6:00	33706.46	100	6.96	100	33713.42
10/8/2025 6:00	32522.75	100	6.94	100	32529.69
10/9/2025 6:00	31339.05	100	6.91	100	31345.96
10/10/2025 6:00	30155.34	100	6.89	100	30162.23
10/11/2025 6:00	28971.62	100	6.87	100	28978.49
10/12/2025 6:00	27787.92	100	6.84	100	27794.76
10/13/2025 6:00	26604.21	100	6.82	100	26611.03
10/14/2025 6:00	25420.5	100	6.8	100	25427.3
10/15/2025 6:00	24236.79	100	6.77	100	24243.56
10/16/2025 6:00	23053.08	100	6.75	100	23059.83
10/17/2025 6:00	21869.37	100	6.73	100	21876.1
10/18/2025 6:00	20685.66	100	6.7	100	20692.36
10/19/2025 6:00	19501.95	100	6.68	100	19508.63
10/20/2025 6:00	18318.24	100	6.66	100	18324.9
10/21/2025 6:00	17134.53	100	6.63	100	17141.16
10/22/2025 6:00	15950.82	100	6.61	100	15957.43
10/23/2025 6:00	14767.11	100	6.59	100	14773.7
10/24/2025 6:00	13583.4	100	6.57	100	13589.97
10/25/2025 6:00	12399.7	100	6.54	100	12406.24
10/26/2025 6:00	11215.99	100	6.52	100	11222.51
10/27/2025 6:00	10032.28	100	6.5	100	10038.78
10/28/2025 6:00	8848.57	100	6.47	100	8855.04
10/29/2025 6:00	7664.86	100	6.45	100	7671.31
10/30/2025 6:00	8412.74	100	6.54	100	8419.28
10/31/2025 6:00	8193.93	67	6.58	67	8200.51
11/1/2025 6:00	11207.68	64	6.85	64	11214.53
11/2/2025 6:00	8388.37	100	7.03	100	8395.4
11/3/2025 6:00	13704.41	100	7.02	100	13711.43
11/4/2025 6:00	19216.22	100	6.97	100	19223.19
11/5/2025 6:00	21535.62	100	7794.11	100	29329.73
11/6/2025 6:00	20506.81	100	10526.69	100	31033.5
11/7/2025 6:00	13088.65	100	8435.89	100	21524.54
11/8/2025 6:00	13398.23	100	6.64	100	13404.87
11/9/2025 6:00	18419.15	100	6.55	100	18425.7
11/10/2025 6:00	19203.26	100	6.41	100	19209.67
11/11/2025 6:00	31820.32	100	5060.54	100	36880.86
11/12/2025 6:00	24559.77	100	9390.64	100	33950.41
11/13/2025 6:00	25090.88	100	9575.17	100	34666.05
11/14/2025 6:00	18061.07	100	10316.25	100	28377.32
11/15/2025 6:00	19951.9	100	1228.64	100	21180.54
11/16/2025 6:00	20766.73	100	6.38	100	20773.11
11/17/2025 6:00	32235.03	100	6.42	100	32241.45
11/18/2025 6:00	38366.57	100	6.45	100	38373.02
11/19/2025 6:00	15972.42	100	6.37	100	15978.79
11/20/2025 6:00	43576.21	100	6.37	100	43582.58
11/21/2025 6:00	22826.75	100	6.33	100	22833.08
11/22/2025 6:00	15934.63	100	6604.53	100	22539.16
11/23/2025 6:00	14072.71	100	8957.38	100	23030.09
11/24/2025 6:00	16403.23	100	10030.6	100	26433.83
11/25/2025 6:00	16102.57	100	10995.33	100	27097.9

21535.36	516848.6	
7260.12	174242.9	
7874.8	188995.2	
6349.34	152384.2	
4629.92	111118.1	
2826.99	67847.76	
2285.15	54843.6	
2444.45	58666.8	
2786.16	66867.84	
2906.38	69753.12	
3199.39	76785.36	
5274.13	126579.1	
6674.7	160192.8	
11600.41	278409.8	
11033.89	264813.4	
8985.03	215640.7	
10145.85	243500.4	
8574.95	205798.8	
10920.62	262094.9	
9010.22	216245.3	
9379.41	225105.8	
4721.78	113322.7	
1400.2	33604.8	
2162.53	51900.72	
2924.87	70196.88	
3687.19	88492.56	
4449.52	106788.5	
5211.86	125084.6	
5974.19	143380.6	
6736.53	161676.7	
7498.85	179972.4	
8261.19	198268.6	
9023.52	216564.5	
9785.85	234860.4	
10548.18	253156.3	
	35938845	35938.85
		413.0902

11/26/2025 6:00	15205.53	99	10495.65	99	25701.18
11/27/2025 6:00	15216	100	10055.38	100	25271.38
11/28/2025 6:00	16302.83	100	5232.53	100	21535.36
11/29/2025 6:00	7254.01	100	6.11	100	7260.12
11/30/2025 6:00	7868.69	100	6.11	100	7874.8
12/1/2025 6:00	6343.19	100	6.15	100	6349.34
12/2/2025 6:00	4623.99	100	5.93	100	4629.92
12/3/2025 6:00	2821.18	100	5.81	100	2826.99
12/4/2025 6:00	2279.39	100	5.76	100	2285.15
12/5/2025 6:00	2438.88	100	5.57	100	2444.45
12/6/2025 6:00	2780.6	100	5.56	100	2786.16
12/7/2025 6:00	2900.67	100	5.71	100	2906.38
12/8/2025 6:00	3193.42	100	5.97	100	3199.39
12/9/2025 6:00	5268.33	100	5.8	100	5274.13
12/10/2025 6:00	6668.96	100	5.74	100	6674.7
12/11/2025 6:00	11594.56	100	5.85	100	11600.41
12/12/2025 6:00	11028.01	100	5.88	100	11033.89
12/13/2025 6:00	8979.12	100	5.91	100	8985.03
12/14/2025 6:00	10140.04	100	5.81	100	10145.85
12/15/2025 6:00	8569.13	100	5.82	100	8574.95
12/16/2025 6:00	10914.62	100	6	99	10920.62
12/17/2025 6:00	9003.96	100	6.26	98	9010.22
12/18/2025 6:00	9373.08	99	6.33	99	9379.41
12/19/2025 6:00	4715.64	100	6.14	100	4721.78
12/20/2025 6:00	1394.08	100	6.12	100	1400.2
12/21/2025 6:00	2156.43	100	6.1	100	2162.53
12/22/2025 6:00	2918.78	100	6.09	100	2924.87
12/23/2025 6:00	3681.12	100	6.07	100	3687.19
12/24/2025 6:00	4443.47	100	6.05	100	4449.52
12/25/2025 6:00	5205.82	100	6.04	100	5211.86
12/26/2025 6:00	5968.17	100	6.02	100	5974.19
12/27/2025 6:00	6730.52	100	6.01	100	6736.53
12/28/2025 6:00	7492.86	100	5.99	100	7498.85
12/29/2025 6:00	8255.21	100	5.98	100	8261.19
12/30/2025 6:00	9017.56	100	5.96	100	9023.52
12/31/2025 6:00	9779.91	100	5.94	100	9785.85
1/1/2026 6:00	10542.25	100	5.93	100	10548.18
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Lignin Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % lignin	Moisture % with lignin	Associated water with generated lignin	Quantity Dispatched	Associated water with Dispatched lignin
1	Oct'2025	MT	18	47.4	52.6	9.468	886.380	466.23588
2	Nov'2025	MT	358	46.8	53.2	190.456	814.720	433.43104
3	Dec'2025	MT	55.13	46.5	53.5	29.49455	458.410	245.24935
Total		**MT**	**431.13**			**229.41855**	**2159.51**	**1144.91627**

Syrup Data details of last three months

Sr.No	Month	Unit	Generation Quantity	Total Solids % Syrup	Moisture % with Syrup	Associated water with generated Syrup	Quantity Dispatched	Associated water with Dispatched lignin
1	Oct'2025	MT	323.693	52.4	47.6	154.077868	344.890	164.16764
2	Nov'2025	MT	459.559	50.9	49.1	225.643469	387.930	190.47363
3	Dec'2025	MT	469.831	51.6	48.4	227.398204	466.460	225.76664
Total		**MT**	**1253.083**			**607.119541**	**1199.28**	**580.40791**

Date	Oct '25 Biomass Consumption in MT			Date	Nov'25 Biomass Consumption in MT			Date	Dec'25 Biomass Consumption in MT			
	Process	Boiler	Total		Process	Boiler	Total		Process	Boiler	Total	
10/1/2025	0	0	0	11/1/2025	0	12.006	12.006	12/1/2025	0	0	0	
10/2/2025	0	0	0	11/2/2025	0	0	0	12/2/2025	0	0	0	
10/3/2025	5.004	0	5.004	11/3/2025	0	25.002	25.002	12/3/2025	0	0	0	
10/4/2025	0	0	0	11/4/2025	0	1.386	1.386	12/4/2025	0	0	0	
10/5/2025	0	0	0	11/5/2025	0	72	72	12/5/2025	0	0	0	
10/6/2025	0	0	0	11/6/2025	52.2	49.5	101.7	12/6/2025	0	0	0	
10/7/2025	15.012	0	15.012	11/7/2025	29.988	8.01	37.998	12/7/2025	0	0	0	
10/8/2025	21.006	0	21.006	11/8/2025	3.006	0	3.006	12/8/2025	0	0	0	
10/9/2025	0	0	0	11/9/2025	84.006	0	84.006	12/9/2025	0	0	0	
10/10/2025	0	0	0	11/10/2025	85.014	0	85.014	12/10/2025	0	0	0	
10/11/2025	0	0	0	11/11/2025	74.016	0	74.016	12/11/2025	0	0	0	
10/12/2025	0	0	0	11/12/2025	55.008	0	55.008	12/12/2025	16.992	0	16.992	
10/13/2025	0	0	0	11/13/2025	0	0	0	12/13/2025	113.004	0	113.004	
10/14/2025	0	0	0	11/14/2025	5.994	0	5.994	12/14/2025	127.998	0	127.998	
10/15/2025	0	0	0	11/15/2025	93.996	0	93.996	12/15/2025	123.012	5.004	128.016	
10/16/2025	0	0	0	11/16/2025	88.002	0	88.002	12/16/2025	35.01	64.998	100.008	
10/17/2025	0	0	0	11/17/2025	43.992	0	43.992	12/17/2025	72.918	20.7	93.618	
10/18/2025	0	0	0	11/18/2025	81.99	0	81.99	12/18/2025	72.918	50.04	122.958	
10/19/2025	0	0	0	11/19/2025	80.01	0	80.01	12/19/2025	8.064	34.956	43.02	
10/20/2025	0	0	0	11/20/2025	33.012	0	33.012	12/20/2025	136.998	4.086	141.084	
10/21/2025	0	0	0	11/21/2025	0	0	0	12/21/2025	158.004	0	158.004	
10/22/2025	0	0	0	11/22/2025	0	0	0	12/22/2025	142.002	0	142.002	
10/23/2025	0	0	0	11/23/2025	0	0	0	12/23/2025	14.004	0	14.004	
10/24/2025	0	0	0	11/24/2025	0	0	0	12/24/2025	66.006	0	66.006	
10/25/2025	0	0	0	11/25/2025	0	0	0	12/25/2025	103.5	13.5	117	
10/26/2025	0	0	0	11/26/2025	0	0	0	12/26/2025	114.048	13.986	128.034	
10/27/2025	0	0	0	11/27/2025	0	0	0	12/27/2025	129.888	118.7	248.588	
10/28/2025	0	18	18	11/28/2025	0	0	0	12/28/2025	160.002	0	160.002	
10/29/2025	0	18	18	11/29/2025	0	0	0	12/29/2025	111.006	0	111.006	
10/30/2025	0	26	26	11/30/2025	0	0	0	12/30/2025	66.996	0	66.996	
10/31/2025	0	16.992	16.992					12/31/2025	67.248	0	67.248	
TOTAL	**41.0**	**78.992**	**120.0**	**TOTAL**	**810.2**	**167.904**	**978.14**	**TOTAL**	**1839.6**	**325.97**	**2165.6**	3263.740

boiler consumtion (Total)	572.866
process	2690.9

ANNEXURE-3

Date: 03.07.2025

To
The Commandant (CISF)
IOCL Panipat Refinery
Panipat, Haryana
Through IOCL

Subject: One day visitor gate pass (VIP) with vehicle HR67C-8073 through PR gate No. 1 & 2 on dated 03.07.2025

Sir,
Kindly arrange to allow VIP visitor gate pass for the following visitors along with vehicle HR67C-8073(only for Gate no -1) on **03.07.2025**. The visit is for checking preparedness of CAQMS Chairman visit 2G Ethanol Plant on 04.07.2025.

Sr. No.	Name	Age	Designation	Organisation
1.	Bhupinder Singh	45Y	RO	HSPCB, Panipat
2.	Kuldeep Singh	31Y	AEE	HSPCB, Panipat
3.	Sandeep	34Y	Driver	HSPCB, Panipat

Thanks & Regards
Pankaj Kumar
SO (HS&E)

Valid with ID
Permitted up to 03/07/25
CISF Unit IOC, PANIPAT

03/07/25
CM (HS&E)

03/07/25
DGM (HS&E)

follow all Security checking measures.

(Security)

CISF
Men ff allows with Valid ID Proff

03/07/25

03/07
Incharge Pass Section
C.I.S.F. Unit I.O.C.L.
Panipat

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail: hspcbropr@gmail.com

No. HSPCB/PR/2026/ 4393 Dated 19.01.26

To

M/s 100 KLPD Ligno Cellulosic 2G Ethanol Plant Including 10 TPD
2G Ethanol Demo Plant of Panipat Oil Refinery and Petrochemical Complex IOCL,
Village-Baholi, Panipat.

Subject: **Suggestions and compliance of deficiencies observed by Joint Committee constituted by Hon'ble NGT in OA No.411/2025.**

Whereas, O.A. No.411 of 2025 was listed on 01/09/2025 before Hon'ble National Green Tribunal (NGT) and following directions were issued by Hon'ble Tribunal:-

"*In view of the averments made in the application, we also consider it appropriate that a Joint Committee be constituted to verify the factual position and take appropriate remedial action. Accordingly, we constitute a Joint Committee comprising of representatives of CPCB, HSPCB and DM, Panipat and direct the same to meet within two weeks, undertake visits to the site, look into the grievances of the applicant, associate the applicant and representative of the concerned project proponent, verify the factual position and suggest appropriate remedial action. The HSPCB will be the nodal agency for coordination and compliance.*"

Whereas, your unit is involved in the manufacturing of Fuel Grade Ethanol covered under Red Category and has obtained CTO from the Board upto 30/09/2026 granted vide No. HSPCB /Consent /:313105622PITCTO24423185 dated 21/07/2022.

Whereas, your unit was inspected by Joint committee on 03/10/2025 & 26/12/2025 and following observations were made by the Joint Committee:

1. *The storm water drains shown by the Unit inside the premises also carry trade effluent from various sections and the leachate from the sludge stored within the plant for sludge drying.*

2. *The Unit has provided pits for collecting the waste water/leakages from different sections of the plant but the presence of coloured water in the storm water drains indicate that the pits/mechanism provided is not adequate.*

3. *There are no segregation of storm water drains and process waste water drains. The same drains are carrying both the storm water and waste water, leading to contamination of storm water.*

4. *As per present mechanism followed by the unit, the waste water and the storm water through the common drain are collected in a collection tank of capacity 777 m3, which is transferred to Process Condensate Treatment Plant (PCTP) of capacity 60 m^3/hr (1440 m^3/day).*

5. *There is also a provision made for discharge of untreated waste water and contaminated storm water from the collection tank into the Drain No. 2, which leads to River Yamuna through pump. It was observed that the pipe-line used to pump the untreated water into the drain No 2 has been temporarily disconnected but it may be connected any time without any effort, if required. As per present mechanism, if the storm water is to discharged, it is to be discharged from the aforementioned collection tank only, which contains untreated water*

and contaminated storm water. Under this condition, the Unit cannot be termed as a Zero Liquid Discharge, as mandared in the Environmental Clearance granted by MoEF&CC and Consent to Operate (CTO) granted by HSPCB.

6. *The capacity of Process Condensate Treatment Plant (PCTP) is 60 m^3/hr (1440 m^3/day), which is just adequate to take care of process condensate of the Unit operating at Full Capacity. This PCTP Plant has been shown to be used for treatment of storm water, as well, by the Unit. The storm water quantity shown in the CTP during heavy rains is 2350 KLD and when this is combined with process condensate generated at full capacity of the Unit @ 60 m3/h or 1440 m3/day will become 2350 + 1440= 3790 m3/day. This volume of 3790 m3/day cannot be accommodated either in the existing 770 m^3 collection tank or treated by the PCTP with a capacity of 1440 m^3/day. Consequently, during the rainy season, the unit has no option but to discharge untreated wastewater and contaminated storm water into Drain No. 2, which ultimately leads to the River Yamuna.*
7. *The unit has neither prepared nor implemented a Sludge Management Plan as mandated in the Environmental Clearance granted by MoEF&CC. The leachate from sludge dumped for sun drying at various locations within the premises was observed entering into storm water drains and open channels. However, it was observed that the Unit has provided concrete flooring at several locations where sludge was found dumped during the first visit of the Joint Committee.*

In view of the above, you are hereby directed to submit the compliance of suggestions made by the joint committee within **15 days** failing which necessary action for revocation of CTO and closure will be initiated by this office for violations as mentioned above.

In case you fail to comply with the deficiencies mentioned above within the above mentioned stipulated period, it will be presumed that you have nothing to say in this regard and accept the status above, which will warrant action under section 33- A of Water Act, 1974.

The reply of SCN submitted to concerned RO offices shall only be considered and in case unit submitted their reply to other offices of the Board the same is not liable for consideration on any legal forum.

Further representative of the unit may also come in person at the concerned regional office to represent against the proposed action communicated through show cause notice, within the stipulated time period mentioned in show cause notice.

This may be treated as MOST URGENT.

Regional Officer
Panipat Region

स्वच्छ भारत
एक कदम स्वच्छता की ओर

इंडियन ऑयल कार्पोरेशन लिमिटेड
पानीपत रिफ़ाइनरी एवं पेट्रोकेमिकल कॉम्प्लेक्स
पानीपत, हरियाणा - 132140
Indian Oil Corporation Limited
Panipat Refinery & Petrochemical Complex
Panipat, Haryana – 132140
वैबसाइट: www.iocl.com;ई-मेल: prpc_hse@indianoil.in
दूरभाष : 0180-252 4001/0180-2578833

रिफाइनरीज़ प्रभाग
Refineries Division

Ref No: PRPC/HSE/PR/2026/2.1

Date: 19.03.2026

To,
The Regional Officer,
Haryana State Pollution Control Board,
S.C.O No-55, Sector-25
HUDA, Panipat (Haryana)-132103

Sub: Suggestions and compliance of deficiencies observed by Joint Committee constituted by Hon'ble NGT in OA No.411/2025.

Ref: Subject letter No. HSPCB/PR/2026/4393 dated 19.01.2026 received by IOCL on 05.03.2026.

Dear Sir,

This has reference to letter No. HSPCB/PR/2026/4393 dated 19.01.2026 issued by Haryana State Pollution Control Board and which was received on 05.03.2026. The communication seeks compliance of observations which were made by Joint Committee, appointed by the Hon'ble National Green Tribunal (NGT) in pending O.A No. 411 of 2025.

At the outset, it is respectfully submitted that the Corporation had filed its objections on 18.02.2026 to the report submitted by the Committee, on account of certain factual inaccuracies contained therein. It is submitted that several of the recommendations appear to stem from these inaccuracies. A copy of the said response submitted by the corporation before the Hon'ble NGT is annexed herewith as **Annexure-A**.

The committee report is based on an incorrect premise that storm water drains inside the premises also carry trade effluent, and that there is no segregation between storm water and waste water drains. In fact, storm water drains do not carry trade effluent and there is a complete segregation of storm water drain and waste water drains. This is evident from the layout plans of the Plant and the process flow charts annexed to this response.

Notwithstanding the above, the Corporation remains fully committed to ensuring due compliance with all applicable requirements.

With the above stated, please find hereinunder Corporation's replies on observations as were made by the Joint Committee:

Observations no-1:
The storm water drains shown by the Unit inside the premises also carry trade effluent from various sections and the leachate from the sludge stored within the plant for sludge drying.

AND

Observations no-3:

There are no segregation of storm water drains and process wastewater drains. The same drains are carrying both the storm water and wastewater, leading to contamination of storm water.

Reply:

At the outset it is stated that the storm water drain shown by the Unit inside the premises do not carry any trade effluent at any of its sections. It is denied that there is no segregation of storm water drains and process waste water drains. It is denied that the same drains are carrying both storm water and waste water which is leading to contamination of storm water. It is submitted that the storm water drains and wastewater drains are separate drains and are independently designed and as such there is no contamination of storm water due to wastewater processing. Please note that the drainage system is operated in compliance with the CTO conditions.

Please note that, Wet Washing, Pretreatment, Enzyme Hydrolysis, Co-Fermentation, Solid-Liquid Separation system, Distillation & Dehydration and Evaporation are integral part of the process for production of Ethanol from rice straw. Cooling Water section, Boiler & DM Water Plant are important utility sections which provide necessary utilities for operation of 2G Ethanol Plant. Also, storage tanks are provided for raw material and products.

During product sampling, flushing, cleaning and maintenance process, the following effluent pits (10 nos.) have been provided in the plant for its collection and re-processing:

Pit No.	Nature of Activity	Effluent Processed to	Outcome
1.	Wet Washing	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section=Process Condensate. Process Condensate→PCPT **Solid Lignin Cake**→ Sold to external agencies for use as fuel component in biomass pellets
2.	Pretreatment, Hydrolysis and Co-Fermentation	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop**→Evaporation Section=Process Condensate. Process Condensate→PCPT

			Solid Lignin Cake→ Sold to external agencies for use as fuel component in biomass pellets
3.	Distillation & Dehydration	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop→**Evaporation Section=Process Condensate. Process Condensate→PCPT **Solid Lignin Cake→** Sold to external agencies for use as fuel component in biomass pellets
4.	Evaporation	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop→**Evaporation Section=Process Condensate. Process Condensate→PCPT **Solid Lignin Cake→** Sold to external agencies for use as fuel component in biomass pellets
5.	Solid-Liquid Separation	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop→**Evaporation Section=Process Condensate. Process Condensate→PCPT **Solid Lignin Cake→** Sold to external agencies for use as fuel component in biomass pellets
6.	Bulk Chemical Storage	Feed Tank of SLS	Thin Slop & Solid Lignin Cake **Thin Slop→**Evaporation Section=Process Condensate. Process Condensate→PCPT **Solid Lignin Cake→** Sold to external agencies for use as fuel component in biomass pellets

7.	Ethanol Product Day and bulk storage	Distillation & Dehydration Section	Reprocessing
8.	Cooling Tower	Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD) in normal range	Treated in UFRO system
9.	Boiler	Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD) in normal range	Treated in UFRO system
10.	DM water plant	Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD) in normal range	Treated in UFRO system

The effluent generated from pit no(s). 1 to 6 is transferred to the Feed Tank of the solid–liquid separation system, where it is reprocessed to separate thin slop and solid lignin cake. The thin slop is subsequently sent to the evaporation section, during which process condensate is generated, and such condensate is further treated in the Process Condensate Treatment Plant (PCTP).

PCTP consists of Anaerobic Hybrid Reactor (AHR), Aeration system (Conventional & Extended), Clarifiers (Primary & Secondary), Ultra-Filtration & Reverse Osmosis (RO) as main treatment equipment. Treated water, RO Reject and sludge are generated in PCTP. Treated water is reutilized in the wet washing and cooling tower make-up process, RO Reject is recycled to Evaporation section and sludge is further concentrated in Decanter. The concentrated sludge is temporarily collected in 2G Ethanol plant and used for land application/manure and water from Decanter is recycled to PCTP. Further, effluent from pit number 7 is sent to distillation and dehydration section for reprocessing and effluent from pit no(s). 8, 9 and 10 which contains Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD) in normal range is then treated in UFRO system. After treatment it is re-utilised as make-up in cooling tower and wet washing section and for that purpose it is stored in the tank.

Further, it is submitted that the storm water that may come into contact with biomass dust or biomass spillages on the plant surface, is collected through the storm water drainage system and directed to the storm water pond and is subsequently routed to PCTP for treatment. Hence, no effluent of any nature is discharged from the Unit into the storm water drain. A copy each of the flow chart explaining the said process & layout diagram of process waste water and storm water is annexed herewith as **Annexure-B (colly).** The said layout diagram would clearly show the segregation of systems and operations.

Further, with respect to leachate discharge, it is denied that Unit/ Plant discharges any leachate or for that matter any leachate is produced in the Plant. Moreover, any residue from sludge is neither toxic or hazardous in nature nor is discharged into the storm water drain. As mentioned above, biological sludge is generated from PCTP. Also, biological sludge is generated from wet washing section through screw press installed in clarifier and filter press in Effluent Treatment Section. All biological sludge (non-hazardous in nature) is temporarily collected at designated place in 2G Ethanol plant and further used for land application/manure. The designated sludge storage area is having RCC flooring with side walls. The process of de-watering the sludge is undertaken solely for the purpose of facilitating its reuse as manure/land application. Nevertheless, the sludge is biological in nature and, irrespective of whether it is de-watered/ sundried or not, it does not contain any hazardous substance, much less any leachate.

Without prejudice to the above, even in case of overflow on account of heavy rainfall, the water only goes into process channels and process effluent pits and does not go into storm water drain.

It may further be noted that the Plant has already implemented robust preventive measures to protect groundwater and surface water. Total 18 nos. rainwater harvesting pits have been constructed in the 2G Ethanol plant in which only clean roof-top rainwater is diverted to the rainwater harvesting pits to ensure that there is no possibility of contamination or mixing of storm water with recharge water.

Observations no-2:

The Unit has provided pits for collecting wastewater/leakages from different sections of the plant but the presence of colored water in the storm water drains indicates that the pits/mechanism provided is not adequate.

Reply:

It is denied that the presence of colored water in the storm water drain indicates that the pits/ mechanism provided in the Unit is inadequate. It is submitted that the color observed in the water is attributable only to spillage of biomass and biomass dust of agricultural origin and is non-toxic in nature. It is reiterated that there is no discharge of trade effluent, contaminated wastewater, or hazardous substances into the storm water drainage system.

In accordance with the conditions stipulated under the CTO, the storm water drainage system is separate from the effluent conveyance system. Any storm water, that may come into contact with biomass or biomass dust within the Plant premises, is collected in the storm water pond and routed to the PCTP for appropriate treatment. Please note that untreated or colored water is not discharged outside the Plant premises, and the Plant is operated in full compliance with the applicable CTO conditions.

Observations no-4:

As per present mechanism followed by the unit, the waste water and the storm water through the common drain are collected in a collection tank of. capacity 777 m3, which is transferred to Process Condensate Treatment Plant (PCTP) of capacity 60 m3/hr (1440 m3/day).

Reply:
It is submitted that storm water drains and process wastewater drains are separate and independently designed, as explained in the above reply to observations no. 1 and 3.

Under the present operating mechanism, and as a conservative environmental safeguard, any storm water that may be generated within the plant premises is collected and routed for treatment through the PCTP, thereby ensuring that no untreated is discharged outside the plant boundary.

It is pertinent to note that as per the CTO conditions, the maximum possible storm water generation during rainfall is 2,350 m^3 per day. The present Plant is provided with two intermediate collection facilities having a combined storage capacity of approximately 4,250 m^3, comprising a storm water pond of 3,470 m^3 capacity and a PCTP collection tank of 777 m^3 capacity. This combined capacity is adequate to safely accommodate the maximum anticipated storm water generated in a day. Further, the actual rainfall-related storm water generation has been well below 2,350 m^3 per day.

Additionally, since the Plant is operating at a very low capacity, the process condensate generation is also significantly lower than the design capacity of 1,440 m^3 per day. Accordingly, till date, the Plant has been able to effectively collect, treat, and reuse all generated storm water and process effluent within the process system itself, in full compliance with the CTO conditions.

Observations no-5:
There is also a provision made for discharge of untreated waste water and contaminated storm water from the collection tank into the Drain No. 2, which leads to River Yamuna through pump. It was observed that the pipe-line used to pump the untreated water into the drain No 2 has been temporarily disconnected but it may be connected any time without any effort, if required. As per present mechanism, if the storm water is to discharged, it is to be discharged from the aforementioned collection tank only, which contains untreated water and contaminated storm water. Under this condition, the Unit cannot be termed as a Zero Liquid Discharge, as mandared in the Environmental Clearance granted by MoEF&CC' and Consent to Operate (CTO) granted by HSPCB.

Reply:
It is denied that there exists any provision for discharge of untreated/treated wastewater or contaminated storm water into Drain No. 2 leading to River Yamuna. Unit cannot be termed as Zero Liquid Discharge as mandated in the EC granted by MoEF&CC and CTO granted by HSPCB. It is stated that the Plant is operating strictly in ZLD mode, as mandated under the EC granted by MoEF&CC and the CTO granted by HSPCB.

The said allegation is factually incorrect and is based on an incorrect understanding and misinterpretation of the actual system configuration. The requirement referred to was approved under the CTO issued by HSPCB exclusively for discharge of excess storm water during extreme rainfall events, after meeting the prescribed conditions. It is submitted that the Corporation has since the beginning of Plant operation has ensured that the storm water does not get mixed with the effluent

generated in the Unit. Since, the separation mechanism (as explained in response to Observation 1) is at place, please note that even in the event of heavy rainfall and when the Unit is working at its full potential (when the said line will be utilized to 'only' drain out storm water), there will be no mixing of storm water with any component, leave alone any residue. It is stated that any suggestion that the line "may be connected at any time" is speculative and untenable.

The line in question was temporarily utilized during the construction phase solely for the discharge of hydro-tested water generated during tank installation activities. It is submitted that upon completion of construction, the said line has been physically disconnected and capped at the outlet fall point, rendering it non-operational. It is stated that at present, there is no functional or operable connection between the collection tank and Drain No. 2.

The present plant follows a zero-discharge practice during its operations, and all storm water and the process wastewater generated within the plant premises is collected, treated, and reused within the process system itself, in strict compliance with the CTO conditions. It is asserted that no valve, pump, or operational arrangements presently exist that would enable discharge of untreated wastewater to Drain No. 2. Accordingly, the allegation that storm water is discharged from a contaminated collection tank is invalid.

It is stated that in any event, additional proactive and preventive measures as enumerated below are diligently undertaken to ensure continued strict adherence to applicable norms and safeguards and to prepare for increase in operational capacity of the plant:

a) Blocking of internal channels at seven (7) identified locations.

b) Reversing flow directions at selected locations.

c) As an additional safe guard one partition is being created in storm water pond.

d) Continue to treat channels in contamination-prone areas (boiler, wet washing, PT section, SLS) as process water channels.

e) Creation of an additional collection pit near the wet washing section for biomass-laden storm water, routed to SLS / lagoon tank for reprocessing.

f) Provision of dedicated pumping systems for storm water and contaminated water for enhanced management and handling.

g) To ensure continuous compliance and transparency, an OCEMS online analyzer shall be installed at the storm water discharge line to Drain No. 2 and integrated with HSPCB and CPCB online portals.

Observations no-6:

The capacity of Process Condensate Treatment Plant (PCTP) is 60 m3/hr (1440 m3/day), which is just adequate to take care of process condensate of the Unit operating at Full Capacity. This PCTP Plant has been shown to be used for treatment of storm water, as well, by the Unit. The storm water quantity shown in the CTP during heavy rains is 2350 KLD and when this is combined with process condensate generated at full capacity of the Unit @ 60 m3/h or 1440 m3/day will become 2350 + 1440= 3 790 m3/day. This volume of 3 790 m3/day cannot be accommodated either in the existing 770 m3 collection tank or treated by the PCTP with a capacity of 14.10 m;/day. Consequently, during the rainy season. the unit has no option but to discharge untreated wastewater and contaminated storm water into Drain No. 2, which ultimately leads to the River Yamuna.

Reply:

It is denied that the untreated wastewater and contaminated storm water are discharged into Derain No. 2 which ultimately leads to River Yamuna. The inference drawn in the above observation is based on a hypothetical and incorrect assumption that the Plant simultaneously operates at full design capacity and experiences maximum possible rainfall on a continuous basis. It is submitted that the Plant is presently under stabilization and is operating at significantly lower than design capacity. Therefore, the generation of process condensate is well below the design capacity of 1,440 m3/day. Further, it may be noted that the actual rainfall experienced is well below the maximum permissible storm water quantity of 2,350 m3/day stipulated under the CTO. A copy of the rainfall data of Panipat (Haryana) as per IMD (Indian Metrological Department) for the period Jan 2023-September 2025 is annexed herewith as **Annexure- C**.

Hence, the combined storage capacity of approximately 4,250 m3 is sufficient to manage the actual storm water and process condensate generated under present operating conditions.

It is pertinent to note that till date, the Plant has successfully collected, treated, and reused 100% of the storm water and process wastewater generated within the premises, and no water, since hydrotesting, has ever been discharged into Drain No. 2 or into river Yamuna. From the separation mechanism (as explained in response to Observation 1) is at place, please note that even in the event of heavy rainfall and when the Unit is working at its full potential (when the said line will be utilized to 'only' drain out storm water), there will be no mixing of storm water with any component, leave alone any residue. It is stated that any suggestion that the line "may be connected at any time" is speculative and untenable. It is stated that the allegation that the Plant has "no option" but to discharge untreated wastewater is speculative, hypothetical, and contrary to actual operational practice. It is reiterated that 2G Ethanol plant, as a matter of abundant caution, is diligently undertaking additional measures detailed in the response to Observation no.5.

Observations no-7:

The unit has neither prepared nor implemented a Sludge Management Plan as mandated in the Environmental Clearance granted by MoEF&CC. The leachate from sludge dumped for sun drying at various locations within the premises was observed entering into storm water drains and open channels. However, it was observed that the Unit has provided concrete flooring at several locations where sludge was found dumped during the first visit of the Joint Committee.

Reply:

The allegation that the Plant has neither prepared nor implemented a Sludge Management Plan is denied. It is submitted that the Sludge/Solid Management Plan forms an integral part of the Environment Impact Assessment ('EIA') Report of the Plant. The said plan was prepared by an agency duly accredited and approved by the Ministry of Environment, Forest and Climate Change ('MoEF&CC'). On the basis of the said EIA Report and the Sludge/Solid Management Plan contained therein, the EC for the Plant was granted by the MoEF&CC. That pursuant to and in accordance with the said EC, the CTO was thereafter duly granted by HSPCB. The said plan has been consistently followed by the Corporation.

Please note that the sludge generated at the plant is microorganism-based biological sludge, which is generated from PCTP. Also, biological sludge is generated from Wet Washing section through Screw Press installed in Clarifier & Filter Press in Effluent Treatment Section. All biological sludge (non-hazardous in nature) is temporarily collected designated sludge storage pit of 1,200 m3 capacity, which is constructed on an RCC floor with RCC retaining walls, since this material originates from agricultural fields, it is utilized as manure in the farm. The designated sludge storage area is having RCC flooring with side walls. Since sludge is de-watered, it does not contain free water. Further, to cater to future requirements, one additional sludge storage pit of 396 m^3 capacity has also been constructed. In case water is generated due to heavy rain, it is not contaminated due to biological nature of sludge. Further, in case of overflow, it will be collected in nearby process channels & process effluent pits for further reprocessing.

The provision of concrete flooring at locations observed during the Joint Committee visit further demonstrates 2G Ethanol plant's proactive and compliant approach towards environmental safeguards. It is submitted that the rainwater discharge facility may only be required, if at all, at a distant future stage, under circumstances where the plant is operating at full designed capacity and is simultaneously subjected to exceptionally heavy rainfall conditions, solely as a precautionary measure to prevent any potential flooding within the plant premises.

In view of above, this reply is submitted for your kind consideration please.

Thanking You.

Yours faithfully

Ganvir 19/03/26

(R.K.Ganvir)
Chief General Manager (HS&E)
For and on behalf of
Executive Director & Refinery Head
Panipat Refinery & Petrochemical Complex

Rajesh K Ganvir
CGM(Health, Safety and Environment)
Panipat Refinery (I.O.C.L.) 132140

9 of 9

HARYANA STATE POLLUTION CONTROL BOARD
SCO No.55, SECTOR-25, HUDA, PANIPAT
Ph. – (0180) 2672037, Telefax – 2664951, E-mail:hspcbropr@gmail.com

No. HSPCB/PR/2026/ 125 Dated 22-4-2026

To

M/s 100 KLPD Ligno Cellulosic 2G Ethanol Plant,
Including 10 TPD 2G Ethanol Demo Plant of Panipat Oil Refinery
and Petrochemical Complex IOCL, Village-Baholi, Panipat

Sub:- Personal hearing to be held on 23.04.2026 regarding levying of Environmental Compensation on M/s 100 KLPD Ligno Cellulosic 2G Ethanol Plant Including 10 TPD 2G Ethanol Demo Plant of Panipat Oil Refinery and Petrochemical Complex IOCL, Village-Baholi, Panipat as per Hon'ble NGT order dated 11/03/2026 in O.A. No.411/2025.

Whereas, your unit was visited on 03/10/2025 & 26/12/2025 by Joint Committee constituted by Hon'ble NGT in OA No.411/2025. During the inspection following shortcomings were observed:-

1. The storm water drains shown by the Unit inside the premises also carry trade effluent from various sections and the leachate from the sludge stored within the plant for sludge drying.
2. The Unit has provided pits for collecting the waste water/leakages from different sections of the plant but the presence of coloured water in the storm water drains indicate that the pits/mechanism provided is not adequate.
3. There are no segregation of storm water drains and process waste water drains. The same drains are carrying both the storm water and waste water, leading to contamination of storm water.
4. As per present mechanism followed by the unit, the waste water and the storm water through the common drain are collected in a collection tank of capacity 777 m3, which is transferred to Process Condensate Treatment Plant (PCTP) of capacity 60 m3/hr (1440 m3/day).
5. There is also a provision made for discharge of untreated waste water and contaminated storm water from the collection tank into the Drain No. 2, which leads to River Yamuna through pump. It was observed that the pipe-line used to pump the untreated water into the drain No 2 has been temporarily disconnected but it may be connected any time without any effort, if required. As per present mechanism, if the storm water is to discharged, it is to be discharged from the aforementioned collection tank only, which contains untreated water and contaminated storm water. Under this condition, the Unit cannot be termed as a Zero Liquid Discharge, as mandared in the Environmental Clearance granted by MoEF&CC and Consent to Operate (CTO) granted by HSPCB.
6. The capacity of Process Condensate Treatment Plant (PCTP) is 60 m3/hr (1440 m3/day), which is just adequate to take care of process condensate of the Unit operating at Full Capacity. This PCTP Plant has been shown to be used for treatment of storm water, as well, by the Unit. The storm water quantity shown in the CTP during heavy rains is 2350 KLD and when this is combined with process condensate generated at full capacity of the Unit @ 60 m3/h or 1440 m3/day will become 2350 + 1440= 3790 m3/day. This volume of 3790 m3/day cannot be accommodated either in the existing 770 m^3 collection tank or treated by the PCTP with a capacity of 1440 m^3/day. Consequently, during the rainy season, the unit has no option but to discharge untreated wastewater and contaminated storm water into Drain No. 2, which ultimately leads to the River Yamuna.
7. The unit has neither prepared nor implemented a Sludge Management Plan as mandated in the Environmental Clearance granted by MoEF&CC. The leachate from sludge dumped for sun drying at various locations within the premises was observed entering into storm water drains and open channels. However, it was observed that the Unit has provided concrete flooring at several locations where sludge was found dumped during the first visit of the Joint Committee.

Whereas, a show cause notice was issued to the unit by this office letter No.HSPCB/PR/2026/4393 dated 19/01/2026. The unit has submitted the reply of said show cause notice on 19/03/2026.

Further, Hon'ble NGT vide orders dated 11/03/2026 in OA No.411/2025 and issued the following directions:-

"7. Mr. Rahul Khurana, learned Counsel for Haryana Pollution Control Board did not provide any information with regard to past violations of the unit nor any water analyses report of the drain before rectification provided by the Haryana PCB.

8. In view of the above it is directed that:-

i. HSPCB shall provide the action taken report for the past violations by the unit and the steps taken to prevent discharge in the drain and to ensure that no untreated effluent is discharged in drain/canal/river.

ii. The Project Proponent shall provide the total water usage and water balance indicating recycling and reuse of water and adopting ZLD for the unit."

In this regard, you are hereby informed that the Competent Authority has afforded to give you, an opportunity of personal Hearing before the Environmental Compensation finalization committee on **23.04.2026 at 12.00 Noon** in the office of worthy **Member Secretary, Ground Floor, Haryana State Pollution Control Board, C-11, Sector-6, Panchkula**.

Therefore, you are asked to be present on the above said date, time and venue to present your case.

CC:-

A copy of the above is forwarded to the Member Secretary, HSPCB, Panchkula for information, please.

for Regional Officer
Panipat Region

ANNEXURE-6

इंडियन ऑयल कार्पोरेशन लिमिटेड
पानीपत रिफ़ाइनरी एवं पेट्रोकेमिकल कॉम्प्लेक्स
पानीपत, हरियाणा - 132140
Indian Oil Corporation Limited
Panipat Refinery & Petrochemical Complex
Panipat, Haryana – 132140
वेबसाइट: www.iocl.com;ई-मेल: prpc_hse@indianoil.in
दूरभाष : 0180-252 4001/0180-2578833

रिफ़ाइनरीज़ प्रभाग
Refineries Division

Ref No: PRPC/HSE/2G/2026/2.1 *Date: 23.04.2026*

To,

The Regional Officer,
Haryana State Pollution Control Board,
S.C.O No-55, Sector-25
HUDA, Panipat (Haryana)-132103

Sub: Personal Hearing to be held on 23.4.2026

Ref: Subject letter No. HSPCB/PR/2026/125 dated 22.4.2026

Dear Sir,

This has reference to letter No. HSPCB/PR/2026/125 dated **22.4.2026** issued by Haryana State Pollution Control Board. The said letter received by an email at about 1 pm requires Indian Oil Corporation Limited to be present for a personal hearing before the Environmental Compensation Finalization Committee at 12 noon on **23.4.2026.**

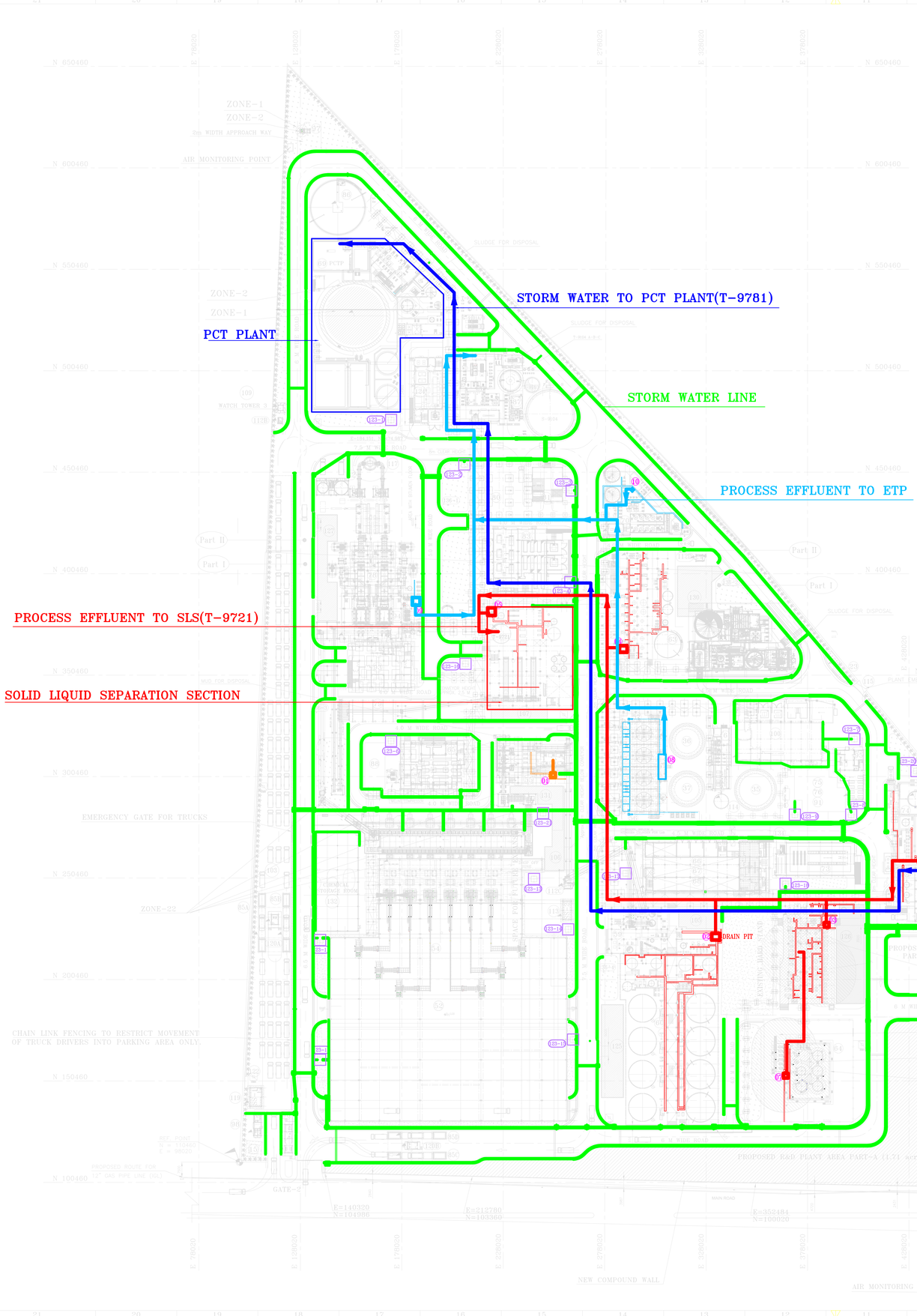
Though we have been directed to appear before Environmental Compensation Finalization Committee, till date we have not been served with any order passed by the Competent Authority.

Be that as it may, kindly appreciate that we would not be able to make effective representation at such a short notice of less than 24 hours. We intend to make comprehensive submissions before the aforesaid committee for preparation of which we would require at least one week.

In view of the above, it is most respectfully requested that the Corporation be kindly granted an extension of one week from the date hereof to appear and make its submissions in the matter. It is further prayed that the hearing may be scheduled at a date convenient to this Hon'ble authority after the said period of one week.

Thanking You.

Yours faithfully
Ritesh Kumar
DGM (HSE)



CODE	SECTION
01	WET WASHING
02	PRETREATMENT, HYDROLYSIS & CO-FERMENTATION
03	DISTILLATION & DEHYDRATION
04	EVAPORATION
05	SOLID LIQUID SEPARATION
06	BULK CHEMICAL STORAGE
07	ETHANOL PRODUCT DAY & BULK STORAGE
08	COOLING TOWER
09	BOILER
10	DM WATER PLANT
123	STORM WATER RECHARGE PIT (TOTAL-18 Nos.)

- STORM WATER
- PROCESS EFFLUENT TO SLS(T-9721)
- PROCESS EFFLUENT TO ETP
- PROCESS EFFLUENT TO WET WASHING(T-9101)
- STORM WATER TO PCT PLANT(T-9781)
- RAIN WATER HARVESTING RECHARGE PIT

NOTES:

1. PROCESS EFFLUENT FROM PT, HYDROLYSIS, FERMENTATION, DISTILLATION, SLS, EVAPORATION, AND BULK CHEMICAL STORAGE IS COLLECTED IN PITS AND TREATED IN THE SLS SECTION.
2. COOLING TOWER BLOWDOWN, BOILER BLOWDOWN, AND DM WATER REJECT ARE COLLECTED IN PITS AND TREATED IN THE ETP.
3. PROCESS EFFLUENT FROM ETHANOL PRODUCT STORAGE TANK PIT IS TREATED IN THE DISTILLATION SECTION.
4. STORM WATER AND PROCESS EFFLUENT REMAIN SEGREGATED AS PER DESIGN PHILOSOPHY, WITH NO POSSIBILITY OF MIXING.

TITLE :

PLOT PLAN

STATUS : LPCM

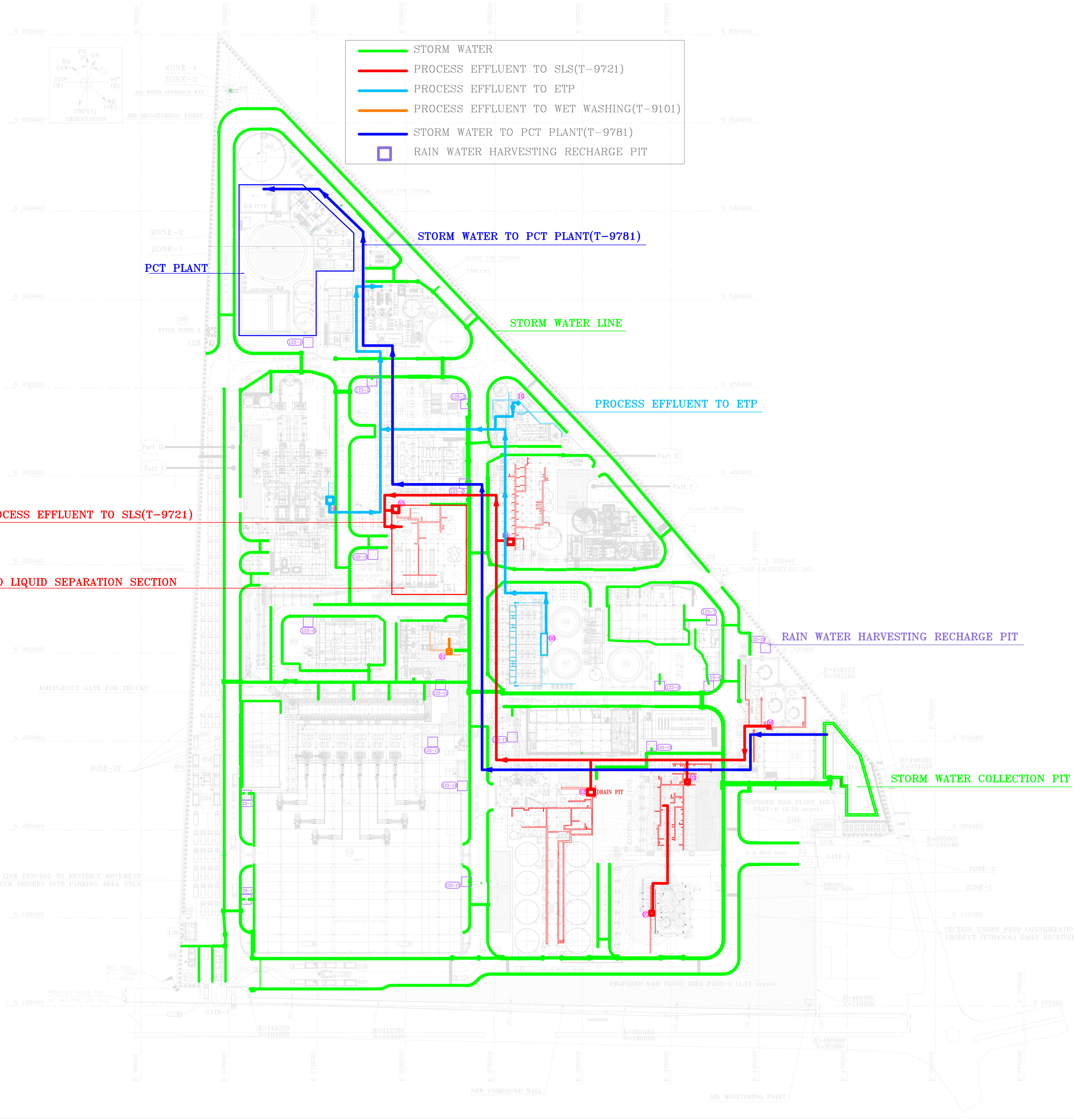
SCALE : NTS

PIL JOB CODE : S-17047

DWG. NO. : S-17047 - 0 - PL19001

SHEET : 01

REV. : 2


STORM WATER
PROCESS EFFLUENT TO SLS(T-9721)
PROCESS EFFLUENT TO ETP
PROCESS EFFLUENT TO WET WASHING(T-9101)
STORM WATER TO PCT PLANT(T-9781)
RAIN WATER HARVESTING RECHARGE PIT
STORM WATER TO PCT PLANT(T-9781)
PCT PLANT
STORM WATER LINE
PROCESS EFFLUENT TO ETP
PROCESS EFFLUENT TO SLS(T-9721)
SOLID LIQUID SEPARATION SECTION
RAIN WATER HARVESTING RECHARGE PIT
STORM WATER COLLECTION PIT
DRAIN PIT
PROPOSED R&D PLANT AREA PART-B (0.33 acres)
PROPOSED R&D PLANT AREA PART-A (1.71 acres)
SECTION UNDER PESO CONSIDERATION
PRODUCT (ETHANOL) DAILY RECEIVER
CHAIN LINK FENCING TO RESTRICT MOVEMENT OF TRUCK DRIVERS INTO PARKING AREA ONLY.
EMERGENCY GATE FOR TRUCKS
PROPOSED ROUTE FOR 12" GAS PIPE LINE (IGL)
NEW COMPOUND WALL
AIR MONITORING POINT
MAIN ROAD
GATE-1
GATE-2
ZONE-1
ZONE-2
ZONE-22
PLANT EMERGENCY EXIT GATE
EXISTING SEPTIC TANK
CHEMICAL STORAGE ROOM
WATCH TOWER 3
SLUDGE FOR DISPOSAL
Part I
Part II
E=456253 N=282160
E=496200 N=234020
E=505007 N=195940
E=460400 N=110108
E=460400 N=97980
E=352484 N=100020
E=212780 N=103360
E=140320 N=104986
N 650460
N 600460
N 550460
N 500460
N 450460
N 400460
N 350460
N 300460
N 250460
N 200460
N 150460
N 100460
E 78020
E 128020
E 178020
E 228020
E 278020
E 328020
E 378020
E 428020
E 478020
E 528020
E 578020


208

ANNEXURE- 8 COLLY- OVERHEAD PIPE ... Edit Share

ANNEXURE- 8 COLLY- OVERHEAD PIPE

Edit Share

211