BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

EXECUTION APPLICATION 38 OF 2023
IN
ORIGINAL APPLICATION NO. 324 OF 2016

IN THE MATTER OF:

Shailesh Singh — Applicant

Vs.

State of U.P & Ors. — Respondents

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Adit Kumar Vidyarthi

A.K. Vidyarthi
Scientist F
Central Pollution Control Board
Delhi-110032

Dated: 26.02.2024

Place: Delhi

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

EXECUTION APPLICATION 38 OF 2023
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IN THE MATTER OF:

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REPLY TO THE EXECUTION APPLICATION ON BEHALF OF RESPONDENT NO. 4 i.e. CENTRAL POLLUTION CONTROL BOARD (CPCB)

A. That Central Pollution Control Board (hereinafter referred as "CPCB") is a statutory board which has been constituted under Section 3 of the Water (Prevention and Control of Pollution) Act, 1974 (herein after referred as Water Act). It performs the functions assigned to it under the Water Act, the Air (Prevention and Control of Pollution) Act, 1981 and The Environment (Protection) Act, 1986.

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B. That prior to providing Para wise reply to the Execution Application No. 38/2023 the answering respondent prays to put forward preliminary objections as to the maintainability of the present EA;

Preliminary objections:-

1. That the Execution Application (herein after referred as E.A) was filed vide EA No.13/2020 in OA No.324 of 2016 for the

orders of the Hon'ble Tribunal and the same was finally disposed of vide order dated 18-03-2021 by the Hon'ble Tribunal.

2. That the present applicant has filed another E.A No.19/2021 for the Execution of the order dated 18-03-2021 and the said E.A was finally decided vide order dated 12-05-2022 by the Hon'ble NGT.

3. That thereafter another Execution Application was filed vide EA no.23/2022 for the execution of order dated 18-03-2021 passed by the Hon'ble Tribunal and the same was finally disposed of vide order dated 03-02-2023 by the Hon'ble Tribunal.

4. That thereafter another Execution Application was filed vide EA no.3/2023 for the execution of order dated 18-03-2021 of the Hon'ble Tribunal and the same was finally disposed of vide order dated 03-02-2023 by the Hon'ble Tribunal.

5. That thereafter another Execution Application was filed vide EA no.25/2023 for the orders of the Hon'ble Tribunal and the same was finally disposed of vide order dated 07-08-2023 by the Hon'ble Tribunal.

6. That the present Execution Application is 6th Execution Application filed by the applicant for execution of orders and more particularly against the order dated 18-03-2021 passed by the Hon'ble Tribunal in the OA No.324/2016 (hereinafter referred as said OA).

7. That the applicant in the present EA has not disclosed all the correct facts of filling previous execution applications

before the Hon'ble Tribunal for execution of the same order dated 18-03-2021 passed in said OA by the Hon'ble Tribunal.

8. That, in view of the section 11 of Civil Procedure Code (CPC)-1908 as amended from time to time as well as the Explanation VII of Sec.11 of CPC, the principle of Res-Judicata is applicable in the present case. (this is statutory provision,we could not change this)The same is appended below:-

Sec. 11. Res judicata.—No Court shall try any suit or issue in which the matter directly and substantially in issue has been directly and substantially in issue in a former suit between the same parties, or between parties under whom they or any of them claim, litigating under the same title, in a Court competent to try such subsequent suit or the suit in which such issue has been subsequently raised, and has been heard and finally decided by such Court.[RK2]

[Explanation VII—The provisions of this section shall apply to a proceeding for the execution of a decree and references in this section to any suit, issue or former suit shall be construed as references, respectively, to a proceeding for the execution of the decree, question arising in such proceeding and a former proceeding for the execution of that decree.

9. That in the earlier Execution Applications disposed by the Hon'ble Tribunal, the parties were same and the issue was also same. Subsequently, all the EA's have been finally

decided by the competent court of Jurisdiction i.e. the Hon'ble NGT, PB, New Delhi. Hence, the present EA is liable to be dismissed on this sole ground.

10. That the issue involved between the parties herein has finally and substantially decided by the Hon'ble Tribunal vide various orders passed by the Hon'ble Tribunal as mentioned herein above. Hence, the present EA is liable to be dismissed on this sole ground.

11. That the issues raised by the applicant in this OA have already been dealt in entirety and no fact or allegation raised by the applicant has been left undecided by the Hon'ble Tribunal. Thereby, the present EA is liable to be dismissed by this Hon'ble Tribunal.

12. That, the matter was finally disposed of on 18-03-2021 and the present EA has been filed in the year 2023.

13. That those recommendations given by the committee of Hon'ble Justice SVS Rathore and Hon'ble Justice Tandon have been considered by the Hon'ble Tribunal and then the final order dated passed on 18-03-2021. Hence, the present application is liable to be dismissed.

14. That, most of the facts in the present EA present fresh cause of action and the same were not part of the facts of the OA No.324/2016 adjudicated by the Hon'ble Tribunal. Therefore, the present EA is liable to be dismissed on this sole ground.

REPLY ON MERIT:-

1. That the contents of Para Nos. 1 and 2 of the application relate to the facts and orders related to said OA which are matter of records. Hence, needs no reply from this Answering Respondent.

2. That in reply to the contents of Para 3 (a) of the application, it is humbly submitted by the Respondent herein that the status report dated 07-12-2021 was filed by CPCB before Hon'ble NGT in compliance to orders dated 18-03-2021 in OA No. 324/2016 titled "Shailesh Singh Versus State of U.P. & Ors".

The copy of status report dated 07-12-2021 is annexed herewith as **ANNEXURE-I**.

3. That in reply to the contents of Para 3 (b) of the application, it is humbly submitted by the Respondent no. 4 as under:

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- The averment regarding making a false statement before this learned Tribunal by this respondent no. 4 is denied in entirety. Also, the matter regarding CGWA NOC pertains to Uttar Pradesh Ground Water Department (UPGWD) and needs no response from this answering respondent.
- The directives given by the Hon'ble Tribunal vide order dated 18.03.2021 and the relevant verbatim of the order is as follows: "*...The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law....*" Also, as per the Hon'ble Tribunal directives, action was to be taken by the concerned State Pollution Control Board.

4. That in reply to the contents of Para 3 (c) & (d), this answering respondent submits that Execution Application (EA) No. 19/2021 in OA No. 324/2016 titled Shailesh Singh

Versus State of U.P. & Ors., was filed by the applicant on 04.08.2021. Subsequently, the Hon'ble NGT vide order dated 12.08.2021 in the above mentioned application, directed the following:

"...8. Accordingly, to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021. The report may be furnished before the next date by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF..."

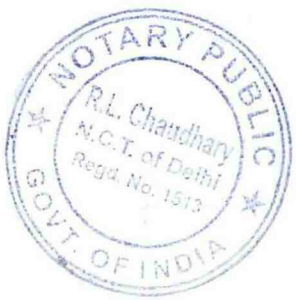
In compliance of the above mentioned order, compliance verification of recommendations provided by joint committee & oversight committee was carried out for industries including M/s Radico Khaitan Ltd., Rampur, on 08-09 March 2022 and river water quality monitoring was carried out on 02-03 February 2022 by joint team of officials from CPCB, UPPCB and UKPCB. A Joint Committee Report regarding the same was filed by CPCB on 09-05-2022. Further, the report was accepted by the Hon'ble NGT vide order dated 12.05.2022 and the EA No. 19/2021 in OA No. 324/2016 was accordingly disposed of. Thus, the compliance of the Hon'ble NGT order has already been accomplished. The copy of report of joint inspection committee dated 09-05-2022 is annexed herewith as **ANNEXURE II**.

That in reply to the contents of Para 3 (e), the allegations pertain to UP Government and UPPCB and hence does not need any response from this answering respondent.

5. That in reply to the contents of Para 3 (f), this answering respondent reiterates the reply submitted above in para 4 and the same is not repeated herein for the sake of brevity.

6. That in reply to the contents of Para 3 (g), this answering respondent humbly submits that no direction to take services from oversight committee have been given by the Hon'ble Tribunal vide order dated 18.03.2021 in the matter of Shailesh Singh Versus State of U.P. & Ors. in OA No. 324/2016.

7. That in reply to the contents of Para 3 (h), this answering respondent submits that EA No. 25/2023 in OA No. 324/2016 titled Shailesh Singh Versus State of U.P. & Ors., was filed by the applicant on 17.06.2023. Subsequently, the Hon'ble NGT vide order dated 07.08.2023 disposed of the said matter, with the following observations and directions:



"...4. Nothing has been shown for non-compliance of the orders.

5. Accordingly, the application as filed is not maintainable..."

Thus, the averments do not need any response from this answering respondent.

8. That in reply to the contents of Para 3 (i), 3 (j) & 3 (k), this answering respondent submits that the applicant filed RTI dated 18.08.2023 regarding illegal production charges deposited by M/s Radico Khaitan Ltd., Bareilly road, Rampur (U.P.) in compliance of Hon'ble NGT orders in O.A. No. 324/2016 titled Shailesh Singh Versus State of U.P. & Ors. CPCB vide its reply dated 15.09.2023 provided the following information:

- In the matter of Shailesh Singh vs State of Uttar Pradesh and Ors., O.A. No. 324/2016 of NGT, Principal Bench, New Delhi, CPCB, vide directions dated 24-12-2018, 17-05-2019 and 06-08-2019 issued

under Section 5 of Environment (Protection) Act, 1986 to M/s. Radico Khaitan Ltd., Bareilly road, Rampur, levied environmental compensations of Rs.27,00,000/- (Rupees Twenty-seven Lakhs only), Rs. 1,18,80,000/- (Rupees One Crore Eighteen Lakhs Eighty Thousand only) and Rs.5,83,20,000/- (Rupees Five Crore Eighty-three Lakhs Twenty Thousand only), respectively.

- M/s. Radico Khaitan Ltd., Bareilly road, Rampur has deposited environmental compensation of Rs. 27,00,000/- on 15.02.2019, Rs.1,18,80,000/- on 03.07.2019 and Rs. 5,83,20,000/- on 02.09.2019, in compliance of the above-mentioned directions issued by CPCB.

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The copy of reply dated 15.09.2023 is annexed herewith as **ANNEXURE III**.

9. That in reply to the contents of Para 3 (l), the matter pertains to UPPCB and hence does not need any response from this answering respondent.

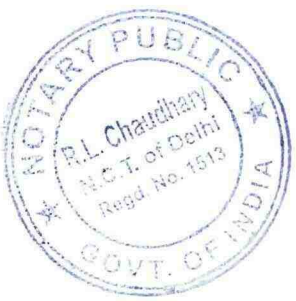
10. That in reply to the contents of Para 3 (m), the matter pertains to the project proponent and hence does not need any response from this answering respondent.

11. That in reply to the contents of Para 3 (n), this answering respondent humbly submits that in the quoted paras of orders dated 12.08.2021 and 16.09.2022, the Hon'ble NGT has

merely mentioned the submissions of applicant and does not reflect their own observations and directions. However, CPCB has already filed status report dated 07.12.2021 before Hon'ble NGT in compliance with orders dated 18.03.2021 and 12.08.2021 in the above mentioned matter.

12. That in reply to the contents of Para 3 (o) , 3 (p), and 3 (q), the matter relates to UPPCB and Project Proponents hence needs no response from this answering Respondent.

13. That in reply to the contents of Para 4, this answering respondent reiterates the reply submitted above in para's 2 and 4, are not repeated herein above for the sake of brevity.



14. That in reply to the contents of Para 5, this answering respondent humbly submits that in compliance of Hon'ble NGT order dated 12.08.2021 in E.A. no.19/2021 of O.A. no. 324/2016 in the said matter, status report dated 07.12.2021 was filed by CPCB. The report was considered by the Hon'ble Tribunal in its order dated 09.12.2021 and the following directives were given:

"*...9. In view of above, we consider it appropriate to require a joint report by a joint Committee of CPCB, UPPCB and Uttarakhand State PCB within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may also be uploaded on the website of CPCB simultaneously for further response of the concerned parties...*"

In compliance of the above-mentioned order, joint committee report dated 09.05.2022 was filed by CPCB which was considered and accepted by the Hon'ble Tribunal on 12.05.2022 and the matter was disposed off accordingly. The other EAs in this matter were also disposed of by the Hon'ble Tribunal.

It is pertinent to mention here that vide orders dated 03.02.2023 and 07.08.2023 in EA No. 03/2023 and 25/2023 respectively, the Hon'ble Tribunal observed that the applications were not maintainable.

15. That in reply to the contents of Para 6, the matter pertains to the Project Proponent and hence does not need any response from this answering respondent.

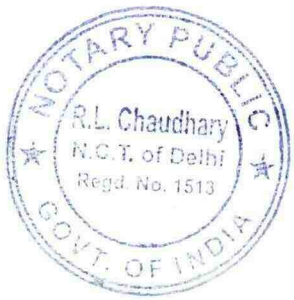
16. That in reply to the contents of Para 7, this answering respondent reiterates the reply submitted above in Para nos. 2 & 4 and the same are not repeated herein for the sake of brevity.

17. That in reply to the contents of Para nos. 8 and 14, this answering respondent reiterates the reply submitted above in Para 3 and the same are not repeated herein for the sake of brevity.

18. That in reply to the contents of Para 9, the matter pertains to the Project Proponent and hence does not need any response from this answering respondent.

19. That in reply to the contents of Para 10, the matter pertains to UPPCB and hence does not need any response from this answering respondent.

20. That in relation to the contents of Para nos. 11, 12 and 13, the applicant has stated the fact of filing of his EA and subsequent orders passed by the Hon'ble Tribunal which are matter of record hence does not need any response from this answering respondent.



21. That in reply to the contents of Para nos. 15 and 16, this answering respondent reiterates the reply submitted above in Para 9 and the same is not repeated herein for the sake of brevity.

It is also submitted that the Hon'ble NGT in its order dated 07.08.2023 has merely mentioned the submissions of applicant in his execution application no. 25/2023 and do not reflect their own observations and directions. Hon'ble NGT in its above mentioned order has disposed of the said matter, with the following observations and directions:

"...This execution application is only on two points (i) discharge of untreated water which has been denied by the respondents and there is no substantial proof by the applicant to substantiate that after the order, no remedial action has been taken by the respondent. (ii) permission from the CGWA, which been taken.4. Nothing has been shown for non-compliance of the orders.5. Accordingly, the application as filed is not maintainable..."

22. That in reply to the contents of Para 17, the allegations are levelled against CGWB, UPPCB and project proponent, thus, needs no comment from this answering respondent.

23. That in reply to the contents of Para nos.18 & 19, this answering respondent submits that the applicant filed RTI dated 16.09.2023 seeking information regarding notice/ direction/ recommendation written by CPCB to CGWA, DM Rampur and UPPCB regarding calculation and recovery of the groundwater charges of M/s Radico Khaitan Ltd., Rampur in compliance of Hon'ble NGT order dated 18.03.2021 in O.A. No. 324/2016 titled Shailesh Singh Versus State of U.P. & Ors. CPCB vide its reply dated 26.09.2023 provided the following information:

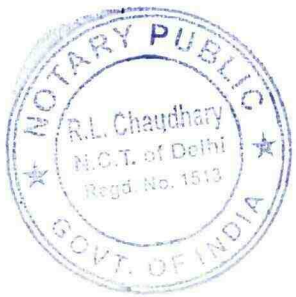
- CPCB issued letters dated 24.07.2019 and 02.09.2019 to Member Secretary, CGWA regarding the restriction on withdrawal of underground water and payment of the water charges on the principal 'more the withdrawal, higher the rates'.
- No letter was issued to District magistrate (DM) regarding calculation and recovery of the groundwater charges since DM is an independent authority authorized to take actions on their own.
- CPCB issued letters dated 02.09.2021 and 29.10.2021 to Member Secretary, Uttar Pradesh Pollution Control Board (UPPCB) and Member Secretary, Uttarakhand Pollution Control Board (UKPCB) for ensuring compliance of Hon'ble NGT order.

24. That in reply to the contents of Para 20, this answering respondent reiterates the reply submitted above in Para nos.

2 and 4 and the same is not repeated herein for the sake of brevity.

Hon'ble NGT in its order dated 07.08.2023 has disposed of the said matter, with the following observations and directions:

"...This execution application is only on two points (i) discharge of untreated water which has been denied by the respondents and there is no substantial proof by the applicant to substantiate that after the order, no remedial action has been taken by the respondent. (ii) permission from the CGWA, which been taken.4. Nothing has been shown for non-compliance of the orders.5. Accordingly, the application as filed is not maintainable..."



25. That in reply to the contents of Para nos. 21, 22, 27, 29, 32 and 33, this answering respondent reiterates the reply submitted above in Para nos. 2 and 4 and the same are not repeated herein for the sake of brevity.

26. That the contents of Para nos. 23 to 26 and 28, relates to Hon'ble Supreme court, Hon'ble Tribunal orders in various matters and allegations are levelled against project proponents thus no reply is submitted by answering respondent.

27. That the contents of Para No. 30, pertains to CGWA and DM, Rampur and hence does not need any response from this answering respondent.

28. That the contents of Para no. 31, pertains to UPPCB and hence does not need any response from this answering respondent.

29. That the contents of Para no. 34, does not need any comment from this answering respondent.

30. That apart from above, this answering respondent will also like to list out the chronology of other matters listed before Hon'ble NGT wherein inspection of M/s Radico Khaitan Ltd. has been carried out and compliance reported:

A. <u>In the matter of of Ghanshyam Singh Pasi vs State of U.P. & Ors. in OA No. 152/2022</u>

- Joint inspection of the unit carried out on 12.07.2022 in compliance of Hon'ble NGT orders dated 29.04.2022 in the matter of Ghanshyam Singh Pasi vs State of U.P. & Ors. in OA No. 152/2022. The inspection report was filed on 09.09.2022 by CPCB before the Hon'ble Tribunal which is annexed herewith as **ANNEXURE-IV.**
- Visit to the unit and nearby area was carried out by CPCB on 17.04.2023 in compliance of Hon'ble High Court of Delhi in W.P. (C) 13212/2022 & CM Appl. 30644/2022 order dated 07.12.2022 and report was filed in Hon'ble High Court of Delhi. The same report was filed in Hon'ble NGT in compliance of order dated 26.04.2023 in the matter of Ghanshyam Singh Pasi vs State of U.P. & Ors. OA No. 152/2022. The inspection report dated 21.07.2023 is annexed herewith as **ANNEXURE-V.**
- An additional report based on CPCB visit to the unit carried out on 12.01.2024 in compliance of order dated 10.10.2023 in the matter of Ghanshyam Singh Pasi vs State of U.P. &

Ors. in OA No. 152/2022 filed on 19.01.2024 which is annexed herewith as **ANNEXURE-VI.**

B. <u>Annual inspections by CPCB authorized third party technical institutes</u>

- CPCB carries out inspection of all Grossly Polluting Industries located in the main stem of Rivers Ganga and Yamuna on annual basis through CPCB authorized Third party institutes. Annual inspections of M/s Radico Khaitan Ltd., Rampur was also carried out by Vasantdada Sugar Institute, Pune on 05.03.2021, 04.03.2022 & 28.02.2023. The inspection reports were forwarded to UPPCB. Inspection Reports of the same are attached as **Annexure VII**.

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Regd. No. 1513
GOVT. OF INDIA

C. <u>In compliance of Hon'ble High Court of Allahabad order dated 27.07.2022 in reference to Public Interest Litigation (PIL) 4003 of 2006 (Re- Ganga Pollution vs. State of U.P. and Others) and O.A .No. 515/2023 in the matter Ganga Pollution vs State of U.P. & Ors. before Hon'ble NGT</u>

- Inspection of the unit was carried out on 15.11.2022 by CPCB in compliance of above mentioned order. The inspection report was forwarded to UPPCB. The inspection report is annexed herewith as **ANNEXURE-VIII.**

31. In light of the above, it is humbly submitted that the various Execution Applications filed in OA No. 324/2016 titled Shailesh Singh versus State of U.P. & Ors. may be disposed off since the

matter has already been taken up in in OA No. 152/2022 titled Ghanshyam Singh Pasi vs State of U.P. & Ors.

32. That the answering respondent is exercising its power as available in law to control and abate the pollution.

PRAYER

In view of the above facts and circumstances, it is humbly prayed to the Hon'ble Tribunal that the Hon'ble Tribunal may pass appropriate order in the interest of justice and this answering Respondent no.4 undertakes to abide by the orders/directions passed by this Hon'ble Tribunal in the present Original Application.

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

EXECUTION APPLICATION 38 OF 2023
IN
ORIGINAL APPLICATION NO. 324 OF 2016

IN THE MATTER OF:

Shailesh Singh — Applicant

Vs.

State of U.P & Ors. — Respondents

AFFIDAVIT

I, A. K. Vidyarthi, aged about 53 working as Scientist 'F' in Central Pollution Control Board, office at Parivesh Bhawan, East Arjun Nagar, Delhi- 110032, do hereby solemnly affirm and declare as under:

NOTARY PUBLIC R.L. Chaudhary N.C.T. of Delhi Regd. No. 15 GOVT. OF INDIA

1. That I am fully conversant with the facts of the case and hence, competent and authorized to depose and swear the present affidavit in my official capacity.

2. That the contents of the annexed reply have been drafted by me and the contents of the same are true and correct on the basis of the record of the case as maintained in the day-to-day affairs of the CPCB and the contents of the short reply may kindly be treated part of this affidavit and the same are not repeated herein for the sake of brevity.

Ajit Kumar Vidyarthi

DEPONENT

ए. के. विद्यार्थी / A. K. Vidyarthi
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
M/o Env. Forest & Climate Change, Govt. of India
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

VERIFICATION

26 FEB 2024

Verified at Delhi on this day of February, 2024 that the contents of the above reply affidavit are correct and true on the basis of the record of the case as maintained in the day-to-day affairs of the CPCB. Nothing has been concealed therefrom or mis-stated.

Ajit Kumar Vidyarthi

DEPONENT

NOTARY PUBLIC
R.L. Chaudhary
N.C.T. of Delhi
Regd. No. 1613
GOVT. OF INDIA

ए. के. विद्यार्थी / A. K. Vidyarthi
वैज्ञानिक 'एफ' / Scientist 'F'
केंद्रीय प्रदूषण नियंत्रण बोर्ड
Central Pollution Control Board
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार
M/o Env. Forest & Climate Change, Govt. of India
परिवेश भवन, पूर्वी अर्जुन नगर, दिल्ली–110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

ATTESTED
NOTARY PUBLIC
GOVT. OF INDIA
26 FEB 2024

Annexure-I

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Original Application No. 324/2016

With

Original Application No. 361/2017

With

Execution Application No. 19/2021

IN

Original Application No. 324/2016

Shailesh Singh — Applicant

Vs.

State of Uttar Pradesh & Ors. — Respondent (s)

With

Dr. Tanzeen Fatima — Applicant

Vs.

MoEF & CC & Ors. — Respondent(s)

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1.	**Status Report on behalf of CPCB** In compliance to Hon'ble NGT Order dated 18.03.2021 in the matter of Shailesh Singh Vs. State of Uttar Pradesh & Ors., O.A. No. 324/2016 with Dr. Tanzeen Fatima Vs. Ministry of Environment, Forest & Climate Change & Ors., O.A. no. 361/2017 and Hon'ble NGT order dt 12.08.2021 in EA 19/2021 in OA 324/2016	
2.	**Annexure-I**: A copy of Hon'ble NGT order dated 18.03.2021 in O.A. nos. 361/2017 With 324/2016.	
3.	**Annexure -II**: A copy of Hon'ble NGT order dated 12.08.2021 in EA No. 19/2021 in OA No. 324/2016, Shailesh Singh Vs State of U.P. & Ors.	
4.	**Annexure-III**: A copy of CPCB letter dated 02.09.2021 to Uttarakhand Pollution Control Board (UKPCB) and Uttar Pradesh Pollution Control Board (UPPCB) regarding compliance of Hon'ble NGT order.	
5.	**Annexure-IV**: A copy of CPCB reminder letter dated 29.10.2021 issued to UKPCB & UPPCB regarding compliance of Hon'ble NGT order.	
6.	**Annexure-V**: A copy of Minutes of meeting dated 09.11.2021 regarding compliance status of Hon'ble NGT orders.	

7.	**Annexure -VI**: A copy of Status report provided by UKPCB dated 24.11.2021.	
8.	**Annexure-VII**: A copy of Status report provided by UPPCB dated 29.11.2021	

Ajit Kumar Vidyarthi

(Dr. A.K. Vidyarthi)
Scientist-E
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi- 110032.

Date: 07.12.2021
Place: Delhi

Compliance Report on behalf of CPCB

In compliance to Hon'ble NGT Order dated 18.03.2021 in the matter of Shailesh Singh Vs. State of Uttar Pradesh & Ors., O.A. No. 324/2016 with Dr. Tanzeen Fatima Vs. Ministry of Environment, Forest & Climate Change & Ors., O.A. no. 361/2017 and Hon'ble NGT order dt 12.08.2021 in EA 19/2021 in OA 324/2016

Hon'ble NGT vide its order dated 18.03.2021 **(ANNEXURE-I)** in the above said matters considered the compliance report dated 06.01.2021 filed by the Central Pollution Control Board (CPCB) based on joint committee inspection of 14 industries on 27th & 28th October, 2020 carried out by officials of CPCB, Uttar Pradesh Pollution Control Board (UPPCB) and Uttarakhand Pollution Control Board (UKPCB) and further directed as follows:

"13. There is no objection to the report of the Oversight Committee in respect of the units in the State of UP or to the report of the joint Committee filed by the CPCB. We do not see any reason not to accept the same. Accordingly, the said reports are accepted. Action may accordingly be taken by the concerned units and the statutory regulators.

14. The industries in the question in the State of UP as well as Uttrakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action.

16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities. Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bahela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also."

Hon'ble NGT has also referred to the recommendations of joint committee as per inspection report dt 06.01.2021 and the recommendations of oversight committee for the 14 industries concerned in the matter.

Also, Hon'ble NGT vide its order dated 12.08.2021 **(ANNEXURE-II)** in the matter of Shailesh Singh Versus State of U.P. & Ors. in EA No. 19/2021 in OA No. 324/2016, directed the following:

"Accordingly, to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021."

In compliance to Hon'ble NGT orders mentioned above, CPCB issued letter dt 02.09.2021 **(ANNEXURE-III)** to Uttar Pradesh and Uttarakhand SPCBs wherein CPCB requested the SPCBs to take necessary action as per the Hon'ble NGT order and forward the action taken report to CPCB by 30.09.2021.

CPCB along with Uttarakhand Pollution Control Board (UKPCB) & Uttar Pradesh Pollution Control Board(UPPCB) carried out fortnightly monitoring of rivers Dhela, Kosi and Bahela and adjoining drains during Magh Mela 2020 and 2021. Water quality monitoring of these rivers from their origin to confluence were also carried out jointly by CPCB, UKPCB & UPPCB in the past.

CPCB vide letter dt 02.09.2021 also forwarded the reports of water quality monitoring of rivers Dhela, Kosi and Bahela and adjoining drains carried out during Magh Mela 2020 and 2021 jointly by CPCB, Uttarakhand & Uttar Pradesh SPCBs and also water quality monitoring reports of rivers Dhela, Kosi and Bahela from their origin to confluence to State Pollution Control Boards of Uttar Pradesh & Uttarakhand. ***It may be observed that few stretches/locations of rivers Kosi, Dhela & Bahela and few drains meeting these rivers showed deterioration in water quality compared to the other stretches/locations of these rivers.*** Accordingly, CPCB requested SPCBs to take appropriate remedial action to prevent pollution of these rivers/ drains and also for restoration of their water quality. Vide the said letter, CPCB also requested SPCBs to constitute mechanism for regular vigilance for control of pollution and water quality monitoring of these rivers and to provide the action taken report/compliance report to CPCB by 30.09.2021.

CPCB again sent a reminder letter dt 29.10.2021 (**ANNEXURE-IV)** to UKPCB & UPPCB wherein compliance status of recommendations of joint committee as well as oversight committee was sought from concerned SPCBs. However, no reply was received from the SPCBs.

A meeting dt 09.11.2021 was thus, convened with officials from CPCB, UKPCB & UPPCB to discuss the compliance status of Hon'ble NGT orders dt 18.03.2021 and 12.08.2021. Minutes of the meeting are placed at **ANNEXURE-V.** During the meeting, compliance status of recommendations of joint committee & the oversight committee w.r.t concerned units as referred by Hon'ble NGT in its order dt 18.03.2021 was sought from both SPCBs.

During the meeting, it was observed that following stretches/locations of rivers Dhela, Kosi and Ramganga showed high BOD compared to the other stretches/locations of these rivers which indicates deterioration in water quality:

i. River Dhela at d/s Faridnagar a/c of Dhandi drain **(BOD-max 168 mg/l)** to Bhojpur Bridge **(BOD-max 156 mg/l)** and its adjoining drain Dhandi **(BOD-max 386 mg/l)**.
ii. River Ramganga at Katghar a/c of Dehla, Moradabad **(BOD-max 18 mg/l)** to a/c of river Kosi at Shahbad **(BOD-max 11 mg/l)**
iii. River Kosi river a/c of Bahela river **(BOD-max 20 mg/l)** to a/c Rampur drain **(BOD-max 28 mg/l)**, and adjoining Rampur drain **(BOD-max 139 mg/l)**.

After detailed deliberations, it was observed that compliance status in respect of some of the recommendations of the joint committee and oversight committee was not available with the SPCBs. Therefore, following was decided:

i. Uttar Pradesh & Uttarakhand SPCBs shall ensure the compliance of the recommendations of joint committee as well as oversight committee and provide the compliance status of the same in tabular format along with photographic evidences & the action taken report to CPCB latest by 15.11.2021.
ii. Concerned SPCBs shall also provide their opinion on the action taken/ compliance status of units; whether units are compliant or not and shall also ensure action in case of non-compliance.
iii. Concerned SPCBs shall provide the report of action taken in order to prevent pollution of the Rivers Kosi, Dhela Bahela & Ramganga as well as drains adjoining these rivers and also for restoration of their water quality, to CPCB latest by 15.11.2021. The report may also include the latest water quality monitoring data of these rivers.

UKPCB vide email dt 24.11.2021 has provided the compliance report/action taken of 7 industries w.r.t. recommendations of joint committee and oversight committee as referred by Hon'ble NGT in its order dt 18.03.2021. As per compliance status/ action taken status received, UKPCB had issued directions dated 15.04.2021 u/s 33(a) of the Water (Prevention & Control of Pollution) Act, 1974 to the following units for compliance of the recommendations of joint inspection report:

1) M/s Multiwal Pulp and Board Mills (P) Ltd., Bazpur Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand

2) M/s Multiwal Duplex Pvt. Ltd., Kundeshwari Road, Kashipur, Dist.: U. S. Nagar, Uttarakhand
3) M/s Kashi Vishwanath Textile Mill Ltd. (SPNG Group), 5th Km Stone, Ramnagar Road, Kashipur-244713, Uttarakhand
4) M/s Cheema Papers Ltd, 9 km stone Bazpur Road, Kashipur, Dist. U.S. Nagar, Uttarakhand
5) M/s Banwari Paper Mill Ltd., 4th km stone, Rampur Road, Kashipur, U.S. Nagar, Utarakhand
6) M/s India Glycols Limited (Chemical Unit), A-1, Industrial Area, Bazpur Road, Kashipur, District-U.S. Nagar, Uttarakhand
7) M/s India Glycol Ltd (Distillery Plant), Kashipur, Uttarakhand

As per compliance status/ action taken status provided by UKPCB, the units, M/s Multiwal Duplex Pvt. Ltd., Kashipur, M/s Kashi Vishwanath Textile Mill Ltd., Kashipur, M/s Cheema Papers Ltd, Kashipur, M/s India Glycols Limited (Chemical Unit), Kashipur and M/s India Glycol Ltd (Distillery Plant), Kashipur have complied with the recommendations of the joint committee as well as the oversight committee. However, the units, M/s Multiwal Pulp and Board Mills (P) Ltd., Kashipur and M/s Banwari Paper Mill Ltd., Kashipur were found non-operational. The detailed compliance status provided by Uttarakhand Pollution Control Board (UKPCB) is annexed. As informed by UKPCB, the unit M/s Vishwakarma Papers Ltd. is self-closed since 01.06.2020.

As per the compliance status/ action taken status, the water quality at various locations from August, 2020 – October, 2021 at Uttarakhand is as follows:

1) Dhela upstream at Dehla Bridge Biljudi observed BOD range of 4 mg/l to 29 mg/l and DO range of 1.3-8.1 mg/l
2) Dhela downstream near Bhojpur bridge had BOD range of 15-56 mg/l and DO ranging from 0.1-3.2 mg/l
3) Bahela upstream: BOD range of 3-20 mg/l and DO range of 1.3-6.9 mg/l
4) Bahela downstream at Rajpura Tnada: BOD range of 5.4 -31 mg/l and DO range of 1-6.7 mg/l
5) River Kosi upstream at Bajpur Bridge Sultanpur Patti: BOD range of 3.2 – 8 mg/l and DO range of 4-9.1 mg/l
6) River Kosi downstream at Dariyal Road, Kashipur: BOD range of 3-5.5 mg/l and DO range of 4.1-9.8 mg/l

The report provided by UKPCB is placed at **ANNEXURE-VI**.

UPPCB also sent the status report to CPCB vide email dt 29.11.2021 wherein the compliance status/action taken status of following 6 industries w.r.t recommendations of joint committee as referred by Hon'ble NGT in its order dt 18.03.2021 as well as recommendations of oversight committee in tabular format alongwith enclosures has been provided.

1) M/s Radico Khaitan Ltd, Rampur
2) M/s Damyaa (P.J.) Foods Pvt Ltd, Rampur
3) M/s Usha Steel Process, Ajeetpur
4) M/s Swati Menthol Allied Chemical Ltd, Rampur
5) M/s Rana Sugars Ltd, Moradabad
6) M/s Rana Sugars Ltd (Distillery unit), Moradabad

As per the compliance status/ action taken status provided by UPPCB, the above mentioned units have complied with the recommendations of the joint committee as well as the oversight committee.

Also, the water quality status provided at various locations of Rivers Ramganga, Kosi, Dehla, Behla and Gagan from April, 2021 – November, 2021 is as follows:

1) Upstream of River Ramganga near village Agwanpur: BOD range of 1.4 mg/l- 2.2 mg/l and DO range of 7.2-9.6 mg/l
2) River Ramganga at Katghar: BOD range of 7-9.6 mg/l and DO range of 3-4.8 mg/l
3) Downstream of River Ramganga at Shabad, Rampur: BOD range of 7.4- 9.6 mg/l and DO range of 3-5.2 mg/l
4) River Kosi at Moradabad Rampur Road Bridge: BOD range of 2-3.2 mg/l and DO range of 6.8-8.9 mg/l
5) River Dhela: BOD range of 8.2 -9.8 mg/l and DO range of 0.8-8.2 mg/l
6) River Bahela at Moradabad Tanda Road Bridge: BOD range of 7.4- 9.2 mg/l and DO range of 1.4-3.9 mg/l
7) River Ganga at Moradabad Tanda Road Bridge: BOD range of 1.8- 3.2 mg/l and DO range of 6.4-9.4 mg/l

The said report is placed at **ANNEXURE-VII**.

Now, this status report including the reports provided by SPCBs of Uttar Pradesh & Uttarakhand in compliance to Hon'ble NGT order dt 18.03.2021 & 12.08.2021 are submitted for consideration to the Hon'ble Tribunal. The CPCB is bound by the orders of the Hon'ble Tribunal and abide the same.

Annexure-II

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Execution Appeal 19/2021

IN

Original Application No. 324/2016

In the matter of: -

Shailesh Singh ...Applicant

Versus

State of U.P. & Ors. ...Respondent(s)

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1.	**Joint Committee Report** in compliance to Hon'ble NGT (PB) order dated 18.03.2021, 12.08.2021 & 09.12.2021 in O.A. No. 324 of 2016 & E.A. No. 19 of 2021, Shailesh Singh Vs State of U.P. & Ors.	
2.	**Annexure I:** A copy of order dated 18.03.2021 passed by Hon'ble NGT (PB) in O.A. No. 324 of 2016, Shailesh Singh Vs State of U.P. & Ors.	
3.	**Annexure II:** A copy of order dated 12.08.2021 passed by Hon'ble NGT (PB) in E.A. No. 19 of 2021 in Shailesh Singh Vs State of U.P. & Ors.	
4.	**Annexure III:** A copy of Minutes of Meeting of Joint Committee held on 09.11.2021.	
5.	**Annexure IV:** A copy of status report dated 24.11.2021 provided by UKPCB.	
6.	**Annexure V:** A copy of status report dated 29.11.2021 provided by UPPCB.	
7.	**Annexure VI:** A copy of order dated 09.12.2021 passed by Hon'ble NGT (PB) in E.A. No. 19 of 2021, Shailesh Singh Vs State of U.P. & Ors.	
8.	**Annexure VII:** A copy of Minutes of Meeting of Joint Committee	

	held on 25.01.2022.	
9.	**Annexure VIII:** A copy of compliance status report provided by UPPCB.	
10.	**Annexure IX:** A copy of compliance status report provided by UKPCB.	
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Ajit Kumar Vidyarthi

(Dr. Ajit Kumar Vidyarthi)
Scientist-F
Central Pollution Control Board
Parivesh Bhawan, East Arjun Nagar, Delhi- 110032

Place: Delhi
Date: 09.05.2022

Joint Committee Report in compliance to Hon'ble NGT (PB) order dated 18.03.2021, 12.08.2021 & 09.12.2021 in O.A. No. 324 of 2016 & E.A. No. 19 of 2021; Shailesh Singh vs State of U.P. & Ors.

This report is in compliance to Hon'ble NGT order dated 09.12.2021 in Execution Appeal No. 19/2021, OA No. 324/2016 titled Shailesh Singh Vs State of Uttar Pradesh & Ors.

Hon'ble NGT considered the compliance report dated 06.01.2021 filed by the Central Pollution Control Board (CPCB) based on joint committee inspection of 14 industries on 27th & 28th October, 2020 carried out by officials of CPCB, Uttar Pradesh Pollution Control Board (UPPCB) and Uttarakhand Pollution Control Board (UKPCB) and vide order dated 18.03.2021 **(ANNEXURE-I)** further directed the following:

"13. There is no objection to the report of the Oversight Committee in respect of the units in the State of UP or to the report of the joint Committee filed by the CPCB. We do not see any reason not to accept the same. Accordingly, the said reports are accepted. Action may accordingly be taken by the concerned units and the statutory regulators.

14. The industries in the question in the State of UP as well as Uttarakhand may comply with the deficiencies noticed in the reports which may be overseen by a joint Committee of CPCB and the concerned State PCBs. The State PCBs may take necessary further action based on the observations of the joint Committee, which may include coercive measures like recovery of compensation and initiating prosecution, following due process of law. An action taken report may be periodically provided by the State PCBs to the Chairman, CPCB for any further directions for the remedial action.

16. Learned counsel for the UP State PCB submits that polluted water is being discharged from the Uttarakhand by the industries which is flowing to the State of UP. This may be looked into by the CPCB and based on observations of the CPCB, appropriate remedial action be taken to prevent such pollution by the State of Uttarakhand and its authorities. Regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bahela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG also."

Hon'ble NGT vide its subsequent order dated 12.08.2021 **(ANNEXURE-II)** in the matter of Shailesh Singh Versus State of U.P. & Ors. in EA No. 19/2021 in OA No. 324/2016, directed the following:

"..... to enable the Tribunal to proceed further, the CPCB and State PCB may furnish a status report in the matter with regard to the compliance status of order of this Tribunal dated 18.03.2021."

In compliance to Hon'ble NGT orders mentioned above, CPCB issued letter dated 02.09.2021 to Uttar Pradesh and Uttarakhand SPCBs (State Pollution Control Boards)

wherein CPCB requested the SPCBs to take necessary action as per the Hon'ble NGT order and forward the action taken report to CPCB by 30.09.2021.

CPCB vide letter dated 02.09.2021 also forwarded the reports of water quality monitoring of rivers Dhela, Kosi and Bahela and adjoining drains, carried out during Magh Mela 2020 and 2021 jointly by CPCB, Uttarakhand & Uttar Pradesh SPCBs and also water quality monitoring reports of rivers Dhela, Kosi and Bahela from their origin to confluence to SPCBs of Uttar Pradesh & Uttarakhand. CPCB also requested SPCBs to take appropriate remedial action to prevent pollution of these rivers/ drains and also for restoration of their water quality.
Vide the said letter, CPCB also requested SPCBs to constitute mechanism for regular vigilance for control of pollution and water quality monitoring of these rivers and to provide the action taken report/compliance report to CPCB by 30.09.2021.

A meeting dated 09.11.2021 was convened with officials from CPCB, UKPCB & UPPCB to discuss the compliance status of Hon'ble NGT orders dt 18.03.2021 and 12.08.2021 in the present matter. During the meeting, compliance status of concerned units w.r.t recommendations of joint committee & the oversight committee as referred by Hon'ble NGT in its order dt 18.03.2021 was sought from both SPCBs. Minutes of the meeting is annexed herewith at **Annexure-III.**

Accordingly, UKPCB & UPPCB provided status reports w.r.t. recommendations of joint committee & the oversight committee vide email dt 24.11.2021 **(Annexure-IV)** & 29.11.2021 (**Annexure-V**) respectively.

Status report dated 07.12.2021 including the reports provided by SPCBs of Uttar Pradesh & Uttarakhand in compliance to Hon'ble NGT order dt 18.03.2021 & 12.08.2021 was filed by CPCB before the Hon'ble Tribunal wherein compliance status of units w.r.t. recommendations of joint committee & the oversight committee as well as water quality data of the rivers in question was included. The report also mentioned that CPCB along with UKPCB) & UPPCB, carried out fortnightly monitoring of rivers Dhela, Kosi and Bahela and adjoining drains during Magh Mela 2020 and 2021. Water quality monitoring of these rivers from their origin to confluence were also carried out jointly by CPCB, UKPCB & UPPCB in the past.

UPPCB also filed a separate status report before the Hon'ble Tribunal providing the compliance status of 6 units w.r.t. recommendations of joint committee & the oversight committee

The Hon'ble Tribunal considered the above reports and vide order dated 09.12.2021 **(Annexure-VI)** directed the following:

"*8. Apart from report of CPCB, UPPCB has filed its separate report dated 03.12.2021 giving the compliance status in conflict with the report of the CPCB with regard*

to the pollution and extraction of groundwater by the industries. The said report does not mention the details with regard to extraction of ground water and compliance of consent conditions meant for preventing pollution of rivers in the vicinity.

9. In view of above, we consider it appropriate to require a joint report by a joint Committee of CPCB, UPPCB and Uttarakhand State PCB within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF which may also be uploaded on the website of CPCB simultaneously for further response of the concerned parties. The joint Committee may also furnish details of ground water extraction, compliance of conditions for preventing pollution of rivers in the vicinity, extent of discharge of pollutants and compensation assessed and recovered in the past and also recommend further remedial action, if necessary."

Pursuant to the above, a meeting was convened on 25.01.2022 with officials from CPCB, UPPCB & UKPCB to discuss the compliance status of the said order. After detailed deliberations, it was observed that a joint report highlighting the compliance status of the Hon'ble NGT order 18.03.2021 in O.A. no. 324/2016 which shall include compliance of the units w.r.t. recommendations of joint committee as well as oversight committee may be furnished in compliance to the NGT order dated 09.12.2021. Accordingly, it was decided to undertake ground verification of compliance status of concerned units w.r.t. recommendations of joint committee as well as oversight committee.

It was also decided that both SPCBs shall provide the status reports including compliance status of concerned units in tabular format along with the photographic evidences to CPCB by 07.02.2022 which may be verified by the joint committee.
During the meeting, it was also decided that the water quality monitoring of rivers in the vicinity may be carried out jointly by CPCB, UKPCB and UPPCB on 02.02.2022. Minutes of the meeting dated were circulated to concerned SPCBs vide CPCB office memorandum dated 01.02.2022 and the same is annexed at **Annexure-VII.**

Accordingly, both SPCBs provided the compliance status of concerned units in tabular format and the latest water quality data of rivers. The reports received from UPPCB & UKPCB are annexed at **Annexure-VIII** & **Annexure-IX** respectively.

Water quality monitoring of rivers Dhela, Bahela, Kosi and Ramganga in the vicinity was carried out jointly by officials from CPCB, UKPCB & UPPCB on 02-03.02.2022. Details of the monitoring have been included in this report.

The joint team also undertook field visits for verifying the compliance status of concerned units w.r.t. recommendations of joint committee and oversight committee on 08-09.03. 2022.Surprise inspection of these industries was also carried out by third party agencies viz. Vasantdada Sugar Institute (VSI) Pune, Indian Institute of Technology Roorkee, Indian Institute of Technology Delhi, Central Pulp & Paper Research Institute (CPPRI) Saharanpur etc. during Dec-2021-March 2022 and these reports are included as parts of joint report.

Details of Environmental Compensation (EC) deposited by the concerned industries have also been included in this report.

Joint Report in compliance to Hon'ble NGT orders dated 18.03.2021, 12.08.2021 & 09.12.2021 in the matter of Shailesh Singh vs State of U.P. & Ors., including compliance verification of industries on 08-09.03.2022 and river water quality monitoring carried out on 02-03.02 2022 by joint team of officials from CPCB, UPPCB and UKPCB is annexed to this report as **Annexure-X**.

Annexure-III

Speed Post

B-19004/NGRBA/CPCB/2018-19

Date: 15.09.2023

To

Sh. Shailesh Singh,
41B, Hanuman Road,
Sansad Marg, Connaught Place,
New Delhi: 110001
Email: rashtriyasamasya@gmail.com

Sub: Information under Right to Information Act, 2005.

Sir,

This has reference to your RTI application dated 18.08.2023 having online registration number CPCBD/R/E/23/00680 regarding illegal production charges deposited by M/s. Radico Khaitan Ltd., Bareilly road, Rampur (U.P.) in compliance of Hon'ble NGT orders in O.A. No. 324/2016. The information available in this division is as follows:

Answer to Point 1 & 2:

In the matter of Shailesh Singh vs State of Uttar Pradesh and Ors., O.A. No. 324/2016 of NGT, Principal Bench, New Delhi, CPCB vide directions dated 24.12.2018, 17.05.2019 and 06.08.2019 issued under section 5 of The Environment (Protection) Act, 1986 to M/s. Radico Khaitan Ltd., Bareilly road, Rampur levied environmental compensations of Rs. 27,00,000/- (Rupees Twenty-seven Lakhs only), Rs. 1,18,80,000/- (Rupees One Crore Eighteen Lakhs Eighty Thousand only) and Rs. 5,83,20,000/- (Rupees Five Crore Eighty-three Lakhs Twenty Thousand only), respectively. Copies of above mentioned directions are enclosed (Annexure- 1a,b,c).

M/s. Radico Khaitan Ltd., Bareilly road, Rampur has deposited environmental compensation of Rs. 27,00,000/- on 15.02.2019, Rs. 1,18,80,000/- on 03.07.2019 and Rs. 5,83,20,000/- on 02.09.2019, in compliance of the above mentioned directions issued by CPCB. Copies of receipts received from Accounts Division, CPCB are enclosed (Annexure- 2a,b,c).

The Appellate Authority in this case is Member Secretary, CPCB, Parivesh Bhawan, East Arjun Nagar, Delhi-110032.

Yours faithfully,

Encl: As above (Page no. 1-41)

15/09/23

(Dr. A. K. Vidyarthi)
Director & DH-WQM-II

Copy to:

1. Nodal Officer, RTI, CPCB, Delhi | : For information please

15/09/23

(Dr. A. K. Vidyarthi)

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत N Singh
दि. 18/9/2023 (SB, AKM)

JOINT INSPECTION REPORT

IN COMPLIANCE TO
HON'BLE NGT ORDER DATED 29.04.2022

IN THE MATTER OF
GHANSHYAM SINGH PASI
Vs
STATE OF U.P.
[O.A. NO. 152/2022]

Date of inspection: 12 July 2022

PREPARED BY
JOINT COMMITTEE OF CPCB & UPPCB

1. Subject Matter

Matter: Ghanshyam Singh Pasi. in O.A. No. 152/2022

Subject: Environmental Pollution caused by M/s Radico Khaitan Ltd., Rampur and the fire accident which occurred in the unit on 06.03.2021.

2. Order of Hon'ble NGT dated 29.04.2022

The Hon'ble Tribunal in the said matter passed the following directions on 29.04.2022 which is placed as under: -

"In view of the serious allegations made in the present letter petition, we consider it appropriate to have a factual and action taken report from a joint committee comprising of CPCB, State PCB and District Magistrate, Rampur. The State PCB will be the Nodal agency for coordination and compliance. The joint committee may meet within four weeks, under take site visits, look into the grievances of the applicant and take requisite action by following due process of law. The committee may also examine the issues in relation to manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as applicable including off-site and onsite plans and remedial steps to avert the industrial accidents. Factual and action taken report may be furnished within two months by email at judicial-ngt@gov.in."

In compliance of Hon'ble NGT order dated 29.04.2022, inspection of M/s Radico Khaitan Ltd., was carried out on 12 July, 2022 by a joint team comprising officials from RO-Moradabad UPPCB, CPCB Delhi and ADM Rampur.

3. Joint Inspection Report of Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901

S. No.	Name & Address of the Industry:	Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901
1.	Type of Industry Sector	Distillery
2.	Date of Inspection	12, July, 2022
3.	Operational Status	Operational
4.	Name of main Raw Material	Molasses (B-heavy)
5.	Name of Final Product (s)	Spirit (ENA)
6.	Consented Production Capacity	200 KLPD for Molasses based distillery Grain based distillery - 100 KLPD Malt spirit Plant - 03 KLPD
7.	Production during inspection (based on Excise data)	130 KLD
8.	Air and water consent	Valid up to 31.12.2023
9.	Authorization under Haz. and Other Wastes Rules, 2016.	Valid up to 31.12.2023
10.	Permission from CGWA for abstraction of Ground Water	Yes
11.	Sources of Water Supply	Bore wells: 03 Numbers

		Water Meters: -installed Working status of Water meters: Operational Logbook maintained:– Yes
12.	Consumption of Fresh Water (KLD)	1730
13.	Wastewater Stream	**Industrial effluent**: Spent wash, spent lees, from production process, fermenter washing, process condensate, floor washing and cooling tower blow down, boiler blow down. **Domestic**: Sewage.
14.	Method of Treatment, concentration and Utilization of Wastewater	**For Industrial effluents to achieve ZLD**: i. Spent wash Management: Bio-digesters, Clarifiers, Dissolved Air Floatation (DAF), Reverse Osmosis (RO), Multi Effective Evaporator (BMSW) (evaporation) followed by Bio-composting. To treat IMEE condensate, spent lees RO-reject, cooling tower blow down the unit has installed Condensate Polishing Unit (CPU). ii. **For Domestic waste water:** Sewage Treatment Plant (STP) exist before discharge in to local drain.
15.	Mass flow meters at inlet and outlet of IMEE and BMSW (Evaporator)	Installed and found operational
16.	Online monitoring system connected	Installed and found operational

4. Observations

1. On the day of inspection, the unit was found operational. The unit is engaged in the production of alcohol using molasses and grain as raw materials in two processing units in the same premises.
2. On the day of inspection, the unit was operating at production capacity of 130 KLD using molasses as raw material.
3. The unit has separate consent to operate under Water Act, 1974 and Air Act, 1981 for molasses based distillery unit as well as for grain based distillery unit, for production capacity of 200 KLPD and 100 KLPD respectively, which are valid upto 31.12.2023. CTO under Water Act, 1974 for molasses based and grain based distillery unit are placed at **Annexure-1& II** and CTO under Air Act, 1981 for molasses based and grain based distillery unit are placed at **Annexure-III & IV.**

4. For the management of spent wash and to achieve ZLD, the unit has 3 stage integrated multiple effect evaporator (IMEE), Bio-Digesters, Lamella clarifiers, Clariflocculators, dissolved air floatation, (DAF) followed by RO and 6 stage Multi Effect Evaporator (BMSW).
5. The unit is having three bore wells to meet the fresh water requirement of production and domestic consumption. The unit has installed flow meters at each bore well. As per the log book data submitted by the unit, the average fresh water consumption from April-2022 to June-2022 is 1827.9 m^3/day, 1736.54m^3/day, and 1730m^3/day respectively,

Table 1: Month wise fresh water consumption data

Borewell No.	**Month**	**Total Fresh water Consumption (KL)**	**Average fresh water consumption (m^3/day)**
Borewell-1	April, 2022	28144	938.1
Borewell-2	April, 2022	0	0
Borewell-3	April, 2022	26694	889.8
Total fresh water consumption in month of April, 2022 (KL)		**54838**	
Average fresh water consumption per day		**1827.9 KLD**	
Borewell-1	May, 2022	22189	715
Borewell-2	May, 2022	0	0
Borewell-3	May, 2022	31644	1020.77
Total fresh water consumption in month of May, 2022 (KL)		**53833**	
Average fresh water consumption per day		**1736.54 KLD**	
Borewell-1	June, 2022	17893	596
Borewell-2	June, 2022	0	0
Borewell-3	June, 2022	34012	1133.7
Total fresh water consumption in month of June, 2022 (KL)		**51905**	
Average fresh water consumption per day		**1730 KLD**	

6. As per the logbook data submitted by the unit, month wise total alcohol production, and spent wash generation per KL of alcohol production is as below:

Table 2: Month wise Spent Wash generation, alcohol production and Spent Wash generation per KL of alcohol production

Month	Total spent wash generation at the bottom of analyser column (MT/Month)	Total Spent wash generation (Kl/ Month) (Sp. Gr. 1.06)	Alcohol Production (in KL)	Sp. Spent wash generation (KL/KL per KL of alcohol production)
April-2022	47999	50878.94	4196.24	12.12
May-2022	46346	49126.76	4173.34	11.77
June-2022	45585	48320.1	3923.02	12.32

7. The unit has installed mass flow meter with totalizer at the inlet and outlet of IMEE as well as on BMSW evaporator.

As per the log book data of MEE provided by the unit for the month from April, May and June 2022, total spent wash feed to MEE, total condensate generated and total concentrate generated are given below;

Month	Total spent wash generation at the bottom of analyser column (MT/Month)	Condensate generation from IMEE (MT/Month)	Total concentrated spent wash generation from IMEE (MT/Month)	Feed to BMSW Evaporator (MT/Month)	BMSW Evaporator (Concentrate) MT/Month	BMSW Evaporator (Condensate) MT/Month	Overall % Reduction 8 =2-6 *100 2
1	2	3	4	5	6	7	8
April-2022	47999.0	17279.0	30720.0	16005	11411	4595	76.2
May-2022	46346	16681	29665.0	15348	10947	4401	76.37
June-2022	45585	16257.0	29328.0	15164	10892	4273	76.10

8. For storage of concentrated spent wash the unit has 02 lagoons of total capacity 25000m^3.

Table 3: status of Lagoons

S. No.	Location	No. of Lagoon	Capacity (m^3)	Spent wash present (m^3)
1	Hitachi site	01	3500	1690
2	Ajetpur site	01	21500	8625
Total Lagoon capacity			**25000 m^3**	

5. Details of Boilers:

As per the consent issued under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. Radico Khaitan Ltd., for Molasses Spirit Plant, the unit is having two boilers of capacity 30 TPH and 26 TPH having a consent validity for the period from 31.05.2019 to 31.12.2023. Both the boilers were found operational on the day of inspection.

Details of the boilers are as follows;

S. No.	Air Pollution Source	Capacity	Type of fuel	Stack No.	Stack Height	Air Pollution Control Device
1.	Boiler-I	26 TPH	Bio-gas	Stack No.-1	stack height of 45 meter from ground level	Bio Gas Fired
2.	Boiler-II	30 TPH	Rice husk and Bio gas (Combination or only rice husk)	Stack No.-2	Dust collector as APCS and stack height of 30 meter from ground level	ESP installed

Table 4: Details of Boilers I & II for the month of April, May & June 2022

S. No.	Boiler	Net steam gen. (MT)	Power Gen. (KW)	Type of fuel	Quantity of fuel (MT)	Ash gen(MT)	Ash used in low landfills (MT)
April, 2022							
1	Boiler-I	11821	607330	Bio-gas	1923590 (nm3)	0	0
2	Boiler-II	15884	17645	Rice husk	4395	703	703
May, 2022							
1	Boiler-I	12420	650010	Bio-gas	2048680	0	0
2	Boiler-II	15229	17368	Rice husk	4360	741	741
June, 2022							
1	Boiler-I	12437	655580	Bio-gas	2048640	2048640	0
2	Boiler-II	0	0		4502	0	720

The unit has submitted the copies of certificates dated 22.10.2021 and 22.04.2022 issued by Uttar Pradesh Boiler Inspection Department. As per the certificates, the unit is allowed to work the 30 TPH boiler under provision of section 8 of the Boiler Act (V of 1923) at the maximum working pressure of 51 kg/cm^2 from 22.10.2021 to 21.10.2022 and 26 TPH boiler at the maximum working pressure of 27 kg/cm^2 from 22.04.2022 to 20.04.2023. Copies of the certificate are attached at **Annexure-V.**

On the day of inspection boiler of 30 TPH was working at a pressure of 44kg/cm^2 & 26 TPH was working at a pressure of 21 kg/cm^2.

Ambient air monitoring and stack emission monitoring was carried out by official from Regional office, UPPCB, Moradabad. Ambient air quality was monitored at 3 locations around the unit. The ambient air quality monitoring results are given below;

Table 5: Ambient air quality monitoring results

Sr. No.	Location	Std. for NO_x ($\mu g/m^3$)	NOx Result ($\mu g/m^3$)	Std. for SO_2 ($\mu g/m^3$)	SO_2 Result ($\mu g/m^3$)	Std. for Particulate Matter PM 10 (Less than 10Micron) ($\mu g/m^3$)	Particulate Matter PM10 ($\mu g/m^3$
1.	Near Molasses Plant, Radico Khaitan, Rampur	80	19.00	80	10.00	100	60.34
2.	Near Grain plant, Radico Khaitan Rampur		17.00		9.00		90.64
3.	Roof of Guest house of Radico Khaitan, Rampur		15.50		8.50		66.30

As per the analysis result of ambient air quality monitoring near molasses plant, Rampur, concentration of NO_X, SO_2 and PM10 found to be 19.00 $\mu g/m^3$, 10.00 $\mu g/m^3$ and 60.34 $\mu g/m^3$ respectively against notified national ambient air quality standard limit of 80 $\mu g/m^3$, 80 $\mu g/m^3$ and 100 $\mu g/m^3$ as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

As per the analysis result of ambient air quality monitoring near grain plant, Rampur, concentration of NO_X, SO_2 and PM10 found to be 17.00 $\mu g/m^3$, 9.00 $\mu g/m^3$ and 90.64 $\mu g/m^3$ respectively against the notified standard limit of 80 $\mu g/m^3$, 80 $\mu g/m^3$ and 100 $\mu g/m^3$ as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

As per the analysis result of ambient air quality monitoring at the roof of guest house, Rampur, concentration of NO_X, SO_2 and PM10 found to be 15.50 $\mu g/m^3$, 8.50 $\mu g/m^3$ and 66.30 $\mu g/m^3$ respectively against notified standard limit of 80 $\mu g/m^3$, 80 $\mu g/m^3$ and 100 $\mu g/m^3$ as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

Table 6: Stack air quality monitoring results

Sr. No.	Name of the Plant/ Stack Identification	PM Result (mg/Nm^3)	Standards
1	Boiler Stack at distillery unit (30 TPH)	83.64	150.0
2	Boiler Stack at distillery unit (26 TPH)	11.94	150.0

The ambient and stack emission monitoring results are within the prescribed limits.

As per the CPCB, Online Continuous Emission Monitoring System (OCEMS) report of Stack-1 and Stack-2, PM (mg/Nm3) for the period from 12, June to 12 July, 2022 are within the prescribed limits. Copy enclosed at **Annexure-XIII**.

6. Green belt Area

The unit has developed green belt inside the unit premises, outside the unit's main gate, in the ETP area, outside the boundary wall of industry premises and in the Atal Park which is located outside the industrial premises. The unit has also developed green belt at Hitachi bio-compost site and Ajeetpur bio-compost site. At Hitachi bio-compost site, the unit is following Miyawaki technique for trees plantation.

The unit has provided the details of green belt area developed by them. The description of area along with the green belt developed is listed below;

Table 7: Details of green belt area

Sr. No.	Description of Area	Length (M)	Width (M)	Area (sq. M)
1.	Atal Park to new Roadways (Left side)	1400	3	4200
2.	Atal Park to new Roadways (Left side)	1400	3	4200
			Total in Sq. Mtr	**8400**
			Total in (Acre)	**2.10**
Green belt attached to premises				
3.	Atal Park to GSP (Left side towards plant)	950	6	5700
4.	End of GSP plant towards Nainital Road	1100	3.5	3850
5.	Atal Park to Nainital road (Right side)	2000	4	8000
			Total in Sq. Mtr	**17550**
			Total in (Acre)	**4.39**
Green belt inside the premises				
6.	Main gate to security office	240	4	960
7.	Admin Block	50	6	300
8.	Colony area (Officers)	225	25	5625
9.	Colony area (Officers)	125	25	3125
10.	RKTS Lawn	95	45	4275
11.	MRP Area	785	5	3925
12.	GSP Main Road from RDL (Left side)	180	3	540
13.	GSP Main Road from RDL (Left side)	84	3	252
14.	GSM (Near CO2)	35	3	105
15.	Printing (Side 1)	60	2	120
16.	Printing (Front)	30	3	90
17.	Dense Foresting & Plantation Area at KF	312.09	25	7802
			Total in Sq. Mtr	**27119**
			Total in (Acre)	**6.78**
			Grand Total Green Belt (Sq. Mtr)	**53069**
			Grand Total Green Belt (Acre)	**13.27**

The unit representative informed that the unit has total industrial area of around 39 acres, in which grain based plant, molasses and bottling plant has been commissioned. The unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area, however due to lack of space inside the premises, in addition to the above, the unit has also developed green belt outside the industrial premises in approximately 6.49 acres. As per the documents, the unit has total green belt area of 13.2 Acres. Drawing of the green belt area is attached at **Annexure-VI.**

7. **Bio-compost details:**

- The unit has bio-compost yards located at two different places i.e., Ajeetpur site and Hitachi site. The unit has total 60 acres of bio-compost area, out of 60 acres, 25 acres of area is covered and remaining 35 acres of area is open/uncovered.
- Out of 35 acres uncovered bio-compost area; 05 acres is available for storage of ready bio-compost, other 05 acres is for storage of press mud and remaining 25 acres is available for bio-composting.
- The unit is having 05 numbers aero tiller machines for spraying of concentrated spent wash, mixing and turning of bio-compost material.
- The unit has 4 piezometric wells and one hand pump in the bio-compost yard area of Hitachi site and 6 piezometric wells and one hand pump in Ajeetpur site.
- The unit has installed 02 PTZ web cameras at each bio-compost yards.
- Rain water harvesting system was provided in both the bio-compost yard site at Hitachi site and Ajeetpur site.
- Details of press mud procured, press mud consumed, Conc. spent wash to press mud ratio, bio-compost procured and bio compost sold for the month from Jan, 2022 to June, 2022 are given below;

Months	IMEE Outlet for bio-composting (MT/Month)	Press mud cake procured (MT/Month)	Press Mud Consumption (MT/Month)	Conc. Spent wash consumption in Bio-composting (MT/Month)	Conc. spent wash to press mud ratio	Bio-compost Produced	Bio-compost sold (MT/Month)
Jan, 2022	11112	13221	7000	11027	1.57	3300	1470
Feb, 2022	10441	12545	6550	10448	1.6	2800	2613
March, 2022	11469	15416	7200	11482	1.59	3500	11263
April, 2022	11411	6189	7200	11458	1.59	3500	6653
May, 2022	10947	619	7000	10971	1.56	3200	3423
June, 2022	10892	0	6850	10889	1.58	3150	4161

8. Ground Water Samples

For assessment of Ground water contamination at bio-compost sites, joint committee of officials has collected ground water samples from Hand pump & piezometric wells located at Ajetpur and Hitachi bio-compost yard. The analysis results of ground water samples are given below.

Table 8: Characteristics of Ground water samples

S.no.	locations	pH	COD, (mg/l)	Colour, (Hazen)	TDS, (mg/l)	TS, (mg/l)
BIS IS 10500:2012 (Permissible limit in absence of alternative source)		**6.5-8.**	**-**	**15**	**-**	**2000**
1.	Guest house, Ground water	7.6	BDL	BDL	405	417
2.	Piezometer no.1, Ajetpur bio-compost yard	7.8	8	06	581	660
3.	Piezometer no.2, Ajetpur bio-compost yard	7.4	8	BDL	593	678
4.	Piezometer no.3, Ajetpur, bio-compost yard	7.9	6	BDL	428	533
5.	Piezometer no.4, Ajetpur bio-compost yard	7.5	BDL	BDL	576	601
6.	Piezometer no.5, Ajetpur bio-compost yard	8.0	BDL	BDL	P5ZA5	480
7.	Piezometer no.6, Ajetpur, bio-compost yard	7.7	7	BDL	428	475
8.	Hand pump, Ajetpur site	7.3	7	BDL	602	694
9.	Groundwater, from Hitachi hand pump	7.9	BDL	BDL	246	253
10.	Piezometer no.1, Hitachi bio-compost yard	7.5	8	BDL	458	463
11.	Piezometer no.2, Hitachi, Bio-compost yard	7.7	11	06	507	519
12.	Piezometer no.3, Hitachi, bio-compost yard	7.6	13	BDL	412	414
13.	Piezometer no.4, Hitachi bio-compost yard	7.8	**48**	BDL	222	272

Table 9: Heavy metals analysis results

Parameters	Hand-pump of Hitachi Bio-compost Yard	Hand-pump , Ajeetpur yard	Piezo-metric well-2 , Ajeetpur yard	BIS IS 10500:2012 (Permissible limit in absence of alternative source)
As (mg/l)	BDL	BDL	BDL	0.05
Cd (mg/l)	BDL	BDL	BDL	0.003
Co (mg/l)	BDL	BDL	BDL	-
Cr (mg/l)	BDL	BDL	BDL	0.05
Cu (mg/l)	BDL	BDL	BDL	1.5
Fe (mg/l)	0.08	0.32	1.98	0.3
Mn (mg/l)	BDL	0.06	0.34	0.3
Ni (mg/l)	BDL	BDL	BDL	0.02
Pb (mg/l)	BDL	BDL	BDL	0.01
Sb (mg/l)	BDL	BDL	BDL	-
Se (mg/l)	BDL	BDL	BDL	0.01
V (mg/l)	BDL	BDL	BDL	-
Zn (mg/l)	0.02	0.06	0.01	15

9. Characteristics of samples collected from CPU:

For the treatment of process condensate generated from IMEE, RO reject, spent lees and other low strength effluent, the unit has installed a common Condensate Polishing Unit (CPU) of 2,000m^3 capacity (**Pic-18 & 19**). The Condensate Polishing Unit consists of Equalization tank, Buffering tank, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF followed by UV treatment. Mechanical press is installed for sludge dewatering. The unit has installed flow meters at the inlet and outlet of CPU.

As per the logbook data submitted by the unit, month wise effluent feed to CPU and treated through CPU water are as below:

Month	Total CPU feed (KL)	CPU treated water (KL)
April, 2022	49708	47720
May, 2022	49814	47821
June, 2022	48540	46599

The permeate generated from RO-3 (RO-1 permeate+RO-2 permeate), condensate from IMEE, Condensate from BMSW (molasses unit), condensate from MEE (grain based), cooling tower blow down and Spent lees generated from molasses and grain based units are feed to Condensate Polishing Unit (CPU) for further treatment.

Flow meter readings at the inlet & outlet of CPU:

At inlet of CPU: totalized reading was 766524 m^3 flow rate of 50.94 m^3/h

At outlet of CPU: totalized reading was 403987 m^3 flow rate of 40.55m^3/h

Table 10: Analysis results of samples collected from CPU

Sr. No	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS
1.	CPU inlet	8.9	4090	2290	39	411
2.	CPU outlet	7.7	32	06	14	344

The treated effluent from CPU outlet is being recycled into cooling tower and for molasses dilution.

9. **Sewage Treatment and disposal**

1. The unit has installed a Sewage Treatment Plant (STP) of capacity 120 KLD for treatment of sewage generated from the resident inside the factory premises. The STP was found operational during inspection.
2. The sewage treatment scheme consists of holding tank-cum- pump sump, Biological treatment (activated sludge process), settling tank, holding tank for feed into pressure sand filter (PSF) and activated carbon filter (ACF).
3. The treated sewage is disposed though an open drain across the road, to reach up to Rampur drain.
4. Samples were collected from the holding tank (inlet) and treated sewage/ from final discharge (outlet) into the drain.

10. **Characteristics of waste water samples collected from Sewage Treatment Plant:**

Table 11: Analysis results of samples collected from STP

Sr. No.	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TS (mg/l)	TSS (mg/l)	CL-	(NO_3-N)
1.	STP Inlet	7.2	20	03	552	11	27	8.47
2.	STP Outlet	7.1	06	01	536	BDL <10	79	0.82
3.	STP inlet (TC/FC)	Total Coliforms 17X10 ^{5} MPN/100ml Fecal Coliforms 70X10^4 MPN/100ml						
4.	STP outlet (TC/FC)	Total Coliforms – < 1.8 MPN/100ml Fecal Coliforms –< 1.8 MPN/100ml						

Heavy metals

Parameters	As (mg/l)	Cd (mg/l)	Co (mg/l)	Cr (mg/l)	Cu (mg/l)	Fe (mg/l)	Mn (mg/l)	Ni (mg/l)	Pb (mg/l)	Sb (mg/l)	Se (mg/l)	V (mg/l)	Zn (mg/l)
STP Inlet	BDL	BDL	BDL	BDL	BDL	0.28	0.18	BDL	BDL	BDL	BDL	BDL	0.02
STP Outlet	BDL	BDL	BDL	BDL	BDL	0.50	0.12	BDL	BDL	BDL	BDL	BDL	0.03

Though the analysis results of sample collected from STP outlet were found meeting the norms but the inlet (holding tank) samples not reflects characteristics of sewage.

11. **Characteristics of waste water samples collected from drain along the road to Ajeetpur bio-compost site and outside near the main gate**

Table 12: Analysis results of drain

S. No.	Sample Description	pH	COD (mg/l)	BOD (mg/l)	TS	TSS
1.	Drain outside main gate of the industry	6.9	224	49	568	25
2.	Drain, upstream of Ajetpur bio-compost yard	7.0	41	14	256	16
3.	Drain, downstream of Ajetpur bio-compost yard	6.9	64	17	400	26

It was observed that the waste water sample collected from the drain upstream of Ajetpur site shows Total solids- 256 mg/l, COD- 41 mg/l, BOD- 14 mg/l and TSS- 16 mg/l, whereas the sample collected from drain downstream of Ajeetpur site has Total solids- 400 mg/l, COD- 64mg/l, BOD-17mg/l and TSS-26 mg/l.

From the analysis results of drain samples, no significant impact of industrial effluent discharge could be perceived.

12. **Details of ENA storage tanks available in the unit:**

The joint team has visited the site where the accident of fire occurred and it was observed that 02 ENA storage tanks which caught fire were of capacity 405400 BL and 406600 BL, the same are now repaired. At the time of visit tanks were found empty. The unit has submitted the details of ENA storage tanks present in the industrial premises duly verified by Assistant Excise Commissioner, Rampur, U.P. As per the document submitted, the unit has total 75 nos. of ENA storage tanks with a total capacity of 9467180.4 BL. Details of the ENA tanks verified by Excise department is attached at **Annexure-VII.**

The details of the ENA storage tanks along with their capacity and locations are as under;

Table: 13 Details of ENA storage Tanks

ENA Tank List Details				
Sr. No.	**Receiver. No.**	**Capacity [BL.]**	**Recipient point**	**MOC (Material of construction)**
1	R-1	48719.6	ENA Receiver room no. 1	MS
2	R-2	48610.0		MS
3	R-3	48930.0		MS
4	R-4	12935.0		MS
5	R-5	12833.0		MS
6	R-6	12548.0		MS
7	R-7	13130.0		MS
8	IR-8	13030.0		MS
9	R-8	41710.0	RS/ FUSEL OIL Receiver room no. 2	MS
10	R-9	67381.0		MS
11	R-10	67960.0		MS
12	R-11	9413.4		MS
13	R-12	7772.2		MS
14	R-13	7760.0		MS
15	R-14	49775.0	ENA Receiver room no. 3	MS
16	R-15	49330.0		MS
17	R-16	48985.0		MS
18	R-17	50309.2		MS
19	R-18	49555.0		MS
20	R-19	49705.0		MS
21	DSV-1	50640.0	ENA Receiver room no. 4	MS
22	DSV-2	50000.0		MS
23	DSV-3	49954.0		MS
24	DSV-4	16070.0		MS
25	DSV-5	16195.0		MS
26	DSV-6	15910.0		MS
27	IAV-16	408555.0	OAT SECTION	MS
28	IAV-17	409470.0		MS
29	IAV-18	408360.0		MS
30	IAV-19	408235.0		MS
31	IAV-20	405400.0		MS
32	IAV-21	406600.0		MS
33	DSV-07	24880.0	Impure Spirit / SDS Storage VATs	MS
34	DSV-08	24740.0		MS
35	DSV-09	25130.0		MS
36	SDS 10	106820.0		MS
37	SDS 11	17025.0		MS
38	SDS 12	26410.0		MS
39	IAV-06	66370.0		MS

40	IAV-07	66405.0	ENA Storage VATs	MS
41	IAV-08	67395.0		MS
42	IAV-09	67470.0		MS
43	IAV-10	67645.0		MS
44	IAV-11	67645.0		MS
45	IAV-12	67325.0		MS
46	IAV-13	67460.0		MS
47	IAV-14	67380.0		MS
48	IAV-15	144110.0		MS
49	ESV-01	104480.0	ENA Storage VATs	MS
50	ESV-02	104460.0		MS
51	ESV-03	103990.0		MS
52	ESV-04	61960.0		MS
53	ESV-05	104260.0		MS
54	ESV-06	79500.0		MS
55	ESV-07	139780.0		MS
56	ESV-08	29355.0		MS
57	GESV-1	792620	Grain ENA Storage VATs	MS
58	GESV-2	794960		MS
59	GESV-3	792570		MS
60	GESV-4	792960		MS
61	GESV-5	100560		MS
62	GESV-6	100700		MS
63	GESV-7	99800		MS
64	GESV-8	99970		MS
65	GSMV-1	10900		SS
66	GSV-1	151060	Impure Spirit / SDS Storage VATs	MS
67	GSV-2	151980		MS
68	GSV-3	150780		MS
69	GSDV-1	19990		MS
70	GSDV-2	19850		MS
71	GR-1	99810	GENA Receiver	MS
72	GR-2	100120		MS
73	GR-3	100150		MS
74	GSR-1	15310	Impure Spirit Receiver	MS
75	GSR-2	15315		MS
Total Capacity		**9467180.4 BL**		

13. **About the fire incident occurred on 06.03.2021**

13.1 General Diary Details;

The unit has submitted the copy of General Diary Details reported to local police authority in Civil Thana Rampur on 6.03.2021 at 23:42 hrs. As per the report, the fire incident took place on 06.03.2021 at around 8:15 am in which the two alcohol tanks inside the unit premises started

burning all of a sudden. No casualty was reported. The injured persons were admitted in hospital. Copy of the report is attached at **Annexure-VIII.**

13.2Report from Chief Fire Officer, Rampur;

The unit has submitted the copy of fire report of U.P. fire services signed by Chief Fire Officer, Rampur. As per their report, no casualty reported, however total 09 people got injured in the fire incident, which were immediately send to the hospital for First Aid. Copy of the report is attached at **Annexure-IX**

13.3 Preparedness and preventive measures by the unit:

At the time of visit the committee observed that the unit has kept sand buckets at all crucial locations inside the industrial premises. Also to avoid the fire incident by short circuiting, provision for earthing around the ENA storage tanks where fire incident happened was observed.

Report from Fire Officer: The unit M/s Radico Khaitan Ltd., Rampur has provided copy of inspection report of fire officer dated 24.11.2020. The officer has investigated the firefighting system installed inside the unit. As per the report the unit is having fire safety NOC valid till 28.05.2021. The copy of the inspection report is attached at **Annexure-X**

The unit has submitted the copy of renewal of fire & safety certificates, having validity up to 13.09.2021 to 12.09.2024.

Preliminary fire incident investigation report by third party: The unit has submitted the copy of preliminary fire incident investigation report prepared by Promax. As per the report on 07 & 8th March, 2021 the team surveyed/ inspected the incident site and the Extra Neutral Alcohol (ENA) storage tank no IV 20 & IV 21 which caught fire. As per their report the unit is having adequate and sufficient resources and infrastructure to handle such incidents. The unit is having 04 fire hydrant system near cooling tower, 03 fire water reservoir, 08 ABC type fire Extinguisher (4 Kg capacity), 02 ABC type Fire Extinguisher (5Kg capacity), 146 ABC type Fire Extinguisher (6 Kg capacity), 16 DCP type Fire Extinguisher (10 Kg capacity), 16 DCP type Fire Extinguisher (10 Kg capacity), 05 CO2 type Fire Extinguisher (4.5 Kg capacity), 56 CO2 type Fire Extinguisher (6.8 Kg capacity), 20 CO2 type Fire Extinguisher (9 Kg capacity), 6 CO2 type Fire Extinguisher (22.5 Kg capacity), 32 Mechanical foam Fire Extinguisher of capacity 9 ltrs and 01 Mechanical foam Fire Extinguisher of capacity 50 ltrs.

13.4 The committee sought the details of on-site emergency plan and mock fire drills from the unit. The unit has submitted the mock drill reports being carried out during recent past. As per the reports 02 mock drills were conducted in the month of Jan 2021 & June 2022. The detailed mock fire drill reports are annexed at **Annexure-XI (a) & XI (b)**.

Fire management safety audit report: The unit has submitted the copy of fire management safety audit report prepared by Promax Global dated 09 Nov, 2020, wherein third party reviewed all aspects of the Organization's Fire Safety management system and supportive arrangements against the available standard audit specifications.

On site emergency plan: The unit is having onsite emergency plan prepared and approved on 7/7/2022. The unit provided the copy of onsite emergency plan for the year 2021 & 2022.
The unit has dedicated safety Department. The organizational chart consists of the following:

- Director-Operations
- Executive Vice President-Manufacturing operations
- GM-HR & IR
- Safety manager
- Sr. safety Officers.
- 04 Fireman supervisor and 03 DCPO (Driver cum fire man)

14. **Point wise status by joint committee w.r.t NGT order dated 29.04.2022**

Point wise compliance status of the unit w.r.t the NGT order dated 29.04.2022 is mentioned below in Table-14

Table no 14: Compliance status of the unit w.r.t NGT order dated 29.04.2022

S.no.	Points of NGT order dated 29.04.2022	Status as observed on 12.07.2022 by joint committee
1.	***It is stated that Radico Khaitan Ltd., Rampur, is being run in residential area in violation of environmental norms, rules and regulations.***	The unit representative has informed that the unit was established in the year 1943 and in the same year the unit has commenced its operations. The unit has submitted the copy of lease deed according to which, the lease deed was made on 28 Feb, 2005 between U.P State Industrial Development Corporation Ltd., and M/s Radico Khaitan unit Rampur Distillery for 90 years on an average annual rent of Rs. 29676.35 with a premium of Rs. 48494620/- As per the lease deed, the unit is situated in Industrial Area Rampur, plot no. A-1 with a described area of 52370.0m^2 for manufacturing and installation of additional plant & machinery to existing distillation unit, according to the design and building plan approved by Lessor and proper municipal or other competent authority. Copy of the lease deed is annexed as **(Annexure-XII).** The Joint inspection committee observed that; 1. Toward the east of the unit, a fertilizer plant is situated which is approx.100 mtrs away from the unit. 2. Towards the south and west of the unit, no authorised colony was observed. Green belt, godown and empty space were observed. Industry is located 10 mtrs south from national highway, NH24. 3 In the North Direction- Open land was observed which is 10 mtrs away from the unit.
2.	***The said industrial establishment is releasing toxic gasses 5 or 6 times every month in the early hours which cause respiratory problems to the inhabitants of the locality.***	As per the consent issued under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. Radico Khaitan Ltd., the unit is having 02 numbers of boilers of 26TPH and 30TPH. The boiler of 26 TPH uses bio-gas as a fuel and boiler of capacity 30 TPH uses rice husk as a fuel. The unit has installed air pollution control device (APCD) at 30 TPH boiler, however there is no requirement of APCD on 26 TPH boiler as it is operating on clean fuel (bio-gas). The unit has submitted the copies of boilers fitness certificates issued by Uttar Pradesh Boiler Inspection Department, as per the certificates, the unit is allowed to work the 30 TPH boiler under provision of section 8 of the Boiler

		Act (V of 1923) at the maximum working pressure of 51 kg/cm^2 from 22.10.2021 to 21.10.2022 and 26 TPH boiler at the maximum working pressure of 27 kg/cm^2 from 22.04.2022 to 20.04.2023. To assess the air quality of the unit, the team of officials from Regional Office (RO), UPPCB, Moradabad carried out stack emission monitoring and ambient air monitoring. As per the stack monitoring report from RO-Moradabad, UPPCB, value PM shows 83.64 mg/Nm^{3}and 11.94mg/Nm^3 against standard limit of 150mg/Nm^3.S As per the analysis result of ambient air quality monitoring near molasses plant, Rampur, concentration of NOX, SO2 and PM10 found to be 19.00 µg/m3, 10.00 µg/m^3 and 60.34 µg/m3 respectively against notified national ambient air quality standard limit of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981. As per the analysis result of ambient air quality monitoring near grain plant, Rampur, concentration of NOX, SO2 and PM10 found to be 17.00 µg/m3, 9.00 µg/m^3 and 90.64 µg/m^3 respectively against the notified standard limit of 80 µg/m3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981. As per the analysis result of ambient air quality monitoring at the roof of guest house, Rampur, concentration of NOX, SO2 and PM10 found to be 15.50 µg/m^3, 8.50 µg/m^3 and 66.30 µg/m^3 respectively against notified standard limit of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981. As per analysis results of stack & ambient air monitoring carried out on 12.07.2022 by UPPCB during joint committee, inspection, the unit was complying with the prescribed norms. As per the CPCB, OCEMS report of Stack-1 and Stack-2, PM (mg/Nm^3) for the period from 12, June to 12 July, 2022 are within the prescribed limits. Copy enclosed at **Annexure-XIII.**
	The above said industrial establishment has also not unit not developed a requisite green belt.	As per the consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) point no. 12 "*Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/ 2018/02 dated 16-02-2018 of U.P. Pollution Control Board.*" The unit representative informed that the unit has total industrial area of around 39 acres, in which grain based plant, molasses and bottling plant has been commissioned.

		The unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area, however due to lack of space inside the premises, in addition to the above, the unit has also developed green belt outside the industrial premises in approximately 6.49 acres. As per the documents, the unit has total green belt area of 13.2 Acres. Drawing of depicting locations the green belt area is attached at **Annexure-VI.**
	The boiler, which is claimed to be defunct, is used which spread fly ash is the surrounding area and causing air pollution.	The unit's representative has claimed about not having any defunct boiler in the industrial premises. As per the consent to operate issued by UPPCB under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. Radico Khaitan Ltd., for Molasses Spirit Plant and grain plant, the unit is having a consent validity for the period from 31.05.2019 to 31.12.2023. As per the consent to operate (CTO), issued by UPPCB, the unit has two boilers of 30TPH and 26TPH capacity and the same were observed by the joint team. Stack and ambient air monitoring were also carried out. Analysis results are mentioned in table no. 5 and 6.
	The unit has one alcohol tank of the capacity of 2 lacks litre which was not shown in the record submitted to Excise Department and on 08.03.2021, the alcohol tank caught fire resulting in burn injuries to one labourer and other injuries to nine labours	The fire incident occurred on 06.03.2021 at around 8:15 am in which the two alcohol tanks namely IAV-20 and IAV-21 of capacity 405400 BL and 406600 BL caught fire. As per the details of ENA storage tanks present in the industrial premises duly verified by Assistant, Excise Commissioner, Rampur, U.P. these are listed at S. No. 31 and 32 of Table 12. Details of ENA storage tanks are attached at **Annexure-VII.** The joint team visited the site where the accident of fire occurred and the ENA storage tank which caught fire were found empty. These same tanks are now repaired.

	The committee may also examine the issues in relation to Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as applicable including off-site and on site plans and remedial steps to avert the industrial accidents.	The unit has submitted the copy of General Diary Details reported in Civil Thana Rampur on 6.03.2021. As per the report, the fire incident took place on 06.03.2021 at around 8:15 am in which the two alcohol tanks inside the unit premises started burning all of a sudden. No casualty was reported. The injured persons were admitted in hospital. The unit has submitted the copy of fire report of U.P. fire services signed by Chief Fire Officer, Rampur. As per their report, no casualty reported, however total 09 people got injured in the fire incident, which were immediately admitted to the hospital for First Aid. **Mock drills report**: The committee sought the details of on-site emergency plan and mock fire drills from the unit. The unit has submitted the mock drill reports being carried out during recent past. As per the reports 02 mock drills were conducted in the month of Jan 2021 & June 2022. The detailed mock fire drill reports are annexed at **Annexure-XI (a) & XI (b).** **Fire management safety audit report:** The unit has submitted the copy of fire management safety audit report prepared by Promax Global dated 09 Nov, 2020, Wherein third party reviewed all aspects of the Organization's Fire Safety management system and supportive arrangements against the available standard audit specifications. **On site emergency plan:** The unit is having onsite emergency plan prepared and approved on 7/7/2022. The unit provided the copy of onsite emergency plan for the year 2021 & 2022. The unit is having a safety Department.

Conclusion:

1. The unit is having valid Air and Water Consents issued by UPPCB for molasses based distillery unit as well as for grain based distillery unit, which are valid up to 31.12.2023.
2. As per the lease deed, the unit is situated in Industrial Area Rampur, plot no. A-1. The lease deed was made on 28 Feb, 2005 between U.P State Industrial Development Corporation Ltd., and M/s Radico Khaitan unit Rampur Distillery.
3. As per the consent issued under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. Radico Khaitan Ltd., for Molasses Spirit Plant, the unit is having two boilers of capacity 30 TPH and 26 TPH having a consent validity for the period from 31.05.2019 to 31.12.2023. The unit has provided the copies of boilers fitness certificates issued by Uttar Pradesh Boiler Inspection Department.

4. The unit has installed air pollution control device (APCD) at 30 TPH boiler however there is no requirement of APCD on 26 TPH boiler as it is operating on clean fuel (bio-gas), hence to assess the air quality of the unit, the team of officials from Regional Office (RO), UPPCB, Moradabad carried out stack emission monitoring and ambient air monitoring. Analysis results of ambient air quality monitoring and stack monitoring results were found within the prescribed norms.
5. Unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area, however due to lack of space inside the premises, in addition to this, the unit has also developed green belt outside the industrial premises in approximately 6.49 acres. The unit is having a total green belt area of 13.27 Acres.
6. The unit has provided the copies of onsite emergency plans for the year 2021 and 2022, mock drills reports for the year 2021 & 2022, and fire management safety audit report for the year 2021.

Pictures (M/s Radico Khaitan Ltd., Rampur, U.P.):

Pic. 1- Entry gate of M/s Radico Khaitan Ltd.,

Pic 2- STP inside the unit premises

Pic.3-Drain near Ajitpur bio-compost yard

Pic. 4- Domestic drain coming from M/s Radico Khaitan (28.774, 79.034)

Pic.-5 Piezometer well no. 01 at Hitachi Bio-compost Site (28.781368, 79.039866)

Pic.-6 Piezometer well no. 02 at Hitachi Bio-compost Site (28.781058, 79.040352)

Pic.-07 Piezometer well no. 04 at Hitachi Bio-compost Site (28.7806338, 79.041135)

Pic.-08. Piezometer well no.- 04 at Hitachi Bio-compost Site (28.780690, 79.041712)

Pic.-09 Piezometer well no.- 01 at Ajeetpur Bio-compost Site (28.770613, 79.029929)

Pic.-10 Piezometer well no.- 02 at Ajeetpur Bio-compost Site (28.770450, 79.027946)

Pic.-11 Piezometer well no.- 03 at Ajeetpur Bio-compost Site (28.768381, 79.028847)

Pic.-12 Piezometer well no.- 04 at Ajeetpur Bio-compost Site (28.768670, 79.030653)

Pic.-13 Piezometer well no.- 05 at Ajeetpur Bio-compost Site (28.768507, 79.030570)

Pic-14 Piezometer well no.- 06 at Ajeetpur Bio-compost Site (28.768208, 79.029999)

Pic.-15. Ground water sampling from Ajeetpur Bio-compost site (28.770612, 79.029928)

Pic.-16 Flowmeter at STP outlet (Flow-2.0 m^3/hr)

Pic.-17 Flowmeter at STP inlet (Flow-0.0 m^3/hr)

Pic.-18. Sampling at CPU outlet

Pic.-19 Flowmeter at CPU inlet (Flow- 50.94 m^3/hr, Totalizer- 766524 m^3)

Pic.-20. Flowmeter at CPU outlet (Flow- 40.55 m^3/hr, Totalizer- 403987 m^3)

Pic.-21. CPU control room

Pic.-22. Green belt developed at M/s Radico Khaitan (near effluent treatment plant)

Pic. 23, Green belt developed at Ajitpur site

Fig 24 Road side green belt aof M/s Radico Khaitan Ltd.,

Fig.25 Tree plantation by Miwaki technique

Pic.-26 Green belt area at M/s Radico Khaitan near Hitachi Bio-compost yard

15. **Signature of the inspecting officials**

S.No.	Name of the Officials	Signature
1.	Sh. Nirankar Singh, City Magistrate, Rampur	
2.	Mrs. Reena Satavan, Sc. 'D', CPCB Delhi	
3.	Sh. J.N. Tiwari , AEE, **RO Moradabad, UPPCB**	

Annexure-V

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Original Application No. 152/2022

IN THE MATTER OF: -

Ghanshyam Singh Pasi — Applicant

Versus

State of U.P. & Ors. — Respondent(s)

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S.No.	Particulars	Page No.
1.	**Compliance report** in compliance to Hon'ble NGT order dated 26.04.2023 in OA No. 152/2022, Ghanshyam Singh Pasi Vs State of UP & Ors.	
2.	**ANNEXURE-I** Hon'ble NGT order dated 26.04.2023.	
3.	**ANNEXURE-II** A Copy of Detailed Verification Report filed by CPCB before Hon'ble Hon'ble High Court of Delhi in WP No. 13212/2022.	

Ajit Kumar Vidyarthi 21/07/23

(Dr. A.K. Vidyarthi)
Scientist-F
Central Pollution Control Board,
Parivesh Bhawan, East Arjun Nagar,
Delhi- 110032

Date: 21st July, 2023

Place: Delhi

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,

Principal Bench, New Delhi

Original Application No. 152/2022

IN THE MATTER OF: -

Ghanshyam Singh Pasi — Applicant(s)

Versus

State of U.P. & Ors. — Respondent(s)

Compliance Report on behalf of Central Pollution Control Board (CPCB)

1. Hon'ble NGT passed an order dated 26.04.2023 **(Annexure-I)** in Original Application No. 152/2022 titled Ghanshyam Singh Pasi Vs State of UP & Ors. Verbatim of the relevant paras of the order is reproduced below:

   "7. Vide order dated 07.12.2022, Hon'ble Delhi High Court directed the CPCB verify the genuineness of the said compliant, as also, the bona fides of the complainant, and file a report in respect of the same. The CPCB is directed to file copy of its report before this Tribunal."

2. In compliance to the above order, copy of the Verification Report filed by CPCB in compliance to Hon'ble High Court of Delhi order dated 07.12.2022 in WP No. 13212/2022 titled Radico Khaitan Limited Vs Union of India & Ors., is most respectfully submitted before this Hon'ble Tribunal for consideration and is annexed herewith as **Annexure-II.**

Ajit Kumar Vidyarthi 21/07/23

(Dr. A.K. Vidyarthi)

Scientist-F

Central Pollution Control Board,

Parivesh Bhawan, East Arjun Nagar,

Delhi- 110032

Date: 21st July, 2023

Place: Delhi

Item No.1 (Court No. 2)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI.

(Through Physical Hearing with Hybrid VC Option)

Original Application No. 152/2022

Ghanshyam Singh Pasi Applicant

Versus

State of U.P. & Ors. Respondents

Date of hearing: 26.04.2023

CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: None.

Respondents: Mr. Gi.Gi. C. George, Advocate for State of U.P.
Mr. Pradeep Misra, Advocate for UPPCB (through VC).
Mr. Shantanu Chaturvedi, Advocate for Project Proponent- M/s. Radico Khaitan Ltd.

Application is registered based on a complaint received by Email

ORDER

1. The grievances in the present application are *inter alia* regarding causing of environmental pollution by Radico Khaitan Ltd., Rampur and also regarding the accident which occurred in the above said industrial establishment on 8.03.2021.

2. Vide order dated 29.04.2022, this Tribunal constituted a Joint Committee and directed the same to submit Factual and Action Taken Report within two months.

3. In compliance of above order, The Joint Committee inspected the unit of the Project Proponent on 12.07.2022 and report of the Joint Committee was also filed vide email dated 09.09.2022.

4. The Project Proponent- M/s. Radico Khaitan Ltd. filed W.P (c) 13212/2022 titled Radico Khaitan Ltd. Vs. Union of India and others before Hon'ble High Court of Delhi. Vide order dated 12.09.2022, Hon'ble High Court of Delhi stayed order dated 29.04.2022 passed by this Tribunal. The relevant part of the order dated 12.09.2022 passed by Hon'ble High Court of Delhi is reproduced as under:-

> ***"CM APPL. 39979/2022 (for exemption)***
>
> *Exemption Allowed, subject to all just exceptions.*
> *The application shall stand disposed of.*
>
> ***W.P.(C) 13212/2022 & CM APPL. 39978/2022 (Stay)***
>
> *Notice. Since respondent Nos. 1 and 2 are duly represented, let counter affidavits be filed within a period of six weeks from today.*
>
> *Learned counsel for the petitioner shall take steps for service upon respondent Nos. 3, 4 and 5 through all permissible modes including via approved courier service. Those respondents may also file their replies, if so chosen and advised.*
>
> *Bearing in mind the fact that the identical issues are engaging the attention of the Court in W.P.(C) 10592/2022, let this petition be tagged and called along with the said petition.*
>
> *Prima facie, the Court finds itself unable to sustain the order passed by the National Green Tribunal ["Tribunal"] which has yet again acting on an anonymous complaint proceeded to frame and issue peremptory directions for a Joint Committee being constituted and for the said Committee inspecting the premises of the petitioner unit and for a report thereafter being submitted.*
>
> *The Court notes that the aforesaid order has been passed ex parte without the petitioner having been placed on advance notice of the complaint that was made and being afforded an opportunity to represent against the proposed directions which have ultimately come to be issued. It is in the aforesaid backdrop that learned senior counsel submits that the Tribunal has acted arbitrarily and in excess of the jurisdiction conferred upon it by Section 19 of the National Green Tribunal Act, 2010 ["the Act"]. Learned senior counsel further contended that the Tribunal has clearly not been conferred the power to pass interim orders, ex parte, in light of the provisions contained in Section 19(4)(i) of the Act. Additionally, the attention of the Court was invited to the earlier proceedings which ensued before the Tribunal and ultimately concluded in favour of the petitioner. Matter requires consideration.*
>
> *Till the next date of listing, there shall be stay of the order dated 29 April 2022. This order however shall not be liable to*

be construed as a stay of further proceedings before the Tribunal.

List again on 07.12.2022."

5. Stay of order dated 29.04.2022 has been extended by Hon'ble High Court of Delhi vide order dated 07.12.2022 till 09.05.2023 with direction to UPPCB to *''verify the genuineness of the said complaint, as also, the bona fides of the complainant, and file a report in respect of the same, by the next date of hearing''* . The relevant part of the order reads as under:-

"1. This hearing has been done through hybrid mode.
X X X X

W.P.(C) 13212/2022 & CM APPL. 39978/2022 11.

11. The present petition has been filed by the Petitioner – Radico Khaitan Limited challenging the impugned order dated 29th April, 2022 passed by the Principal Bench, National Green Tribunal, New Delhi in O.A. No.152/2022 titled Ghanshyam Singh Pasi v. State of Uttar Pradesh. By the impugned order, various directions have been issued by the NGT on the basis of an unsubstantiated Letter Complaint.

12. Notice was issued to the Respondent No.1 – Union of India and the Respondent No.2 – Central Pollution Control Board, vide last order dated 12th September, 2022.

13. Mr. Ravi Prakash, ld. CGSC may obtain a copy of the alleged Letter Complaint received by the NGT, on the basis of which directions have been passed, and place the same on record, within four weeks. Copy of the said complaint be also supplied to the ld. Counsels for the Petitioner, as also, ld. Counsel for the Central Pollution Control Board.

14. Let the Respondent No.2 - Central Pollution Control Board verify the genuineness of the said complaint, as also, the bona fides of the complainant, and file a report in respect of the same, by the next date of hearing.

15. List on 9th May, 2023.

16. Interim order granted on 12th September, 2022 shall continue"

6. We have gone through the above quoted orders and noticed the ground of challenge to order dated 29.04.2022 and find that further proceedings before this Tribunal have not been stayed by the Hon'ble High Court of Delhi by either of the orders dated 12.09.2022 and

07.12.2022. However, in view of order dated 12.09.2022 the report of the Joint Committee is not taken into consideration at this stage.

7. Vide order dated 07.12.2022, Hon'ble Delhi High Court directed the CPCB verify the genuineness of the said compliant, as also, the bona fides of the complainant, and file a report in respect of the same. The CPCB is directed to file copy of its report before this Tribunal.

8. O.A No. 324/2022 titled Shailesh Singh vs. State of U.P & Ors. was filed before this Tribunal against the Project Proponent earlier complaining about pollution of Kosi River by discharge of its industrial effluent. Vide order dated this 18.03.2021 this Tribunal directed that regular vigilance may be maintained by the concerned SPCBs and other statutory regulators and impact on water quality of river Kosi, Dhela, Bhela, Ramganga and finally on Ganga may be overseen by CPCB and NMCG. In view of these facts and circumstances, we consider to appropriate to direct the Project Proponent to file its response in tabular format regarding compliance with EC/CTE/CTO conditions imposed for abatement of environmental pollution and treatment and discharge of effluents from its industrial unit in question.

9. Report by CPCB and response by Project Proponent- M/s. Radico Khaitan Ltd. be filed **within above mentioned period** by email at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR supported PDF and not in the form of Image PDF.

10. List the matter for further consideration on 04.08.2023.

Arun Kumar Tyagi, JM

Dr. Afroz Ahmad, EM

April 26 2023
AG

IN THE HIGH COURT OF DELHI AT NEW DELHI

W.P.(C) NO. 13212 OF 2022

IN THE MATTER OF:-

RADICO KHAITAN LIMITED ….PETITIONER

-VERSUS-

UNION OF INDIA & ORS. …RESPONDENTS

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Filed by:

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Mob. No. 9999666769
Email:officeofbalendu@gmail.com

New Delhi
Dated 27.03.2023

VERIFICATION REPORT

IN COMPLIANCE TO

HON'BLE HIGH COURT OF DELHI ORDER DATED 07.12.2022

IN THE MATTER OF

RADICO KHAITAN LTD.

Vs

UNION OF INDIA & ORS.

[W.P.(C) 13212/2022 & CM APPL. 39978/2022]

Date of inspection: 17th April 2023

Submitted By

CPCB, Delhi

Verification report in compliance to Hon'ble High Court of Delhi order dated 07.12.2022 in W.P. (C) 13212/2022 & CM Appl. 30644/2022 in the matter of Radico Khaitan Limited Vs Union of India & Ors.

Subject: Verification of genuineness of complaint against M/s Radico Khaitan Ltd., Rampur and bonafides of the complainant in compliance to Hon'ble High Court of Delhi order 07.12.2022 in W.P.(C) 13212/2022 & CM Appl. 30644/2022 in the matter of Radico Khaitan Limited Vs Union of India & Ors.

1. Hon'ble High Court of Delhi order dated 07.12.2022

The Hon'ble High Court of Delhi in the matter of Radico Khaitan Ltd Vs Union of India & Ors. (W.P.(C) 13212/2022 & CM Appl. 39978/2022) passed the following order on 07.12.2022 **(Annexure - I)**:

…13. "Mr. Ravi Prakash, ld. CGSC may obtain a copy of the alleged Letter Complaint received by the NGT, on the basis of which directions have been passed, and place the same on record, within four weeks. Copy of the said complaint be also supplied to the ld. Counsels for the Petitioner, as also, ld. Counsel for the Central Pollution Control Board.

14. Let the Respondent No.2 - Central Pollution Control Board verify the genuineness of the said complaint, as also, the bona fides of the complainant, and file a report in respect of the same, by the next date of hearing"

Background

2. Hon'ble National Green Tribunal (NGT) order dated 29.04.2022

Hon'ble National Green Tribunal (NGT) vide order dated 29.04.2022, in the matter of Ghanshyam Singh Pasi Vs State of U.P (OA No. 152/2022) has mentioned the complaint received by e-mail in the impugned order **(Annexure - II):**

1. *"The grievances made in the present letter petition sent by Mr. Ghanshyam Singh resident of Bareilly Road Panwariya, Tehsil Sadar, District Rampur, Uttar Pradesh are inter alia regarding causing of environmental pollution by Radico Khaitan Ltd., Rampur and the accident which occurred in the above said industrial establishment on 8.03.2021.*
2. *It is stated that Radico Khaitan Ltd., Rampur, is being run in residential area in violation of environmental norms, rules and regulations. The said industrial establishment is releasing toxic gases 5 or 6 times every month in the early hours which causes respiratory problems to the inhabitants of the locality. The above said industrial establishment has also not developed the requisite green belt. ETP Plant installed by the above said industrial establishment for treating toxic poisonous effluents remains always non-functional and untreated effluent acidic in nature having 85-90 degrees temperature is discharged into factories drains which finds way to open areas adversely affecting flora & fauna, posing health hazards to the animals as well as inhabitants of the locality who are suffering from different diseases and damaging the crops and electronic and metallic goods. The boiler, which is claimed to be defunct, is used which spreads fly ash in the surrounding area and causes air pollution. The above said industrial establishment was having one alcohol tank of the capacity of 2 lacks liters which was not shown in the record submitted to the Excise Department and on 8.03.2021. The Alcohol tank caught fire resulting in burn injuries to one labourer and other injuries to nine labourers.*

3. *In view of the serious allegations made in the present letter petition, we consider it appropriate to have a factual and action taken report from a Joint Committee comprising of CPCB, State PCB and District Magistrate, Rampur. The State PCB will be the Nodal agency for coordination and compliance. The Joint Committee may meet within four weeks, undertake site visits, look into the grievances of the applicant and take requisite action by following due process of law. The Committee may also examine the issues in relation to Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as applicable including off-site and on-site plans and remedial steps to avert the industrial accidents. Factual and action taken report may be furnished within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF."*

3. Compliance status of the impugned order of Hon'ble NGT dated 29.04.2022

In compliance of Hon'ble NGT order dated 29.04.2022, inspection of M/s Radico Khaitan was carried out by Joint Committee comprising of officials from Central Pollution Control Board (CPCB), Uttar Pradesh Pollution Control Board (UPPCB) and District Administration, Rampur on 12.07.2022 for verification of the complaint. Joint committee report is attached at **Annexure-III.** Summary of the inspection report is reproduced as under:

Table no 1: Compliance status of the impugned order of Hon'ble NGT dated 29.04.2022 observed on 12.07.2022

S.No.	Points of NGT order dated 29.04.2022	Status as observed on 12.07.2022 by joint committee
1.	***It is stated that Radico Khaitan Ltd., Rampur, is being run in residential area in violation of environmental norms, rules and regulations*.**	The unit representative has informed that the unit was established in the year 1943 and in the same year the unit has commenced its operations. The unit has submitted the copy of lease deed according to which, the lease deed was made on 28 Feb, 2005 between U.P State Industrial Development Corporation Ltd., and M/s Radico Khaitan unit Rampur Distillery for 90 years on an average annual rent of Rs. 29676.35 with a premium of Rs. 48494620/- As per the lease deed, the unit is situated in Industrial Area Rampur, plot no. A-1 with a described area of 52370.0 m^2 for manufacturing and installation of additional plant & machinery to existing distillation unit, according to the design and building plan approved by Lessor and proper municipal or other competent authority. The Joint inspection committee observed that; 1. Toward the east of the unit, a fertilizer plant is situated which is approx.100 mtrs away from the unit. 2. Towards the south and west of the unit, no authorised colony was observed. Green belt, godown and empty

		space were observed. Industry is located 10 mtrs south from national highway, NH24. 3. In the North Direction- Open land was observed which is 10 mtrs away from the unit.
2.	***The said industrial establishment is releasing toxic gasses 5 or 6 times every month in the early hours which cause respiratory problems to the inhabitants of the locality.***	As per the consent issued under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. Radico Khaitan Ltd., the unit is having 02 numbers of boilers of 26TPH and 30TPH. The boiler of 26 TPH uses bio-gas as a fuel and boiler of capacity 30 TPH uses rice husk as a fuel. The unit has installed air pollution control device (APCD) at 30 TPH boiler, however there is no requirement of APCD on 26 TPH boiler as it is operating on clean fuel (bio-gas). The unit has submitted the copies of boilers fitness certificates issued by Uttar Pradesh Boiler Inspection Department, as per the certificates, the unit is allowed to work the 30 TPH boiler under provision of section 8 of the Boiler Act (V of 1923) at the maximum working pressure of 51 kg/cm^2 from 22.10.2021 to 21.10.2022 and 26 TPH boiler at the maximum working pressure of 27 kg/cm^2 from 22.04.2022 to 20.04.2023. To assess the air quality of the unit, the team of officials from Regional Office (RO), UPPCB, Moradabad carried out stack emission monitoring and ambient air monitoring. As per the stack monitoring report from RO-Moradabad, UPPCB, value PM shows 83.64 mg/Nm^{3}and 11.94mg/Nm^3 against standard limit of 150mg/Nm^3.S As per the analysis result of ambient air quality monitoring near molasses plant, Rampur, concentration of NO_X, SO_2 and PM_{10} found to be 19.00 µg/m^3, 10.00 µg/m^3 and 60.34 µg/m^3 respectively against notified national ambient air quality standard limit of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981. As per the analysis result of ambient air quality monitoring near grain plant, Rampur, concentration of NO_X, SO_2 and PM_{10} found to be 17.00 µg/m3, 9.00 µg/m^3 and 90.64 µg/m^3 respectively against the notified standard limit of 80 µg/m3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981. As per the analysis result of ambient air quality monitoring at the roof of guest house, Rampur, concentration of NO_X, SO_2 and PM_{10} found to be 15.50 µg/m^3, 8.50 µg/m^3 and 66.30 µg/m^3 respectively against notified standard limit of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

		As per analysis results of stack & ambient air monitoring carried out on 12.07.2022 by UPPCB during joint committee, inspection, the unit was complying with the prescribed norms. As per the CPCB, OCEMS report of Stack-1 and Stack-2, PM (mg/Nm^3) for the period from 12, June to 12 July, 2022 are within the prescribed limits.
3.	***The above said industrial establishment has also not developed a requisite green belt.***	As per the consent under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) point no. 12 "*Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/ 2018/02 dated 16-02-2018 of U.P. Pollution Control Board."* The unit representative informed that the unit has total industrial area of around 39 acres, in which grain based plant, molasses and bottling plant has been commissioned. The unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area, however due to lack of space inside the premises, in addition to the above, the unit has also developed green belt outside the industrial premises in approximately 6.49 acres. As per the documents, the unit has total green belt area of 13.2 Acres.
4.	***The boiler, which is claimed to be defunct, is used which spread fly ash is the surrounding area and causing air pollution.***	The unit's representative has claimed about not having any defunct boiler in the industrial premises. As per the consent to operate issued by UPPCB under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended) to M/s. Radico Khaitan Ltd., for Molasses Spirit Plant and grain plant, the unit is having a consent validity for the period from 31.05.2019 to 31.12.2023. As per the consent to operate (CTO), issued by UPPCB, the unit has two boilers of 30TPH and 26TPH capacity and the same were observed by the joint team. Stack and ambient air monitoring were also carried out. Analysis results are mentioned in table no. 5 and 6.

5.	***The unit has one alcohol tank of the capacity of 2 lacks litre which was not shown in the record submitted to Excise Department and on 08.03.2021, the alcohol tank caught fire resulting in burn injuries to one labourer and other injuries to nine labours***	The fire incident occurred on 06.03.2021 at around 8:15 am in which the two alcohol tanks namely IAV-20 and IAV-21 of capacity 405400 BL and 406600 BL caught fire. As per the details of ENA storage tanks present in the industrial premises duly verified by Assistant, Excise Commissioner, Rampur, U.P. these are listed at S. No. 31 and 32 of Table 12. The joint team visited the site where the accident of fire occurred and the ENA storage tank which caught fire were found empty. These same tanks are now repaired.
6.	***The committee may also examine the issues in relation to Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as applicable including off-site and on site plans and remedial steps to avert the industrial accidents.***	The unit has submitted the copy of General Diary Details reported in Civil Thana Rampur on 6.03.2021. As per the report, the fire incident took place on 06.03.2021 at around 8:15 am in which the two alcohol tanks inside the unit premises started burning all of a sudden. No casualty was reported. The injured persons were admitted in hospital. The unit has submitted the copy of fire report of U.P. fire services signed by Chief Fire Officer, Rampur. As per their report, no casualty reported, however total 09 people got injured in the fire incident, which were immediately admitted to the hospital for First Aid. **Mock drills report**: The committee sought the details of on-site emergency plan and mock fire drills from the unit. The unit has submitted the mock drill reports being carried out during recent past. As per the reports 02 mock drills were conducted in the month of Jan 2021 & June 2022. **Fire management safety audit report:** The unit has submitted the copy of fire management safety audit report prepared by Promax Global dated 09 Nov, 2020, Wherein third party reviewed all aspects of the Organization's Fire Safety management system and supportive arrangements against the available standard audit specifications. **Onsite emergency plan:** The unit is having onsite emergency plan prepared and approved on 7/7/2022. The unit provided the copy of onsite emergency plan for the year 2021 & 2022. The unit is having a safety Department.

4. Compliance Report of Hon'ble High Court of Delhi order dated 07.12.2022 in W.P.(C) 13212/2022 & CM Appl. 30644/2022 in the matter of Radico Khaitan Ltd. Vs Union of India & Ors.

4.1 Verification of Bonafide of the Complainant

In compliance of the Hon'ble High Court of Delhi order dated 07.12.2022, in the matter of Radico Khaitan Ltd. Vs Union of India & Ors. [W.P.(C) 13212/2022 & CM APPL. 39978/2022], to verify the genuineness of the complaint mentioned in the impugned order of Hon'ble National Green tribunal (NGT) dated 29.04.2022 in OA No. 152/2022, team of officials from CPCB carried out visit to the industrial unit of M/s Radico Khaitan Ltd. and nearby area on 17.04.2023. The team carried out verification of complaint as mentioned in the NGT impugned order dated 29.04.2022 as quoted at Para 2 of this report.

The team also consulted the learned counsel and law officers of CPCB for verification of bonafide of the complainant. Accordingly, as per their suggestions the complainant was emailed on 13.04.2023, that, in reference to order dated 07.12.2022 passed by Hon'ble High Court of Delhi in W.P.(C) 13212/2022 & CM APPL. 39978/2022, he may have to meet the CPCB team on the site during inspection alongwith valid Photo-ID proof. Thereafter, on the day of visit, team contacted the complainant through phone (Mob. No. 9412525531) and CPCB team met the complainant in person at Panwaria Road, Rampur. During interaction, the CPCB team asked the complainant to provide his ID proof and to brief about the complaint.

As an ID proof, complainant presented his AADHAR card bearing no. 798751737237 before the CPCB team. As per the AADHAR card, the name of person is Sh. Ghanshyam Singh, residing at 109 Bareilly road, Panwaria, Rampur Distillery, Uttar Pradesh. Copy of AADHAR card of complainant is placed at **Annexure – IV.**

The team of CPCB officials had detailed conversation with complainant regarding issues raised by him in his complaint letter dated. 16.12.2021. During interaction, the complainant also informed that "*the local drains of Rampur carry distillery effluent and the acidic wastewater in the drain which causes burns to animals/cattles"*. The complainant has also submitted a handwritten undertaking about the interaction with CPCB team dated 17.04.2023 (Copy of handwritten undertaking dated 17.04.2023 is placed at **Annexure – V**). The Complainant also mentioned about a drain and informed that the drain near Hitachi biocompost site (at village Tashka) receives effluent from M/s Radico Khaitan Ltd., Rampur through an underground pipeline. CPCB team along with the complainant visited the said drain (Lat. – 28.77633; Long – 79.04598) which is located approximately 200 meters away (aerial distance) from the unit (Hitachi bio-compost site) near Tashka village. Location was unapproachable, however wastewater sample was collected from the culvert by CPCB team and laboratory analysis result showed pH – 7.3, Total solids- 3688 mg/l, COD- 1027 mg/l, BOD- 506 mg/l and TSS- 667 mg/l. As per the information provided by Regional Officer, Moradabad of Uttar Pradesh Pollution Control Board (UPPCB), the drain is entering Rampur city from Bilaspur gate, which is about four kilometer in the upstream of the sampling location. The drain carries sewage from Bilaspur gate colony, Pahari gate colony, Bamroha and other surrounding colonies and as informed by UPPCB, there is no industrial discharge in the drain. The drain was found covered with surface vegetation at many places and subsurface flow was observed at these places. As per analysis result, the pH value (7.3) was found in the neutral range i.e. 6.5 – 8.5, which does not match with the claim of discharge of chemical acidic effluent by M/s Radico Khaitan Ltd. in drain as

mentioned in the complaint. As per physical observation during visit, no sense of odour and colour, which are typical characteristics of the effluent from the Distillery unit was felt by the team and no pipeline was visible to the team near the culvert. However, the other physico-chemical characteristics i.e. BOD (506 mg/L) and COD (1027 mg/L) in the sample collected from the drain do not match with the typical characteristics of sewage (values are on higher side), and indicate discharge from trade/industrial activities alongwith sewage.

5. Verification report of complaint in compliance of Hon'ble High Court of Delhi order dated 07.12.2022

Verification report of complaint in compliance of Hon'ble High Court of Delhi order dated 07.12.2022 in the matter of Radico Khaitan Ltd. Vs Union Of India & Ors In W.P.(C) 13212/2022 & CM APPL. 39978/2022 is presented below:

5.1. General details

a. General details of the unit are mentioned below:

S. No.	Name & Address of the Industry:	M/s Radico Khaitan Limited, Bareilly Road, Rampur, Uttar Pradesh -244901
1.	Type of Industry Sector	Distillery (Molasses and Grain based)
2.	Date of Inspection	17th April, 2023
3.	Operational Status	Operational (Grain based)
4.	Name of main Raw Material	Grain and Molasses
5.	Name of Final Product (s)	Spirit (ENA)
6.	Consented Production Capacity	374 KLD ENA (Consolidated Consent to Operate an Molasses & Grain Dual Mode And Malt Spirit Plant)
7.	Production during inspection (based on Excise data)	243 KLD
8.	Air and water consent	Consolidated Consent to Operate and Authorisation (CCA) issued by UPPCB on 19.09.2022 having validity from 01.10.2022 to 31.12.2026 **(Annexure – VI)**
9.	Authorization under Hazardous and Other Wastes Rules, 2016.	
10.	Permission from CGWA for abstraction of Ground Water	The Uttar Pradesh Ground Water Authority has granted a No Objection Certificate (NOC) to the unit for groundwater abstraction from 03 no. of Borewells, having validity up to 08.04.2024. As per the conditions of this NOC, the unit can abstract a maximum of 3600 KL/day for groundwater. **(Annexure – VII)**

b. The unit has obtained a Consolidated Consent to Operate and Authorisation under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 with a validity upto 31.12.2026 for molasses and grain dual mode and malt spirit plant for production of 374 Kilo Litres of ENA per day. The major conditions of the CCA are as follow:

- The validity of the Consent to Operate shall be valid from 01.10.2022 to 31.12.2026
- Unit shall dispose spent wash through MEE and the concentrated spent wash shall be disposed through Bio composting in 58 Acre biocompost yard.

- Unit shall operate in Zero Liquid Discharge and no effluent is allowed to discharge outside the premises.
- Unit shall comply with the conditions of NOC issued by Ground Water Department Govt. of Uttar Pradesh for abstraction of ground water, valid till 08.04.2024.
- The applicant shall use following fuel and install a comprehensive control system consisting of control equipment as required with reference to generation of emissions and operate and maintain the same continuously so as to achieve the level of pollutants to the following standards:

S. No.	Air Pollution Source	Capacity	Type of fuel	Stack No.	Stack Height	Air Pollution Control Device
1.	Boiler-1	26 TPH	Bio-gas	Stack No.-1	stack height of 45 meter from ground level	Not required (operating on clean fuel)
2.	Boiler-II	30 TPH	Rice husk and Wood chips	Stack No.-2	Dust collector as APCS and stack height of 30 meter from ground level	ESP Installed
3.	Boiler -III	65 TPH	Rice husk, Coal, wood chips	Stack No.-3	65 meters from ground level	ESP Installed

c. On the day of visit, the unit was operating at production capacity of 243 KLD using only grain as raw material and not using molasses as feedstock for production of alcohol.

5.2. Fresh water consumption

The unit is having three bore wells to meet the fresh water requirement for industrial and domestic purposes. The unit has installed flow meters at all three borewell. Month wise fresh water consumption is tabulated below:

Table 1: Month wise fresh water consumption data

Borewell No.	Month	Total Fresh water Consumption (KL)	Average fresh water consumption (KLD)
Borewell-1	Feb, 2023	502	17.93
Borewell-2	Feb, 2023	18526	661.64
Borewell-3	Feb, 2023	30834	1101.21
Total fresh water consumption in month of Feb, 2023 (KL)		**49862**	
Average fresh water consumption per day		**1780.79 KLD**	
Borewell-1	March, 2023	1208	41.66
Borewell-2	March, 2023	13816	476.41
Borewell-3	March, 2023	34561	1191.76
Total fresh water consumption in month of March, 2023 (KL)		**49585**	
Average fresh water consumption		**1709.83 KLD**	
Borewell-1	April, 2022	0	0
Borewell-2	April, 2022	7948	529.87
Borewell-3	April, 2022	17685	1179

Total fresh water consumption in month of April, 2023 (KL)	**25633**
Average fresh water consumption	**1708.87 KLD**
Overall total fresh water consumption	**125080 KL**
Overall Average fresh water consumption	**1737.22 KLD**

As per the log book data provided by the unit, the average fresh water consumption for duration 01st February 2023 to 15th April 2023 is 1737.22 KLD against the permitted withdrawal capacity of 3600 KLD mentioned in the No Objection Certificate (NOC) issued by Uttar Pradesh Ground Water Authority, which indicates compliance with NOC conditions.

5.3. Verification of Zero Liquid Discharge as stipulated in Consolidated Consent & Authorization issued by UPPCB on 19.09.2022

i. The unit has consent, to operate either on molasses based production or grain based production or both with daily production not exceeding 374 Kilo Litres of ENA per day.

ii. In molasses based plant, the wastewater streams are spent wash and spent lees from production process, fermenter washing, process condensate, floor washing, cooling tower and boiler blowdown. In grain-based plant, the wastewater streams are thin stillage, lees and process condensate.

iii. As per Consolidated Consent to Operate and Authorisation (CCA) issued by UPPCB on 19.09.2022 having validity upto 31.12.2026, the unit shall operate in Zero Liquid Discharge and no effluent is allowed to discharge outside the premises and shall dispose spent wash through MEE and the concentrated spent wash shall be disposed through Bio composting in 58 Acre biocompost yard.

iv. For achieving ZLD in molasses based plant, the unit has installed Integrated Multiple Effect Evaporator (IMEE), , Bio-digesters (06 nos.), Lamella Clarifiers, Clari-flocculators, settling tank, final clarifier, Dissolved Air Floatation (DAF), Reverse Osmosis (RO) system and a separate MEE for concentration of reject from RO plant. Final concentrated spent wash is utilized in bio composting. The details about Spent wash management scheme are elaborated in para 5.3.1.

v. For achieving ZLD in grain-based plant, the unit has installed Decanter and Integrated Multi Effect Evaporator (IMEE) plant and Minglers. The concentrate is fed into Mingles to make Distillers Wet Grain with Soluble (DWGS), which is used as cattle feed. The details about Spent wash management scheme are elaborated in para 5.3.2.

vi. For management of other effluents generated from Molasses and grain based plant to achieve ZLD, the unit has installed Condensate Polishing Unit (CPU) of capacity 2000 m^3. The details of CPU are elaborated in para 5.3.3.

vii. As per the data provided by the unit, the unit has started operation of its Grain based plant from 15.04.2023. The details of plant wise no. of operational days based on raw material are as below:

Table 2: Plant wise no. of operational days based on raw material

Month	Grain Plant	Dual Mode Plant operation on Grain	Dual Mode Plant operation on Molasses
Capacity	**100 KLD**	**140 KLD**	
Feb.-2023	27	1.5	26.5
March.-2023	28	0	31
April- 2023 (till 15.04.2023)	14	Continue from 15.04.2023 onwards	15

5.3.1. Spent wash management scheme – Molasses based distillery operation

i. Spent wash generated in distillation process is subjected to evaporation through a re-boiler and three stage Integrated Multiple Effect Evaporator (IMEE).
ii. Concentrated spent wash from IMEE is pumped into bio-digesters (06 nos.) for bio-methanation. The bio-gas, generated is used as fuel into boiler.
iii. Outlet of bio-digesters is subjected to solid - liquid separation of bio-digested spent wash before RO plant which comprises of Lamella Clarifiers, Clari-flocculators, settling tank, final clarifier and Dissolved Air Floatation (DAF).
iv. Effluent from outlet of DAF system is stored and passed through two RO plants (operating in parallel).
v. Permeate generated from RO-1 and RO-2 is further treated through another RO (RO-3) along with the other effluent of grain based unit and cooling tower blow down. Permeate from RO-3 is used in cooling tower make-up water.
vi. Schematic diagram of spent wash management systems is as below:
3 stage integrated multiple effect evaporator (IMEE)→Bio-Digesters→Lamella clarifiers, Clariflocculators→Dissolved Air Floatation→(DAF)→ RO→6 stage Multi Effect Evaporator (for concentrating Biomethanated spent wash)→CPU (for MEE Condensate and other low strength effluents) and Final MEE Concentrate →Bio-composting
vii. Unit has installed mass flow meters at IMEE inlet, IMEE outlet, Feed to RO, RO outlet, Feed to BMSW-MEE and outlet of BMSW-MEE and is maintaining logbooks for the same.
viii. As per the logbook data provided by the unit, month wise total alcohol production, and spent wash generation per KL of alcohol production from molasses is as below:

Table 3: Month wise Spent Wash generation, alcohol production and Spent Wash generation per KL of alcohol production from Molasses

Month	Total Spent wash generation (Kl/ Month)	Alcohol Production (in KL)	Alcohol Production (in KLD)	Sp. Spent wash generation (KL/KL of alcohol production)
Feb-2023	38615.09	3542.822	126.53	10.90
March-2023	39618.87	3655.180	126.04	10.84
April-2023	18524.53	1852.945	123.53	10.00

ix. As per the CCA issued by UPPCB on 19.09.2022, the unit is allowed to produce 374 Kilo Litres of ENA per day by using molasses and grain dual mode and malt spirit plant. However as per the data provided by unit for duration 01.02.2023 – 15.04.2023, it has carried out production @ 125.70 Kilo Litres of ENA per day.

x. As per the log book data of IMEE & BMSW-MEE provided by the unit for the month from February, March & April, 2023, total spent wash feed to both MEE, total condensate generated and total concentrate generated are given below:

Table 4: Month wise details of total spent wash generation, feed to both MEE, total condensate generated and total concentrate generated

Month	Total spent wash generation at the bottom of analyzer column (MT/Month)	Condensate generation from IMEE (MT/Month)	Total concentrated spent wash generation from IMEE (MT/Month)	RO-Reject Feed BMSW-MEE (MT/Month)	BMSW-MEE (Concentrate) MT/Month	BMSW-MEE (Condensate) MT/Month	Overall % Reduction 8 =2-6 *100 2
1	2	3	4	5	6	7	8
Feb-2023	40932	14663	26269	13688	9839	3849	75.96
March-2023	41996	14858	27138	14288	10222	4066	75.66
April-2023	19636	6765	12871	6784	4878	1908	73.54

xi. The final concentrated spentwash generated from BMSW-MEE is utilized in Bio-composting. The details of bio-composting are as follows:

- Out of 60 acres, 25 acres of area is covered and remaining 35 acres of area is open/uncovered.
- Out of 35 acres uncovered bio-compost area; 05 acres is available for storage of ready bio-compost, other 05 acres is for storage of press mud and remaining 25 acres is available for bio-composting.
- The unit is having 05 numbers aero tiller machines for spraying of concentrated spent wash, mixing and turning of bio-compost material.
- The unit has 6 piezometric wells and one hand pump in the bio-compost yard area of Hitachi site and 6 piezometric wells and one hand pump in Ajeetpur site.
- Rainwater collection system has been provided in both the bio-compost yard site at Hitachi site and Ajeetpur site.
- As per Consolidated Consent to Operate and Authorisation (CCA) issued by UPPCB, the concentrated spent wash shall be disposed through Bio composting in 58 Acre biocompost yard.
- The unit has bio-compost yards located at two different places i.e., Ajeetpur site and Hitachi site. The unit has total 60 acres of bio-compost area, which is adequate and in compliance to CCA conditions.
- Details of press mud consumed, Conc. spent wash to press mud ratio, bio-compost procured and bio compost sold for the month from Feb, 2023 and March, 2023 is given below;

Table 5: Month wise details of Press mud consumption, Concentrate spent wash consumption, Bio-compost generation and quantity sold

Months	BMSW- MEE Outlet for bio-composting (MT/Month)	Press Mud Consumption (MT/Month)	Conc. Spent wash consumption in Bio-composting (MT/Month)	Conc. spent wash to press mud ratio	Bio-compost Produced (MT/Month)	Bio-compost sold (MT/Month)
Feb, 2023	9839	6200	9655	1.56	3000	3762
March, 2023	10222	5200	8147	1.57	2400	2562

5.3.2. Thin stillage management scheme – Grain based distillery operation

i. To achieve ZLD in Grain based plant, the unit has installed Decanters (3 nos.) followed by IMEE (for concentration of thick syrup) followed by Minglers to make Distillers Wet Grain with Soluble (DWGS). Ready DWGS is sold in market (for cattle feed). Condensate generated from IMEE is fed into CPU for treatment.

ii. Schematic diagram of thin stillage management systems is as below:

Thin stillage→Decanters (03 nos.)→ IMEE (for concentration of thick syrup)→CPU (For condensate treatment) & Mingles (to make distillers Wet Grain with Soluble DWGS)

iii. As per the logbook data provided by the unit, month wise total alcohol production, and spent wash generation per KL of alcohol production from grain is as below:

Table 6: Month wise Thin stillage generation, alcohol production and Thin stillage generation per KL of alcohol production from Grain

Month	Total Thin stillage generation (Kl/ Month)	Alcohol Production (in KL)	Alcohol Production (in KLD)	Sp. Thin stillage generation (KL/KL of alcohol production)
Feb-2023	9197.22	2912.49	104.02	3.16
March-2023	10763.89	2771.70	99.0	3.88
April-2023	5815.74	1486.95	106.21	3.91

iv. As per the log book data of IMEE provided by the unit for the month from February, March & April, 2023, total thin stillage feed to both MEE, total condensate generated and total concentrate generated are given below:

Table 7: Month wise details of total thin stillage feed to IMEE, total condensate generated and total concentrate generated

Month	Total Thin stillage generation (MT/Month)	Condensate generation from IMEE (MT/Month)	Total concentrated thin stillage generation from IMEE (MT/Month)
1	2	3	4
Feb-2023	9933	8008	1925
March-2023	11625	9701	1924
April-2023	6281	5293	988

5.3.3. CPU - Management of other effluents

i. The rejects from RO-1, RO-2 and RO-3 are feed to BMSW-MEE for further concentration. The concentrated spent wash is used in bio-composting and spent lees, RO-permeate, cooling tower blow down and condensate generated from IMEE & BMSW-IMEE is sent to Condensate Polishing Unit (CPU) for treatment.

ii. For the treatment of spent lees, RO-permeate, cooling tower blow down, condensate generated from IMEE & BMSW-IMEE and other low strength effluents, the unit has installed a common Condensate Polishing Unit (CPU) of 2,000 m^3 capacity. The CPU consists of Equalization tank, Buffering tank, anaerobic digestion, aerobic digestion, Clarification, Multi Grade Filter (MGF), Activated Carbon Filter (ACF) followed by UV treatment. Mechanical press is installed for sludge dewatering. The unit has installed flow meters at the inlet and outlet of CPU (inlet totalizer- 839752 m^3, recycled to cooling tower - 463150 m^3 and recycled to Fermenter for molasses dilution - 352068 m^3).

iii. During visit, it was observed that unit has installed a new CPU (capacity – 5000 KLD; for dual feed mode) which is under commissioning stage.

iv. Unit is using the treated effluent from CPU in fermenter (for molasses dilution) and cooling tower makeup.

v. As per the logbook data provided by the unit, quantity of effluent feed and treated through CPU are as below:

Table 8: Quantity of effluent feed and treated through CPU

Month	Total CPU feed (KL)	CPU treated water (KL)
Feb, 2023	46197	44349
March, 2023	49051	47089
April, 2023	24542	23560
Total	**119790**	**114998**
Average (KLD)	1663.75	1597.19
% loss in CPU = 4%		

vi. Samples were collected from the inlet and outlet of CPU and analysis results are mentioned below:

Table 9: Analysis results of samples collected from CPU

Sr. No.	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TSS (mg/l)	TDS (mg/l)
1.	CPU inlet	4.2	10556	7290	BDL<10	80
2.	CPU outlet	7.2	04	01	10	720

vii. Analysis results of sample collected from CPU outlet indicate that the quality of treated effluent from CPU is suitable for reuse in in fermenter (for molasses dilution) and cooling tower makeup. Copy of laboratory analysis reports of waste water samples is attached as **Annexure-VIII**

The above observations and data indicates that the unit has setup systems to achieve ZLD and complied with ZLD conditions as stipulated in CCA issued by UPPCB. The complaint about the discharge of untreated effluent of acidic nature having temperature 85 – 90 °C could not be substantiated.

5.4. Sewage management scheme

i. The unit has installed a Sewage Treatment Plant (STP) of capacity 120 KLD for treatment of sewage generated from the households present inside the factory premises. The STP was found operational during inspection.
ii. The unit has installed flow meters (with totalizer) at inlet and outlet of STP.
iii. The sewage treatment scheme consists of holding tank-cum- pump sump, Biological treatment (activated sludge process), settling tank, holding tank cum chlorination tank, Pressure Sand Filter (PSF) and Activated Carbon Filter (ACF).
iv. STP receives wastewater from overflow of 06 nos. of septic tanks, from the industry guest house and other utility areas within unit premises.
v. The treated sewage is disposed through an open drain across the road, to reach up to Rampur drain.
vi. Samples were collected from the collection tank (inlet) and outlet of STP and analysis results are presented below:

Table 10: Analysis results of samples collected from STP

Sr. No.	Sample Location	pH	COD (mg/l)	BOD (mg/l)	TS (mg/l)	TSS (mg/l)	Cl^- (mg/l)	NO_3-N (mg/l)
1.	STP Inlet	7.1	37	09	660	41	135	2.20
2.	STP Outlet	7.0	29	03	644	BDL<10	109	2.06
Standards mentioned in CCA issued by UPPCB on 19.09.2022		5.5 – 9.0	-	30	-	100	-	-

Analysis results of sample collected from STP outlet is meeting the discharge norms. Copy of laboratory analysis reports of waste water samples is attached as Annexure-VIII**.**

6. Details of Boilers

As per the Consolidated Consent to Operate and Authorisation under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 issued by UPPCB on 19.09.2022, the unit is having three boilers of capacity 30 TPH, 26 TPH and 65 TPH. The unit has submitted the copies of Boiler fitness certificates dated 22.10.2021 and 22.04.2022 issued by Uttar Pradesh Boiler Inspection Department. As per the certificates, the unit is allowed to operate the 30 TPH boiler under provision of section 8 of the Boiler Act (V of 1923) from 22.10.2021 to 21.10.2022 and 26 TPH boiler from 22.04.2022 to 20.04.2023. Copies of the boiler fitness certificate for 30 TPH & 26 TPH are attached at **Annexure-IX.** The unit has installed a new boiler of capacity 65 TPH however on the day of visit, it was operating at 55 TPH. The unit has submitted the copy of provisional order under section 9 of the Boilers Act, 1923 having validity upto six month from the date of issue (i.e. 21.03.2023). Copy of the fitness certificate for 65 TPH boiler is attached at **Annexure-X.** On the day of visit, 02 boilers of capacity 30 TPH and 26 TPH were found non-operational and 01 boiler of capacity 65 TPH was found operational.

Table 11: Details of boilers installed within unit premises

S. No.	Boiler	Capacity	Operational status on the day of visit
1.	Boiler-1	26 TPH	Non-Operational
2.	Boiler-II	30 TPH	Non-Operational
3.	Boiler -III	65 TPH	Operational

During visit, cleaner and biomass fuel such as bio-gas (20%) and rice husk (80%) was being used in the boiler of 65 TPH capacity. The boiler was equipped with Electro Static Precipitator as air pollution control device.

Ambient air monitoring and stack emission monitoring was carried out by officials from CPCB, Delhi. Monitoring of stack attached to 65 TPH boiler was carried out during visit. Ambient air quality monitoring was also carried out at 2 locations (upwind and downwind) of the stack monitored in reference to wind direction) namely; Near Chairman Guest house of unit (Upwind side – 500 metres from stack) and near staff Guest house of unit (Downwind side – 700 metres from stack). The industry is situated and encompassed of the state highway and railway etc. During the time of monitoring at about 500 mtr, operation of hot mix plant operated by PWD, Rampur was observed.

The stack emission and ambient air quality monitoring results are given below:

Table 12: Emission monitoring results for Stack attached to 65 TPH boiler

S. No.	Parameter	Value	Emission Standards as per The Environment (Protection) Rules, 1986
1.	PM (mg/Nm^3)	28.25	150
2.	SO_2 (mg/Nm^3)	BDL<3	-
3.	NO_2 (mg/Nm^3)	407.3	-
4.	CO_2 %	11.2	-
5.	O_2 %	8.2	-
6.	CO (ppm)	62	-

Table 13: Ambient air quality monitoring results

Sr. No.	Location	NO_2 Result (µg/m^3)	SO_2 Result (µg/m^3)	Particulate Matter PM_{10} (µg/m^3)
Standards		**80**	**80**	**100**
1.	Near Chairman Guest house of unit (Upwind side – 500 metres from stack)	41.83	4	**263.33**
2.	Near staff Guest house of unit (Downwind side – 700 metres from stack)	38.83	8	**297**

As per the analysis result of ambient air quality monitoring carried out near Chairman Guest house of unit (Upwind side – 500 metres from stack), concentration of NO_2, SO_2 and PM_{10} found to be 41.83 µg/m^3, 04 µg/m^3 and 263.33 µg/m^3 respectively against national ambient air quality standard limit of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

As per the analysis result of ambient air quality monitoring carried out near staff guest house of unit (Downwind side – 700 metres from stack), concentration of NO_2, SO_2 and PM_{10} found to be 38.83 µg/m^3, 08 µg/m^3 and 297 µg/m^3 respectively against the standard limit of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

The monitoring results of emission from stack attached to 65 TPH boiler showed that, the Particulate Matter (28.25 mg/Nm^3) is within the prescribed limit of 150 mg/Nm^3. Copy of laboratory analysis reports of ambient air & stack emission samples is attached as **Annexure-XI.**

Online Continuous Emission Monitoring System (OCEMS) have been installed on all three Stacks, however OCEMS installed on Stack-1 & 2 are connected to CPCB server and the OCEMS installed at Stack-3 (i.e. stack attached to 65 TPH boiler) is not connected to CPCB

server. During monitoring, the OCEMS was displaying Particulate Matter (PM) values in the range of 40-43 mg/Nm^3.

The unit has installed Electro Static Precipitator (ESP) as Air Pollution Control Device (APCD). The unit used clean gas and biomass as their boiler fuel. Stack emission monitoring results indicate compliance with PM emission norms. However, the ambient air quality monitoring results indicate exceedance with the national ambient air quality norms.

Hence, the complaint that the said industrial establishment is releasing toxic gases 5 or 6 times every month in the early hours could not be substantiated.

7. Green belt Area

The unit has developed green belt inside the unit premises, outside the unit's main gate, in the ETP area, outside the boundary wall of industry premises and in the Atal Park which is located outside the industrial premises. The unit has also developed green belt at Hitachi bio-compost site and Ajeetpur bio-compost site. At Hitachi bio-compost site, the unit is following Miyawaki technique for tree plantation.

The unit has provided the details of green belt area developed by them. The description of area along with the green belt developed is listed below;

Table 14: Details of green belt area

Sr. No.	Description of Area	Length (M)	Width (M)	Area (sq. M)
1.	Atal Park to new Roadways (Left side)	1400	3	4200
2.	Atal Park to new Roadways (Left side)	1400	3	4200
			Total in Sq. Mtr	**8400**
			Total in (Acre)	**2.10**
Green belt attached to premises				
3.	Atal Park to GSP (Left side towards plant)	950	6	5700
4.	End of GSP plant towards Nainital Road	1100	3.5	3850
5.	Atal Park to Nainital road (Right side)	2000	4	8000
			Total in Sq. Mtr	**17550**
			Total in (Acre)	**4.39**
Green belt inside the premises				
6.	Main gate to security office	240	4	960
7.	Admin Block	50	6	300
8.	Colony area (Officers)	225	25	5625
9.	Colony area (Officers)	125	25	3125
10.	RKTS Lawn	95	45	4275
11.	MRP Area	785	5	3925
12.	GSP Main Road from RDL (Left side)	180	3	540
13.	GSP Main Road from RDL (Left side)	84	3	252
14.	GSM (Near CO2)	35	3	105
15.	Printing (Side 1)	60	2	120

Sr. No.	Description of Area	Length (M)	Width (M)	Area (sq. M)
16.	Printing (Front)	30	3	90
17.	Dense Foresting & Plantation Area at KF	312.09	25	7802
			Total in Sq. Mtr	**27119**
			Total in (Acre)	**6.78**
			Grand Total Green Belt (Sq. Mtr)	**53069**
			Grand Total Green Belt (Acre)	**13.27**

The unit representative informed that the unit has total industrial area of around 39 acres, in which grain based plant, molasses and bottling plant has been commissioned. As per the CCA, "*Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/ 2018/02 dated 16-02-2018 of U.P. Pollution Control Board."* The unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area, however as per the unit representative, due to lack of space inside the premises, in addition to the above, the unit has also developed green belt outside the industrial premises in approximately 6.49 acres. Taking both together, the unit has total green belt area of 13.2 Acres.

8. Ground Water Samples

For assessment of Ground water contamination at bio-compost sites, the team collected ground water samples from hand pump & piezometric wells located at Ajeetpur and Hitachi bio-compost yard. The analysis results of ground water samples are given below**:**

Table 15: Characteristics of Ground water samples

S.No.	Locations	pH	TDS, (mg/l)	COD, (mg/l)	Colour, (Hazen)
BIS IS 10500:2012 (Permissible limit in absence of alternative source)		**6.5-8.0**	**2000**	**-**	**15**
1.	Guest house, Ground water	7.6	420	BDL	BDL
2.	Piezometer no.1, Ajeetpur bio-compost yard	7.5	891	BDL	BDL
3.	Piezometer no.2, Ajeetpur bio-compost yard	7.6	599	**76**	BDL
4.	Piezometer no.3, Ajeetpur, bio-compost yard	7.5	585	**11**	BDL
5.	Piezometer no.4, Ajeetpur bio-compost yard	7.7	567	**07**	BDL
6.	Hand pump, Ajeetpur site	7.3	842	**06**	BDL
7.	Groundwater, from Hitachi hand pump	7.2	537	BDL	BDL
8.	Piezometer no.1, Hitachi bio-compost yard	7.6	333	BDL	BDL
9.	Piezometer no.2, Hitachi, Bio-compost yard	7.4	460	**07**	BDL
10.	Piezometer no.3, Hitachi, bio-compost yard	7.6	441	BDL	BDL
11.	Piezometer no.4, Hitachi bio-compost yard	7.8	343	BDL	BDL

The analysis results of ground water samples collected from piezo wells during visit showed high value of COD, 76 mg/l at Piezometer no.2 and 11 mg/l at Piezometer no.3 at Ajeetpur bio-compost yard. This indicates intrusion of wastewater from compost yard into piezo wells, posing potential threat to ground water and needs urgent attention towards improvement of housekeeping, prevention

of seepage, spillage etc. into the piezo wells. Copy of laboratory analysis report of ground water samples is attached as **Annexure-XII.**

9. Characteristics of samples collected from nearby drains

The CPCB team collected the sample from drains outside the main gate of the industry, upstream and downstream of Ajeetpur bio-compost yard. The analysis results are given as below:

Table 16: Analysis results of samples collected from nearby drains

S. No.	Sample Description	pH	COD (mg/l)	BOD (mg/l)	TS (mg/l)	TSS (mg/l)	Temp. (°C)
1.	Drain outside main gate of the industry	7.1	64	18	544	31	32
2.	Drain, upstream of Ajeetpur bio-compost yard	7.1	197	80	692	31	34
3.	Drain, downstream of Ajeetpur bio-compost yard	7.0	157	45	408	28	34

Analysis result of waste water samples collected from the drain near entrance gate of unit shows Total solids- 544 mg/l, COD- 64 mg/l, BOD- 18 mg/l and TSS- 31 mg/l.

Analysis result of waste water samples collected from the drain upstream of Ajeetpur bio-compost site shows Total solids- 692 mg/l, COD- 197 mg/l, BOD- 80 mg/l and TSS- 31 mg/l, whereas the sample collected from drain downstream of Ajeetpur site has Total solids- 408 mg/l, COD-157 mg/l, BOD-45mg/l and TSS-28 mg/l. Copy of laboratory analysis reports of waste water samples is attached as Annexure-VIII.

The quality of wastewater in drains outside main gate of the industry, upstream and downstream of the bio-compost yard of Ajeetpur site, which ultimately meets to Rampur drain, shows the characteristics of domestic wastewater, which indicates no discharge of industrial effluent in the drain.

The complaint of discharge of acidic effluent of high temperature from alleged industry could not be established.

10. Details of ENA storage tanks available in the unit:

The joint team has visited the site where the accident of fire occurred on 06.03.2021 (as mentioned in the complaint) and it was observed that 02 ENA storage tanks which caught fire were of capacity 405400 BL and 406600 BL, the same are now repaired. At the time of visit tanks were filled with alcohol. The unit has submitted the details of ENA storage tanks present

in the industrial premises duly verified by Assistant Excise Commissioner, Rampur, U.P. As per the document submitted, the unit has total 75 nos. of ENA storage tanks with a total capacity of 9467180.4 BL. Details of the ENA tanks verified by Excise department is attached at **Annexure-XIII.**

11. Conclusion

i. Point wise compliance status of the complaints

Table 17: Summary table

S.No.	Complaints as mentioned in the Hon'ble NGT order dated 29.04.2022	Status as observed on 17.04.2023 by CPCB team
a.	***It is stated that Radico Khaitan Ltd., Rampur, is being run in residential area in violation of environmental norms, rules and regulations.***	As per the lease deed, the unit is situated in Industrial Area Rampur, plot no. A-1. The CPCB team observed that: 1. Toward the east of the unit, a fertilizer plant is situated which is approx.100 mtrs away from the unit. 2. Towards the south and west of the unit, no authorised colony was observed. Green belt, godown and empty space were observed. Industry is located 10 mtrs south from national highway, NH24. 3. In the North Direction- Open land was observed which is 10 mtrs away from the unit.
b.	***The said industrial establishment is releasing toxic gasses 5 or 6 times every month in the early hours which cause respiratory problems to the inhabitants of the locality.*** ***The boiler, which is claimed to be defunct, is used which spread fly ash is the surrounding area and causing air pollution.***	The unit has three boilers of capacity 30 TPH, 26 TPH and 65 TPH. During visit, 02 boilers of capacity 30 TPH and 26 TPH were found non-operational and 01 boiler of capacity 65 TPH was found operational. The stack emission monitoring result of stack attached to 65 TPH boiler shows that, the Particulate Matter (28.25 mg/Nm^3) is within the limit of 150 mg/Nm^3 as prescribed by UPPCB vide consent dated 19.09.2022. The unit uses biogas and bio mass as boiler fuel, which are cleaner fuel. The unit has also installed ESP as APCD. As per the monitoring result of ambient air quality monitoring carried out near Chairman Guest house of unit (Upwind side – 500 metres from stack), concentration of NO_2, SO_2 and PM_{10} found as 41.83 µg/m^3, 04 µg/m^3 and 263.33 µg/m^3 respectively against notified national ambient air quality standard of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.

<table>
<tr><td></td><td></td><td>As per the monitoring result of ambient air quality monitoring carried out near staff guest house of unit (Downwind side – 700 metres from stack), concentration of NO_2, SO_2 and PM_{10} found to be 38.83 µg/m^3, 08 µg/m^3 and 297 µg/m^3 respectively against the notified standard of 80 µg/m^3, 80 µg/m^3 and 100 µg/m^3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981.</td></tr>
<tr><td>c.</td><td>The unit has one alcohol tank of the capacity of 2 lacks litre which was not shown in the record submitted to Excise Department and on 08.03.2021, the alcohol tank caught fire resulting in burn injuries to one labourer and other injuries to nine labours</td><td>The unit has submitted the details of ENA storage tanks present in the industrial premises duly verified by Assistant Excise Commissioner, Rampur, U.P. As per the document submitted, the unit has total 75 nos. of ENA storage tanks with a total capacity of 9467180.4 BL. Details of the ENA tanks verified by Excise department is attached at Annexure-X.
The additional ENA tank (as mentioned in the compliant) was not found by the team.</td></tr>
<tr><td>d.</td><td>The above said industrial establishment has also not developed a requisite green belt.</td><td>Out of 39 acres, unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area. In addition, the unit has also developed green belt in approximately 6.49 acres area outside the industrial premises. The unit has total green belt area of 13.2 Acres.</td></tr>
<tr><td>e.</td><td>ETP Plant installed by the above said industrial establishment for treating toxic poisonous effluents remains always non-functional and untreated effluent acidic in nature having 85-90 degrees temperature is discharged into factories drains…</td><td>➢ As per the data provided by the unit regarding power consumption in different effluent management units is shown below:
<table><tr><th>Effluent management units</th><th>Feb-23</th><th>March-23</th><th>April-23</th></tr><tr><td>RO Plant</td><td>163856</td><td>124312</td><td>71686</td></tr><tr><td>CPU</td><td>27101</td><td>28673</td><td>16005</td></tr><tr><td>BMSW-MEE</td><td>141570</td><td>156147</td><td>73952</td></tr><tr><td>IMEE</td><td>91817</td><td>91394</td><td>44671</td></tr></table>Note: Above values are in KWh
Above data related to energy meter of effluent management units indicates that unit operates effluent management system/ ZLD system on regular basis.
➢ Analysis results of samples collected from drains nearby unit premises which ultimately meets to Rampur drain is presented below:</td></tr>
</table>

		S. No. / **Sample Description** / **pH** / **COD (mg/l)** / **BOD (mg/l)** / **TS (mg/l)** / **TSS (mg/l)** / **Temp. (°C)** 1. Drain outside main gate of the industry — 7.1 — 64 — 18 — 544 — 31 — 32 2. Drain, u/s of Ajeetpur bio-compost yard — 7.1 — 197 — 80 — 692 — 31 — 34 3. Drain, d/s of Ajeetpur bio-compost yard — 7.0 — 157 — 45 — 408 — 28 — 34 The quality of wastewater in drain shows the characteristics of domestic wastewater, which indicates no discharge of industrial effluent in the drain. The complainant also mentioned about a drain and informed that the drain near Hitachi biocompost site (at village Tashka) receives effluent from M/s Radico Khaitan Ltd., Rampur through an underground pipeline. CPCB team along with the complainant visited/verified the said drain (Lat. – 28.77633; Long – 79.04598) which is located approximately 200 meters away (aerial distance) from the unit (Hitachi bio-compost site) near Tashka village. Location was unapproachable, however wastewater sample was collected from the culvert by CPCB team and laboratory analysis result showed pH – 7.3, Total solids- 3688 mg/l, COD- 1027 mg/l, BOD- 506 mg/l and TSS-667 mg/l. As per physical observation during visit, no sense of odour and colour, which are typical characteristics of the effluent from the Distillery unit was felt by the team and no pipeline was visible to the team near the culvert. However, the other physico-chemical characteristics i.e. BOD (506 mg/L) and COD (1027 mg/L) in the sample collected from the drain do not match with the typical characteristics of sewage (values are on higher side), and indicate discharge from trade/industrial activities alongwith sewage.
f.	***The committee may also examine the issues in relation to Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 as applicable including off-site and on site plans and remedial steps to avert the industrial accidents.***	In addition to compliance report as on 12.07.2022 (table-1 sr. no.-6 above), the unit has provided latest mock drill report for the month of December, 2022 (**Annexure-XIV**).

ii. The unit has obtained Consolidated Consent to Operate and Authorisation (CCA) dated 19.09.2022 from UPPCB under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 and under Section-21 of the Air (Prevention & Control of Pollution) Act, 1981 with a validity upto 31.12.2026 for molasses and grain dual mode and malt spirit plant for production of 374 Kilo Litres of ENA per day.

iii. On the day of visit, the unit was operating at production capacity of 243KLD using grain as raw material. The molasses based operation was not carried out during visit.

iv. As per the consent issued under section 21/22 of the Air (Prevention and control of Pollution) Act, 1981 (as amended), the unit has three boilers of capacity 30 TPH, 26 TPH and 65 TPH.

v. During visit, cleaner and biomass fuel such as bio-gas (20%) and rice husk (80%) was being used in the boiler of 65 TPH capacity. The boiler was equipped with Electro Static Precipitator (ESP) as air pollution control device.

vi. During visit, discharge of effluent by the unit was not observed and the unit was achieving zero liquid discharge (ZLD) through Integrated Multiple Effect Evaporator (IMEE), CPU and bio-composting.

vii. The quality of wastewater in drains outside main gate of the industry, upstream and downstream of the bio-compost yard of Ajeetpur site, which ultimately meets to Rampur drain, shows the characteristics of domestic wastewater, which indicates no discharge of industrial effluent in the drain.

viii. The pH value (7.3) of the wastewater sample collected from drain in Tashka area shown by the complainant indicating neutral range of pH without any odour and colour as imparted by the Distillery effluent. However, BOD (506 mg/L) and COD (1027 mg/L) values of the sample collected from the drain at Tashka area do not match with the typical characteristics of distillery effluent as well as sewage and indicating the mixing of other wastewater in the drain. UPPCB may carry out the pollution source mapping of the drain (Pahari Nala).

ix. Based on the data of electric consumption at different section of effluent management system, the unit is operating effluent management systems on regular basis.

x. The unit has total industrial area of around 39 acres. As per the CCA "*Unit shall develop Green Belt in minimum 33 percent area of Industrial Premises as per the provisions laid down in office order no. H16405/220/ 2018/02 dated 16-02-2018 of U.P. Pollution Control Board."* Out of 39 acres, unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area. In addition, the unit has also developed green belt in approximately 6.49 acres area outside the industrial premises. As per the documents, the unit has total green belt area of 13.2 Acres.

xi. The ground water at Hitachi bio-composting site (Piezometer no. 02) and Ajeetpur bio-composting site (Piezometer- 02, 03, 04 and Handpump) were found contaminated in terms of COD.

xii. The value of PM_{10} in ambient air at the upwind location (near chairman guest house) 266.33 $\mu g/m^3$ and downwind location (near staff guest house) 297 $\mu g/m^3$ was found higher w.r.t. ambient air quality norms of 100 $\mu g/m^3$. The high value of PM_{10} at upwind and downwind location indicates the circumstantial deteriorated ambient air quality in the area.

xiii. The emission from the stack attached to 65 TPH boiler shows that, the particulate matter (28.25 mg/Nm^3) is within the prescribed limit of 150 mg/Nm^3.

xiv. The CPCB team carried out verification of complaint by carrying out visit to the industrial unit of M/s Radico Khaitan Ltd. and nearby area on 17.04.2023 and no discharge of distillery effluent was found in nearby drains.

xv. The CPCB team interacted with the complainant and bonafide of the complainant was verified by the team during visit.

12. Recommendation

i. UPPCB may carry out the inventorization of the pollution source of the drain (Pahari Nala) and take measures to control pollution.

ii. The unit shall take remedial measures including good housekeeping in bio-compost yards, stoppage of spillage to control contamination of piezo wells.

iii. The unit shall develop adequate green belt as per the Specific condition no. 13 of the CCA issued by UPPCB dated 19.09.2022.

iv. UPPCB shall carry out ambient air quality monitoring and prepare an air quality management plan of the Industrial area at Rampur, U.P.

v. The unit shall ensure connectivity of Online Continuous Emission Monitoring System (OCEMS) installed at Stack-3 (i.e. stack attached to 65 TPH boiler) with CPCB server.

13. Signature of the inspecting officials

S.No.	Name of the Officials	Signature
1.	Mrs. Reena Satavan, Sc. 'E', CPCB Delhi	4/5/23
2.	Mr. P. Krishnamurthy, Sc. 'E', CPCB Delhi (for ambient air and stack emission monitoring)	4.5.23
3.	Dr. R.K. Singh, Sc. 'D', CPCB Delhi	
4.	Ms. Anshul Kumari, RA-III, CPCB Delhi	4.5.2023
5.	Mr. Ankit Shukla, SRF, CPCB Delhi	04/5/2023

14. Photos taken during visit (M/s Radico Khaitan Ltd., Rampur, U.P.)

Photo 1: Entry gate of unit

Photo 2: Covered compost yard at Hitachi site

Photo 3: Uncovered compost yard at Hitachi site

Photo 4: Covered compost yard at Ajeetpur site

Photo 5: Rice husk stored at covered compost yard at Hitachi site

Photo 6: Handpump near compost yard at Hitachi site

Photo 7: Piezowells near compost yard Hitachi site

Photo 8: Condensate Polishing Unit (CPU)

Photo 9: Inlet collection tank of CPU

Photo 10: pH correction tank of CPU

Photo 11: Filtration units installed in CPU

Photo 12: CPU inlet flow meter

Photo 13: Flow meter at CPU outlet to cooling tower

Photo 14: Flow meter at CPU outlet to Fermenter

Photo 15: Drain near entrance gate of unit

Photo 16: STP Inlet collection tank

Photo 17: Aeration tank

Photo 18: Tube settler and Activated Carbon Filter

Photo 19: Chlorine contact tank and mechanical chlorine dosing system

Photo 20: Sludge drying beds

Photo 21: STP Inlet flow meter

Photo 22: STP outlet flow meter

Photo 23: Handpump near compost yard at Ajeetpur

Photo 24: Piezowell in compost yard at Ajeetpur

Photo 25: Sampling location of the drain shown by complainant

Photo 26: Ambient air quality monitoring during visit

Photo 27: Stack emission monitoring during visit

Photo 28: Hot mix plant operating near unit premises

Photo 29: Green belt developed by unit

Photo 30: Drain u/s of Ajeetpur site bio-compost yard

Photo 31: Drain d/s of Ajeetpur site bio-compost yard

Photo 32: Sealed samples

FORM 1

(See rule 7 of the E (P) Rules, 1986)

Notice of intention to have sample analyzed

To,

M/s Radico Khaitan Ltd.
Molasses & Grain Dual mode & Malt Spirit Plant
Bareilly Road, Rampur, U.P.

Take this notice that it is intended to have analyzed the samples of Groundwater, CPU, STP & drains listed below which has been taken today, the 17th day of April 2023 from M/S Radico Khaitan Ltd., Rampur, U.P.

(Name and designation of the person who takes the sample).

(1) Mrs. Reena Satavan, Scientist-E } CPCB Delhi
(2) Dr. R.K. Singh, Scientist-D
(3) Ms. Anshul Kumari, ~~RA-III~~
(4) Sh. Ankit Shukla, SRF

Locations of the place where the sample were taken.

	Groundwater (Hitachi Side)
1.	Piezometer no.-1
2.	Piezometer no.-2
3.	Piezometer no.-3
4.	Piezometer no.-4
5.	Handpump

	Groundwater (Ajeetpur side)
1.	Piezometer no.-1
2.	Piezometer no.-2
3.	Piezometer no.-3
4.	Piezometer no.-4
5.	Handpump

	Drains
1.	Outside main entry gate of unit
2.	Upstream of Ajeetpur bio-compost yard
3.	Downstream of Ajeetpur bio-compost yard

Other locations:-
(1) CPU Inlet
(2) CPU outlet
(3) STP Inlet
(4) STP outlet
(5) Borewell near Guest house

(Duplicate samples were given to the unit)

(SEAL)

17/4/23

DATE 17/4/23

Signature:

Name: REENA SATAVAN

Designation: Sc E

Annexure-VI

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 152 of 2022

IN THE MATTER OF:

Ghanshyam Singh Pasi — Applicant

Vs.

State of U.P. & Ors. — Respondents

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S. No.	Particulars	Page No.
1.	**Inspection Report** of Central Pollution Control Board (CPCB) in compliance to Hon'ble NGT order dated 04.10.2023 in OA No. 152/2022. Ghanshyam Singh Pasi Vs. State of U.P. & Ors.	
2.	**Annexure-I:** A copy of the Hon'ble NGT order dated 04.10.2023.	

Ajit Kumar Vidyarthi

(A.K. Vidyarthi)

Scientist F

Central Pollution Control Board

Delhi-110032

Dated: 19.01.2024

Place: Delhi

ADDITIONAL REPORT

IN COMPLIANCE TO
HON'BLE NATIONAL GREEN TRIBUNAL ORDER
DATED 04.10.2023

IN THE MATTER OF
GHANSHYAM SINGH PASI
Vs
STATE OF U.P. & ORS.
[ORIGINAL APPLICATION NO. 152/2022]

Date of inspection: 12th January 2024

Submitted By

CPCB, Delhi

Inspection report in compliance to Hon'ble National Green Tribunal order dated 04.10.2023 in Original Application No. 152/2022 in the matter of Ghanshyam Singh Pasi vs State of U.P. & Ors.

1. Background

1.1 Hon'ble National Green Tribunal (NGT) order dated 29.04.2022

In compliance of Hon'ble NGT order dated 29.04.2022, inspection of M/s Radico Khaitan was carried out by Joint Committee comprising of officials from Central Pollution Control Board (CPCB), Uttar Pradesh Pollution Control Board (UPPCB) and District Administration, Rampur on 12.07.2022 for verification of the complaint. The detailed inspection report of the above mentioned inspection was filed vide e-mail dated 09.09.2022.

1.2 Compliance Report of Hon'ble High Court of Delhi order dated 07.12.2022 in W.P. (C) 13212/2022 & CM Appl. 30644/2022 in the matter of Radico Khaitan Ltd. Vs Union of India & Ors.

In compliance of the Hon'ble High Court of Delhi order dated 07.12.2022, in the matter of Radico Khaitan Ltd. Vs Union of India & Ors. [W.P.(C) 13212/2022 & CM APPL. 39978/2022], team of officials from CPCB carried out visit to the industrial unit of M/s Radico Khaitan Ltd. on 17.04.2023. The inspection report of the same along with the point wise compliance status of the impugned order of Hon'ble NGT dated 29.04.2022 as on 17.04.2023 was filed by CPCB vide e-mail dated 21.07.2023.

Further, vide Hon'ble NGT order dated 04.10.2023 in the matter of Ghanshyam Singh Pasi vs State of U.P. & Ors. (Original Application No. 152/2022) directed the following (Annexure-1)

"11. In the report it has been mentioned that the location was unapproachable and therefore correctness of the averments made by the applicant in this regard cannot be said to be verified. In the report no reason was mentioned as to why the location was unapproachable and what further action was required to be taken to verify the correctness of the averments made by the applicant.

12. In its report the CPCB has taken note of the plantation carried out by respondent no. 4 and mentioned that out of 39 acares, unit has developed green belt inside the premises in 6.78 acre of land, which is approx. 17.38% of total land area. In addition, the unit has also developed green belt in approx. 6.49 acres outside the industrial premises. Even though, CPCB has mentioned that the unit has total green belt area of 1.2 acres and the details of the land have been given in report but the details regarding nature, extent, density and species of trees and other vegetation planted in the green belt have not been mentioned.

…14. CPCB is directed to look into the averments regarding discharge of effluent through pipeline in composting area; permissibility of rain water harvesting in composting area; stoppage of discharge of waste water in piezometric well; utilization of treated STP water for horticulture and other activities; and generation and disposal of

fly ash by the project proponent and submit its additional report within two months by email at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR support pdf and not in the form of image pdf."

In compliance to the Hon'ble NGT order dated 04.10.2023 in the matter of Ghanshyam Singh Pasi vs State of U.P. & Ors. (Original Application No. 152/2022, wherein it was directed that an additional report may be submitted by CPCB on the following points:

- Discharge of effluent through pipeline in composting area
- Discharge of effluent through pipeline in composting area
- Permissibility of rain water harvesting in composting area
- Stoppage of discharge of waste water in piezometric well
- Utilization of treated STP water for horticulture and other activities
- Generation and disposal of fly ash

In this regard, a team of officials from CPCB carried out visit to the industrial unit of M/ s Radico Khaitan Ltd. on 12.01.2024. The team verified all the locations as directed by Hon'ble NGT in its above mentioned order.

2. Compliance status of the order of Hon'ble NGT dated 04.10.2023

2.1 In the report it has been mentioned that the location was unapproachable and thereafter correctness of the averments made by the applicants in this regard cannot be said to be verified. In the report no reason was mentioned as to why the location was un- approachable and what further action was required to be taken to verify the correctness of the averments made by the applicant.

During the earlier inspection carried out by CPCB team on 17.04.2023, the team along with the complainant visited the said drain (Lat. – 28.77633; Long – 79.04598) which is located approximately 200 meters away (aerial distance) from the unit (Hitachi bio-compost site) near Tashka village. The said location was unapproachable in the sense that the site was covered with bushes, grass and water hyacinth. However, wastewater sample was collected from the culvert by CPCB team using bucket and laboratory analysis result showed pH – 7.3, Total solids- 3688 mg/l, COD- 1027 mg/l, BOD- 506 mg/l and TSS- 667 mg/l. The report of said inspection has been filed in 21.07.2023 (Photograph no. 1)

In compliance to NGT order dated 04.10.2023, CPCB team revisited the drain (Lat. – 28.77633; Long – 79.04598) on 12.01.2024 and the location was found clear from any kind of vegetation i.e. no water hyacinth and bushes were observed on the surface of the drain.

Also, no pipeline discharging effluent was observed below the culvert as mentioned by the complainant in his hand written note dated 17.04.2023. As per physical observation, no coloured effluent was observed in the drain. (Photograph no. 2)

	
Pic 1: Location of drain as observed on 17.04.2023	**Pic 2: Location of drain as observed on 12.01.2024**

2.2 In its report, the CPCB has taken note of the plantation carried out by respondent no. 4 and mentioned that out of 39 acres, unit has developed green belt inside the premises in 6.78 acre of land, which is approx. 17.38% of total land area. In addition, the unit has also developed green belt in approximately 6.49 acres' area outside the industrial premises. Even though, CPCB has mentioned that the unit has total green belt area of 13.3 Acres and the details of the land have been given in report but the details regarding nature, extent, density and species of the trees and other vegetation planted in the green belt have not been mentioned.

As per the consent provided by UPPCB to the unit dated 19.09.2022 "the unit shall develop green belt in minimum 33% area of industrial premises, however the consent does not mention any guideline regarding nature, extent, density and species of the trees and other vegetation to be planted in the green belt.
The unit has developed green belt inside the unit premises, outside the unit's main gate, in the ETP area, outside the boundary wall of industry premises and in the Atal Park which is located outside the industrial premises. The unit has also developed green belt at Hitachi bio-compost site and Ajeetpur bio-compost site. At Hitachi bio-compost site, the unit is following Miyawaki technique for tree plantation.

The unit representative informed that the unit has total industrial area of around 39 acres, in which grain based plant, molasses and bottling plant has been commissioned. The unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area, however due to lack of space inside the premises, in addition to the above, the unit has also developed green belt outside the industrial premises in approximately 6.49 acres. As per the documents, the unit has total green belt area of 13.2 Acres

The total extent (area) of vegetation/plantation in and around the unit is approx. 13.27 acres (53069 m^2), wherein the area inside the premises of unit is approx. 6.78 acres and

that outside the premises are 6.49 acres. Area under plantation is approx. ~17% of the total area of the unit.

Species composition used for green belt development consists of mixed type vegetation, mostly of deciduous nature. The population of trees comprise of mainly ornamental, fruiting trees, timber species, and other forest vegetation (including weeds) & grasses.

The density of plantation, outside the premises, is maintained with inter-plant distance of 01 to 03 m. Miyawaki method of plantation is used inside the premises with a density of 03 plants on 01 m x 01 m area. As informed by unit, total number of trees (inside and outside premises) is approx. 16,000, which makes the average density as 03 plants per meter square of the planted area. The details of the total green area and species have been listed in the following table.

Table 1; Total green area and species

S. No.	Description of Area	Length (M)	Width (M)	Area (Sq. M)	Species	Density
1	Atal Park to New Roadways (Left Side)	1400	3	4200	Neem, Peepul, kadam, Banyan, Mulberry, Teak, Sahajan, Kaner, Frycus, Alastonia, Bolltebrush, Mehndi, Bamboo, Indian Gooseberry, Pilkhan, croton Eucalyptus, Hibiscus, Bougainvillea, Arikapam, Guava, Kadipatta, Night Jasmine, Burflower, Mango Royal Poinciana (Gulmohar), Amaltash, Lagerestonia, Champa, Peach, Naspati, Litchi, Red gulmour, Ashok, Conorpus, Mogra, Inermi, Kamni, Ticoma, Fycus Panda, Chandni, Drasena Pam, Golden Duranta, Red Iresin, Bamboo, Phoenix Pam, Tun, Pusha selection no 1 grass, Madhu malti, Bogan Villia, Clorodandrum Splendes, Vernonia and other forest vegetation and grass.	01 to 03 meter as per plant species
2	Atal Park to New Roadways (Right Side)	1400	3	4200		
	Total in (Sq. Mtr)			**8400**		
	Total in (Acre)			**2.10**		
	Attached to premises					
3	Atal Park to GSP (Left Side towards plant)	950	6	5700		
4	End of GSP Plant to Nainital Road (Left Side)	1100	3.5	3850		
5	Atal Park to Nainital Road (Right Side)	2000	4	8000		
	Total in (Sq. Mtr)			**17550**		
	Total in (Acre)			**4.39**		
	In Premises					
6	Main Gate to Security Office	240	4	960		
7	Admin Block	50	6	300		
8	Colony Area (Officers)	225	25	5625		
9	Colony Area (Staff)	125	25	3125		
10	RKTC Lawn	95	45	4275		
11	MRP Area	785	5	3925		
12	GSP Main Road from RDL (Left Side)	180	3	540		
13	GSP Main Road from RDL (Right Side)	84	3	252		
14	GSP (Near CO2)	35	3	105		
15	Printing (Side 1)	60	2	120		

S. No.	Description of Area	Length (M)	Width (M)	Area (Sq. M)	Species	Density
16	Printing (Front)	30	3	90		
17	Dense Foresting, Miyawaki Forest & Plantation Area at KF	312.09	25	7802	Neem, Amrood, Peppul, Bargad, Naspati, Shatoot, Shajan, Kaner, Lemon Grass, Sagon, ukliptis, Gudhal, Bottle brush, arika pam, Jamun, Sudershan lili, Rahibs pam, Calendra, Pilkhan, Kachnar, Shisam, Goolar, Siras, bakan and forest grass.	03 plants in 01 mtr * 01 Mtr
	Total in (Sq. Mtr)			**27119**		
	Total in (Acre)			**6.78**		
	Grand Total Green Belt (Sq. Mtr)			**53069**		
	Grand Total Green Belt (Acre)			**13.27**		

Pic 3 & 4 : Green belt developed at M/s Radico Khaitan (near effluent treatment plant)

Pic. 5: Green belt developed at Ajitpur site

Pic-6: Road side green belt aof M/s Radico Khaitan Ltd.

2.3 CPCB is directed to look into the averments regarding discharge of effluent through pipeline in composting area; Permissibility of rain water harvesting in composting area; stoppage of discharge of waste water in piezometric well; Utilization of treated STP water for horticulture; and other activities; and generation and disposal of fly ash by the project proponent.

a) ***Discharge of effluent through pipeline in composting area***

The unit has two sites for bio-compost process. The unit is having 05 numbers aero tiller machines for spraying, mixing, turning of bio-compost material. The unit has installed 02 web cameras each for bio-compost yard 1 and 2.

The total area available at both Bio-compost yard site is 58.88 Acres. Out of 58 acres, 25 acres of land is covered where five cycles of bio-compost per annum can be carried out. The remaining 33 acres of land is open/uncovered where four cycles of bio-compost per annum can be carried out.

CPCB team visited the bio-compost yards located at Hitachi and Ajeetpur site and the following observations were made:

i. Bio-composting activity was being carried out including spraying of concentrated spent wash and aero tilling as per SOP.

ii. 54 wind rows were observed at Ajeetpur site whereas 80 windrows were observed at Hitachi site.

iii. Ready bio-compost was seen to be stored in covered shed and bagging of bio-compost was taking place.

iv. The shed in which bio-composting was being carried out was under repair at Ajeetpur site and all the covered shed at Hitachi site was found dismantled for repair purpose.

v. No discharge of effluent through any pipeline in bio-compost area was observed by the team.

Pic-7: Bio-compost site

Pic-8: Bagging of ready Bio-compost

b) ***Stoppage of discharge of waste water in piezometric well***

CPCB team visited the site where piezometric wells are installed. The team observed that the unit has total 08 nos. of Piezometric well located at Ajeetpur site (04) and Hitachi bio-compost site (04).

It was observed that, the piezometric well pipes are fixed at about 1.0 Mtr height from ground level. All the piezometric wells were covered and were surrounded by 1.5 X 1.5 meter RCC work done. As informed, the depth of the piezometric wells is about 80 to 100 ft.

In compliance to Hon'ble NGT order dated 04.10.2023, to verify the quality of water piezometric well samples were collected.

The analysis results of ground water samples awaited.

Pic-9 & 10: Piezometric wells no.2 and 03 located at Ajeetpur site

Pic-11: Leachate collection pit

c) ***Permissibility of rain water harvesting in composting area***

Earlier the unit had 02nos. of water collection pits at Ajeetpur site and 08 nos. of water collection pits at Hitachi site. The rain water coming from the roof of polysheds fixed in bio-composting yard at the height of about 20 feet channelized through separate pipelines fitted at poly sheds directly going into the pits meant for ground water recharge. The unit representative informed that the practice was discontinued due to noticeable improvement in the groundwater level in the said area which at present is less than 3.0 meters from the ground level.

CPCB team visited the bio-compost yard located at Hitachi and Ajeetpur site and it was observed that all the pits and pipelines constructed for collecting rain water were dismantled. **(Pic-8)**

Pic-12 Dismantled rainwater harvesting pits

d) ***Utilization of treated STP water for horticulture; and other activities***

The unit has installed a Sewage Treatment Plant (STP) of capacity 120 KLD for treatment of sewage generated from the households present inside the factory premises. The STP was found operational during inspection.

The unit has installed flow meters (with totalizer) at inlet and outlet of STP. The sewage treatment scheme consists of holding tank-cum- pump sump, Biological treatment (activated sludge process), settling tank, holding tank cum chlorination tank, Pressure Sand Filter (PSF) and Activated Carbon Filter (ACF).

STP receives wastewater from overflow of 06 nos. of septic tanks, from the industry guest house and other utility areas within unit premises.

The unit has installed electromagnetic flow meter at the inlet and out of STP.

<u>Flow meter readings at the inlet & outlet of STP:</u>

At inlet of STP: totalized reading was 200065.74 m^3 flow rate of 0.00 m^3/h

At outlet of STP: totalized reading was 202081.04 m^3 flow rate of 0.00m^3/h

During visit it was observed that the treated water from the STP was being used in horticulture. As informed by unit representative, about 27% of the treated wastewater

from STP is used for horticulture activities in the green belt area developed inside, outside and near boundary wall of the unit and the rest 73 % of the STP treated water is discharged into Rampur municipal drain.

The team collected the data of STP for the duration of 1.12.2022 to 11.01.2024. The details are mentioned below;

Month	**Days**	**STP Inlet (m^3)**	**STP outlet (m^3)**	**Treated water used in Gardening (m^3)**	**Treated water discharge to Drain (m^3)**
Dec, 2022	31	2991	2984	871	2113
Jan, 2023	11	1093	1088	273	815
Total		4084	4072	1144	2928
Average (m^3/day)		97.23	96.9	27.2 (27%)	69.7 (73%)

As per the consent, the daily quantity of treated domestic sewage discharge is 120 KLD and the treated sewage to be used in gardening as far as possible. The data indicates that STP is receiving about 97.23 m^3/day of average sewage against the consented capacity of 120 KLD.

Samples were collected from the collection tank (inlet) and outlet of STP and analysis results are presented below:

Table 2: Analysis results of samples collected from STP

Sr. No.	**Sample Location**	**pH**	**COD (mg/l)**	**BOD (mg/l)**	**NO_3-N (mg/l)**
1.	STP Inlet	7.0	107	31	6.8
2.	STP Outlet	7.1	93	13	10.1
Standards mentioned in CCA issued by UPPCB on 19.09.2022		5.5 – 9.0	-	30	-

As per the results the STP was found complying w.r.t. notified norms.

e) ***Generation and disposal of fly ash by the project proponent***

1. As per CTO dated-19.09.2022 issued to unit, the details of boilers are as below:

No.	**Capacity**	**Type of fuel**
1	30 TPH	Rice Husk, wood chips
2	26 TPH (non-operational)	Bio gas
3	65 TPH	Rice husk, coal, wood chips

Specific Condition No 10 in the CTO dated-19.09.2022:

Fly ash shall be stored separately as per CPCB guidelines so that it should not adversely affect the air quality, becoming air borne by wind or water regime during rainy season by flowing along with storm water. Direct exposure of workers to fly ash & dust shall be avoided.

Rice husk as well as coal are used as fuel in boilers with monthly consumption of rice husk & coal as 6033 MT, the ash generated from boilers are collected in ESPs and stored in respective ash silos, the stored ash from silos are wetted and transported in covered trolleys for use in landfills / bio composting sites and the ash stored in silo are provided to local farmers (on request basis) for agricultural purposes. Fly ash was found stored on agricultural land near to the Hitachi bio-compositing site for use in agriculture purpose.

The team collected the data of Ash generation and Disposal for the duration of 1.12.2022 to 11.01.2024. The details are mentioned below;

Month	**Fuel Consumption (Rice/ Coal) MT**	**Ash Generation (MT)**	**Ash Generation in Land filling (MT)**	**Ash used in Agriculture (MT)**	**Ash used in Bio-composting (MT)**
Dec, 2023	6033	1025.61	766.87	133.33	125.41
11 Jan, 2024	2336	397.15	290.43	59.57	47.15

During the visit to bio-composting sites of the unit, temporary ash storage was observed at for mixing with final bio-compost. As informed by unit representative that ash equivalent to approx. 12% (by weight) of ready compost is mixed in the final compost to enhance organic carbon content.

Pic 13: Sealed samples collected from the unit

3. Suggestive Measures

1. The unit shall adopt roof top rain water harvesting/recharge in its premises.

2. The unit shall undertake necessary well head protection measures to ensure prevention of ground water pollution.
3. The unit shall keep monthly records of ash generation and utilisation of ash in different avenues with details of quantity of ash utilised in bio-composting application and agricultural field with particulars of the land where ash is applied so that it can be verified by enforcement agency.
4. The transportation of ash should be done in wetted condition in vehicles covered with tarpaulin of suitable thickness.
5. The unit should ensure proper storage of ash within plant and at bio-compost sites to prevent air borne by wind / mixing with storm water.

4. Signature of the inspecting officials

S.No.	Name of the Officials	Signature
1.	Mrs. Reena Satavan, Sc. 'E', CPCB Delhi	
2.	Sh. Gaurav Gehlot, Sc. 'C' CPCB, Delhi	
3.	Ms. Anshul Kumari, RA-III, CPCB Delhi	
4.	Mrs. Shraddha Lonarkar Moses RA-III, CPCB Delhi	

Annexure-I

Item No.1 (Court No. 2)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI.

(Through Physical Hearing with Hybrid VC Option)

Original Application No. 152/2022

Ghanshyam Singh Pasi Applicant

Versus

State of U.P. & Ors. Respondents

Date of hearing: 04.10.2023

CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: None.

Respondents: Mr. Gi.Gi. C. George, Advocate for State of U.P.
Mr. Pradeep Misra, Advocate for UPPCB (through VC).
Mr. Sanjeev Ralli, Senior Advocate with Mr. Shantanu Chaturvedi and Ms. Vanita Bhargava, Advocates for Project Proponent- M/s. Radico Khaitan Ltd.
Mr. Balendur Shekhar, Advocate for CPCB.

Application is registered based on a complaint received by Email

ORDER

1. The grievances in the present application are *inter alia* regarding causing of environmental pollution by Radico Khaitan Ltd., Rampur by release of toxic gases/emissions/fly-ash and discharge of industrial effluent in drain and also regarding the accident which occurred in the above said industrial establishment on 08.03.2021.

2. Vide order dated **29.04.2022**, this Tribunal constituted a Joint Committee and directed the same to submit Factual and Action Taken Report within two months.

3. In compliance of above order, The Joint Committee inspected the unit of the Project Proponent on **12.07.2022** and report of the Joint Committee was also filed vide email dated **09.09.2022**.

4. The Project Proponent- M/s. Radico Khaitan Ltd. filed W.P (c) 13212/2022 titled Radico Khaitan Ltd. Vs. Union of India and others before Hon'ble High Court of Delhi. Vide order dated **12.09.2022,** Hon'ble High Court of Delhi stayed order dated 29.04.2022 passed by this Tribunal.

5. Stay of order dated **29.04.2022** was extended by Hon'ble High Court of Delhi vide order dated **07.12.2022** till **09.05.2023** with direction to UPPCB to *"verify the genuineness of the said complaint, as also, the bona fides of the complainant, and file a report in respect of the same, by the next date of hearing".*

6. Respondent no. 4 filed an application for clarification of order dated 07.12.2022 on the ground that said order being misused by respondent no. 2-CPCB to conduct a fresh inspection of the industrial unit of respondent no. 4 which was dismissed by Hon'ble Delhi High Court with the observation that the order dated 07.12.2022 does not require any clarification. The above said case was subsequently adjourned by Hon'ble Delhi High Court vide order dated 09.05.2023 to 10.11.2023.

7. This Tribunal vide order dated 26.04.2023 directed CPCB to file copy of its report submitted in terms of order dated 07.12.2022 passed by Hon'ble Delhi High Court and the Project Proponent was directed to file its response in tabular format regarding compliance with EC/CTE/CTO conditions imposed for abatement of environmental

pollution and treatment and discharge of effluents from its industrial unit in question.

8. In compliance thereof report has been filed by CPCB vide email dated 21.07.2023.

9. With respect to the objection of the respondent no. 4-Project Proponent as to the complaint being anonymous, CPCB has mentioned in its report that CPCB team met the complainant and interacted with him with regard to his grievances and has thereby verified his identity and bonafides.

10. In its report CPCB has also mentioned the Environmental violations by the respondent no. 4-Project Proponent as mentioned in detail therein and CPCB has also made recommendations in respect thereof.

11. In its report the CPCB has noticed that the complainant also mentioned about a drain and informed that the drain near Hitachi bio-compost site (at village Tashka) receives effluent from M/s Radico Khaitan Ltd., Rampur through an underground pipeline. The CPCB team along with the complainant visited the said drain (Lat. – 28.77633; Long – 79.04598) which is located approximately 200 meters away (aerial distance) from the unit (Hitachi bio-compost site) near Tashka village. In the report it has been mentioned that the location was unapproachable and therefore correctness of the averments made by the applicant in this regard cannot be said to be verified. In the report no reason was mentioned as to why the location was un-approachable and what further action was required to be taken to verify the correctness of the averments made by the applicant.

12. In its report the CPCB has taken note of the plantation carried out by respondent no. 4 and mentioned that out of 39 acres, unit has developed green belt inside the premises in 6.78 acre of land, which is approximately 17.38% of total land area. In addition, the unit has also developed green belt in approximately 6.49 acres area outside the industrial premises. Even though, CPCB has mentioned that the unit has total green belt area of 13.2 Acres and the details of the land have been given in report but the details regarding nature, extent, density and species of trees and other vegetation planted in the green belt have not been mentioned.

13. We also find that in its report the CPCB has not looked into the aspects of permissibility of Rain Water Harvesting in composting area; discharge of waste water in piezo-metric-well; utilization of treated STP water for horticulture and other activities; and generation and disposal of fly ash by the Project Proponent.

14. CPCB is directed to look into the averments regarding discharge of effluent through pipeline in composting area; permissibility of Rain Water Harvesting in composting area; stoppage of discharge of waste water in piezo-metric-well; utilization of treated STP water for horticulture and other activities; and generation and disposal of fly ash by the Project Proponent and submit its additional report within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.

15. It may be observed here that as per the above said report waste water sample was collected from the culvert by CPCB team and laboratory analysis result showed pH – 7.3, Total solids- 3688 mg/l, COD- 1027 mg/l, BOD- 506 mg/l and TSS- 667 mg/l. As per the information provided by Regional Officer, Moradabad of Uttar Pradesh

Pollution Control Board (UPPCB), the drain is entering Rampur city from Bilaspur gate, which is about four kilometer in the upstream of the sampling location. The drain carries sewage from Bilaspur gate colony, Pahari gate colony, Bamroha and other surrounding colonies and as informed by UPPCB, there is no industrial discharge in the drain. The drain was found covered with surface vegetation at many places and subsurface flow was observed at these places. As per analysis result, the pH value (7.3) was found in the neutral range i.e. 6.5 – 8.5, which does not match with the claim of discharge of chemical acidic effluent by M/s Radico Khaitan Ltd. in drain as mentioned in the complaint. As per physical observation during visit, no sense of odour and colour, which are typical characteristics of the effluent from the Distillery unit was felt by the team and no pipeline was visible to the team near the culvert. However, the other physicochemical characteristics i.e. BOD (506 mg/L) and COD (1027 mg/L) in the sample collected from the drain do not match with the typical characteristics of sewage (values are on higher side), and indicate discharge from trade/industrial activities alongwith sewage. The ground water at Hitachi bio-composting site (Piezometer no. 02) and Ajeetpur bio-composting site (Piezometer- 02, 03, 04 and Hand-pump) were found contaminated in terms of COD.

16. It is also pertinent to observed that as per the CPCB report monitoring result of ambient air quality monitoring carried out near Chairman Guest house of unit (Upwind side – 500 metres from stack), concentration of NO2, SO2 and PM10 was found as 41.83 µg/m3, 04 µg/m3 and 263.33 µg/m3 respectively against notified national ambient air quality standard of 80 µg/m3 , 80 µg/m3 and 100 µg/m3 as notified vide Gazette dated 18.11.2009 under the Air (Prevention and Control of Pollution) Act, 1981. As per the monitoring result of ambient air quality monitoring carried out near staff guest house of unit (Downwind side –

700 metres from stack), concentration of NO2, SO2 and PM10 was found to be 38.83 µg/m3 , 08 µg/m3 and 297 µg/m3 respectively against the notified standard of 80 µg/m3 , 80 µg/m3 and 100 µg/m3 as notified vide Gazette dated 18.11.2009 under Air (Prevention and Control of Pollution) Act, 1981. The UPPCB is directed to monitor the air quality within the premises of the Project Proponent and surrounding area and inventories the source of pollution and take remedial measures.

17. The CPCB has recommended that UPPCB may carry out the inventorization of the pollution source of the drains and groundwater and take measures for control of pollution. The CPCB has also recommended that UPPCB may carry out air ambient quality monitoring and prepare air quality management plan for the Industrial Area at Rampur, Uttar Pradesh.

18. In view of the above referred observations and recommendations UPPCB is directed to inventories the pollution of the drains and take measures for control of pollution. UPPCB is directed to file action taken report regarding compliance with recommendations made by CPCB within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.

19. In compliance of order dated 26.04.2023 affidavit has been filed by the Project Proponent- Radico Khaitan Ltd vide email dated 03.10.2023.

20. We have also gone through the affidavit filed by the Project Proponent and we find that along with its affidavit the Project Proponent has attached copy of compliance report sent to UPPCB and has not filed any independent compliance status report in tabular format giving requisite details. In the affidavit there is no mention of CSR/CER activities carried out by the Project Proponent.

21. Learned counsel for the Project Proponent seeks time to file additional affidavit for compliance with respect to the above mentioned aspects.

22. Additional affidavit be filed within two months by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF specifically mentioning compliance status with respect to the abovementioned aspects as well as the recommendations made by the CPCB in its report with requisite details.

23. List for further consideration on 23.01.2024.

24. A copy of this order be sent to the Member Secretary, UPPCB and the Member Secretary, CPCB by email for requisite compliance.

Arun Kumar Tyagi, JM

Dr. Afroz Ahmad, EM

October 04th, 2023
ag

INDUSTRY INSPECTION REPORT (DISTILLERY-MOLASSES BASED)

Date of Inspection: 28/02/2023

1. General Information

1.	Unit Code	511	
2.	a) Name and Address of the unit	Radico Khaitan Ltd, Bareilly Road, Rampur-244901 (UP)	
	b) Coordinates (Latitude & Longitude) in Decimal	28.77355310 79.03401410	
	c) Name of the recipient drain	ZLD Distillery unit, Nearest drain- Rampur city municipal drain	
	d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga)	Rampur Municipal Drain → Kosi River → Ramganga → Ganga River	
3.	Operational Status (Operational/Non-Operational) *	Operational	
4.	Name of Occupier/Contact Person	Designation	Contact No & e- mail
	1. Mr. Devendra Singh	Sr. Vice President	Contact No. 9837471443 Email- singhd@radico.co.in
5.	Type of Distillery unit	A. Molasses based distillery B. Grain based distillery C. Brewery unit D. Bottling unit	Yes Yes Yes/No Yes

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

A. MOLASSES BASED DISTILLERY

1.	Year of Commissioning	1943		
2.	Standalone/Connected with sugar unit	Standalone		
3.	Status of consents and authorization*		Yes/No/Expired/Applied	Validity Date
		Environmental Clearance (EC)	NA	NA
		Air Consent	Yes Ref. No. 163196/UPPCB/Moradabad (UPPCBRO)/CTO/both/RAMPUR/2022 dated 19/09/2022	Valid from 01/10/2022 to 31/12/2026 ***Refer Annexure-I***

		Water Consent	Yes Ref. No. 163196/UPPCB/Moradabad (UPPCBRO)/CTO/both/RAMPUR/2022 dated 19/09/2022	Valid from 01/10/2022 to 31/12/2026 ***Refer Annexure-I***
		Haz. Waste Authorization	Yes Ref. No. 178/UPPCB/Moradabad (UPPCBRO)/HWM/RAMPUR/2017 dated 04/04/2018	Valid from 04/04/2018 to 31/03/2023 ***Refer Annexure-II***
		CGWA NOC	Yes Registration No. 202108000274/304/378	***Refer Annexure-III***

***Attach copy of EC, consents and CGWA NOC, if valid. If unit has applied for renewal, then submit copy of application.**

2. Fresh water consumption details

1.	Water Supply Source	Borewell	
2.	River	NA	
	Flow meter with totalizer installed at line carrying freshwater (Yes/No)	NA	
	Instantaneous Reading (m^3/hr)	NA	
	Totalizer Reading (m^3)	NA	
3.	Borewell/Tubewell		
	No. of Borewell/Tubewell as per CGWA NOC	03 Nos.	
	Actual no. of Borewell found on site	03 Nos.	
	Permitted withdrawal quantity	3600 m^3/day or 1314000 m^3/annum	
	Actual withdrawal quantity (Average of last three months)	1456.70 KLD (Average of month Jan. 2023) ***Refer Annexure-VI***	
	No. of Borewell having flow meter with totalizer installed	03 Nos.	
	Instantaneous Reading* (m^3/hr)	NA	
	Totalizer Reading during visit* (m^3)	Initial	BW 1 –M^3 BW 2 –M^3 BW 3 –M^3
		Final	BW 1 –M^3 BW 2 –M^3 BW 3 –M^3 (Bore well reading for all plants including Molasses, Grain and malt Based and bottling)
4.	Type of flow meter installed: mechanical/digital/electromagnetic etc.	Electromagnetic type flow meter with totalizer	
	Calibration details	Yes	

		Refer Annexure-IV		
	Log Book Maintained (Yes/No)	Yes ***Refer Annexure-VI***		
5.	Fresh water consumption			
		Production process	**Domestic**	**Others**
	Freshwater consumption (KL) (Average of last three months)	1406.0 KLD	50.0 KLD	NA
	Overall (In KLD & KL/MT of product)	6.20	0.22	NA
		(Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)		
	On the previous day of visit (KLD)	1410.0 KLD	52.0 KLD	NA

***If more than one water source, then take reading separately**

3. Manufacturing Process & Spent Wash (SW) Management System

1.	Manufacturing Process (Provide line diagram)	Molasses handling→ Fermentation→ Distillation with MSDH→ Final product (RS/ENA/AA)	
	Type of Fermentation technology adopted	Fed-batch fermentation	
	Type of Distillation technology adopted	MPR distillation with MSDH technology	
	Integrated MEE with Distillation (Yes/No)	Yes	
2.	Spent Wash Management Technology	Bio-digester ■ RO ■ MEE ■	Bio-composting ■ Incinerator □ CPU ■
	Spent Wash Management Sequence	1) Raw spent wash from process → IMEE → Anaerobic Bio-digesters → BMSW R O Plant → BMSW SMEE → Bio-composting activity with partly covered facility for rainy season. 2) Low Stength effluent (Spent lees+MEE condensate+Utility blowdown) → Concentional CPU →Ultrafiltration → RO Plant → Treated water recycled for process & non-process applications.	
3.	Licensed capacity of Distillery (KLPD)	374 KLPD As per consent	
	Installed capacity	200 KLPD (C-Molasses)	
	Present Production in KLPD	126.52 KLPD (Average of month Feb. 2023) ***Refer Annexure-VII***	
	No of operating days/year	350	

	Products Manufacture	RS/ENA/Absolute alcohol/Ethanol (KLD)
	RS (01 month)	---
	ENA (01 month)	3542822.2 BL (From 01st Feb. 2023 to 28th Feb. 2023)
	Absolute Alcohol/Ethanol (01 month)	---
4.	Type of Molasses/ Cane Syrup used	C-heavy molasses
	Molasses (in Qtls)/ Cane Syrup per KL of alcohol production	40.81 Qtls. C-Heavy molasses per KL of alcohol production.

4. Waste water generation

Sr. No.	Stream/section	Quantity, KLD	Disposal/Utilization Point
1.	Spent wash	1240.0	IMEE/ Biodigester /BMSW RO/ BMSW SMEE/ Biocomposting
2.	Spent lees	225.0	CPU/RO
3.	Fermenter washing	20.0	CPU/RO/MEE
4.	Process condensate (MEE condensate)	IMEE – 475.0 SMEE – 322.0	CPU/RO
5.	Floor washing	10.0	CPU/RO/ MEE
6.	Cooling tower blow down	50.0	CPU/RO
7.	Boiler blow down	25.0	CPU/RO
8.	DM plant reject	35.0	CPU/RO
9.	Others viz. CPU RO reject etc.	125.0	IMEE
10.	Spent wash generation (KL/KL of production)	9.80	
11.	Quantity of other effluent generation (KL/KL of production)	2.72	
12.	Total quantity of spent wash feed into Bio-digester/RO/MEE(KLPD)	1385.0	IMEE/Biodigester
13.	Total quantity of other effluent feed into CPU(KLPD)	1142.0	CPU

5. Process Emission/ Solid Disposal

Sr. No.	Stream/section	Quantity, KLD	Disposal
1.	Fermenter CO_2 disposal	75.0 TPD	CO_2 plant
2.	Fermenter sludge disposal	36.0 KLD	Utilized in biocomposting process as filler material

1. Integrated Multi Effect Evaporator (IMEE) (RSW based)

1.	Setting cum cooling tank before MEE (Yes / No)	Yes	
	Capacity of settling tank before MEE (m3)	30 m^3	
2.	Year of installation/establishment & commissioning of MEE plant	2013	
3.	Type of technology of MEE.	Falling film multi effect	
	Number of Effects with their HTA and MOC. Number of stand-by bodies and degasser provided.	3 no's, MOC-SS-316 & no stand by bodies. VLS provided	
	Designed feed capacity and evaporation rate of MEE (M3/day).	1700 TPD	
	Evaporation rate of MEE	33 %	
4.	Acceptable level of solids	12 - 18.6 %	
5.	Log Book supporting MEE plant performance.	Yes	
6.	Mass Flow meter with totalizer installed at inlet of MEE (Yes / No)	Yes	
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Concentrate (Yes / No)	No (Magnetic flow meter installed)	
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Condensate (Yes / No)	No (Magnetic flow meter installed)	
		Initial *	Final
7.	Mass flow meter reading with totalizer at inlet of MEE.		
	Mass flow meter reading with totalizer with outlet of MEE, MEE Concentrate		
	Mass flow meter reading with totalizer with outlet of MEE, MEE Condensate	N.A.	N.A.
8.	Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)	Yes	

- Provide one day reading

6.1. IMEE (RSW) Operational details

1.	MEE feed rate (actual)	Lit/hr	57708.0	Sp. Gr.- 1.054
2.	Feed rate @ Sp. Gr. (Approximate)	Kg/hr	60824.0	
3.	Solid content in feed/brix	% degree	13.39 %	
4.	Water evaporation rate (Min.)	Kg/hr	19740.0	
5.	Concentrate Generation	Kg/hr	41084.0	
6.	Solid content in concentrate Generation /brix	% degree Brix	20.35 %	
7.	Operation hour and whether it is operating continuously	Hr / day-week-month	Continuously	
8.	MEE Feed Characteristics:	pH TSS TDS BOD & COD	4.57 45607 mg/l 88358 mg/l 48500 mg/l 122530 mg/l	

9.	Frequency of CIP (cleaning in process)	Hr/ day or week or month	Once in a month
10.	Quantity of CIP effluent	M^3/hr	20 m3/ CIP
11.	Quantity of process condensate	M^3/hr	19.74
12.	Whether MEE achieving design efficiency	Yes / No	Yes
13.	Utilisation of MEE condensate	After treatment through CPU utilising in cooling towers make up & fermentation dilution	
14.	Utilisation of MEE concentrate	Feed to Bio-digester	
15.	Utilization of blow down (cooling tower & boiler)	After treatment through CPU utilising in cooling towers make up & fermentation dilution	

6.2. IMEE output Characteristics

Sr No.	Particulars	Conc. spent wash	Process Condensate
1.	Quantity, M3/day	911.0	474.0
2.	pH	4.62	3.86
3.	Temperature, degree C	65-70	48
4.	COD, ppm	132920	2158
5.	Total solids, %	20.35	0.124
6.	Ammonical Nitrogen (as N), ppm	---	---

6. Bio-Methanation Plant/Bio-digester – Yes

1.	Setting cum cooling tank before bio-digester (Yes/No)	Yes
	Capacity of Setting cum cooling tank before bio-digester (m^3)	200
2.	Year of installation/establishment & commissioning of the digester	1987-88
3.	No. of Digester:	06
	Capacity of Digester:	Total - 39000 M3
	Type of Technology (CSTR/UASB/ Thermophilic/ Hybrid)	(CSTR) Continuous Stirred Tank Reactor
4.	Hydraulic Retention Time on Design basis (in days) (15-24 days)	26 days
	Organic Loading Rate (kg/m^3/day)	5.00 kg/M^3 /Day
	Volume (m^3)	Total 39000
5.	No. of days of operation of digesters (days/annum)	Throughout the year
	Total biogas generated (m^3/annum) and bagasse/ coal saved	Avg. 73781 Nm^3/day Biogas generated in month Jan. 2023 ***Refer Annexure-IX***
	Maintaining Log Book records supporting biogas plant performance (Yes /No)	Yes, ***Refer Annexure-IX***
6.	Quantity of Sludge generation from bio-digester (KLD)	8 KLD

	Method of disposal/ utilization of sludge	Bio-Composting

Date of Observation:	**28.02.2023**	
	Design parameters	**Actual Feed Values**
Feed rate, m^3 /Day	2100 TPD	911.0 KLD
ºBrix (Inlet/Outlet)	20 to 25 %	Inlet 20.35% Outlet 13.28%
pH (Inlet/Outlet)	3.5 to 4.5	Inlet 4.62 Outlet 7.40
COD, mg/l (Inlet/Outlet)	Inlet 1,30,000 Outlet 42,000	Inlet 132920 Outlet 48630
BOD, mg/l (Inlet/Outlet)	Inlet 60,000 Outlet 5,000	Inlet 52400 Outlet 13100
COD reduction %	60 %	63.42 %
BOD reduction %	85 %	75.00 %
Biogas generation, Nm^3/kg of COD consumed	0.5	0.5
Biogas generation, m^3/day	--	38397.67 Nm^3 /Day

7. RO plant (for bio-methanated spent wash treatment) – Yes

1.	Setting cum cooling tank before RO (Yes/No)	Yes
	Capacity of Setting tank before RO (m^3)	1680 M3/Day
2.	Year of installation/establishment & commissioning of RO plant	2005
3.	Details of pre-treatment	TSS Removal Plant Comprising of Lamella clarifiers, Series of clarifiers, Settling Tank and DAF (Diffused Air floatation)
4.	Type of technology of membrane filtration.	Combination of disc tube & spiral High pressure types membranes
	Number of membranes per module & number of modules.	184 membranes / modules, 820-disc type modules, 144 spiral type modules
5.	Designed feed capacity of RO (m^3/day)	1680 M3/Day
	Acceptable level in the feed.	T.S.S. Max. – 3500- 4500 PPM
6.	No of days of operations (days/annum)	365
	Maintaining Log Book supporting RO plant performance (Yes/No)	Yes, ***Refer Annexure-IX (A)***
7.	Further treatment/disposal point of Permeate/Reject	Permeate is going to CPU Plant for further treatment And Reject is going to SMEE (BMSW) Evaporator

	Date of change of Membrane	About 40% Membrane changed every year
	Mode of Disposal of changed Membrane	Returned to vendor
8.	Utilization of RO permeate (taken again in RO/used on process)	Permeate is going to CPU Plant for further treatment
9.	Utilization of RO reject	Reject is going to SMEE (BMSW) Evaporator
10.	Whether RO achieving designed parameters	Yes
11.	Whether RO operated continuously	Continuous operated

7.1. RO plant Performance

Particulars	**Inlet (Feed)**		**Reject**		**Permeate**	
	Initial reading m^3/day	**Final reading m^3/day**	**Initial reading m^3/day**	**Final reading m^3/day**	**Initial reading m^3/day**	**Final reading m^3/day**
Quantity, m^3/day	RO 1 - 467 M^3/day RO 2 - 388 M^3/day RO 3 - 534 M^3/day		RO 1 - 175 M^3/day RO 2 - 146 M^3/day RO 3 - 92 M^3/day		RO 1 - 292 M^3/day RO 2 - 242 M^3/day RO 3 - 442 M^3/day	
Recovery, %	RO 1 – 62.52%		RO 2 – 62.37%		RO 3 – 82.77%	
Colour	460		420		195	
pH	7.42		7.29		7.02	
Conductivity, ms	NA		NA		NA	
BOD, ppm	14742		16955		328	
COD, ppm	58065		63880		1420	
Total solids, %	7.58		6.56		0.235	
Total dissolved solids, %	4.95		4.50		0.209	
Total suspended solids, %	2.62		2.06		0.0159	

8. Multiple Effective Evaporator (SMEE)

1.	Setting cum cooling tank before MEE (Yes/No)	Yes
	Capacity of Setting tank before MEE (m^3)	30 m^3
2.	Year of installation/establishment & commissioning of MEE plant	2018
3.	Number of Effects with their HTA and MOC. (Mention number of stand-by bodies and degasser provided, if any)	Combination of Falling film and forced circulation type
	Type of technology of MEE	6 Nos.(5W+1S) FF + FC Effects with VLS MOC-SS-316 & provided
	Designed capacity of MEE(m^3/day)	840 M3/Day
	Evaporation rate of MEE (%)	60%

4.	Acceptable level of suspended solids, dissolved solids etc. in the feed.	14-18 %	
5.	Maintaining Log Book supporting MEE plant performance (Yes/No)	Yes, ***Refer Annexure-X***	
6.	Mass flow meter with totalizer installed at inlet of MEE (Yes/No)	Yes	
	Mass flow meter with totalizer installed at outlet of MEE, MEE concentrate (Yes/No)	Yes	
	Mass flow meter with totalizer installed at outlet of MEE, MEE condensate (Yes/No)	No (Magnetic flow meter is installed)	
		Initial*	Final
7.	Mass flow meter reading with totalizer at inlet of MEE		
	Mass flow meter reading with totalizer with outlet of MEE, MEE concentrate		
	Mass flow meter reading with totalizer with outlet of MEE, MEE condensate	NA	NA
8.	Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)	Yes	

*Provide for one day.

8.1. MEE operational details

1.	MEE feed rate (actual)	Lit/hr	18416.0	Sp. Gr.- 1.032
2.	Feed rate @ Sp. Gr. (Approx.)	Kg/hr	19005.0	
3.	Solid content in feed/brix	%/ degree	7.98	
4.	Water evaporation rate (Minimum)	Kg/hr	13426.0	
5.	Concentrate Generation	Kg/hr	5579.0	
6.	Solid content in concentrate Generation/brix	%/degree	29.50	
7.	Operation hour and whether it is operating continuously	Hr/day-or week or month	Continuously	
8.	MEE Feed Characteristics	pH TSS TDS BOD & COD	6.78 27246 mg/l 52589 mg/l 28542 mg/l 79840 mg/l	
9.	Frequency of CIP (Cleaning In Process)	Hr/day or week or month	Once in a month	
10.	Quantity of CIP effluent	m^3/hr	15.0	
11.	Mode of treatment/disposal of CIP effluent	MEE		
12.	Quantity of process condensate	m^3/hr	13.42	
13.	Whether MEE achieving design	Yes		

	efficiency. (Yes/No)	
14.	Utilisation of MEE condensate	After treatment through CPU utilising in cooling towers make up & fermentation dilution
15.	Utilisation of MEE concentrate	Utilized in Biocomposting process
16.	Utilization of blow down (cooling tower & boiler)	After treatment through CPU utilising in cooling towers make up & fermentation dilution

8.2. MEE output Characteristics

Sr. No.	Particulars	Conc. spent wash	Process Condensate
1.	Quantity, m^3/day	120.0	322.0
2.	pH	6.85	7.55
3.	Temperature, ºC	72	49
4.	COD, ppm	178840	1960
5.	Total solids, %	29.50	0.84
6.	Ammonical Nitrogen (as N), ppm	---	---

9. CPU (Condensate Polishing Unit) – Yes

1.	Year of installation/establishment & commissioning of CPU	CPU plant installed in 2015 and upgraded in 2019	
2.	Name of Plant/Technology supplier	M/s. Paques India Pvt Ltd	
3.	Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc. (Mention details of unit processes with flow diagram)	Equalization, Buffering, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF, followed by U V treatment.	
4.	Design capacity of CPU unit (m^3/day)	2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
5.	Actual capacity of CPU unit (m^3/day)	2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
6.	Sources of effluent coming into CPU	Source	Quantity (m^3/day)
		1. MEE condensate	797.0
		2. Spent Lees	225.0
		3. Utility blowdown	85.0
		4. DM Plant Reject	35.0
7.	Total quantity feed to CPU per day (KLPD)	1142.0	
8.	Quantity of treated effluent from CPU utilized per day (KLPD)	1017.0	
9.	Recovery (%) and characteristics of treated water and its further utilization details	89%	

10.	Is there any reject generated from CPU (Yes/No)	Yes
11.	Disposal point of reject from CPU (If yes)	Feed to MEE
12.	Total fresh water consumption after reuse of treated low strength effluents.	1456.70 KLD (Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)
13.	Log Book records supporting CPU performance (Yes/No)	Yes ***Refer Annexure-XV***

9.1 CPU performance

Particulars	**Mixed Influent**	**Treated Effluent**
Quantity, m^3/day	1142.0	1017.0
Colour	160	105
pH	6.55	7.15
Temperature, ºC	45	32
BOD, ppm	675	15
COD, ppm	1895	112
Total solids, %	0.589	0.040
Total dissolved solids, %	0.492	0.029
Total suspended solids, %	0.097	0.0056
Volatile acids, ppm	---	---
Total Alkalinity, ppm	---	---

10. Lagoon

	Actual Capacity of Lagoons	**Yes/No**	**Number**	**Dimensions (L×B×H)**	**Storage Capacity (m^3)**	**Approximate Volume found stored during Inspection (m^3)**
1.	a. MEE Concentrate (for bio-composting)	Yes	02	--	25000 m^3 Each	Approx. 55 % Filled
	b. MEE Concentrate (for Incineration)	NA	NA	NA	NA	NA
	c. Any Other (Details of Lagoon (if any) provided for storage of any other spent wash i.e., RAW/BMSW may be provided	NA	NA	NA	NA	NA

2.	a. PTZ 360 cameras provided at Lagoon area b. Operating satisfactorily c. Connectivity to SPCB/CPCB	Yes Yes Yes	02	Details of Camera: 1 No. for Lagoon & biocomposting yard at Ajitpur site User ID and Password for connectivity: Username: admin / Password: admin@123 1 No. for Lagoon & biocomposting yard HITACHI land site User ID and Password for connectivity: Username: CCTV / Password: RADICO@123

11. Bio-composting - Yes

- **Bio-compost yard Details-Impervious bio-compost yard (PCC-1:3:6 or RCC-1:2:4 or brick on edge) with construction details.**

- **Whether the unit maintaining log Book supporting bio-compost plant operations (Yes/No):**

1.	Total Area for Bio-composting (acres)	About 58 Acres
2.	Break-up of Total area:	
	Active Area for Bio-composting (out of total area) (acres)	48 Acres
	Covered Active Area(acres)	25 Acres
	Un-Covered Active Area(acres)	33 Acres
	Storage Area:	
	Area for press mud Storage (Excluding active area) (acres)	5 Acres
	Area for press mud Storage (Covered/Un-covered)	Covered
	Area for Ready Bio-compost storage (Excluding active area) (acres)	5 Acres
	Area for Ready Bio-compost storage (Covered/Un-covered)	Covered
3.	Period for one bio-compost cycle (60 days or 45 days)	60 Days
4.	Total no. of cycles per annum (4 or 5)	4 cycles /year
5.	Quantity of press mud procured/purchased (Last 06 months)	47812 MT in month of Dec.2022 to Feb. 2023 ***Refer Annexure-XI***
6.	Quantity of press mud used per bio-compost cycle	16800 MT in month of Dec.2022 to Feb. 2023 ***Refer Annexure-XI***
7.	Quantity of filler material i.e., yeast sludge or boiler ash etc. (other than press mud) used per bio-compost cycle	12 TPD Boiler ash + 15 TPD Fermentation sludge
8.	Quantity of concentrated spent wash used per bio-compost cycle	26330 MT in month of Dec.2022 to Feb. 2023 ***Refer Annexure-XI***
9.	Ratio of press mud to spent wash maintaining	1:1.57

10.	Quantity of finished compost prepared and sold per Annum	7900 MT in month of Dec.2022 to Feb. 2023 ***Refer Annexure-XI***	
11.	Finished bio-compost sold in loose or bag packing?	8240 MT sold in month of Dec. 2022 to Feb. 2023 ***Refer Annexure-XI***	
12.	Finished compost packing facility (Yes/No)	Yes	
13.	Bio-compost analysis report		
14.	Details of windrows		
	Number	144	
	Length	60 to 200	
	Height	1.5	
	Width of stacking	2.5 to 3.0	
	Space between the two windrows	5.0 Meters	
15.	Equipment's (nos.) Aero-tillers JCB Tractor Loaders	Aero-tillers – 6 Nos. JCB - 4 Nos. Tractor – 6 Nos. Loaders – 5 Nos. Dumper – 2 Nos.	
16.	Details of registration required from agriculture department, as per new notification of Compost	Manufacturing licence no. – 1462/fertilizer/F.C.O.-1/F-587/2018-19 (validity – Whole Time.) Sale Licence no. – JDA FERTILIZER/47/RMU/1 (validity – till 14.11.2024)	
17.	Arrangement for rainy season and details regarding closure of operations for 03 months during monsoon	25 Acre covered area for Biocomposting for rainy season	
18.	Details of PTZ cameras provided and connectivity.	PTZ Camera provided 1.Biocomposting area 2.Operating satisfactory	(Yes/No) 02 nos. Yes
19.	Number of Bore well around compost yard.	NA	
20.	Number of Piezometric wells available around the compost.	13	
21.	Number of Piezometric wells shall be present around the bio-compost yard as per SOP for molasses-based distillery	13	

12. Incineration Boiler– No

13. Sample Collection Points

Sr. No.	Sampling Points	(Yes/No)
1.	Raw spent wash (feed to Bio-digester/ IMEE)	Yes
2.	Feed to MEE (Multi effect evaporator)	Yes
3.	MEE condensate	Yes

4.	MEE concentrate	Yes
5.	Spent wash stored in the lagoon (from all the lagoons)	Yes
6.	CPU inlet	Yes
7.	Aeration tank of CPU	Yes
8.	CPU treated condensate	Yes
9.	STP inlet	Yes
10.	STP outlet	Yes
11.	Drain within or outside the premises	No
12.	Bypass (if any)	No
13.	Groundwater (Samples should be collected from hand pumps or borewells)	Yes

Note: ***Refer Annexure-XVI for analysis report with Form-I***

Parameters to be analyzed for samples collected from locations1 to 7: pH, BOD, COD, TS, TSS, TDS

Parameters to be analyzed for sample collected from location no. 8& 12: pH, BOD, COD, TS, TSS, TDS, Colour

Ground water Analysis Report: Year of Dug: 1994 / 1995 / 2005 Depth (m) 110 & 90 M

4 Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.

Parameter / Location ↓	pH →	Colour (PCU)	Total Alkalinity	Total Hardness	COD	TDS	Cl^-	F^-	NO_3	SO_4
Standard values	6.5-8.5	15	600	600	-	2000	1000	1.5	45	400
BW - 1	7.62	BDL	86.0	102.0	BDL	288.0	96.9	ND	2.4	9.2
BW - 2	7.75	BDL	92.0	104.0	BDL	291.0	99.9	ND	2.8	9.8
BW – 3	7.70	BDL	84.0	94.0	BDL	295.0	86.9	ND	2.1	7.4

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

Parameter	As →	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Zn	Sb	Co	Se	V
Permissible linits	0.05	0.003	0.05	1.5	0.3	0.01	0.3	0.001	0.02	15	-	-	0.01	-
BW - 1	ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND
BW – 2	ND	ND	ND	ND	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND
BW – 3	ND	ND	ND	ND	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND

Refer Annexure-XVI for analysis report with Form-I

Sewage management section

42	Quantity of sewage generated (KLD)	100 KLD
43	STP status	Installed (Yes/No) : Yes Operational (Yes/No) : Yes
44	Flow meter/ v-notch installed at inlet of STP	Yes/No: Yes Type: mechanical Calibration details: No Instantaneous Reading: NA…m^3/hr Totalizer Reading: ……NA…….. m^3 Logbook maintained: No (If yes, last three months logbook data should be collected)
45	Flow meter/ v-notch installed at outlet of STP	Yes/No : Yes Type: mechanical Calibration details: No Instantaneous Reading:…NA…m^3/hr Totalizer Reading: ……NA….. m^3 Logbook maintained: No (If yes, last three months logbook data should be collected)
46	Quantity of treated sewage (KLD) (To be calculated from STP inlet logbook)	107.85 KLD
47	Quantity of recycled treated sewage (KLD) (Total of last three months)	In production: NA Others: For gardening use
48	Quantity of treated sewage discharged (KLD) (To be calculated from ETP outlet logbook)-	107.78 KLD
49	Mode of discharge	Surface pipeline
50	Discharge in	On land

51 **Characteristics of Sewage**

Parameter	STP inlet	STP outlet	Discharge Norms (as per consent)	Compliance Status
pH	6.10	7.52	NA	NA
BOD (mg/l)	162	22	30	Compliance
COD (mg/l)	494	214	250	Compliance
TSS (mg/l)	56	38	100	Compliance
TDS (mg/l)	485	382	NA	NA
Colour (PCU)	--	--	NA	NA

✪ ***Observations:***

1. The unit has obtained CCA for 374 KLPD distillery operation.

2. During the day of inspection 200 KLPD Molasses Based Distillery, 100 KLPD Grain

Based Distillery ,8 KLPD Malt spirit plant found operational.

3. The 200 KLPD molasses-based distillery plant is converted to dual feed operation i. e. 150 KLPD on grain feed and 50 KLPD molasses feed-based operation. Modification and plant upgradation was in progress during the day of inspection.
4. Avg. production of last three months of Molasses based distillery is 130 KLPD, Grain Bases distillery is 90.00 KLPD and Malt spirit plant is 5.00 KLPD.
5. Unit has 3 borewells in the distillery premises & installed flowmeters on each borewell and maintaining logbooks for the same.
6. Industry has obtained valid NOC for Ground water extraction.
7. For molasses-based distillery unit has adopted ZLD system as Raw Spent wash - Integrated Multi Effect Evaporation (IMEE) – Biodigester – BMSW RO plant – Standalone Multi Effect Evaporation (SMEE)- Bio composting this system found operational during the day of inspection.
8. For grain-based distillery unit has adopted ZLD system as Raw Spent wash – Decantation – Integrated Multi Effect Evaporation (IMEE)- DWGS (Wet cake sold as cattle feed.
9. Unit is installing bundle tube dryer to produce DDGS, the dryer was under commissioning.
10. The above ZLD system was in operation during the day of inspection.
11. For treatment of IMEE, SMEE process condensate, cooling tower & boiler blowdown, the distillery has installed combined CPU (conventional) plant having capacity of 2000 M3/Day. CPU is operational at the time inspection visit.
12. Unit has installed high brix Bio-digester (24 brix)
13. For treatment of biomethanated spentwash molasses-based distillery unit has installed spent wash RO plant having capacity of 1680 M3/Day.
14. Green belt area is provided by the unit in the premises of distillery unit & biocompost yard.
15. Leachate collection sump with gutters is observed at Biocompost yard. (Covered - 28 Acres and uncovered- 30 Acres)
16. Two 360 PTZ online cameras are installed at each Lagoon site and Biocompost area.
17. Two bio compost areas (Ajitpur-23 acres out of the 12.5 areas is covered area, Hitachi-35 acres out of this 12.5 acres covered), two spent wash storage lagoons having capacity of 21500 m3 at Ajitpur site and 3500 m3 at Hitachi site) theses lagoons and bio compost sites are covered by online system.
18. Total 13 no’s Piezometer are available in the biocompost yard & relevant online monitoring data is provided by distillery unit.
19. Mass flow meters are installed at IMEE & SMEE inlet & outlet, calibrated and connected with online connectivity to UPPCB/CPCB server and records are maintained by the unit.

20. Calibration certificate of spent wash (Grain & Molasses based) inlet and outlet mass flowmeters and molasses & flour weighing system are provided by the unit

21. Conc. biomethanated spent wash storage lagoons (Nos.2) are available and observed about 42% actual filled capacity during visit.

22. Unit has installed 02 nos. boilers out of which one is biogas fired having capacity of 26 TPH & another is rice husk fired boiler having capacity of 30 TPH high pressure boiler with 2.0 MW & 2.25 MW TG set respectively for captive steam & power generation and consumption in molasses & grain-based distillery.

23. Total 5 Nos of Thermophilic biodigesters are found operational for spent wash Biomethanation.

24. Biogas generated from biodigester is being utilized in biogas generator to produce 2.4 MW power directly from biogas.

25. Biogas generated from biodigester of CPU is used in biogas generator for power generation

26. Online monitoring system for stack emission is available and connected to the CPCB and UPPCB server and relevant data is provided by the unit.

27. 04 nos. handpumps are found in biocomposting yard.

28. It was observed that unit is maintaining biocomposting activity as per CPCB guidelines. Unit is bagging the biocompost.

29. Centrifuge decantation system is provided at Grain based distillery for separation of the DWGS (wet cake) & DWGS is sold as cattle feed to contracted parties.

30. ESP is installed as air pollution control system for 30 TPH boiler installed in premises of grain-based distillery.

31. Fermented yeast sludge, ETP sludge & boiler ash is being utilized for production of biocompost as a filler material.

32. Industry has installed 100 KLD STP for treatment of domestic sewage and V Notch is available for measurement of flow whereas magnetic flow meters are not available at inlet and outlet and found operational at the day of inspection.

33. Treated water and sludge generated from STP is being utilized for Gardening in the premises of unit

34. Tree plantation and gardening is well developed in the area of Biodigester, CPU and spentwash lagoon.

35. Overall housekeeping (drainage system) in the process area is poor in fermentation house, evaporation plant of both molasses and grain, decantation.

36. Rain water harvesting & recharge ponds are provided by the unit in nearby villages viz. Dinpur, Hariyal, Punjab Nagar, Ballu ki Madhaiyya, Chikna Milakh, etc. & relevant data is

provided by the distillery unit.

✪ ***Recommendations/Suggestion:***

1. It is also recommended that unit shall maintain unit wise or section wise fresh water consumption, waste water generation and treated water recycled in the process and undergo water audit of the manufacturing activities.

2. Improve housekeeping in spent wash RO, bio-methanation area.

✪ ***Compliance Status (Complied/ Non-Complied/ Closed): Complied***

Inspection team details:

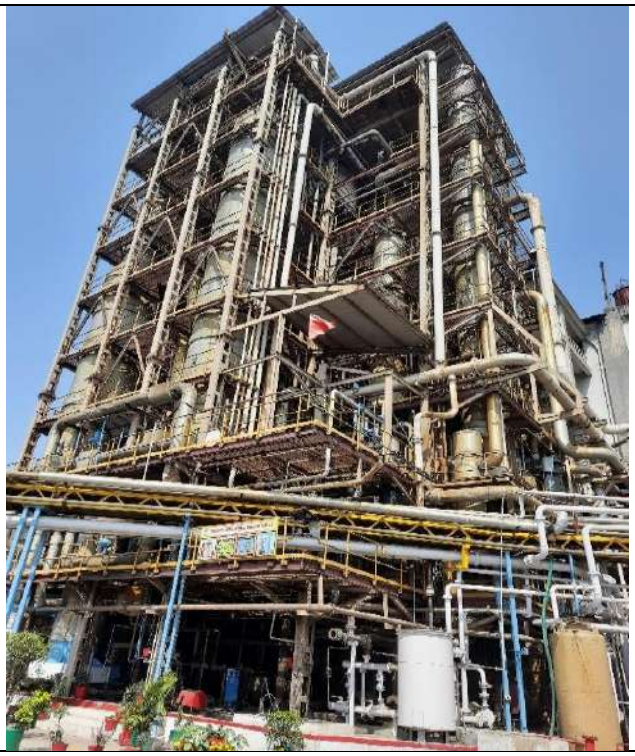
Sr. No.	Technical institute officials	Designation	Organisation	Signature with date
1.	Mr. Avinash Deshmukh	Scientist	VSI, Pune	**02/05/2023**
2.	Mr. Shivaraj Patil	Technical Officer	VSI, Pune	**02/05/2023**
Sr. No.	**SPCB/SMCG officials**	**Designation**	**Organisation**	**Signature with date**
1.	Mr. J. N. Tiwari	JEE - UPPCB	UPPCB- Region Moradabad	

14. ANNEXURES

- **Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system. *Refer Annexure-XXVII***
- **Problems faced in maintaining the continuity of on-line monitoring system.**
- **Green belt surrounding bio-compost yard (Photographs).**
- **Whether the recipient drains/rivulets and their u/s & d/s locations in consultation with concerned State Pollution Control Board (SPCB), for monthly monitoring to ensure ZLD has been identified? (Yes/No).**
- **Material and mass balance of your total distillery plant operations including ETPs showing ZLD. *Refer Annexure-IX***
- **Also indicate how your distillery unit is achieving steam and power balance. *Refer Annexure-IX***
- **Environment Management Cell-Mo Ms and necessary documents. *Refer Annexure-XXX***
- **EC, Consent to Operate, Directions received and related documents. *Refer Annexure-I, II, III & IV***

- **Water conservation measures taken report (rain water harvesting etc.). Yes**

Photographs of the industry:

Molasses storage tank	Fermentation section
	
Distillation & MEE section	**MEE Feed flow meter**
	
MEE Outlet flow meter	**Bio-digester**

BM Spent wash RO Plant

CPU – Equalization Tank

CPU – Anaerobic Digester

CPU - Clarifier

Piezometer in compost yard

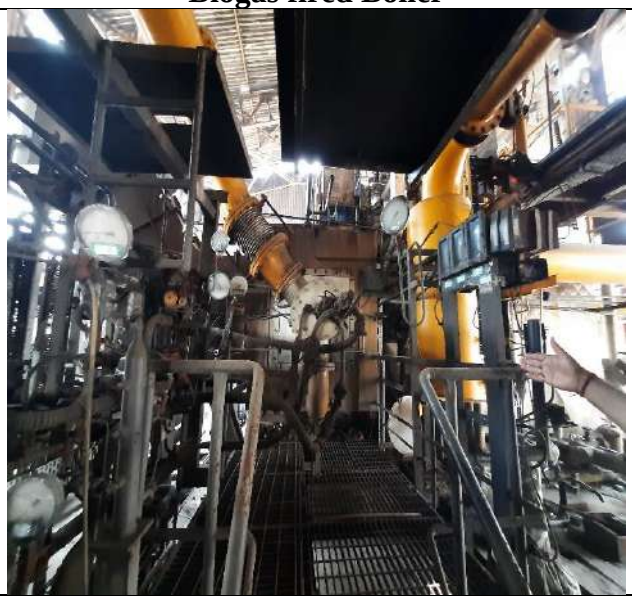
Conc. BM Spent wash Lagoon

Aero tilling in compost yard

Covered Bio-compost Yard

Biogas fired Boiler

STP (Sewage Treatment Plant)



Inspection Team

INDUSTRY INSPECTION REPORT (DISTILLERY-GRAIN BASED)

Date of Inspection 28/02/2023

1. General Information

1.	Unit Code	511	
2.	a) Name and Address of the unit	Radico Khaitan Ltd, Bareilly Road, Rampur-244901(U.P.)	
	b) Coordinates (Latitude & Longitude) in Decimal	28.77355310 79.03401410	
	c) Name of the recipient drain	ZLD Distillery unit, Nearest drain- Rampur city municipal drain	
	d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga)	Rampur Municipal Drain → Kosi River → Ramganga → Ganga River	
3.	Operational Status (Operational/Non-Operational) *	Operational	
4.	Name of Occupier/Contact Person	Designation	Contact No & e- mail
	1. Mr. Devendra Singh	Sr. Vice President	Contact No. 9837471443 Email- singhd@radico.co.in
5.	Type of Distillery unit (Need to put hyperlink on yes)	A. Molasses based distillery B. Grain based distillery C. Brewery unit D. Bottling unit	Yes Yes Yes/No Yes

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

B. GRAIN BASED DISTILLERY

1.	Year of Commissioning	Grain Plant – 2006 & Malt Spirit Plant– 1992		
2.	Standalone/Connected with sugar unit	Standalone		
3.	Status of consents and authorization*		Yes/No/Expired/Applied	Validity Date
		Environmental Clearance (EC)	NA	NA
		Air Consent	Yes Ref. No. 163196/UPPCB/Moradabad (UPPCBRO)/CTO/both/ RAMPUR/2022 dated	Valid from 01/10/2022 to 31/12/2026 ***Refer Annexure-I***

			19/09/2022	
		Water Consent	Yes Ref. No. 163196/UPPCB/Moradabad (UPPCBRO)/CTO/both/RAMPUR/2022 dated 19/09/2022	Valid from 01/10/2022 to 31/12/2026 ***Refer Annexure-I***
		Haz. Waste Authorization	Yes Ref. No. 178/UPPCB/Moradabad (UPPCBRO)/HWM/RAMPUR/2017 dated 04/04/2018	Valid from 04/04/2018 to 31/03/2023 ***Refer Annexure-II***
		CGWA NOC	Yes Registration No. 202108000274/304/378	***Refer Annexure-III***

***Attach copy of EC, consents and CGWA NOC, if valid. If unit has applied for renewal, then submit copy of application.**

2. Fresh water consumption details

1.	Water Supply Source	Borewell	
2.	River	NA	
	Flow meter with totalizer installed at line carrying freshwater (Yes/No)	NA	
	Instantaneous Reading (m^3/hr)	NA	
	Totalizer Reading (m^3)	NA	
3.	Borewell/Tubewell		
	No. of Borewell/Tubewell as per CGWA NOC	03 Nos.	
	Actual no. of Borewell found on site	03 Nos.	
	Permitted withdrawal quantity	3600 m^3/day or 1314000 m^3/annum	
	Actual withdrawal quantity (Average of last three months)	1456.70 KLD (Average of month Jan. 2023) ***Refer Annexure-VI***	
	No. of Borewell having flow meter with totalizer installed	03 Nos.	
	Instantaneous Reading* (m^3/hr)	NA	
	Totalizer Reading during visit* (m^3)	Initial	BW 1 –M^3 BW 2 –M^3 BW 3 –M^3
		Final	BW 1 –M^3 BW 2 –M^3 BW 3 –M^3 (Bore wells reading for all plants including Molasses, Grain and malt Based and

			bottling)
4.	Type of flow meter installed: mechanical/digital/electromagnetic etc.	Electromagnetic type flow meter with totalizer	
	Calibration details	Yes ***Refer Annexure-IV***	
	Log Book Maintained (Yes/No)	Yes ***Refer Annexure-VI***	
5.	Fresh water consumption		
		Production process	**Domestic**	**Others**
	Freshwater consumption (KL) (Average of last three months)	1406.0 KLD	50.0 KLD	NA
	Overall (In KLD & KL/MT of product)	6.20 (Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)	0.22	NA
	On the previous day of visit (KLD)	1410.0 KLD	52.0 KLD	NA

***If more than one water source, then take reading separately**

3. Manufacturing Process, Spent Wash (SW) & Thin Slope Management System

1.	Manufacturing Process (Provide line diagram) (Milling→ liquefaction→ Fermentation→ Distillation)	Milling → liquefaction → Fermentation → Distillation	
	Type of Fermentation technology adopted	Batch Fermentation	
	Type of Distillation technology adopted	Multi Pressure Distillation	
	Integrated MEE with Distillation (Yes/No)	Integrated MEE	
2.	Spent Wash& Thin Stillage/Slope Management Technology	Decanter/Centrifuge (Spent wash) ■ MEE (for thin stillage/slop) ■	DWGS Dryer* □ CPU ■
	Spent Wash& Thin Stillage/Slope Management Sequence	Decantation → IMEE →DWGS sold as Cattel feed Conventional CPU for treatment of low strength process effluent, utility waste water is being treated in CPU.	
3.	Licensed capacity of Distillery (KLPD/Bulk litres per annum)	100 KLPD Grain Distillery 8.0 KLPD Malt Spirit Plant	
	Installed capacity	Grain – 100 KLPD	

		Malt – 8 KLPD
	Present Production in KLPD	Grain Spirit -96.09 KPLD (Avg. of month Feb. 2023) Malt – 4.07 KLPD (Avg. of month Feb. 2023) ***Refer Annexure-XII***
	No of operating days/year	350
	Products Manufacture (for which period??)	RS/ENA/Absolute alcohol/Ethanol (HLD)
	RS	--
	ENA	2690688.1 BL (From 01st Feb. 2023 to 28th Feb. 2023)
	Absolute Alcohol/Ethanol	--
4.	Type of Grain used	Broken Rice, Barley, Bajra, Maize, Sorghum etc.
	Grain (in Qtls) per KL of alcohol production	21.64 Qtls. /KL of alcohol production

*Distiller's Wet Grain Soluble (DWGS)

4. Waste water generation

Sr. No.	Stream/section	Quantity, KLD	Disposal/Utilization Point
1.	Spent Wash	646.0	Decanter/Centrifuge
2.	Thin Stillage/Slop	432.0	IMEE
		76.0	Recycled in slurry preparation
3.	Thick syrup from MEE (MEE concentrate)	71.0	Mixed with DWG (Wet cake)
4.	MEE condensate	376.0	CPU
5.	Fermenter washing	15.0	MEE
6.	Floor washing	5.0	CPU
7.	Cooling tower blow down	24.0	CPU
8.	Boiler blow down	20.0	CPU
9.	DM plant reject	20.0	CPU
10.	Others viz. CPU RO reject etc.	50.0	CPU
11.	Spent wash generation (KL/KL of production)	6.72	Decantation/MEE
12.	Quantity of Thin stillage/slop generation (from decanter/centrifuge) (KL/KL of production)	5.28	
13.	Quantity of Thick syrup from MEE (MEE concentrate) generation (KL/KL of production)	0.74	
14.	Total quantity of spent wash feed into MEE (unit?)	447.0	MEE
15.	Total quantity of other effluent feed into CPU (unit?)	495.0	CPU

5. Process Emission/ Solid Disposal

Sr. No.	Stream/section	Quantity, KLD	Disposal

1.	Fermenter CO_2 disposal	60.0 TPD	CO_2 plant
2.	Fermenter sludge disposal	NA	NA

6. Centrifuge/Decanter for Spent wash from Distillation– Yes

1.	Unit has installed Centrifuge or Decanter?	Decanters	
2.	Setting cum cooling tank before Centrifuge/Decanter (Yes/No)	Heat Recovery system installed	
	Capacity of Setting cum cooling tank before Centrifuge/Decanter (m^3)	20 m3/Hr of each Decanter	
3.	Year of installation/establishment & commissioning of the Centrifuge/Decanter	2006	
4.	No. of Centrifuge/Decanter	03 Nos.	
	Capacity of Centrifuge/Decanter	NA	
5.	Hydraulic Retention Time on Design basis (In days) (15-24 days)	NA	
	Organic Loading Rate ($kg/m^3/day$)	NA	
	Volume (m^3)	NA	
6.	No. of days of operation of Centrifuge/Decanter (days/annum)	Throughout the year	
	Maintaining Log Book records supporting Centrifuge/Decanter plant performance (Yes /No)	No	
7.	Flow meter details	NA	
	Flow meter installed at inlet of Centrifuge/Decanter (Raw spent wash from distillation) (Yes/No)	NA	
	Flow meter installed at outlet of Centrifuge/Decanter (Thin stillage/slop generation line) (Yes/No)	NA	
		Initial Reading	Final Reading
	Flow meter reading at Inlet	NA	NA
	Flow meter reading at Outlet	NA	
8.	Quantity of Wet cake/DWGS generation from Centrifuge/Decanter (MT/kg per day)	115 MT/day	
	Method of disposal/ utilization of Wet cake/DWGS (In DDGS* dryer/directly used as cattle feed)	Sold as cattle feed	
9.	Quantity of Thin stillage/Slop generation from Centrifuge/Decanter (KLD)	432 KLD (Feed to MEE) 76 KLD (Recycled in slurry)	
10.	Method of disposal/ utilization of thin stillage/Slop (MEE/others)	Fed to MEE	

*Distillery Dries Grain Soluble (DDGS)

7. Multiple Effective Evaporator (MEE) for thin stillage/slop from decanter/centrifuges

1.	Setting cum cooling tank before MEE (Yes/No)	Yes
	Capacity of Setting tank before MEE (m^3)	15 KL

2.	Year of installation/establishment & commissioning of MEE plant	2012-13	
3.	Number of Effects with their HTA and MOC. (Mention number of stand-by bodies and degasser provided, if any)	06 Nos. Falling Film Effects (05W+1S) Details are not provided by unit	
	Type of technology of MEE	Integrated MEE	
	Designed capacity of MEE(m^3/day)	435 M^3/Day	
	Evaporation rate of MEE (%)	83%	
4.	Acceptable level of suspended solids, dissolved solids etc in the feed.	4-5%	
5.	Maintaining Log Book supporting MEE plant performance (Yes/No)	Yes ***Refer Annexure-XXIV***	
6.	Mass flow meter with totalizer installed at inlet of MEE (Yes/No)	Yes	
	Mass flow meter with totalizer installed at outlet of MEE, MEE concentrate (Yes/No)	Yes	
	Mass flow meter with totalizer installed at outlet of MEE, MEE condensate (Yes/No)	No (Magnetic Flow meter with totalizer is installed)	
		Initial*	Final
7.	Mass flow meter reading with totalizer at inlet of MEE	MT	MT
	Mass flow meter reading with totalizer with outlet of MEE, MEE concentrate	MT	MT
	Mass flow meter reading with totalizer with outlet of MEE, MEE condensate	NA	NA
8.	Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)	Yes	

*Provide for one day.

7.1. MEE operational details

1.	MEE feed rate (actual)	Kg/hr	18625.0	Sp. Gr.- 1.018
2.	Feed rate @ Sp. Gr. (Approximate)	Kg/hr	18960.0	
3.	Solid content in feed/brix	%/ degree	4.43	
4.	Water evaporation rate (Minimum)	Kg/hr	15691.0	
5.	Concentrate Generation	Kg/hr	3269.0	
6.	Solid content in concentrate Generation /brix	%/degree	28.06	
7.	Operation hour and whether it is operating continuously	Hr/day-or week or month	Continuously	
8.	MEE Feed Characteristics	pH TSS TDS BOD &	4.36 15140 mg/l 29200 mg/l 23130 mg/l	

		COD	68400 mg/l
9.	Frequency of Cleaning in Process (CIP)	Hr/day or week or month	Once in a month
10.	Quantity of CIP effluent	m^3/hr	10 m^3
11.	Quantity of process condensate	m^3/hr	15.69
12.	Whether MEE achieving design efficiency. (Yes/No)	Yes	
13.	Utilisation of MEE condensate	Treated through CPU & reused for process & non-process applications.	
14.	Utilisation of MEE concentrate/ thick syrup	Mixed with DWG (wet cake) to produce DWGS & sold as cattle feed	
15.	Utilization of blow down (cooling tower & boiler)	Treated through CPU & reused for process & non-process applications.	

7.2. MEE output Characteristics

Sr. No.	Particulars	Conc. spent wash	Process Condensate
1.	Quantity, m^3/day	71.0	376.0
2.	pH	4.84	4.42
3.	Temperature, ºC	72	48
4.	COD, ppm	158400	1752
5.	Total solids, %	28.06	0.0137
6.	Ammonical Nitrogen (as N), ppm	---	---

8. Dryer for Distiller's Wet Grain Soluble (DWGS)/Wet cake from Decanter/Centrifuge - No

1.	Unit has installed Dryer for DWGS/Wet cake from Decanter/Centrifuge?	NA
2.	Setting cum cooling tank before Dryer (Yes/No)	NA
	Capacity of Setting cum cooling tank before Dryer (m^3)	NA
3.	Year of installation/establishment & commissioning of Dryer	NA
4.	No. of Dryer	NA
	Capacity of Dryer	NA
	Type of Dryer (Rotary Tube Bundle Dryer/Fluidized Bed Dryer)	NA
5.	Hydraulic Retention Time on Design basis (In days) (15-24 days)	NA
	Organic Loading Rate (kg/m^3/day)	NA
	Volume (m^3)	NA

6.	No. of days of operation of Dryer (days/annum)	NA
	Maintaining Log Book records supporting Dryer Performance (Yes /No)	NA
7.	Quantity of MEE concentrate/thick syrup mixed with wet cake per day	NA
8.	Quantity of DDGS generation from Dryer (KLD)	NA
	Method of disposal/ utilization of DDGS from dryer (Used as cattle feed/others)	NA

9. CPU (Condensate Polishing Unit) for MEE Condensate – Yes

1.	Year of installation/establishment & commissioning of CPU	CPU plant installed in 2015 and upgraded in 2019	
2.	Name of Plant/Technology supplier	M/s. Paques India Pvt Ltd	
3.	Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc. (Mention details of unit processes with flow diagram)	Equalization, Buffering, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF, followed by U V treatment.	
4.	Design capacity of CPU unit (m^3/day)	2000 M^3/day (Common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
5.	Actual capacity of CPU unit (m^3/day)	2000 M^3/day (Common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
6.	Sources of effluent coming into CPU	Source	Quantity KLD
		1. MEE condensate	376.0
		2. Utility Blowdown	49.0
		3. DM Plant Reject	20.0
		4. CPU Reject	50.0
7.	Quantity coming into CPU per day (total)	495.0 KLD	
8.	Quantity of treated effluent from CPU utilized per day	445 KLD	
9.	Recovery (%) and characteristics of treated water and its further utilization details	90%	
10.	Is there any reject generated from CPU (Yes/No)	Yes, 50 KLD	
11.	Disposal point of reject from CPU (If yes)	Recycled in CPU	

12.	Total fresh water consumption after reuse of treated low strength effluents.	1456.70 KLD (Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)
13.	Log Book records supporting CPU performance (Yes/No)	Yes Common logbook for Molasses & Grain based distillery ***Refer Annexure-XV***

9.1 CPU performance

Particulars	**Mixed Influent**	**Treated Effluent**
Quantity, m^3/day	495.0	445.0
Colour	160	105
pH	6.55	7.15
Temperature, ºC	45	32
BOD, ppm	675	15
COD, ppm	1895	112
Total solids, %	0.589	0.040
Total dissolved solids, %	0.492	0.029
Total suspended solids, %	0.097	0.0056
Volatile acids	---	---
Total Alkalinity	---	---

10. Boiler

1.	Year of installation/establishment & commissioning of boiler	Information not provided
2.	Type of boiler	01 No. Gas fired Boiler & 01 No. Agro residue fired boiler
3.	Capacity of Boiler	1. 26 TPH (Gas fired) 2. 30 TPH (Rice husk fired)
4.	Design details	
	Steam Pressure	21.0 Kg/cm^2 45.0 Kg/cm^2
	Steam Temperature	340°C 400°C
5.	Boiler/Technology Supplier details	Thermax
6.	Type of fuels used	1) Biogas 2) Agro residue (rice husk)
	Fuel consumption	Biogas – 50000 Nm3/day
7.	Emission control system or Air Pollution Control Device (APCD) installed (Yes/No)	Yes

	Name of installed Emission control system/APCD	
	Stack Height	45 M
	Stack monitored (Yes/No)	Yes ***Refer Annexure-XVII***
8.	Ash details:	
	Quantity of ash generated, MT/day	NA
	Characteristics of generated Ash	NA
	Method of disposal of Ash	NA
9.	Whether the unit maintaining log Book supporting boiler performance (Yes/No)	Not provided
10.	On-line emission (stack) monitoring system installed (Yes/No)	Yes ***Refer Annexure-XVII***
11.	On-line emission (stack) monitoring system connected to CPCB/SPCB server at time of inspection? (Yes/No)	Yes

11. Sample Collection Points

Sr. No.	**Sampling Points**	**(Yes/No)**
1.	Raw spent wash (feed to Decanter/Centrifuge)	Yes
2.	Feed to MEE (Multi effect evaporator)/Thin stillage/slop from Decanter/Centrifuge	Yes
3.	MEE condensate	Yes
4.	MEE concentrate/Thick syrup	Yes
5.	CPU inlet	Yes
6.	Aeration tank at CPU	Yes
7.	CPU treated condensate	Yes
8.	STP inlet	Yes
9.	STP outlet	Yes
10.	Drain within or outside the premises	No
11.	Bypass if any	No
12.	Groundwater (Samples should be collected from hand pumps or borewells)	Yes

Note: ***Refer Annexure-XX for analysis report with Form-I***

Parameters to be analyzed for samples collected from locations1 to 7: pH, BOD, COD, TS, TSS, TDS

Parameters to be analyzed for sample collected from location no. 8& 12: pH, BOD, COD, TS, TSS, TDS, Colour

Ground water Analysis Report: Year of Dug: 1994 / 1995 / 2005 Depth (m) 110 & 90 M

41	Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.										
	Parameter → / Location ↓	pH	Colour (PCU)	Total Alkalinity	Total Hardness	COD	TDS	Cl^-	F^-	NO_3	SO_4
	Standard values	6.5-8.5	15	600	600	-	2000	1000	1.5	45	400
	BW - 1	7.62	BDL	86.0	102.0	BDL	288.0	96.9	ND	2.4	9.2
	BW - 2	7.75	BDL	92.0	104.0	BDL	291.0	99.9	ND	2.8	9.8
	BW – 3	7.70	BDL	84.0	94.0	BDL	295.0	86.9	ND	2.1	7.4

	Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)													
	Parameter	As →	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Zn	Sb	Co	Se	V
	Permissible linits	0.05	0.003	0.05	1.5	0.3	0.01	0.3	0.001	0.02	15	-	-	0.01	-
	BW - 1	ND	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	ND
	BW – 2	ND	ND	ND	ND	0.18	ND	ND	ND	ND	ND	ND	ND	ND	ND
	BW – 3	ND	ND	ND	ND	0.14	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Refer Annexure-XX for analysis report with Form-I													

Sewage management section:

42	Quantity of sewage generated (KLD)	100 KLD	
43	STP status	Installed (Yes/No) : Yes Operational (Yes/No) : Yes	
44	Flow meter/ v-notch installed at inlet of STP	Yes/No: Yes Type: mechanical Calibration details: No Instantaneous Reading: NA…m^3/hr Totalizer Reading: ……NA…….. m^3 Logbook maintained: No (If yes, last three months logbook data should be collected)	
45	Flow meter/ v-notch installed at outlet of STP	Yes/No: Yes Type: mechanical Calibration details: No Instantaneous Reading: A…m^3/hr Totalizer Reading: ……NA….. m^3 Logbook maintained: No (If yes, last three months logbook data should be collected)	
46	Quantity of treated sewage (KLD) (To be calculated from STP inlet logbook)	107.85 KLD	
47	Quantity of recycled treated sewage (KLD) (Total of last three months)	In production	Others
		NA	For gardening use

48	Quantity of treated sewage discharged (KLD) (To be calculated from ETP outlet logbook)-	107.78 KLD
49	Mode of discharge	Surface pipeline
50	Discharge in	On land

51 **Characteristics of Sewage**

Parameter	STP inlet	STP outlet	Discharge Norms (As per consent)	Compliance Status
pH	6.10	7.52	NA	NA
BOD (mg/l)	162	22	30	Compliance
COD (mg/l)	494	214	250	Compliance
TSS (mg/l)	56	38	100	Compliance
TDS (mg/l)	485	382	NA	NA
Colour (PCU)	--	--	NA	NA

✪ ***Observations:***

1. The unit has obtained CCA for 374 KLPD distillery operation.

2. During the day of inspection 200 KLPD Molasses Based Distillery, 100 KLPD Grain Based Distillery ,8 KLPD Malt spirit plant found operational.

3. The 200 KLPD molasses-based distillery plant is converted to dual feed operation i. e. 150 KLPD on grain feed and 50 KLPD molasses feed-based operation. Modification and plant upgradation was in progress during the day of inspection.

4. Avg. production of last three months of Molasses based distillery is 130 KLPD, Grain Bases distillery is 90.00 KLPD and Malt spirit plant is 5.00 KLPD.

5. Unit has 3 borewells in the distillery premises & installed flowmeters on each borewell and maintaining logbooks for the same.

6. Industry has obtained valid NOC for Ground water extraction.

7. For molasses-based distillery unit has adopted ZLD system as Raw Spent wash - Integrated Multi Effect Evaporation (IMEE) – Biodigester – BMSW RO plant – Standalone Multi Effect Evaporation (SMEE)- Bio composting this system found operational during the day of inspection.

8. For grain-based distillery unit has adopted ZLD system as Raw Spent wash – Decantation – Integrated Multi Effect Evaporation (IMEE)- DWGS (Wet cake sold as cattle feed.

9. Unit is installing bundle tube dryer to produce DDGS, the dryer was under commissioning.

10. The above ZLD system was in operation during the day of inspection.

11. For treatment of IMEE, SMEE process condensate, cooling tower & boiler blowdown, the distillery has installed combined CPU (conventional) plant having capacity of 2000

M3/Day. CPU is operational at the time inspection visit.

12. Unit has installed high brix Bio-digester (24 brix)

13. For treatment of biomethanated spentwash molasses-based distillery unit has installed spent wash RO plant having capacity of 1680 M3/Day.

14. Green belt area is provided by the unit in the premises of distillery unit & biocompost yard.

15. Leachate collection sump with gutters is observed at Biocompost yard. (Covered - 28 Acres and uncovered- 30 Acres)

16. Two 360 PTZ online cameras are installed at each Lagoon site and Biocompost area.

17. Two bio compost areas (Ajitpur-23 acres out of the 12.5 areas is covered area, Hitachi-35 acres out of this 12.5 acres covered), two spent wash storage lagoons having capacity of 21500 m3 at Ajitpur site and 3500 m3 at Hitachi site) theses lagoons and bio compost sites are covered by online system.

18. Total 13 no's Piezometer are available in the biocompost yard & relevant online monitoring data is provided by distillery unit.

19. Mass flow meters are installed at IMEE & SMEE inlet & outlet, calibrated and connected with online connectivity to UPPCB/CPCB server and records are maintained by the unit.

20. Calibration certificate of spent wash (Grain & Molasses based) inlet and outlet mass flowmeters and molasses & flour weighing system are provided by the unit

21. Conc. biomethanated spent wash storage lagoons (Nos.2) are available and observed about 42% actual filled capacity during visit.

22. Unit has installed 02 nos. boilers out of which one is biogas fired having capacity of 26 TPH & another is rice husk fired boiler having capacity of 30 TPH high pressure boiler with 2.0 MW & 2.25 MW TG set respectively for captive steam & power generation and consumption in molasses & grain-based distillery.

23. Total 5 Nos of Thermophilic biodigesters are found operational for spent wash Biomethanation.

24. Biogas generated from biodigester is being utilized in biogas generator to produce 2.4 MW power directly from biogas.

25. Biogas generated from biodigester of CPU is used in biogas generator for power generation

26. Online monitoring system for stack emission is available and connected to the CPCB and UPPCB server and relevant data is provided by the unit.

27. 04 nos. handpumps are found in biocomposting yard.

28. It was observed that unit is maintaining biocomposting activity as per CPCB guidelines. Unit is bagging the biocompost.

29. Centrifuge decantation system is provided at Grain based distillery for separation of the DWGS (wet cake) & DWGS is sold as cattle feed to contracted parties.

30. ESP is installed as air pollution control system for 30 TPH boiler installed in premises of grain-based distillery.

31. Fermented yeast sludge, ETP sludge & boiler ash is being utilized for production of biocompost as a filler material.

32. Industry has installed 100 KLD STP for treatment of domestic sewage and V Notch is available for measurement of flow whereas magnetic flow meters are not available at inlet and outlet and found operational at the day of inspection.

33. Treated water and sludge generated from STP is being utilized for Gardening in the premises of unit

34. Tree plantation and gardening is well developed in the area of Biodigester, CPU and spentwash lagoon.

35. Overall housekeeping (drainage system) in the process area is poor in fermentation house, evaporation plant of both molasses and grain, decantation.

36. Rain water harvesting & recharge ponds are provided by the unit in nearby villages viz. Dinpur, Hariyal, Punjab Nagar, Ballu ki Madhaiyya, Chikna Milakh, etc. & relevant data is provided by the distillery unit.

✪ ***Recommendations/Suggestion:***

1. Unit shall maintain proper housekeeping in fermentation, Evaporation as well as DWGS area.

2. Unit shall implement pipeline colour coding in the operational as well as ETP area.

3. It is recommended that unit shall prepare ETP adequacy assessment for installed distillery plant ZLD system as unit has goon through installation of DDGS dryer for grain-based distillery plant.

4. It is also recommended that unit shall maintain unit wise or section wise fresh water consumption, waste water generation and treated water recycled in the process and undergo water audit of the manufacturing activities.

5. It is also recommended that unit shall keep records on fresh water used in dilution of alcohol.

✪ ***Compliance Status (Complied/ Non-Complied/ Closed): Complied***

Inspection team details:

Sr. No.	Technical institute officials	Designation	Organisation	Signature with date
1.	Mr. Avinash Deshmukh	Scientist	VSI, Pune	

				02/05/2023
2.	Mr. Shivaraj Patil	Technical Officer	VSI, Pune	 **02/05/2023**
Sr. No.	**SPCB/SMCG officials**	**Designation**	**Organisation**	**Signature with date**
1.	Mr. J. N. Tiwari	JEE - UPPCB	UPPCB- Region Moradabad	

12. Other Details

- Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system. **M/s. Forb marshal Ind. Ltd.** ***Refer Annexure- XVII***

- Problems faced in maintaining the continuity of on-line monitoring system. **No**

- Identification of recipient drains/rivulets and their u/s&d/s locations for monthly monitoring to ensure ZLD. **Yes**

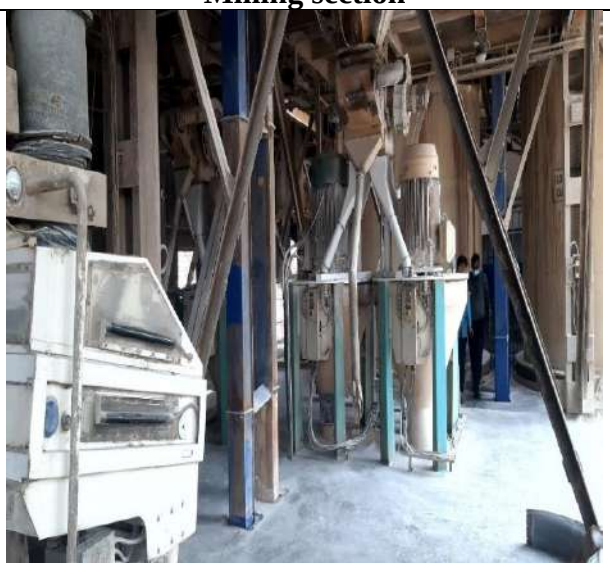
- Material and mass balance of your total grain-based distillery plant operations including ETPs showing ZLD. ***Refer Annexure-XIII***

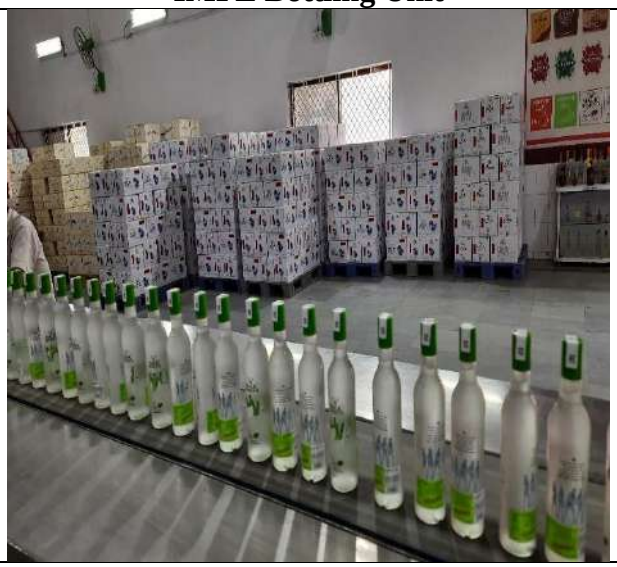
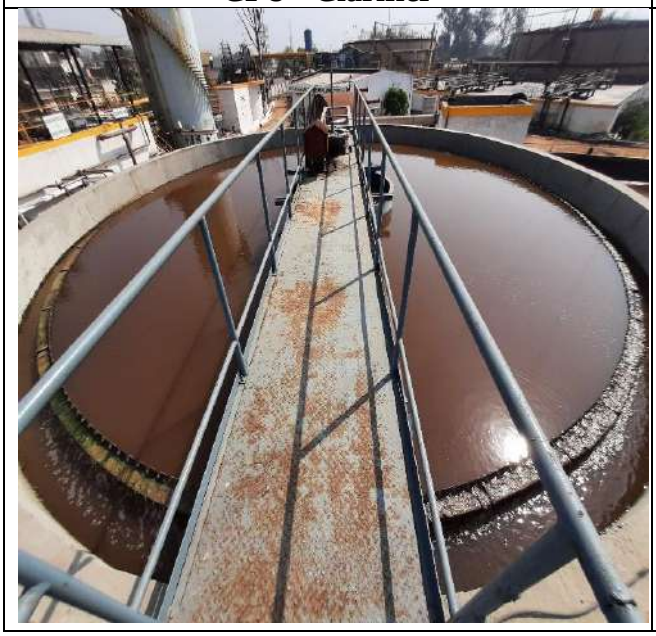
- Also indicate how your grain-based distillery unit is achieving steam and power balance.

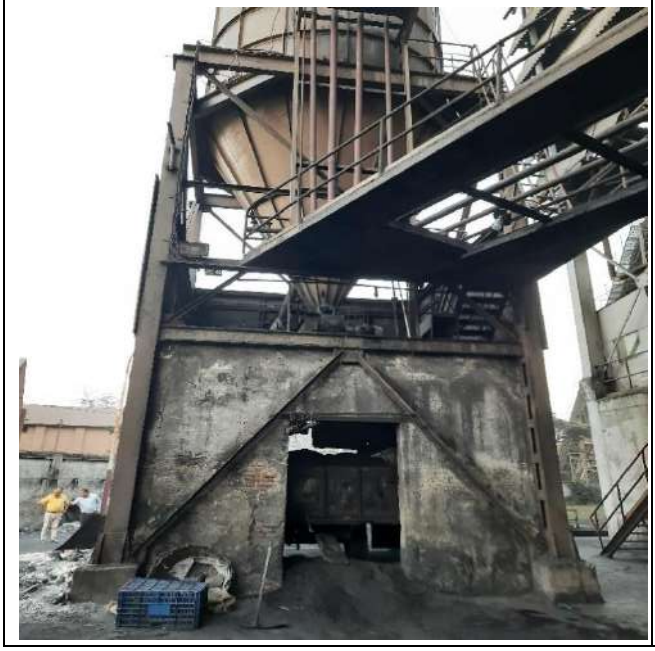
- Environment Management Cell-Mo Ms and necessary documents. **-** ***Refer Annexure-XVIII***

- Water conservation measures taken report (rain water harvesting etc.).

Photographs of the industry:

Grain storage silos	Milling section
	
Liquefaction section	**Fermentation section**
	
CO_2 Plant	**Malt Spirit Plant**
	

Decantation section (DWGS)	IMFL Bottling Unit
	
CPU – Equalization Tank	**CPU – Anaerobic Digester**
	
CPU - Clarifier	**Boiler – ESP & Chimney**
	

Boiler – Ash storage silo	STP (Sewage Treatment Plant)
	

Inspection Team

INDUSTRY INSPECTION REPORT (DISTILLERY-GRAIN BASED)

Date of Inspection 04/03/2022

1. General Information

1.	Unit Code	511	
2.	a) Name and Address of the unit	Radico Khaitan Ltd, Bareilly Road, Rampur-244901(U.P.)	
	b) Coordinates (Latitude & Longitude) in Decimal	28.7739918 79.0347959	
	c) Name of the recipient drain	ZLD Distillery unit, Nearest drain- Rampur city municipal drain	
	d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga)	Rampur Municipal Drain → Kosi River → Ramganga → Ganga River	
3.	Operational Status (Operational/Non-Operational) *	Operational	
4.	Name of Occupier/Contact Person	Designation	Contact No & e- mail
	1. Mr. K. P. Singh	Director Operation	Contact No. 9837025736 Email -singhkp@radico.co.in
	2. Mr. Devendra Singh	Sr. Vice President	Contact No. 9837471443 Email- singhd@radico.co.in
5.	Type of Distillery unit (Need to put hyperlink on yes)	A. Molasses based distillery B. Grain based distillery C. Brewery unit D. Bottling unit	Yes Yes Yes/No Yes

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

B. GRAIN BASED DISTILLERY

1.	Year of Commissioning	Grain Plant – 2006 & Malt Spirit Plant– 1992		
2.	Standalone/Connected with sugar unit	Standalone		
3.	Status of consents and authorization*		Yes/No/Expired/Applied	Validity Date
		Environmental Clearance (EC)	NA	NA
		Air Consent	Yes Ref. No. 51920/UPPCB/Moradabad	Valid from 31/03/2019 to 31/12/2023

			(UPPCBRO)/CTO/air/RAMPUR/2019 dated 02/05/2019 ***Refer Annexure-XVII***	
		Water Consent	Yes Ref. No. 51862/UPPCB/Moradabad (UPPCBRO)/CTO/water/RAMPUR/2019 dated 02/05/2019 ***Refer Annexure-XVIII***	Valid from 31/03/2019 to 31/12/2023
		Haz. Waste Authorization	Yes Ref. No. 178/UPPCB/Moradabad (UPPCBRO)/HWM/RAMPUR/2017 dated 04/04/2018 ***Refer Annexure-III***	Valid from 04/04/2018 to 31/03/2023
		CGWA NOC	Yes Registration No. 202108000274/304/378 ***Refer Annexure-IV***	---

***Attach copy of EC, consents and CGWA NOC, if valid.**
If unit has applied for renewal, then submit copy of application.

2. Fresh water consumption details

1.	Water Supply Source	Borewell	
2.	River	NA	
	Flow meter with totalizer installed at line carrying freshwater (Yes/No)	NA	
	Instantaneous Reading (m^3/hr)	NA	
	Totalizer Reading (m^3)	NA	
3.	Borewell/Tubewell		
	No. of Borewell/Tubewell as per CGWA NOC	03 Nos.	
	Actual no. of Borewell found on site	03 Nos.	
	Permitted withdrawal quantity	1314000 m^3/annum	
	Actual withdrawal quantity (Average of last three months)	1840.46 KLD (Average of month Feb. 2022) ***Refer Annexure-VII***	
	No. of Borewell having flow meter with totalizer installed	03 Nos.	
	Instantaneous Reading* (m^3/hr)	NA	
	Totalizer Reading during visit* (m^3)	Initial	BW 1 – 1147356 M^3

			BW 2 – 841861 M^3 BW 3 – 892042 M^3
		Final	BW 1 – 1148255 M^3 BW 2 – 842845 M^3 BW 3 – 892042 M^3 (Bore well reading for all plants including Molasses, Grain and malt Based and bottling)
4.	Type of flow meter installed: mechanical/digital/electromagnetic etc.	Electromagnetic	
	Calibration details	Yes ***Refer Annexure-VI***	
	Log Book Maintained (Yes/No)	Yes ***Refer Annexure-VII***	

5.	Fresh water consumption			
		Production process	**Domestic**	**Others**
	Freshwater consumption (KL) (Average of last three months)	1780.0 KLD	60.0 KLD	NA
	Overall (In KLD & KL/MT of product)	7.18	0.242	NA
		(Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)		
	On the day of visit (KLD)	1820.0 KLD	63.0 KLD	NA

***If more than one water source, then take reading separately**

3. Manufacturing Process, Spent Wash (SW) & Thin Slope Management System

1.	Manufacturing Process (Provide line diagram) (Milling→ liquefaction→ Fermentation→ Distillation)	Milling → liquefaction → Fermentation → Distillation	
	Type of Fermentation technology adopted	Batch Fermentation	
	Type of Distillation technology adopted	Multi Pressure Distillation	
	Integrated MEE with Distillation (Yes/No)	Integrated MEE	
2.	Spent Wash& Thin Stillage/Slope	Decanter/Centrifuge (Spent wash) ■	DWGS Dryer* □

	Management Technology	MEE (for thin stillage/slop) ■	CPU ■
	Spent Wash& Thin Stillage/Slope Management Sequence	Decantation → IMEE →DWGS sold as Cattel feed Conventional CPU for treatment of low strength process effluent, utility waste water is being treated in CPU.	
3.	Licensed capacity of Distillery (KLPD/Bulk litres per annum)	100 KLPD Grain Distillery 8.0 KLPD Malt Spirit Plant	
	Installed capacity	Grain – 100 KLPD Malt – 8 KLPD	
	Present Production in KLPD	Grain Spirit -100.0 KPLD (Avg. of month Feb. 2022) Malt – 4.52 KLPD (Avg. of month Feb. 2022) ***Refer Annexure-XXI***	
	No of operating days/year	350	
	Products Manufacture (for which period??)	RS/ENA/Absolute alcohol/Ethanol (HLD)	
	RS	--	
	ENA	2800049.9 BL (From 01st Feb. 2022 to 28th Feb. 2022)	
	Absolute Alcohol/Ethanol	--	
4.	Type of Grain used	Broken Rice, Barley, Bajra, Maize, Sorghum etc.	
	Grain (in Qtls) per KL of alcohol production	21.29 Qtls. /KL of alcohol production	

*Distiller's Wet Grain Soluble (DWGS)

4. Waste water generation

Sr. No.	Stream/section	Quantity, KLD	Disposal/Utilization Point
1.	Spent Wash	680.0	Decanter/Centrifuge
2.	Thin Stillage/Slop	384.0	IMEE
		120.0	Recycled in slurry preparation
3.	Thick syrup from MEE (MEE concentrate)	98.0	Mixed with DWG (Wet cake)
4.	MEE condensate	311.0	CPU
5.	Fermenter washing	15.0	CPU/ MEE
6.	Floor washing	10.0	CPU/ MEE
7.	Cooling tower blow down	20.0	CPU
8.	Boiler blow down	20.0	CPU
9.	DM plant reject	20.0	CPU
10.	Others viz. CPU RO reject etc.	31.0	MEE
11.	Spent wash generation (KL/KL of production)	6.80	Decantation/MEE
12.	Quantity of Thin stillage/slop generation (from decanter/centrifuge) (KL/KL of production)	5.04	
13.	Quantity of Thick syrup from MEE (MEE concentrate)	0.96	

	generation (KL/KL of production)		
14.	Total quantity of spent wash feed into MEE (unit?)	409.0	MEE
15.	Total quantity of other effluent feed into CPU (unit?)	371.0	CPU

5. Process Emission/ Solid Disposal

Sr. No.	Stream/section	Quantity, KLD	Disposal
1.	Fermenter CO_2 disposal	65.0 TPD	CO_2 plant
2.	Fermenter sludge disposal	NA	NA

6. Centrifuge/Decanter for Spent wash from Distillation– Yes

1.	Unit has installed Centrifuge or Decanter?	Decanters	
2.	Setting cum cooling tank before Centrifuge/Decanter (Yes/No)	Heat Recovery system installed	
	Capacity of Setting cum cooling tank before Centrifuge/Decanter (m^3)	20 m3/Hr of each Decanter	
3.	Year of installation/establishment & commissioning of the Centrifuge/Decanter	2006	
4.	No. of Centrifuge/Decanter	03 Nos.	
	Capacity of Centrifuge/Decanter	NA	
5.	Hydraulic Retention Time on Design basis (In days) (15-24 days)	NA	
	Organic Loading Rate ($kg/m^3/day$)	NA	
	Volume (m^3)	NA	
6.	No. of days of operation of Centrifuge/Decanter (days/annum)	Throughout the year	
	Maintaining Log Book records supporting Centrifuge/Decanter plant performance (Yes /No)	No	
7.	Flow meter details	NA	
	Flow meter installed at inlet of Centrifuge/Decanter (Raw spent wash from distillation) (Yes/No)	NA	
	Flow meter installed at outlet of Centrifuge/Decanter (Thin stillage/slop generation line) (Yes/No)	NA	
		Initial Reading	Final Reading
	Flow meter reading at Inlet	NA	NA
	Flow meter reading at Outlet	NA	
8.	Quantity of Wet cake/DWGS generation from Centrifuge/Decanter (MT/kg per day)	120 MT/day	
	Method of disposal/ utilization of Wet cake/DWGS (In DDGS* dryer/directly used as cattle feed)	Sold as cattle feed	
9.	Quantity of Thin stillage/Slop generation from Centrifuge/Decanter (KLD)	384 KLD (Feed to MEE) 120 KLD (Recycled in slurry)	

10.	Method of disposal/ utilization of thin stillage/Slop (MEE/others)	Fed to MEE

*Distillery Dries Grain Soluble (DDGS)

7. Multiple Effective Evaporator (MEE) for thin stillage/slop from decanter/centrifuges

1.	Setting cum cooling tank before MEE (Yes/No)	Yes	
	Capacity of Setting tank before MEE (m^3)	15 KL	
2.	Year of installation/establishment & commissioning of MEE plant	2012-13	
3.	Number of Effects with their HTA and MOC. (Mention number of stand-by bodies and degasser provided, if any)	06 Nos. Falling Film Effects (05W+1S) Details are not provided by unit	
	Type of technology of MEE	Integrated MEE	
	Designed capacity of MEE(m^3/day)	435 M^3/Day	
	Evaporation rate of MEE (%)	83%	
4.	Acceptable level of suspended solids, dissolved solids etc in the feed.	4-5%	
5.	Maintaining Log Book supporting MEE plant performance (Yes/No)	Yes ***Refer Annexure-XXIV***	
6.	Mass flow meter with totalizer installed at inlet of MEE (Yes/No)	Yes	
	Mass flow meter with totalizer installed at outlet of MEE, MEE concentrate (Yes/No)	Yes	
	Mass flow meter with totalizer installed at outlet of MEE, MEE condensate (Yes/No)	No (Magnetic Flow meter with totalizer is installed)	
		Initial*	Final
7.	Mass flow meter reading with totalizer at inlet of MEE	656034 MT	656496 MT
	Mass flow meter reading with totalizer with outlet of MEE, MEE concentrate	134931 MT	135026 MT
	Mass flow meter reading with totalizer with outlet of MEE, MEE condensate	NA	NA
8.	Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)	Yes	

*Provide for one day.

7.1. MEE operational details

1.	MEE feed rate (actual)	Kg/hr	17042.0	Sp. Gr.- 1.024
2.	Feed rate @ Sp. Gr. (Approximate)	Kg/hr	17451.0	
3.	Solid content in feed/brix	%/ degree	6.10	
4.	Water evaporation rate (Minimum)	Kg/hr	12952.0	
5.	Concentrate Generation	Kg/hr	4507.0	

6.	Solid content in concentrate Generation /brix	%/degree	25.42
7.	Operation hour and whether it is operating continuously	Hr/day-or week or month	Continuously
8.	MEE Feed Characteristics	pH TSS TDS BOD & COD	3.86 24410 mg/l 36590 mg/l 18000 mg/l 78000 mg/l
9.	Frequency of Cleaning in Process (CIP)	Hr/day or week or month	Once in a month
10.	Quantity of CIP effluent	m^3/hr	10 m^3
11.	Quantity of process condensate	m^3/hr	12.95
12.	Whether MEE achieving design efficiency. (Yes/No)	Yes	
13.	Utilisation of MEE condensate	Treated through CPU & reused for process & non-process applications.	
14.	Utilisation of MEE concentrate/ thick syrup	Mixed with DWG (wet cake) to produce DWGS & sold as cattle feed	
15.	Utilization of blow down (cooling tower & boiler)	Treated through CPU & reused for process & non-process applications.	

7.2. MEE output Characteristics

Sr. No.	Particulars	Conc. spent wash	Process Condensate
1.	Quantity, m^3/day	98.0	311.0
2.	pH	3.87	3.57
3.	Temperature, ºC	72	48
4.	COD, ppm	234000	1360
5.	Total solids, %	25.42	0.162
6.	Ammonical Nitrogen (as N), ppm	245.1 (Ammonia)	ND

8. Dryer for Distiller's Wet Grain Soluble (DWGS)/Wet cake from Decanter/Centrifuge - No

1.	Unit has installed Dryer for DWGS/Wet cake from Decanter/Centrifuge?	NA
2.	Setting cum cooling tank before Dryer (Yes/No)	NA
	Capacity of Setting cum cooling tank before Dryer (m^3)	NA
3.	Year of installation/establishment & commissioning	NA

	of Dryer	
4.	No. of Dryer	NA
	Capacity of Dryer	NA
	Type of Dryer (Rotary Tube Bundle Dryer/Fluidized Bed Dryer)	NA
5.	Hydraulic Retention Time on Design basis (In days) (15-24 days)	NA
	Organic Loading Rate ($kg/m^3/day$)	NA
	Volume (m^3)	NA
6.	No. of days of operation of Dryer (days/annum)	NA
	Maintaining Log Book records supporting Dryer Performance (Yes /No)	NA
7.	Quantity of MEE concentrate/thick syrup mixed with wet cake per day	NA
8.	Quantity of DDGS generation from Dryer (KLD)	NA
	Method of disposal/ utilization of DDGS from dryer (Used as cattle feed/others)	NA

9. CPU (Condensate Polishing Unit) for MEE Condensate – Yes

1.	Year of installation/establishment & commissioning of CPU	CPU plant installed in 2015 and upgraded in 2019	
2.	Name of Plant/Technology supplier	M/s. Paques India Pvt Ltd	
3.	Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc. (Mention details of unit processes with flow diagram)	Equalization, Buffering, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF, followed by U V treatment.	
4.	Design capacity of CPU unit (m^3/day)	2000 M^3/day (Common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
5.	Actual capacity of CPU unit (m^3/day)	2000 M^3/day (Common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
6.	Sources of effluent coming into CPU	Source	Quantity KLD
		1. MEE condensate	311.0
		2. Utility Blowdown	40.0
		3. DM Plant Reject	20.0
7.	Quantity coming into CPU per day (total)	371.0 KLD	

8.	Quantity of treated effluent from CPU utilized per day	340 KLD
9.	Recovery (%) and characteristics of treated water and its further utilization details	91%
10.	Is there any reject generated from CPU (Yes/No)	Yes, 31 KLD
11.	Disposal point of reject from CPU (If yes)	Feed to MEE
12.	Total fresh water consumption after reuse of treated low strength effluents.	1840.46 KLD (Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)
13.	Log Book records supporting CPU performance (Yes/No)	Yes Common logbook for Molasses & Grain based distillery ***Refer Annexure-XIV***

9.1 CPU performance

Particulars	Mixed Influent	Treated Effluent
Quantity, m^3/day	371.0	340.0
Colour	350	160
pH	8.48	7.25
Temperature, ºC	55	32
BOD, ppm	345	56
COD, ppm	1490	244
Total solids, %	0.195	0.048
Total dissolved solids, %	0.170	0.036
Total suspended solids, %	0.0082	0.0072
Volatile acids	820	ND
Total Alkalinity	1200	196

10. Boiler

1.	Year of installation/establishment & commissioning of boiler	Information not provided
2.	Type of boiler	01 No. Gas fired Boiler & 01 No. Agro residue fired boiler
3.	Capacity of Boiler	1. 26 TPH (Gas fired) 2. 30 TPH (Rice husk fired)
4.	Design details	
	Steam Pressure	21.0 Kg/cm^2 45.0 Kg/cm^2

	Steam Temperature	340°C 400°C
5.	Boiler/Technology Supplier details	Thermax
6.	Type of fuels used	1) Biogas 2) Agro residue (rice husk)
	Fuel consumption	Biogas – 50000 Nm3/day
7.	Emission control system or Air Pollution Control Device (APCD) installed (Yes/No)	Yes
	Name of installed Emission control system/APCD	
	Stack Height	45 M
	Stack monitored (Yes/No)	Yes ***Refer Annexure-XXVII***
8.	Ash details:	
	Quantity of ash generated, MT/day	NA
	Characteristics of generated Ash	NA
	Method of disposal of Ash	NA
9.	Whether the unit maintaining log Book supporting boiler performance (Yes/No)	Not provided
10.	On-line emission (stack) monitoring system installed (Yes/No)	Yes ***Refer Annexure-XXVII***
11.	On-line emission (stack) monitoring system connected to CPCB/SPCB server at time of inspection? (Yes/No)	Yes

11. Sample Collection Points

Sr. No.	Sampling Points	(Yes/No)
1.	Raw spent wash (feed to Decanter/Centrifuge)	Yes
2.	Feed to MEE (Multi effect evaporator)/Thin stillage/slop from Decanter/Centrifuge	Yes
3.	MEE condensate	Yes
4.	MEE concentrate/Thick syrup	Yes
5.	CPU inlet	Yes
6.	Aeration tank at CPU	Yes
7.	CPU treated condensate	Yes
8.	STP inlet	Yes
9.	STP outlet	Yes
10.	Drain within or outside the premises	No
11.	Bypass if any	No
12.	Groundwater (Samples should be collected from hand pumps or borewells)	Yes

Note: ***Refer Annexure-XXV for analysis report with Form-I***

Parameters to be analyzed for samples collected from locations1 to 7: pH, BOD, COD, TS, TSS, TDS

Parameters to be analyzed for sample collected from location no. 8& 12: pH, BOD, COD, TS, TSS, TDS, Colour

Ground water Analysis Report: Year of Dug: 1994 / 1995 / 2005 Depth (m) 110 & 90 M

4

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012.

Parameter → / Location ↓	pH	Colour (PCU)	Total Alkalinity	Total Hardness	COD	TDS	Cl^-	F^-	NO_3	SO_4
Standard values	6.5-8.5	15	600	600	-	2000	1000	1.5	45	400
BW - 1	7.12	BDL	66.0	74.0	ND	302.0	78.9	ND	1.2	12.4
BW - 2	7.18	BDL	82.0	88.0	ND	407.0	82.9	ND	1.5	12.4
BW – 3	7.18	BDL	92.0	100.0	ND	491.0	98.9	ND	1.7	8.5

Quality of Groundwater is compared with Bureau of Indian Standard (BIS) drinking water — specification (Second Revision) IS 10500: 2012. (Heavy Metal)

Parameter →	As	Cd	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Zn	Sb	Co	Se	V
Permissible linits	0.05	0.003	0.05	1.5	0.3	0.01	0.3	0.001	0.02	15	-	-	0.01	-
BW - 1	ND	ND	ND	ND	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND
BW – 2	ND	ND	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND	ND
BW – 3	ND	ND	ND	ND	0.15	ND	ND	ND	ND	ND	ND	ND	ND	ND

Refer Annexure-XVI for analysis report with Form-I

✪ ***Observations:***

1. During the day of inspection 200 KLPD Molasses Based Distillery, 100 KLPD Grain Based Distillery ,8 KLPD Malt spirit plant found operational.
2. Avg production of last three months of Molasses based distillery is 140 KLPD, Grain Bases distillery is 100 KLPD and Malt spirit plant is 3.00 KLPD
3. Unit has obtained valid Air, water Consents for 200 KLPD Molasses based distillery plant, 100 KLPD Gran based distillery plant, 8 KLPD Malt spirit plant.
4. Unit has 3 borewells in the distillery premises, unit has installed flowmeters on each borewell and maintaining logbooks for the same.
5. Industry has obtained valid NOC for Ground water extraction.
6. For molasses-based distillery unit has adopted ZLD system as Raw Spent wash - Integrated Multi Effect Evaporation (IMEE) – Biodigester – BMSW RO plant – Standalone Multi Effect Evaporation (SMEE)- Biocomposting
7. For grain-based distillery unit has adopted ZLD system as Raw Spent wash – Decantation

– Integrated Multi Effect Evaporation (IMEE)- DWGS (Wet cake sold as cattle feed.

8. The above ZLD system was in operation during the day of inspection.
9. For treatment of IMEE, SMEE process condensate, cooling tower & boiler blowdown, the distillery has installed combined CPU (conventional) plant having capacity of 2000 M3/Day. CPU is found operational at the time inspection visit.
10. Unit has installed high brix Bio-digester (24 brix)
11. For treatment of biomethanated spentwash molasses-based distillery unit has installed RO plant having capacity of 1680 M3/Day.
12. Green belt area is provided by the unit in the premises of distillery unit & biocompost yard.
13. Leachate collection sump with gutters is observed at Biocompost yard. (Covered - 28 Acres and uncovered- 30 Acres)
14. PTZ online camera is installed at the Lagoon site and Biocompost area.
15. Total 13 no's Piezometer are available in the biocompost yard & relevant online monitoring data is provided by distillery unit.
16. Mass flow meters are installed at IMEE & SMEE inlet & outlet, calibrated and connected with online connectivity to UPPCB/CPCB server and records are maintained by the unit.
17. Calibration certificate of spent wash (Grain & Molasses based) inlet and outlet mass flowmeters and molasses & flour weighing system are provided by the unit
18. Conc. biomethanated spent wash storage lagoons (Nos.2) are available and observed about 30% & 35% actual filled capacity during visit.
19. Unit has installed 02 nos. boilers out of which one is biogas fired having capacity of 26 TPH & another is rice husk fired boiler having capacity of 30 TPH high pressure boiler with 2.0 MW & 2.25 MW TG set respectively for captive steam & power generation and consumption in molasses & grain-based distillery.
20. Total 6 Nos of Thermophilic biodigesters are found operational & 1 digester is under maintenance found during inspection visit.
21. Biogas generated from biodigester is being utilized in biogas generator also to produce 2.4 MW power directly from biogas & at the time of inspection 01 biogas generator is found operational.
22. Biogas generated from biodigester of CPU is used in biogas generator for power generation
23. Online monitoring system for stack emission is available and connected to the CPCB and UPPCB server and relevant data is provided by the unit.

24. 04 nos. handpumps are found in biocomposting yard.
25. It was observed that unit is maintaining biocomposting as per CBCB guidelines. Unit is bagging the ready biocompost.
26. Centrifuge decantation system is provided at Grain based distillery for separation of the DWGS (wet cake) & sold as cattle feed to contracted parties.
27. ESP is installed as air pollution control system for 30 TPH boiler installed in premises of grain-based distillery.
28. Fermented yeast sludge, ETP sludge & boiler ash is being utilized for production of biocompost as a filler material.
29. Industry has installed 100 KLD STP for treatment of domestic sewage and V Notch is available for measurement of flow whereas magnetic flow meters are not available at inlet and outlet and found operational at the day of inspection.
30. Treated water and sludge generated from STP is being utilized for Gardening in the premises of unit
31. Tree plantation and gardening is well developed in the area of Biodigester, CPU and spentwash lagoon.
32. Rain water harvesting & recharge ponds are provided by the unit in nearby villages viz. Dinpur, Hariyal, Punjab Nagar, Ballu ki Madhaiyya, Chikna Milakh, etc. & relevant data is provided by the distillery unit.

✪ ***Recommendations/Suggestion:***

1. Unit shall maintain proper housekeeping in fermentation, Evaporation as well as DWGS area.
2. Unit shall implement pipeline colour coding in the operational as well as ETP area.
3. It is also recommended that unit shall maintain unit wise or section wise fresh water consumption, waste water generation and treated water recycled in the process and undergo water audit of the manufacturing activities.

✪ ***Compliance Status (Complied/ Non-Complied/ Closed): Complied***

Inspection team (Technical Institutes, SPCB & SPMG) details:

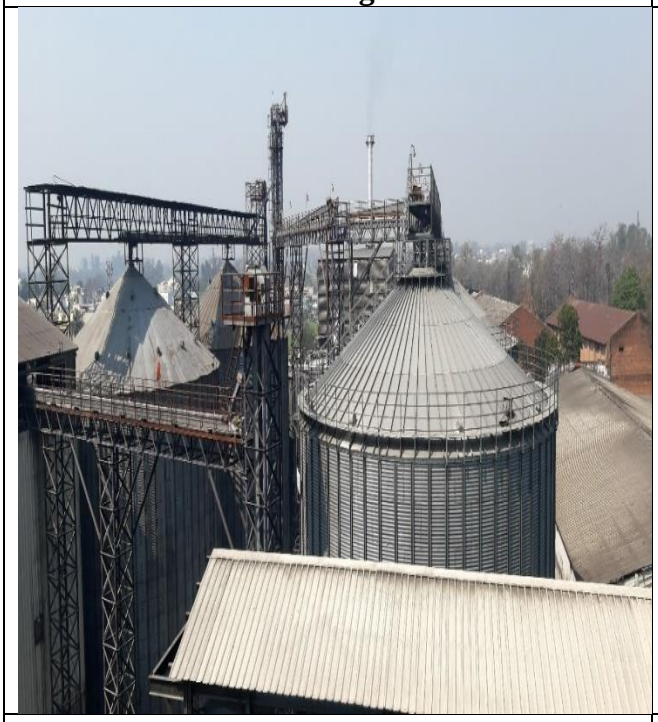
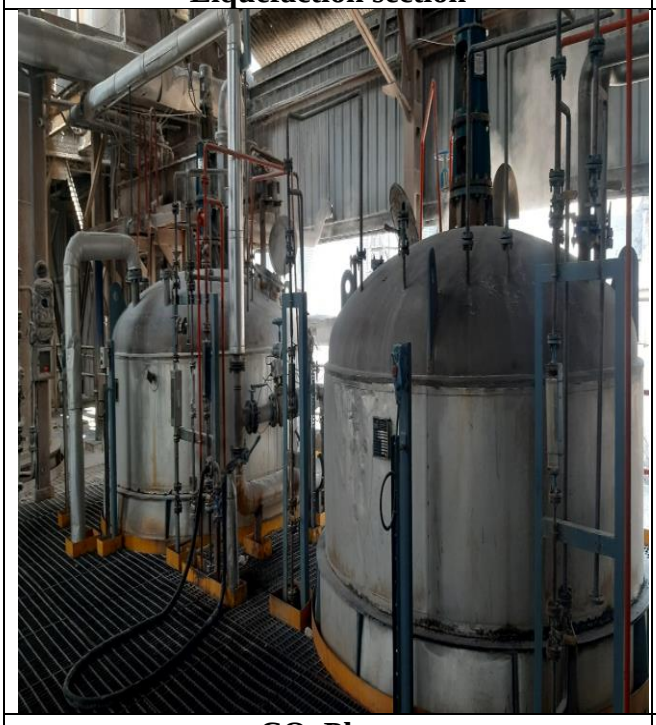
S. No.	Technical institute officials	Designation	Organization	Signature with date
1	Mr. Avinash Deshmukh	Scientist	VSI, Pune	Deshmukh 19/04/2022
2	Mr. Shivaraj Patil	Technical Officer	VSI, Pune	19/04/2022

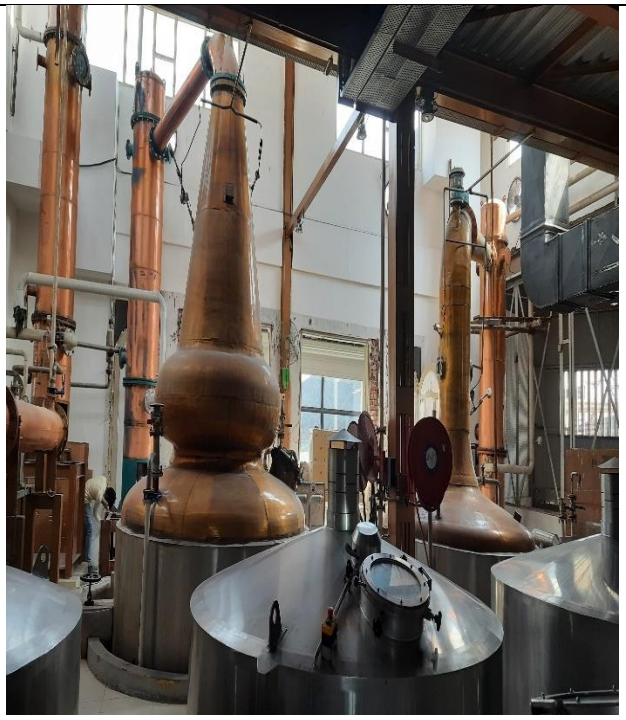
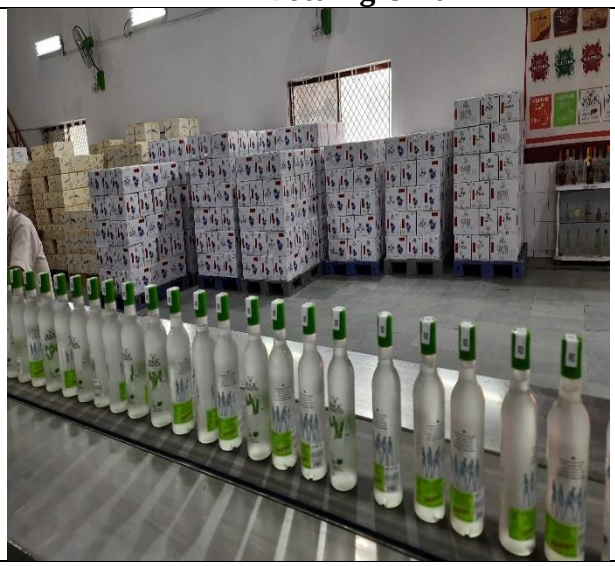
Sr. No.	SPCB/SMCG officials	Designation	Organization	Signature with date
1	Mr. J. N. Tiwari	JEE - UPPCB	UPPCB-Region Moradabad	For Dry report ***Refer Annexure-XXXIII***

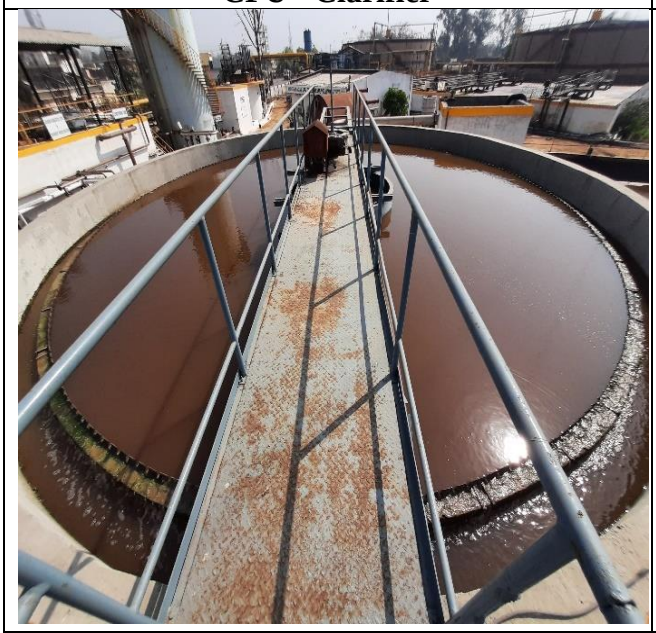
12. Other Details

- **Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system. M/s. Forb marshal Ind. Ltd. Refer Annexure- XXVII**
- **Problems faced in maintaining the continuity of on-line monitoring system.No**
- **Identification of recipient drains/rivulets and their u/s&d/s locations for monthly monitoring to ensure ZLD. Yes**
- **Material and mass balance of your total grain-based distillery plant operations including ETPs showing ZLD. Refer Annexure-XXII**
- **Also indicate how your grain-based distillery unit is achieving steam and power balance.**
- **Environment Management Cell-Mo Ms and necessary documents. - Refer Annexure-XXX**
- **Water conservation measures taken report (rain water harvesting etc.).-Yes Refer Annexure-XXXI**

Photographs of the industry:

Grain storage silos	Milling section
	
Liquefaction section	**Fermentation section**
	
CO_2 Plant	**Malt Spirit Plant**

	
Decantation section (DWGS)	**IMFL Bottling Unit**
	
CPU – Equalization Tank	**CPU – Anaerobic Digester**

	
CPU - Clarifier	**Boiler – ESP & Chimney**
	
Boiler – Ash storage silo	**STP (Sewage Treatment Plant)**


CHLORINE

INDUSTRY INSPECTION REPORT (DISTILLERY-MOLASSES BASED)

Date of Inspection: 04/03/2022

1. General Information

1.	Unit Code	511	
2.	a) Name and Address of the unit	Radico Khaitan Ltd, Bareilly Road, Rampur-244901 (UP)	
	b) Coordinates (Latitude & Longitude) in Decimal	28.7739918 79.0347959	
	c) Name of the recipient drain	ZLD Distillery unit, Nearest drain- Rampur city municipal drain	
	d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga)	Rampur Municipal Drain → Kosi River → Ramganga → Ganga River	
3.	Operational Status (Operational/Non-Operational) *	Operational	
4.	Name of Occupier/Contact Person	Designation	Contact No & e- mail
	1. Mr. K P. Singh	Director Operation	Contact No. 9837025736 Email -singhkp@radico.co.in
	2. Mr. Devendra Singh	Sr. Vice President	Contact No. 9837471443 Email- singhd@radico.co.in
5.	Type of Distillery unit	A. Molasses based distillery B. Grain based distillery C. Brewery unit D. Bottling unit	Yes Yes Yes/No Yes

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

A. MOLASSES BASED DISTILLERY

1.	Year of Commissioning	1943		
2.	Standalone/Connected with sugar unit	Standalone		
3.	Status of consents and authorization*		Yes/No/Expired/Applied	Validity Date
		Environmental Clearance (EC)	NA	NA
		Air Consent	Yes Ref. No. 51907/UPPCB/Moradabad	Valid from 31/05/2019 to

			(UPPCBRO)/CTO/air/RAMPUR/2019 dated 19/07/2019 ***Refer Annexure-I***	31/12/2023
		Water Consent	Yes Ref. No. 51900/UPPCB/Moradabad (UPPCBRO)/CTO/water/RAMPUR/2019 dated 19/07/2019 ***Refer Annexure-II***	Valid from 31/05/2019 to 31/12/2023
		Haz. Waste Authorization	Yes Ref. No. 178/UPPCB/Moradabad (UPPCBRO)/HWM/RAMPUR/2017 dated 04/04/2018 ***Refer Annexure-III***	Valid from 04/04/2018 to 31/03/2023
		CGWA NOC	Yes Registration No. 202108000274/304/378 ***Refer Annexure-IV***	---

***Attach copy of EC, consents and CGWA NOC, if valid.**
If unit has applied for renewal, then submit copy of application.

2. Fresh water consumption details

1.	Water Supply Source	Borewell	
2.	River	NA	
	Flow meter with totalizer installed at line carrying freshwater (Yes/No)	NA	
	Instantaneous Reading (m^3/hr)	NA	
	Totalizer Reading (m^3)	NA	
3.	Borewell/Tubewell		
	No. of Borewell/Tubewell as per CGWA NOC	03 Nos.	
	Actual no. of Borewell found on site	03 Nos.	
	Permitted withdrawal quantity	1314000 m^3/annum	
	Actual withdrawal quantity (Average of last three months)	1840.46 KLD (Average of month Feb. 2022) ***Refer Annexure-VII***	
	No. of Borewell having flow meter with totalizer installed	03 Nos.	
	Instantaneous Reading* (m^3/hr)	NA	
	Totalizer Reading during visit* (m^3)	Initial	BW 1 – 1147356 M^3 BW 2 – 841861 M^3 BW 3 – 892042 M^3
		Final	BW 1 – 1148255 M^3 BW 2 – 842845 M^3 BW 3 – 892042 M^3 (Bore well reading for all plants including Molasses, Grain and malt Based and

			bottling)
4.	Type of flow meter installed: mechanical/digital/electromagnetic etc.	Electromagnetic	
	Calibration details	Yes, ***Refer Annexure-VI***	
	Log Book Maintained (Yes/No)	Yes, ***Refer Annexure-VII***	
5.	Fresh water consumption		

		Production process	**Domestic**	**Others**
	Freshwater consumption (KL) (Average of last three months)	1780.0 KLD	60.0 KLD	NA
	Overall (In KLD & KL/MT of product)	7.18 (Including Molasses, Grain and Malt spirit plant and IMFL & CL bottling)	0.242	NA
	On the previous day of visit (KLD)	1820.0 KLD	63.0 KLD	NA

***If more than one water source, then take reading separately**

3. Manufacturing Process & Spent Wash (SW) Management System

1.	Manufacturing Process (Provide line diagram)	Molasses handling→ Fermentation→ Distillation with MSDH→ Final product (RS/ENA/AA)	
	Type of Fermentation technology adopted	Fed-batch fermentation	
	Type of Distillation technology adopted	MPR distillation with MSDH technology	
	Integrated MEE with Distillation (Yes/No)	Yes	
2.	Spent Wash Management Technology	Bio-digester ■ RO ■ MEE ■	Bio-composting ■ Incinerator □ CPU ■
	Spent Wash Management Sequence	1) Raw spent wash from process → IMEE → Anaerobic Bio-digesters → BMSW R O Plant → BMSW SMEE → Bio-composting activity with partly covered facility for rainy season. 2) Low Stength effluent (Spent lees+MEE condensate+Utility blowdown) → Concentional CPU →Ultrafiltration → RO Plant → Treated water recycled for process & non-process applications.	
3.	Licensed capacity of Distillery (KLPD)	200 KLPD As per consent	
	Installed capacity	200 KLPD	
	Present Production in	143.18 KLPD (Average of month Feb. 2022)	

	KLPD	***Refer Annexure-VIII***
	No of operating days/year	350
	Products Manufacture	RS/ENA/Absolute alcohol/Ethanol (KLD)
	RS (01 month)	---
	ENA (01 month)	4009117.2 BL (From 01st Feb. 2022 to 28th Feb. 2022)
	Absolute Alcohol/Ethanol (01 month)	---
4.	Type of Molasses/ Cane Syrup used	C-heavy molasses
	Molasses (in Qtls)/ Cane Syrup per KL of alcohol production	39.87 Qtls. C-Heavy molasses per KL of alcohol production.

4. Waste water generation

Sr. No.	Stream/section	Quantity, KLD	Disposal/Utilization Point
1.	Spent wash	1430.0	IMEE/ Biodigester /BMSW RO/ BMSW SMEE/ Biocomposting
2.	Spent lees	215.0	CPU/RO
3.	Fermenter washing	20.0	CPU/RO/MEE
4.	Process condensate (MEE condensate)	IMEE – 556.0 SMEE – 485.0	CPU/RO
5.	Floor washing	10.0	CPU/RO/ MEE
6.	Cooling tower blow down	30.0	CPU/RO
7.	Boiler blow down	25.0	CPU/RO
8.	DM plant reject	30.0	CPU/RO
9.	Others viz. CPU RO reject etc.	134.0	SMEE
10.	Spent wash generation (KL/KL of production)	9.98	
11.	Quantity of other effluent generation (KL/KL of production)	2.09	
12.	Total quantity of spent wash feed into Bio-digester/RO/MEE(KLPD)	1460.0	IMEE/Biodigester
13.	Total quantity of other effluent feed into CPU(KLPD)	1341.0	CPU

5. Process Emission/ Solid Disposal

Sr. No.	Stream/section	Quantity, KLD	Disposal
1.	Fermenter CO_2 disposal	95.0 TPD	CO_2 plant
2.	Fermenter sludge disposal	42.0 KLD	Utilized in biocomposting

INDUSTRY INSPECTION REPORT (DISTILLLERY – MOLASSES BASED)

Date of Inspection- 05/03/2021

1. GENERAL INFORMATION

1.	**Unit Code**	511	
2 (a)	**Name and address of the Unit**	Radico Khaitan Limited Molasses spirit Plant, Bareilly Road, Rampur, U.P.-244901	
(b)	**Coordinates (Latitude & Longitude) in Decimal**	Latitude - 28.775208410806954 Longitude - 79.03539692983031	
(c)	**Name of the recipient drain**	ZLD Distillery unit, Nearest drain- Rampur city municipal drain	
(d)	**Mode to reach River Ganga (Name of Drain → Name of Sub Tributary → Name of Tributary → River Ganga)**	Rampur Municipal Drain → Kosi River → Ramganga → Ganga River	
3	**Operational status (Operational / Non-Operational)**	Operational	
4	**Inspection Team**	**Designation**	**Contact No & E- mail**
	1. Mr. Shivraj Patil	Technical officer	9921228014 vsiinspectiongpi2020@gmail.com
	2.Mr. Kapil Uphade	Research Assistant	7775922289 vsiinspectiongpi2020@gmail.com
	3. Mr. J N Tiwari	Junior Engineer-UPPCB	9557797076
5	**Name of Occupier / Contact Person**	Designation	Contact No & e- mail
	1. Mr. K P. Singh	Director Operation	9837025736 singhkp@radico.co.in
	2. Mr. Devendra Singh	Sr. Vice President	9837471443 singhd@radico.co.in
6	**Type of Distillery Unit (need to put hyperlink on yes)**	A. Molasses based Distillery - Yes B. Grain Based Distillery - No C. Brewery Unit - No D. Bottling unit - Yes	

*** Note: If non-operational, specify the reason and attach respective documents i. e CPCB/SPCB closure direction.**

A. MOLASSES BASED DISTILLETY

1.	**Year of Commissioning**	1943	
2.	**Standalone / Connected with Sugar Mill Unit**	Standalone	
3	**Status of Consent**	Yes / No/ Expired / Applied	Validity Date

	and authorization *	Environmental Clearance (EC)	NA	NA
		Air Consent	Yes	Ref. No. 51907/Moradabad (UPPCBRO)/CTO/Air/Rampur/ 2019, dated 19/07/2019 Valid up to 31/12/2023 Photocopy is attached herewith as **Annexure-I**
		Water Consent	Yes	Ref. No. 51900/Moradabad (UPPCBRO)/CTO/water/Rampur/ 2019, dated 19/07/2019 Valid up to 31/12/2023 Photocopy is attached herewith as **Annexure-II**
		Haz. Waste Authorization	Yes	Ref. No. 178/Moradabad (UPPCBRO)/CTO/HWM/Rampur/ 2017, dated 04/04/2018 Valid up to 31/03/2023 Photocopy is attached herewith as **Annexure-III**
		CGWA NOC	Yes	Registration done with ground water department U.P and registration documents are available with unit Document is attached as **Annexure IV**

- **Attach copy of EC, Consents and CGWA NOC, if Valid**
  If unit has applied for renewal, then submit copy of application.

2. Fresh Water consumption details

1.	**Water Supply Source**	River / Borewell / Tubewell	
2.	**River**	No	
	Flow meter with totalizer installed at line carrying fresh water (yes/No)	N.A.	
	Instantaneous Reading (m3)	N.A.	
	Totalizer Reading (m3)	N.A.	
3.	**Borewell/Tube well**		
	No. of Borewell/Tube well as per CGWA NOC	03 (Bore well for all plants including Molasses & Grain etc.)	
	Actual no. of borewell found at site	03	
	Permitted withdrawal quantity	100 M^3/Hr	
	Actual withdrawal quantity (Average of last three months)	1917 M^3/Day (water consume in all plants including Molasses, Grain and malt Based and bottling)	
	No. of borewell having flow meter with totalizer installed	03	
	Instantaneous Reading (c)	1. 850584 m3 2. 478172 m3 3. 847917 m3	
	Totalizer reading during visit * (m3)	Initial	1. 850584 m3 2. 478172 m3 3. 847917 m3 (bore well reading for all plants including Molasses, Grain and malt Based and bottling)
		Final	1. 851343 m^3

			2. 479054 m^3 3. 847917 m^3 (bore well reading for all plants including Molasses, Grain and malt Based and bottling)
4.	**Type of flow meter installed: mechanical / digital / electromechanics etc.**	Electromagnetic	
	Calibration details	Calibrated and valid till 28.06.2021all three bore-well flow meters Details are attached as **annexure - V**	
	Log Book maintained (yes / No)	Yes Bore–well Logbook is attached as **Annexure - VI**	

Fresh Water Consumption

	Production Process	Domestic	Others
Fresh Water consumption (KL) (average of last three months	1867 KL	50 KL	--
Overall (in KLD & KL/MT of product)	7.42 KL/Litter of alcohol (Including domestic) for Grain Base, Molasses base, malt spirit and bottling unit		--
On the day of visit (KLD)	1641 KLD	50 KL	

- **If more than one water source take reading separately**

3 . Manufacturing Process, Spent Wash (SW) Management System

1.	**Manufacturing Process (providing Line Diagram)**	Fermentation, Distillation with integrated Evaporation, Thermophilic Anaerobic Digesters, TSS Reduction Plant, R O Plants, BMSW Evaporator, Bio-composting with partly covered facility for rainy season.			
	Type of Fermentation process adopted	Batch Process			
	Type of Distillation process adopted	Multi Pressure Distillation			
	Integrated MEE with Distillation (Yes/No)	Yes			
2.	**Spent wash Management Technology**	Bio – Digesters	√	Bio-composting	√
		R O Plants	√	Incinerator	
		MEE	√	CPU	√
	Spent wash Slop Management Sequence	Attached as Annexure – 2 (Process Line Diagram)			
3.	**Licensed capacity of Distillery (KLPD/Bulk Liters per annum)**	200 KLPD As per consent			
	Installed Capacity	200 KLPD			
	Present Production in KLPD	154.42 KLPD Production details area attached **Annexure VII**			
	No. of operating days/Year	350			
	Products Manufacture KLPD	RS/ENA/Absolute alcohol			
	RS	--			

	ENA	338 days/annum (From 01/04/2020 to 5/3/2021 as informed by industry)
	Absolute Alcohol/Ethanol	--
4.	**Type of Molasses used**	C – heavy molasses
	Molasses (in Qtls) per KL of alcohol production	43.00 Qtls/kl of alcohol production

4. Waste Water Generation

	Stream/section	Quantity, m^3/day	Disposal/utilization Point
1.	**Spent wash**	1609 m^3/day	IMEE – Biodigester – S.W. RO – BMSW MEE – Biocompost Spent wash generation record is attached as **Annexure - VIII**
2.	**Spent Lees**	450 m^3/day	Recycling in Distillation & Utilization in fermentation
3.	**MEE Condensate**	367 m^3/day	CPU and after treatment utilising in cooling towers & fermentation
4.	**Fermenter washing**	40 m^3/day	IMEE Feed
5.	**Floor washing**	10 m3/day	CPU and after treatment utilising in cooling towers & fermentation
6.	**Cooling tower blow down**	120 m^3/day	CPU and after treatment utilising in cooling towers & fermentation
7.	**Boiler blow down**	8 m^3/day	CPU and after treatment utilising in cooling towers & fermentation
8.	**DM plant Reject**	80 m^3/day	CPU and after treatment utilising in cooling towers & fermentation
9.	**Others**	N.A.	
10.	**Spent wash generation (KL/KL of production)**	9.59	Before Passing through re-boilers, MEE , Sent to Bio-digesters
11.	**Quantity of other effluent generation (KL/KL of Production)**	N.A.	
12.	**Total Quantity of Spent wash feed to Bio-Digesters/RO/MEE (unit?)**	1040 m3/day to Biodigester	Feed to Bio Digesters →R O Plants
13.	**Total quantity of other effluent feed into CPU (unit?)**	N.A.	

5. Bio – Methanation Plant / Bio - Digester – Yes / No

1.	**Settling cum cooling tank before Bio-Digesters (Yes / No)**	Yes
	Capacity of settling cum cooling tank before Bio-Digesters (m3)	200
2.	**Year on installing/establishment & commissioning of the Bio-Digesters**	Since 1987 - 1988
3.	**No. of Digesters**	06
	Capacity of Digesters	Total - 39000 M3
	Type of Technology (CSTR/UASB/Thermophilic/Hybrid)	(CSTR) Continuous Stirred Tank React or packed media reactor/ (UASB) Up-flow Anaerobic Sludge Blanket- Thermophilic

		Reactors with Gas recycling
4.	**Hydraulic retention time on design basis (in days) (15-24 days)**	30 days
	Organic Loading rate (kg/m3/day)	05.00 kg/M^3 /Day
	Volume (m3)	Total 39000
5.	**No. of days operation of Bio-digesters (days / annum)**	Throughout the year
	Total Bio Gas production (m3/annum) and bagasse/coal saved	31780327 NM^3 Bio Gas generated from April 2020 to Feb 2021
	Maintaining log book record supporting bio gas plant performance (Yes / No)	Yes
6.	**Quantity of sludge generation from Bio- digester (KLD)**	8 KLD
10.	**Method of disposal / utilization of Sludge**	Bio-Composting

Date of observation-	**04.3.2021**	
	Design parameters	Actual Feed Values
Feed rate, TPD	2100 TPD	1045
Brix, (Inlet/Outlet)	20 to 25 %	Inlet 11.62% Outlet 6.46%
pH, (Inlet/Outlet)	3.5 to 4.5	Inlet 4.3 Outlet 7.89
COD, mg/L (Inlet/Outlet)	Inlet 1,30,000 Outlet 42,000	Inlet 140700 Outlet 59000
BOD, mg/L (Inlet/Outlet)	Inlet 60,000 Outlet 5,000	inlet 33200 Outlet 7500
COD reduction %	**60 %**	58 %
BOD reduction %	**85 %**	77.40 %
Biogas generation, NM^3 /Kg of COD consumed	**0.5**	0.5
Biogas generation, NM^3 /Day	--	42639N M^3 /Day

Biogas plant logbook is attached **Annexure - IX**

6. Integrated Multi Effect Evaporator (IMEE) (RSW based)

1.	**Setting cum cooling tank before MEE (Yes / No)**	Yes
	Capacity of settling tank before MEE (m3)	30 m^3
2.	**Year of installation/establishment & commissioning of MEE plant**	2013
3.	**Type of technology of MEE.**	Falling film multi effect
	Number of Effects with their HTA and MOC. Number of stand-by bodies and degasser provided.	3 no's, MOC-SS-316 & no stand by bodies. VLS provided
	Designed feed capacity and evaporation rate of MEE (M3/day).	1700 TPD
	Evaporation rate of MEE	33 %
4.	**Acceptable level of solids**	12 - 18.6 %
5.	**Log Book supporting MEE plant performance.**	Yes
6.	**Mass Flow meter with totalizer installed at inlet of MEE (Yes / No)**	Yes
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Concentrate (Yes / No)	Yes

	Mass Flow meter with totalizer installed at outlet of MEE, MEE Condensate (Yes / No)	No	
		Initial *	Final
7.	**Mass flow meter reading with totalizer at inlet of MEE.**	2929122	2930755
	Mass flow meter reading with totalizer with outlet of MEE, MEE Concentrate	2288586	2289620
	Mass flow meter reading with totalizer with outlet of MEE, MEE Condensate	N.A.	N.A.
8.	**Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)**	Yes	

- Provide one day reading

6.1. IMEE (RSW) Operational details

1.	**MEE feed rate (actual)**	**Lit/hr**	55000	Sp. Gr.- 1.07
2.	**Feed rate @ Sp.Gr.(Approximate)**	**Kg/hr**	58850	
3.	**Solid content in feed/brix**	**% degree**	18 %	
4.	**Water evaporation rate (Min.)**	**Kg/hr**	15290	
5.	**Concentrate Generation**	**Kg/hr**	43560	
6.	**Solid content in concentrate Generation /brix**	**% degree Brix**	25 %	
7.	**Operation hour and whether it is operating continuously**	**Hr / day-week-month**	continuous	
8.	**MEE Feed Characteristics:** **pH** **TSS** **TDS** **BOD** **COD**	**NA**	NA	
9.	**Frequency of CIP (cleaning in process)**	**Hr/ day or week or month**	Twice in a month	
10.	**Quantity of CIP effluent**	**M^3/hr**	35 m3/ CIP	
11.	**Quantity of process condensate**	**M^3/hr**	15.29 M3/hr	
12.	**Whether MEE achieving design efficiency**	**Yes / No**	Yes	
13.	**Utilisation of MEE condensate**		CPU	
14.	**Utilisation of MEE concentrate**		Biodigester	
15.	**Utilization of blow down (cooling tower & boiler)**		CPU	

6.2. IMEE output Characteristics

Sr No.	Particulars	Conc. spent wash	Process Condensate
1.	**Quantity, M3/day**	950.00	367
2.	**PH**	NA	NA
3.	**Temperature, degree C**	65-70	40-45
4.	**COD, ppm**	NA	NA
5.	**Total solids, %**	NA	NA
6.	**Ammonical Nitrogen (asN), ppm**	NA	NA

7. RO Plants (for Bio – Methanated spent wah treatment)

1.	**Settling cum cooling tank before RO Plants (Yes / No)**	Yes
	Capacity of settling cum cooling tank before R O (m3)	1680 M3/Day
2.	**Year on installing/establishment & commissioning of R O Plants**	2005
3.	**Details of pre treatment**	TSS Removal Plant Comprising of Lamella clarifiers, Series of clarifiers, Settling Tank and DAF (Diffused Air floatation)
4.	**Type of Technology of membrane filtration.**	Combination of disc tube & spiral High pressure types membranes
	Number of membranes per module & number of modules	184 membranes / modules, 820-disc type modules, 144 spiral type modules
5.	**Designed feed capacity of R O Plants (m3/day)**	1680 M3/Day
	Acceptable level in the feed	T.S.S. Max. – 3500- 4500 PPM
6.	**No. of days of operation (days / annum)**	365
	Maintaining log book record supporting R O plant performance (Yes / No)	Yes
7.	**Further treatment / disposal points of permeate/reject**	Permeate is going to CPU Plant for further treatment And Reject is going to SMEE (BMSW) Evaporator
	Date of change of membrane	About 40% Membrane changed every year
	Mode of Disposal of changed membrane	Returned to vendor
8.	**Utilization of R O Permeate (taken again in r o / used in process**	Permeate is going to CPU Plant for further treatment
9.	**Utilization of R O Reject**	Reject is going to SMEE (BMSW) Evaporator
10.	**Whether R O achieving designed performance**	Yes
11.	**Whether R O operated continuously**	Continuous operated

7.1. RO Plant Performance

Particulars	**Inlet (Feed)**		**Reject**		**Permeate**	
	Initial reading M³/day	**Final reading M³/day**	**Initial reading M³/day**	**Final reading M³/day**	**Initial reading M³/day**	**Final reading M³/day**
Quantity, M³/day	1120 M³/day		530 M³/day			590 M³/day
	Inlet (Feed)		**Reject**		**Permeate**	
Recovery, %	52.67					
Color	NA		74 Platinum Cobalt unit		74 Platinum Cobalt unit	
pH	7.78		6.88		8.14	
Conductivity, ms	NA		NA		NA	

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BOD, ppm	7500	21500	32
COD, ppm	48000	98500	240
Total solids,%	5.8 %	9.85 %	450
Total dissolved solids,%	3.5 %	5.8 %	0.03%
Total suspended solids,%	1.9 %	2.03 %	0.0021%

Spent wash RO logbook is attached as **Annexure - X**

8. Multi Effect Evaporator (SMEE) (BMSW- RO Reject Feed based)

1.	**Setting cum cooling tank before SMEE (Yes/No)**	Yes	
	Capacity of settling tank before SMEE (m3)	30	
2.	**Year of installation/establishment & commissioning of SMEE plant**	2018	
3.	**Type of technology of SMEE.**	Falling film and forced circulation type	
	Number of Effects with their HTA and MOC. Number of stand-by bodies and degasser provided.	6 no's, MOC-SS-316 & 1 no stand by body. VLS provided	
	Designed feed capacity and evaporation rate of SMEE (M3/day).	840 M3/Day	
	Evaporation rate of SMEE	Evaporation duty- upto290 M3/Day	
4.	**Acceptable level of suspended solids, dissolved solids etc. in the feed.**	15-18 %	
5.	**Log Book supporting MEE plant performance.**	yes	
6.	**Mass Flow meter with totalizer installed at inlet of SMEE (Yes / No)**	Yes	
	Mass Flow meter with totalizer installed at outlet of SMEE, SMEE Concentrate (Yes / No)	Yes	
	Mass Flow meter with totalizer installed at outlet of SMEE, SMEE Condensate (Yes / No)	No	
		Initial *	Final
7.	**Mass flow meter reading with totalizer at inlet of SMEE.**	92737	93307
	Mass flow meter reading with totalizer with outlet of SMEE, SMEE Concentrate	284609	285010
	Mass flow meter reading with totalizer with outlet of SMEE, SMEE Condensate	N.A.	N.A.
8.	**Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)**	Yes	

- Provide one day reading

8.1. SMEE (BMSW) Operational details

1.	MEE feed rate (actual)	Lit/hr	22083	Sp. Gr.- 1.100
2.	Feed rate @ Sp.Gr.(Approximate)	Kg/hr	24291	
3.	Solid content in feed/brix	%/ degree	19 %	
4.	Water evaporation rate (Min.)	Kg/hr	9501	
5.	Concentrate Generation	Kg/hr	14790	
6.	Solid content in concentrate Generation /brix	%/degree	32 %	
7.	Operation hour and whether it is operating continuously	Hr / day-week-month	continuous	
8.	MEE Feed Characteristics: pH TSS TDS, BOD & COD		pH – 7.21 TSS – 1.46 % TDS- 3.81 BOD – 24000 Mg/Lit COD – 96000 Mg/Lit	
9.	Frequency of CIP (cleaning in process)	Hr/ day or week or month	Stand by evaporators with floating arrangement provided	
10.	Quantity of CIP effluent	M^3/hr	20 M^3/ CIP	
11.	Quantity of process condensate	M^3/hr	9.50 M^3/hr	
12.	Whether MEE achieving design efficiency	Yes / No	Yes	
13.	Utilisation of MEE condensate		Goes to CPU and after treatment utilising in cooling towers & fermentation	
14.	Utilisation of MEE concentrate		Goes to Biocomposting	
15.	Utilization of blow down (cooling tower & boiler)		Goes to CPU and after treatment utilising in cooling towers & fermentation	

8.2. SMEE (BMSW) output Characteristics

Sr No.	Particulars	Conc. spent wash	Process Condensate
1.	Quantity, M3/day	354.96	228.00
2.	PH	7.15	8.90
3.	Temperature,degreeC	65-70	40-45
4.	COD,ppm	288000	5600
5.	Total solids,%	29.82 %	0.15 %
6.	Ammonical Nitrogen (asN), ppm	760 (Ammonia)	120 (Ammonia)

SMEE logbook is attached as **Annexure XI**

9. CPU (Condensate Polishing Unit) for MEE Condensate – Yes/No

1.	**Year of installation/establishment & commissioning of CPU unit.**	CPU plant installed in 2015 and upgraded in 2019
2.	**Name of plant/technology supplier**	M/S Paques india ltd
3.	**Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc) (Mention details of unit processes with flow diagram)**	Equalization, Buffering, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF, mechanical press for sludge followed by U V treatment. (Flow diagram attached as Annexure – 3)
4.	**Design capacity of CPU unit (M3/day)**	2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling)
5.	**Actual Capacity of CPU Unit (m3/day)**	2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling)
6.	**Source of effluent coming into CPU**	Source: IMEE Condensate (Molasses based) – Quantity (m3/day): 367 Source: SMEE Condensate (BMSW) – Quantity (m3/day): 228 Source: IMEE Condensate (Grain Plant) – Quantity (m3/day): 340 Source: R O Permeate – Quantity (m3/day): 590 Source: Cooling tower blow down – Quantity (m3/day): 160 Source: Boiler Blow down – Quantity (m3/day): 16 Source: DM Plant Reject – Quantity (m3/day): 130 Source: Floor washing – Quantity (m3/day): 20
7.	**Quantity coming into CPU per day (total)**	1851
8.	**Quantity of treated effluent from CPU utilized per day**	1666
9.	**Recovery (%) and characteristics of treated water and its further utilisation details**	90 %
10.	**Is there any reject generated from CPU (if Yes)**	No reject generation.
11.	**Disposal point of reject from CPU (if Yes)**	No reject generation.
12.	**Total fresh water consumption after reuse of treated low strength effluent in m3/day (on the actual basis of last three months)**	1917 M3/Day (Water consume in all plants including Molasses, Grain and malt Based and bottling)
13.	**Log book records supporting CPU performance (Yes/ No)**	Yes

9.1. CPU Performance

Particulars	Mixed Influent	Treated effluent
Quantity, M3/day	1851	1666
Colour	490 Platinum cobalt unit	colorless Platinum cobalt unit
PH	8.6	7.21
Temperature, degree	35 to 42	35 to 40
BOD, mg/lit	920	45
COD, mg/lit	5280	290
Total solids, %	1.24 %	0.64 %
Total dissolved solids, %	1.12 %	0.57 %
Total suspended solids, %	0.0074 %	0.0020 %
Volatile acids, mg/lit	4840.9	545.4
Total Alkalinity, mg/lit	1800.0	300.0

CPU Logbook is attached as **Annexure - XII**

10. Lagoon

1.	Actual Capacity of Lagoons*	Yes/No	Number	Dimensions (L×B×H)	Storage Capacity (m^3)	Approximate Volume found stored during Inspection (m^3)
	a. Raw spentwash	No	NA	NA	NA	NA
	b. Biomethanated spent wash	Yes	NA	NA	NA	NA
	c. MEE Concentrate (for bio-composting)	Yes	02	--	25000	42 %
	d. MEE Concentrate (for Incineration)	NA	NA	NA	NA	NA
2.	a) PTZ 360 Cameras provided at Lagoon area b)Operating satisfactorily c)Connectivity to SPCB/CPCB	Yes Yes Yes	02	Details of Camera: 1 No. for Lagoon & biocomposting yard at Ajitpur site User ID and Password for connectivity: Username: CCTV / Password: radico@1234 1 No. for Lagoon & biocomposting yard HITACHI land site User ID and Password for connectivity: Username: CCTV / Password: radico@123		
3.	Required Capacity of Lagoon (as per consented production quantity)					

Details		Required Capacity (KL/m^3)	Formula
a.	MEE Concentrate (for bio-composting)-equivalent to 30 days of concentrated SW generation	19,950m^3	= Consented Production (KLPD) × SW generation rate × % Volume reduction in MEE (Min. 65 %) × 30 days

b.	MEE Concentrate (for Incineration)-equivalent to 07 days of concentrated SW generation	NA	= Consented Production (KLPD) × SW generation rate × % Volume reduction in MEE (Min. 60 %) × 07 days
4.	Extra lagoon capacity/Lagoon capacity required to be dismantled/filled /levelled (m^3) -NA		
			NA

11. Information regarding Bio-composting

- Bio-compost yard details-Impervious bio-compost yard (PCC-1:3:6 or RCC-1:2:4 or brick on edge) with construction details. – Brick on Edge with HDPE sheets
- Area of impervious bio-compost yard (uncovered and covered) with bio-compost storage area. – 56 Acres (25 Acres is covered area)
- Spent wash available for bio-composting (M3/Annum) and spent wash characteristics. – 123103 MT
- Log Book supporting bio-compost plant operations. - yes
- Bio-compost filler material availability (Press mud/Yeast sludge/Boiler ash) (MT/day or MT/annum). – Press Mud – 78090 MT
  Yeast Sludge – 3391 MT
  Ash – 1800 MT
  (Data is the summation of consumption from April 2020 to Feb 2021)
- Record of Press mud produced or purchased from outside. - yes
- Average Press mud to spent wash mixing ratio. – 1:1.58
- Bio-compost analysis report. - yes
- Material balance for bio-compost. – Present and about 40-45% recovery of Bio compost.
- Record of bio-compost produced and sold with selling price of bio-compost (Rs. /MT). - 36650 MT of Biocompost generated from April 2020 to Feb 2021 & Rate is – Min 300 to Max. 1000 Rs. /MT
- Bio-compost sold in loose or bag packing. – Bagged.

1	Total Area for Bio-composting (acres)	About 58 Acres
2	Break up of total area	
	Active area for Biocomposting (out of total area) (acres)	48
	Covered active area (acres)	25
	Uncovered active area (acres)	33
	Storage Area (acres)	
	Area for press mud Storage (excluding active area)	5 acres
	Area for press mud Storage (covered / uncovered)	5 acres (having facility to cover press mud storage with tarpaulin plastic)
	Area for Ready Bio-compost storage (excluding active area) (acres)	5 acres
	Area for ready Biocompost Storage (covered / uncovered)	5 acres (having facility to cover press mud storage with tarpaulin plastic)
3	Finished compost packing facility	yes
4	Maturity time in days for one cycle & total cycle in year	60 5 cycles /year
5	Availability of press mud (own) Quantity required	Nil 100% Procured from other mills

7	Utilization of S.W/ Conc. SW in bio-composting	Yes	
8	Ratio of press mud to spent wash	1:1.58	
	Details of windrows		
	Number	144	
	Length – (M)	60 to 200	
	Height – (M)	1.5	
	Width of stacking (M)	2.5 to 3.0	
	Space between the two windrows (M)	5.0 Mtrs	
9	Equipment's Aero-tillers JCB Tractor Loaders	Aero-tillers – 6 nos JCB - 4 nos Tractor – 6 nos Loaders – 5 no's Dumper – 2 Nos	
10	Details of registration required from agriculture department, as per new notification of Compost	Manufacturing licence no. – 1462/fertilizer/F.C.O.-1/F-587/2018-19 (validity – Whole Time.) Sale Licence no. – JDA FERTILIZER/47/RMU/1 (validity – till 14.11.2024)	
11	Arrangement for rainy season and details regarding closure of operations for 03 months during monsoon	25 Acre covered area for Biocomposting for rainy season	
12	Details of PTZ cameras provided and connectivity.	PTZ Camera provided 1.Biocomposting area 2.Operating satisfactory	(Yes/No) 02 nos. Yes Yes
13	Quantity of Compost prepared (for which period)	36650 (April -2020 to Feb -2021)	
14	Quantity of press mud procured (for which period).	78090 MT (April -2020 to Feb -2021)	
15	No. of borewell around biocompost area	N.A.	
16	No. of piezometers wells available around the compost	13	
17	No. of Piezometers well shall be present around the Biocomposting yard as per SOP for molasses-based distillery	13	

CPU Logbook is attached as **Annexure - XIII**

12. Incineration Boiler (Yes/No) - No

1	Year of installation/establishment & commissioning of incineration boiler	N.A.
2	Type of boiler	N.A.
3	Capacity of boiler	N.A.
4	Design details	
	Ratio of slop and subsidiary fuel	N.A.
	Feed rate of slop and subsidiary fuel considered	N.A.
5.	Boiler technology supplier details	N.A.
6.	Boiler performance details	N.A.
	Actual ratio of slop and subsidiary fuel achieved	N.A.
	No. of working days per annum	N.A.
	Type of subsidiary fuel used with consumption per day	N.A.
7.	Other details	

	Shut down days – cleaning period required	N.A.
	Steam generation (MT/Hr)	N.A.
	Steam pressure and temperature	N.A.
8.	Emission control system or Air pollution control device (APCD) installed (Yes/No)	N.A.
	Name of installed emission control system/APCD	N.A.
	Stack height	N.A.
	Stack monitored (yes/No)	N.A.
9.	Ash details:-	
	Quantity of ash generated (MT/day)	N.A.
	Characteristics of generated ash	N.A.
	Method of disposal	N.A.
10.	Log book supporting records supporting incineration boiler performance (Yes/No)	N.A.
11.	Online emission stack monitoring system installed (Yes/No)	N.A.
	Detail of online monitoring system for boiler	N.A.
	Online emission (stack) monitoring system connected to CPCB/SPCB server of inspection? (Yes/No)	N.A.

13. Sample Collection Points

Sr. No.	Sampling Points	(Yes/No)
1.	Raw spent wash (feed to Bio-digester/ SMEE)	Yes
2.	Feed to MEE (Multi effect evaporator)	Yes
3.	MEE condensate	Yes
4.	MEE concentrate	Yes
5.	MEE concentrate (stored in the lagoon)	Yes
6.	CPU inlet	Yes
7.	Aeration tank at CPU	No
8.	CPU treated condensate	Yes
9.	STP inlet	Yes
10.	STP outlet	Yes
11.	Drain within or outside the premises	No
12.	Bypass if any	No
13.	Groundwater (Samples should be collected from hand pumps or bore-wells)	Yes
14.	Bio-digester outlet	Yes
Form 1 and analysis report of the sample taken during visit are attached as **Annexure - XIV**		

**** Parameters to be analyzed for samples collected from locations1 -8: pH, BOD, COD, TS, TSS, TDS, color**

***** Parameters to be analyzed for groundwater samples: General parameters (to be collected in 2 Lit. container with ice) like pH, Conductivity, Color, TDS, Total Hardness, Ca^{2+} , Mg^{2+} , Na^{+} , K^{+} , Cl^{-} , F^{-} , SO_4^{2-} , PO_4 -P, NO_3 - N, COD, BOD, Carbonate, Bi-carbonate, Total Alkalinity, SAR, Boron, NH_3-N (500ml container with $H_2SO_4$and ice), Heavy metals (500ml container with HNO 3 and ice)**

13. ANNEXURES

- **Name and contact details of the vendor who has supplied and commissioned the on-line monitoring system-**
  Vendor Name- M/s. Forbes Marshals
- **Problems faced in maintaining the continuity of on-line monitoring system-**No
- **Green belt surrounding bio-compost yard (Photographs)-**Yes
- **Identification of recipient drains/rivulets and their u/s & d/s locations for monthly monitoring to ensure ZLD-** Rampur municipal drain
- **Material and mass balance of your total distillery plant operations including ETPs showing ZLD-** Attached as **Annexure-XV**
- **Also indicate how your distillery unit is achieving steam and power balance-** Attached as **Annexure-XV**
- **Environment Management Cell-Mo Ms and necessary documents-** Environment Management Cell is available, details not provided
- **EC, Consent to Operate, Directions received and related documents- Attached as Annexure-I & II.**
- **Water conservation measures taken report (rain water harvesting etc).-** Rain water harvesting & recharge ponds are provided by the unit in nearby villages viz. Dinpur, Hariyal, Punjab Nagar, Ballu ki Madhaiyya, Chikna Milakh,

Observations:

1. During inspection 200 KLPD Molasses Based Distillery plant, 100 KLPD Grain Based Distillery plant, 8 KLPD Malt spirit plant, IMFL and CL Bottling plant is found operational.
2. Avg production of last three months of Molasses based distillery is 154.25 KLPD, Grain Bases distillery is 90.60 KLPD and Malt spirit plant is 8.1KLPD
3. Industry has valid and separate Air & water Consents for 200 KLPD Molasses based distillery plant, 100 KLPD Gran based distillery plant, 8 KLPD Malt spirit plant and Bottling plant, Consent is valid up to 31/12/2022
4. Avg IMFL bottling production is 728872 cases per month for last three month by the unit
5. Avg CL bottling production is 1414348 cases per month for last three month by the unit
6. 8 Nos of Molasses storage tanks are available with the industry for the storage of molasses
7. 4 Silo for Grain and 1 Silo for Malt storage is available with for storage of Grain and Malt
8. Last 3 months molasses consumption and alcohol production details are provided by the unit and attested with state excise.
9. Industry has valid PESO license for storage of final product as Absolute alcohol.
10. Industry has valid water NOC from Ground water Department (Namami Gange & Rural water supply department.
11. ZLD system provided by the unit for treatment of Molasses based distillery spentwash is as follows: Raw Spent wash - Integrated Multi Effect Evaporation (IMEE) – Biodigester – BMSW RO plant – Standalone Multi Effect Evaporation (SMEE)- Biocomposting
12. ZLD system provided by the unit for treatment of Grain based distillery spentwash is as follows: Raw Spent wash – Decantation – Integrated Multi Effect Evaporation (IMEE)- DWGS (Wet cake sold as cattle feed.
13. For treatment of IMEE, SMEE process condensate, cooling tower & boiler blowdown,

the distillery has installed combined CPU (conventional) plant having capacity of 2000 M^3/Day. CPU is found operational at the time inspection visit.

14. For treatment of biomethanated spentwash molasses-based distillery unit has installed RO plant having capacity of 1680 M^3/Day.
15. Green belt area is provided by the unit in the premises of distillery unit & biocompost yard.
16. Leachate collection sump with gutters is observed at Biocompost yard.
17. PTZ online camera is installed at the Lagoon site and Biocompost area.
18. 03 Nos Bore-well with flow meters are available with the unit for total water consumption of 200 KLPD Molasses based distillery plant, 100 KLPD Grain based distillery plant, 8 KLPD Malt spirit plant, IMFL and CL bottling plant.
19. Total 13 no's Piezometer are available in the biocompost yard & relevant online monitoring data is provided by distillery unit.
20. Mass flow meters are installed at IMEE & SMEE inlet & outlet, calibrated and connected with online connectivity to UPPCB/CPCB server and records are maintained by the unit
21. Calibration certificate of spent wash (Grain & Molasses based) inlet and outlet mass flowmeters and molasses & flour weighing system are provided by the unit
22. Conc. biomethanated spent wash storage lagoons (Nos.2) are available and observed about 40% & 50% actual filled capacity during visit.
23. Unit has installed 02 nos. boilers out of which one is biogas fired having capacity of 26 TPH & another is rice husk fired boiler having capacity of 30 TPH high pressure boiler with 2.0 MW & 2.25 MW TG set respectively for captive steam & power generation and consumption in molasses & grain-based distillery.
24. Total 6 Nos of Thermophilic biodigesters are found operational & 1 digester is under maintenance found during inspection visit.
25. Biogas generated from biodigester is being utilized in biogas generator also to produce 2.4 MW power directly from biogas & at the time of inspection 01 biogas generator is found operational.
26. Biogas generated from biodigester of CPU is going into biogas generator for power generation
27. Online monitoring system for stack emission is available and connected to the CPCB and UPPCB server and relevant data is provided by the unit.
28. 04 nos. handpumps are found in biocomposting yard at the time of inspection visit.
29. Total area provided by the unit for biocomposting is 56 acres out of which about 25 acres area is covered.
30. Centrifuge decantation system is provided at Grain based distillery for separation of the DWGS (wet cake) & sold as cattle feed to contracted parties.
31. ESP is installed as air pollution control system for 30 TPH boiler installed in premises of grain-based distillery.
32. Fermented yeast sludge, ETP sludge & boiler ash is being utilized for production of biocompost as a filler material.
33. Industry has installed 100 KLD STP for treatment of domestic sewage and V Notch is available for measurement of flow whereas magnetic flow meters are not available at inlet and outlet
34. Treated water and sludge generated from STP is being utilized for Gardening in the premises of unit
35. Tree plantation and gardening is well developed in the area of Biodigester, CPU and spentwash lagoon.
36. Rain water harvesting & recharge ponds are provided by the unit in nearby villages viz. Dinpur, Hariyal, Punjab Nagar, Ballu ki Madhaiyya, Chikna Milakh, etc. & relevant data is provided by the distillery unit.

Recommendations/Suggestion:

1. Housekeeping in the area Lamella clarifier and sludge decantation section should be maintained properly.
2. Mass flow meter should be installed separately to measure spentwash generation.
3. Flow meters should be installed at STP inlet & outlet.

Inspection Team	Sr. No.	Name	Designation	Organization	Signature
	1.	Mr. Shivaraj J. Patil	Technical Officer	VSI	05/03/2021
	2.	Mr. Kapil Uphade	Research Assistant	VSI	06/03/2021
	4.	Mr. J.N. Tiwari	Jr. Engineer	UPPCB	05/03/21

PHOTOGRAPHS OF DISTILLERY UNIT

Molasses storage steel tank	Molasses unloading pit
	
Fermentation section	**Molasses Weighing system**
	
Distillation Plant	**MEE Plant**
	

Biogas digester	Green belt in Biogas section
	
Mass flow meter MEE Inlet	Mass flow meter MEE Outlet
	
Lamella Clarifier for sludge settle	Decanter is used for BMSW sludge removal
	

CPU – Equivalization tank

CPU- Anaerobic digester

CPU- Biogas holder

CPU- Aeration tank

CPU- Secondary clarifier

BMSW Holding pit for RO Plant

RO Plant for treatment of BM Spent wash

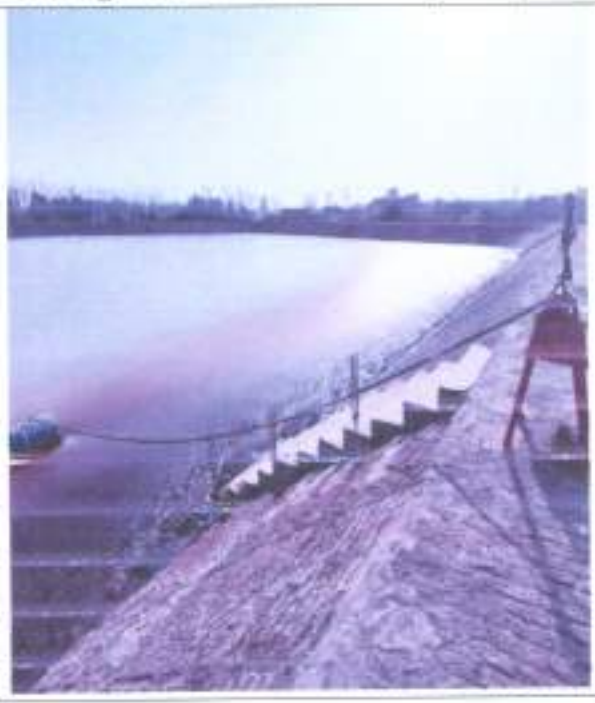
Covered Biocompost yard

Conc. Biomethanated spent wash lagoon

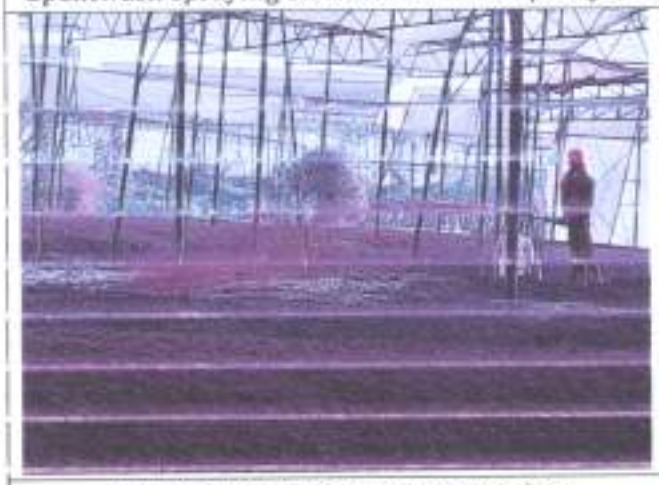
Aerotilling at biocompost yard

PTZ Camera monitoring compost yard & lagoon

Arrangement for measure the lagoon capacity



Spentwash spraying on windrow in compost yard



Biogas fired Boiler for captive steam generation

TG set for captive power generation

CO_2 Recovery Plant

INDUSTRY INSPECTION REPORT (DISTILLERY-MOLASSES/Grain BASED)

Date of Inspection 15.11.2022

1. General Information

1.	Unit Code	511	
2.	a) Name and Address of the unit	Radico Khaitan Limited , Bareilly Road, Rampur, U.P.-244901	
	b) Coordinates (Latitude & Longitude) in Decimal	28.78 N 78.025 E	
	c) Name of the recipient drain	Rampur city municipal drain / (ZLD)	
	d) Mode to reach River Ganga (Name of drain → Name of Sub-tributary→ Name of Tributary → River Ganga)	Rampur Municipal Drain → Kosi River → Ramganga → Ganga River	
3.	Operational Status (Operational/Non-Operational)*	Molasses Spirit Plant – Shut Down, maintenance work Grain and Malt Sprit Plant - Operational	
4.	Name of Occupier/Contact Person	Designation	Contact No & e- mail
	1.Mr. Devendra Singh	Sr. VP	9837471443
	2. Mr. Satish Tomar	DGM	
	3. Mr. Neeraj Dhama	AGM	
	4.Mr. Amrit Raj Tomar	AGM	
	5.Mr. Manish Kumar	Sr Manager	
5.	Type of Distillery unit	A. Molasses based distillery B. Grain based distillery C. Brewery / Malt unit D. Bottling unit	Yes Yes Yes Yes

***** Note: If non-operational, specify the reason and attach respective document i.e., CPCB/SPCB closure direction

A. MOLASSES BASED DISTILLERY

1.	Year of Commissioning	1943
2.	Standalone/Connected with sugar unit	Standalone

3.	Status of consents and authorization*		Yes/No/Expired/Applied	Validity Date
		Environmental Clearance (EC)	-	-
		Air Consent	Yes **(Annexure 1)**	31.12.2026
		Water Consent	Yes (Annexure 1)	31.12.2026
		Haz. Waste Authorization	Yes (Annexure 1)	31.03.2023
		CGWA NOC / UPGWD NOC	UPGWD NOC **(Annexure 2)**	09.08.2024

***Attach copy of EC, consents and CGWA NOC, if valid.**
If unit has applied for renewal, then submit copy of application.

2. Fresh water consumption details

1.	Water Supply Source	River/Borewell/Tubewell		
2.	River	N.A.		
	Flow meter with totalizer installed at line carrying freshwater (Yes/No)	N.A.		
	Instantaneous Reading (m^3/hr)	N.A.		
	Totalizer Reading (m^3)	N.A.		
3.	Borewell/Tubewell			
	No. of Borewell/Tubewell as per CGWA NOC	03		
	Actual no. of Borewell found on site	03		
	Permitted withdrawal quantity	3600 M3/DAY		
	Actual withdrawal quantity (Average of last three months)	1675 M3/ Day (Logbook at **Annexure 3**)		
	No. of Borewell having flow meter with totalizer installed	03		
	Instantaneous Reading* (m^3/hr)	93.5 M3/Hr		
	Totalizer Reading during visit* (m^3)	Initial	1333795, 860437, 358385	
		Final	1333795, 860437, 358385	
4.	Type of flow meter installed: mechanical/digital/electromagnetic etc.	Digital		
	Calibration details	Calibrated-valid upto 31.3.2023 (**Annexure 4**)		
	Log Book Maintained (Yes/No)	Yes (log sheet attached as Annexure -3)		
5.	Fresh water consumption			
		Production process	Domestic	Others
	Freshwater consumption (KL) (average of last three months)	1675 KLD average of last three months		
	Overall (in KLD & KL/MT of product)	1675 M3/Day average of last three months 9.47 Kl/MT of product		

	On the previous day of visit (KLD)	1631 M3/Day

3. Manufacturing Process & Spent Wash (SW) Management System

	Manufacturing Process (Provide line diagram)	Fermentation, Distillation with integrated Evaporation, Thermophilic Anaerobic Digesters, TSS Reduction Plant, R O Plants, BMSW Evaporator, Bio-composting with partly covered facility for rainy season.	
	Type of Fermentation technology adopted	Batch process	
	Type of Distillation technology adopted	Multi Pressure distillation	
	Integrated MEE with Distillation (Yes/No)	Yes	
	Spent Wash Management Technology	Bio – Digesters √ R O Plants √ MEE √	Bio-composting √ Incinerator CPU √
	Spent Wash Management Sequence	Attached as **Annexure – 5** (Process Line Diagram)	
	Licensed capacity of Distillery (KLPD)	1024.6 Lakh Bl combined for Molasses , Grain and Malt Plant	
	Installed capacity	1024.6 Lakh Bl combined for Molasses , Grain and Malt Plant	
	Present Production in KLPD	Molasses – 0 (Plant was under shut down for maintenance) Grain + Malt Plant – 108 KLPD (logbook at **Annexure-6**)	
	No of operating days/year	350	
	Products Manufacture	RS/ENA/Absolute alcohol/Ethanol (KLD)	
	RS (01 month)	-	
	ENA(01 month)	7370.6933 KL – Oct.-2022	
	Absolute Alcohol/Ethanol(01 month)	-	
	Type of Molasses/ Cane Syrup used	C-heavy molasses and B-heavy molasses - Yes	

	Molasses (in Qtls)/ Cane Syrup per KL of alcohol production	44 – 46 Qtls / kl of alcohol production

4.Waste water generation

(Molasses Plant was under shut down)
Data based on previous operation history (Annexure- 7)

	Stream/section	**Quantity, m^3/day**	**Disposal/utilization Point**
1.	Spent wash	1030 to 1040 TPD	After Passing through re-boilers, MEE , Sent to Bio-digesters
2.	Spent Lees	600-650 m3/day	Recycling in Distillation & Utilization in fermentation
3.	MEE Condensate	450-550 m3/day	Goes to CPU and after treatment utilising in cooling towers & fermentation
4.	Fermenter washing	30-40 m3/day	Goes to IMEE Feed
5.	Floor washing	5-10	Goes to CPU and after treatment utilising in cooling towers & fermentation
6.	Cooling tower blow down	80- 150	Goes to CPU and after treatment utilising in cooling towers & fermentation
7.	Boiler blow down	8-10	Goes to CPU and after treatment utilising in cooling towers & fermentation
8.	DM plant Reject	80-100	Goes to CPU and after treatment utilising in cooling towers & fermentation
9.	Others	N.A.	
10.	Spent wash generation (KL/KL of production)	7 to 7.5	After Passing through re-boilers, MEE , Sent to Bio-digesters
11.	Quantity of other effluent generation (KL/KL of Production)	N.A.	
12.	Total Quantity of Spent wash feed to Bio-Digesters/RO/MEE (unit?)	1050 to 1070 TPD	Feed to Bio Digesters →R O Plants
13.	Total quantity of other effluent feed into CPU (unit?)	N.A.	

Waste water generation

(Grain & Malt Plant)

	Stream/section	Quantity, m^3/day	Disposal/utilization Point
1.	Spent wash	0	After Passing through re-boilers, Decanter, MEE
2.	Thin Stillage / Slop **(Annexure-8)**	425 - 435 M3/Day	MEE
3.	Thick Syrup from MEE (MEE Concentrate)	90 - 95 m3/day	Mixed with DWGS wet cake
4.	MEE Condensate	320 - 340 M3/Day	Goes to CPU and after treatment utilising in cooling towers & fermentation
5.	Fermenter washing	15-20 m3/day	Goes to IMEE Feed
6.	Floor washing	5-10 M3 / day	Goes to CPU and after treatment utilising in cooling towers & fermentation
7.	Cooling tower blow down	30- 40 M3/ Day	Goes to CPU and after treatment utilising in cooling towers & fermentation
8.	Boiler blow down	8-10 M3/ Day	Goes to CPU and after treatment utilising in cooling towers & fermentation
9.	DM plant Reject	40-50 M3/ Day	Goes to CPU and after treatment utilising in cooling towers & fermentation
10.	Others	N.A.	
11.	Spent wash generation (KL/KL of production)	0	After Passing through re-boilers, Decanter, MEE
12.	Quantity of thin slop / stillage generation (from decanter / centrifuge) (KL/KL of Prod'n)	4.25 to 4.35	MEE
13.	Quantity of thick syrup from MEE (MEE concentrate) generation (KL/KL of Production	0.90 to 0.95	Mixed with DWGS wet cake
14.	Quantity of spent wash feed into Bio-digesters/RO/MEE(unit?)	0	
15.	Total quantity of other effluent feed into CPU (unit?)	N.A.	

5. Process Emission/ Solid Disposal

Sr. No.	Stream/section	Quantity, KLD	Disposal
1.	Fermenter CO_2 disposal	All CO_2 goes to recovery plant	CO_2 recovery plant
2.	Fermenter sludge disposal	3.0 to 3.5 MT/Day	Bio-composting

6. Bio-Methanation Plant/Bio-digester – Yes/No

1.	Settling cum cooling tank before Bio-Digesters (Yes / No)	Yes
	Capacity of settling cum cooling tank before Bio-Digesters (m3)	200
2.	Year on installing/establishment & commissioning of the Bio-Digesters	Since 1987 - 1988
3.	No. of Digesters	05
	Capacity of Digesters	32500 M3
	Type of Technology (CSTR/UASB/Thermophilic/Hybrid)	CSTR) Continuous Stirred Tank React or packed media reactor/ (UASB) Up-flow Anaerobic Sludge Blanket-Thermophilic Reactors with Gas recycling
4.	Hydraulic retention time on design basis (in days) (15-24 days)	More than 25 days at licensed capacity
	Organic Loading rate (kg/m3/day)	05.26 kg/M^3 /Day
	Volume (m3)	32500
5.	No. of days operation of Bio-digesters (days / annum)	Throughout the year
	Total Bio Gas production (m3/annum) and bagasse/coal saved	30525355 M3 Bio Gas generated in 2021-2022 Financial year
	Maintaining log book record supporting bio gas plant performance (Yes / No)	Yes
6.	Quantity of sludge generation from Bio- digester (KLD)	7 to 8
	Method of disposal / utilization of Sludge	Bio-Composting

7. RO plant (for bio-methanated spent wash treatment)– Yes/No

1.	Settling cum cooling tank before RO Plants (Yes / No)	Yes
	Capacity of settling cum cooling tank before R O (m3)	TSS Removal Plant Comprising of Lamella clarifiers, Series of clarifiers, Settling Tank and DAF (Diffused Air

		floatation) designed feed capacity 1680 M3/Day
2.	Year on installing/establishment & commissioning of R O Plants	2005
3.	Details of pre treatment	TSS Removal Plant Comprising of Lamella clarifiers, Series of clarifiers, Settling Tank and DAF (Diffused Air floatation) designed feed capacity 1680 M3/Day
4.	Type of Technology of membrane filtration.	Combination of disc tube & spiral High pressure types membranes
	Number of membranes per module & number of modules	184 membranes / modules, 820 disc type modules, 144 spiral type modules
5.	Designed feed capacity of R O Plants (m3/day)	1680 M3/Day
	Acceptable level in the feed	T.S.S. Max. – 3500- 4500 PPM and Brix – 10 to 12
6.	No. of days of operation (days / annum)	Continuous
	Maintaining log book record supporting R O plant performance (Yes / No)	Yes **(Annexure – 9)**
7.	Further treatment / disposal point of permeate/reject	Permeate is going to CPU Plant for further treatment And Reject is going to MEE-2 (BMSW) Evaporator
	Date of change of membrane	Abou 40% Membrane changed every year
	Mode of Disposal of changed membrane	Returned to vendor
8.	Utilization of R O Permeate (taken again in r o / used in process	Permeate is going to CPU Plant for further treatment
9.	Utilization of R O Reject	Reject is going to MEE-2 (BMSW) Evaporator
10.	Whether R O achieving designed performance	Yes
11.	Whether R O operated continuously	Continuous operated

8. Multiple Effective Evaporator (MEE)
(IMEE Molasses Based)

1.	Setting cum cooling tank before MEE (Yes / No)	Yes
	Capacity of settling tank before MEE (m3)	30
2.	Year of installation/establishment & commissioning of MEE plant	2013
3.	Type of technology of MEE.	Falling film multi effect
	Number of Effects with their HTA and MOC. Number of stand-by bodies and degasser provided.	3 nos , MOC-SS-316 & no stand by bodies. VLS provided
	Designed feed capacity and evaporation rate of MEE (M3/day).	Up to 1700 TPD
	Evaporation rate of MEE	evaporation duty-upto550 TPD

4.	Acceptable level of suspended solids, dissolved solids etc in the feed.	.5 to 1.6 % &TDS – 15.0 to 16.0	
5.	Log Book supporting MEE plant performance.	yes	
6.	Mass Flow meter with totalizer installed at inlet of MEE (Yes / No)	Yes	
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Concentrate (Yes / No)	Yes	
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Condensate (Yes / No)	No	
		Initial *	Final
7.	Mass flow meter reading with totalizer at inlet of MEE.	3848202	3848202
	Mass flow meter reading with totalizer with outlet of MEE, MEE Concentrate	2878889	2878889
	Mass flow meter reading with totalizer with outlet of MEE, MEE Condensate	N.A.	N.A.
8.	Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)	Yes	

*Provide for one day. (Molasses Distillery was under shut down for maintenance)

8.1. MEE operational details
(Molasses based)

Under maintenance / shut down on the day of inspection

1.	MEE feed rate (actual)	Kg/hr		Sp. Gr.-
2.	Feed rate @ Sp. Gr.(Approximate)	Kg/hr	Plant was under shut down for maintenance.	
3.	Solid content in feed/brix	%/ degree		
4.	Water evaporation rate(Minimum)	Kg/hr		
5.	Concentrate Generation	Kg/hr		
6.	Solid content in concentrate Generation/brix	%/degree		
7.	Operation hour and whether it is operating continuously	Hr/day-or week or month		
8.	MEE Feed Characteristics	pH TSS TDS BOD & COD		
9.	Frequency of CIP (Cleaning In Process)	Hr/day or week or month		
10.	Quantity of CIP effluent	m^3/hr		
11.	Mode of treatment/disposal of CIP effluent			
12.	Quantity of process condensate	Plant was under shut down for maintenance.		
13.	Whether MEE achieving design efficiency. (Yes/No)			
14.	Utilisation of MEE condensate			
15.	Utilisation of MEE concentrate			
16.	Utilization of blow down (cooling tower & boiler)			

MEE (Grain Based)

1.	Setting cum cooling tank before MEE (Yes / No)	Yes	
	Capacity of settling tank before MEE (m3)	15	
2.	Year of installation/establishment & commissioning of MEE plant	2012-2013	
3.	Type of technology of MEE.	Falling film multi effect	
	Number of Effects with their HTA and MOC. Number of stand-by bodies and degasser provided.	7 effect	
	Designed feed capacity and evaporation rate of MEE (M3/day).	Up to 435 M3/Day	
	Evaporation rate of MEE	evaporation duty up to 340 m3/day	
4.	Acceptable level of suspended solids, dissolved solids etc in the feed.	Less than 1.5 % TSS	
5.	Log Book supporting MEE plant performance.	yes	
6.	Mass Flow meter with totalizer installed at inlet of MEE (Yes / No)	Yes	
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Concentrate (Yes / No)	Yes	
	Mass Flow meter with totalizer installed at outlet of MEE, MEE Condensate (Yes / No)	No	
		Initial *	Final
7.	Mass flow meter reading with totalizer at inlet of MEE.	763359	763766
	Mass flow meter reading with totalizer with outlet of MEE, MEE Concentrate	156722	156797
	Mass flow meter reading with totalizer with outlet of MEE, MEE Condensate	N.A.	N.A.
8.	Mass flow meter with totalizer connected with CPCB/SPCB server at time of inspection (Yes/No)	Yes	

MEE (Grain based) Operational Detail

1.	MEE feed rate (actual)	Kg/hr	17500 to 18500	Sp. Gr.- 1.014 to 1.020
2.	Feed rate @ Sp.Gr.(Approximate)	Kg/hr		
3.	Solid content in feed/brix	%/ degree	3.5 %	
4.	Water evaporation rate (Minimum)	Kg/hr	13000 to 15000	
5.	Concentrate Generation	Kg/hr	3000 to 5000	Thick syrup
6.	Solid content in concentrate Generation /brix	%/degree	25 to 30 %	
7.	Operation hour and whether it is operating continuously	Hr / day-or week or month	continuous	
8.	MEE Feed Characteristics : pH TSS TDS, BOD &		pH – 3.5 to 4.0 TSS - .8 to 1.2 % TDS 2.4 to 2.7 %	

	COD		
9.	Frequency of CIP (cleaning in process)	Hr/ day or week or month	Twice in a month
10.	Quantity of CIP effluent	M^3/hr	12 to 16 M3/CIP
11.	Quantity of process condensate	M^3/hr	13 to 15 M3/hr
12.	Whether MEE achieving design efficiency	Yes / No	yes
13.	Utilisation of MEE condensate		Goes to CPU and after treatment utilising in cooling towers & fermentation
14.	Utilisation of MEE concentrate thick syrup		Used in DWGS
15.	Utilization of blow down (cooling tower & boiler)		Goes to CPU and after treatment utilising in cooling towers & fermentation

9. CPU (Condensate Polishing Unit) – Yes

1.	Year of installation/establishment & commissioning of CPU unit.	CPU plant installed in 2015 and upgraded in 2019, further upgradation in under progress for dual mode conversion.	
2.	Name of plant/technology supplier	M/S Paques india ltd	
3.	Type of technology of CPU plant: Conventional /RO/Striper/Photo-oxidation/In house technology etc) (Mention details of unit processes with flow diagram)	Equalization, Buffering, Anaerobic digestion, Aerobic digestion, clarification, MGF, ACF, mechanical press for sludge followed by U V treatment.	
4.	Design capacity of CPU unit (M3/day)	2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
5.	Actual Capacity of CPU Unit (m3/day)	2000 M3/day (common CPU plant for all three units Molasses, Grain & Malt, Bottling)	
6.	Source of effluent coming into CPU	Source	Quantity (m3/day)
		MEE -1 Condensate (Molasses based)	500 to 550
		MEE -2 Condensate (BMSW)	280 to 290
		MEE - 3 Condensate (Grain Plant)	320 to 340
		R O -3 Permeate	550 650
7.	Quantity coming into CPU per day (total)	1650 to 1850	

8.	Quantity of treated effluent from CPU utilized per day	1650 to 1850
9.	Recovery (%) and characteristics of treated water and its further utilisation details	no reject generation, COD :- 80 to 90 PPM, BOD :- 20 to 30 PPM, Utilization in Cooling towers and fermentation dilution water.
10.	Is there any reject generated from CPU (if Yes)	No reject generation.
11.	Disposal point of reject from CPU (if Yes)	No reject generation.
12.	Total fresh water consumption after reuse of treated low strength effluent in m3/day (on the actual basis of last three months)	1675 M3/Day average of last three months (Water consume in all plants including Molasses, Grain and malt Based and bottling)
13.	Log book records supporting CPU performance (Yes/ No)	Yes (CPU log sheet is attached as **Annexure - 10**)

10. Lagoon (Annexure- 11)

1.	Actual Capacity of Lagoons *	Yes/No	Number	Dimensions (L*W*H)	Storage capacity (m3)	Approximate Volume found stored during inspection (m3)
	a. MEE -2 (BMSW) Concentrate (for bio-composting)	Yes	02	25000 M3 Capacity	25000	7011
	b. MEE Concentrate (for incineration)	N.A	N.A.	N.A.	N.A.	N.A.
2.	a. PTZ 360 cameras provided at lagoon area b. Operating satisfactorily c. Connectivity to SPCB/CPCB	Yes Yes Yes	02	Details of camera:- 1.Ajitpur Biocompost Camera 2.Hitachi Land Biocompost camera User ID and Password for connectivity:- 1.Ajitpur Camera:- Public IP: - 103.74.69.165 User name: - CCTV Password: - radico@1234		

				2.Hitachi Camera :- Public IP: - 103.74.69.164 User name: - CCTV Password: - RADICO@123

11. Bio-composting

- **Bio-compost yard Details-Impervious bio-compost yard (PCC-1:3:6 or RCC-1:2:4 or brick on edge) with construction details.**

- **Whether the unit maintaining log Book supporting bio-compost plant operations (Yes):**

1.	Total Area for Bio-composting (acres)	58
2.	Break-up of Total area:	
	Active Area for Bio-composting (out of total area) (acres)	48
	Covered Active Area(acres)	25
	Un-Covered Active Area(acres)	33
	Storage Area:	
	Area for press mud Storage (Excluding active area) (acres)	5 acres
	Area for press mud Storage (Covered/Un-covered)	5 acres (having facility to cover press mud storage with tarpaulin plastic)
	Area for Ready Bio-compost storage (Excluding active area) (acres)	5 acres
	Area for Ready Bio-compost storage (Covered/Un-covered)	5 acres (having facility to cover press mud storage with tarpaulin plastic)
3.	Period for one bio-compost cycle (60 days or 45 days)	50 to 60 Days
4.	Total no. of cycles per annum (4 or 5)	4 to 5
5.	Quantity of press mud procured/purchased (Last 06 months)	98088 MT in last financial year (2021-2022)
6.	Quantity of press mud used per bio-compost cycle	19000 to 20000 MT/Cycle
7.	Quantity of filler material i.e., yeast sludge or boiler ash etc. (other than press mud) used per bio-compost cycle	3.0 to 3.5 MT/Day Sludge 5 % of finished goods boiler ash
8.	Quantity of concentrated spent wash used per bio-compost cycle	Average No of days of spraying SW in cycle: 45 to 50 days Avg. SW quantity sprayed in a Day : 400 to 600 M3/Day
9.	Ratio of press mud to spent wash maintaining	1:1.56 – 1: 1.62
10.	Quantity of finished compost prepared and sold per Annum	43033 MT finished bio-compost sold in last financial year (2021-2022)
11.	Finished bio-compost sold in loose or bag packing?	Both
12.	Finished compost packing facility (Yes/No)	Yes
13.	Bio-compost analysis report	Yes
14.	Details of windrows	
	Number	110

	Length	60 - 200
	Height	1.5
	Width of stacking	2.5-3.0
	Space between the two windrows	5.0 Mtrs
15.	Equipment's (nos.) Aero-tillers JCB Tractor Loaders	 Aero-tillers – 6 nos JCB - 4 nos Tractor – 6 nos Loaders – 5 nos
16.	Details of registration required from agriculture department, as per new notification of Compost	Manufacturing licence no. – 1462/fertilizer/F.C.O.-1/F-587/2018-19 (validity – Whole Time.) Sale Licence no. – JDA FERTILIZER/47/RMU/1 (validity – till 14.11.2024)
17.	Arrangement for rainy season and details regarding closure of operations for 03 months during monsoon	
18.	Details of PTZ cameras provided and connectivity.	PTZ 360 Camera provided. (Yes/No) 1. Bio-compost area 2. Operating satisfactorily
19.	Number of Bore well around compost yard.	25 Acre covered area for Bio-composting for rainy season
20.	Number of Piezometric wells available around the compost.	13
21.	Number of Piezometric wells shall be present around the bio-compost yard as per SOP for molasses based distillery	13

12. Incineration Boiler– Not Applicable

1.	Year of installation/establishment & commissioning of Incineration boiler	
2.	Type of boiler	
3.	Capacity of Boiler	
4.	Design details	
	Ratio of Slop and subsidiary fuel	
	Feed rates of Slop and subsidiary fuel considered	
5.	Boiler/Technology Supplier details	
6.	Boiler Performance details	
	Actual Slop and subsidiary fuel ratio achieved	
	No of working days per annum	
	Type of subsidiary fuel used with consumption/day	
7.	Other Details	
	Shut down days-cleaning period required	
	Steam generation (MT/hr)	
	Steam pressure & temperature	
8.	Emission control system or Air Pollution Control Device (APCD) installed (Yes/No)	
	Name of installed Emission control system/APCD	

	Stack Height	
	Stack monitored (Yes/No)	
9.	Ash details:	
	Quantity of ash generated, MT/day (Bottom Ash + Ash collected in APCD)	
	Characteristics of generated Ash	
	Method of disposal of Ash(Bottom Ash + Ash collected in APCD)	
10.	Whether the unit maintaining log Book supporting incineration boiler performance (Yes/No)	
11.	On-line emission (stack) monitoring system installed (Yes/No)	
12.	On-line emission (stack) monitoring system connected to CPCB/SPCB server at time of inspection? (Yes/No)	

13. Sample Collection Points

Sr. No.	Sampling Points	(Yes/No)
1.	Raw spent wash (feed to Bio-digester/ IMEE)	Yes
2.	Feed to MEE (Multi effect evaporator)	Yes
3.	MEE condensate	Yes
4.	MEE concentrate	Yes
5.	Spent wash stored in the lagoon (from all the lagoons)	Yes
6.	CPU inlet	Yes
7.	CPU treated condensate	Yes
8.	STP inlet	Yes
9.	STP outlet	Yes

✪ ***Observations:***

1. The installed distillery has consented capacity is 374 KLD for the production of Extra Neutral Alcohol (ENA).
2. The unit is standalone molasses based & gain based distillery with brewery plant and bottling unit.
3. The unit has valid EC, Air Consent, Water Consent, Hazardous Waste Authorization, CGWA NOC.
4. During the day of visit the molasses based plant was under maintenance and hence shut down, the grain based distillery facility was found operational. The unit did not intimate UPPCB regarding shutting down of operation due to maintenance work.
5. Unit has bio digester, RO plant, MEE, Bio composting and CPU for spent wash management.
6. For fermented sludge disposal lagoon is used by the facility.
7. The unit follow ZLD system in grain and molasses based plant (Annexure 5).
8. The team has collected grab samples (raw spent wash, MEE feed, MEE condensate, MEE concentrate, Lagoon, CPU feed and CPU outlet) from different points of waste water

treatment and as per analysis result, the system is efficient to treat the waste water generated (CPU outlet having COD-105, BOD-21 and TSS-58) and reused.
✪ ***Recommendations/Suggestion:***
1. Housekeeping needs to be improved in the unit. 2. The unit should inform UPPCB before shutting down operations stating the valid reason.
✪ ***Compliance Status (Complied/ Non-Complied/ Closed):***
Complying
Inspection team details:  **Medha Sharma** **Scientist 'B',** **CPCB, Delhi**

10. ANNEXURES

1. **Air Consent**
2. **Water Consent**
3. **Logbook of Borewell (1month data)**
4. **Production logbook (1 month)**
5. **CGWA NOC**
6. **Log book of spent wash generation, feed to MEE, Feed to CPU, effluent treated in CPU, Effluent recycled in process**
7. **Flow chart of ZLD system**
8. **Flow chart of process**
9. **Details of lagoon (capacity and numbers)**
10. **OCEMS installed**
11. **Ash generation logbook**
12. **Ash management (details)**
13. **Bio-composting generation**
14. **Quantity of press mud and molasses procured.**

PHOTOGRAPHS

PHOTO: Unit Entrance

PHOTO: Unit area

PHOTO: ETP Entrance

PHOTO: ETP Units layout

PHOTO:

PHOTO: Bore well meters

	
PHOTO: Lagoons	**PHOTO: flowmeter**

Annexure-IX

Item No.11 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Execution Application No. 38/2023
In
Original Application No. 324/2016

Shailesh Singh Applicant

Versus

State of UP & Ors. Respondent(s)

Date of hearing: 12.12.2023

CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant: Mr. Shailesh Singh, Applicant in Person

Respondent(s): Mr. Sanjeev Ralli, Senior Advocate with Ms. Vanita Bhargava & Ms. NikithaShenoy, Advs. for R - 2
Mr. Raj Kumar, Adv. for CPCB (Through VC)
Mr. Pradeep Misra& Mr. DaleepDhyani, Advs. for UPPCB (Through VC)

ORDER

1. Reply/response has been filed by respondent no.2 vide email dated 11.12.2023.

2. Learned Counsel for CPCB seeks time to file its reply/response to the execution application on the ground that copy of the execution application was not supplied to him.

3. Applicant is directed to supply copy of the execution application to the Learned Counsel for CPCB and reply/response to the execution application by CPCB be filed within four weeks.

4. Learned Counsel for UPPCB also seeks time to file reply/response in respect of the allegation of non-compliance of the directions contained in paragraph no. 14 of the Tribunal's order dated 18.03.2021.

5. Reply/response by UPPCB be also filed within four weeks.

6. List for further consideration on 28.02.2024.

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

Dr. Afroz Ahmad, EM

December 12, 2023
Execution Application No. 38/2023
in Original Application No. 324/2016
JG