IN THE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 797 of 2024

IN THE MATTER OF:

GAUTAM **...Applicant**

Versus

State of Uttar Pradesh **…Respondent**

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THROUGH

Priyanka

PRIYANKA SWAMI
Advocate
Counsel for the State of UP.
F- 13, Ground Floor, Jangpura Extension,
New Delhi- 110014

DATE : 04.11.2024

(1)

89/12

NOTARY

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 797/2024

NOTARY

IN THE MATTER OF :

NOTARY PRERNA TYAGI NOTARY MUZAFFARNAGAR Reg. No. 7866 GOVT. OF INDIA

GAUTAM Vs STATE OF U.P.

N.D.O.H. – 06.11.2024

NOTARY

JOINT COMMITTEE REPORT ON BEHALF OF THE DISTRICT MAGISTRATE, MUZAFFARNAGAR, 251001 UTTAR PRADESH, INDIA IN COMPLIANCE TO THE ORDER DATED 20.08.2024 PASSED BY THE HON'BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI IN ORIGINAL APPLICATION NO. 797 OF 2024 IN THE MATTER OF GAUTAM Vs STATE OF U.P.

NOTARY

I, Umesh Mishra, aged about 52 years S/o Shri M.P. Mishra, presently posted as District Magistrate, Muzaffarnagar do hereby solemnly affirm and state on oath as under :

NOTAR.

NOTARY

1. That the deponent is working on the above mentioned post and being authorized officer in the captioned matter and well

NOTARY

PRERNA TYAGI
NOTARY
MUZAFFARNAGAR
4 NOV 2024

(2)

conversant with the facts and circumstances of the case and as such I am well conversant to swear this affidavit. NOTARY

2. That this Hon'ble National Green Tribunal, Principal Bench, New Delhi (hereinafter referred as Hon'ble Tribunal) vide its order dated 20.08.2024 in Original Application No. 797 of 2024 in the matter of Gautam Vs State U.P. instructed the following :- NOTARY

3. The allegations made in the letter petition is ex-facie give rise to a substantial question relating to environmental arising out of implementation of enactments mentioned in Schedule-1 of NGT Act, 2010 but before taking any further action in the matter we find it appropriate to obtain a Factual Report for which we constitute a Joint Committee comprising Uttar Pradesh State Pollution Control Board, District Magistrate, Muzaffarnagar and Central Pollution Control Board. NOTARY

4. District Magistrate, Muzaffarnagar shall be the Nodal Agency for coordination and compliance of this order. NOTARY

5. Above Committee shall visit the site, collect relevant information and submit a Factual Report within two months. NOTARY

NOTARY PRERNA TYAGI NOTARY MUZAFFARNAGAR Reg. No. 7866 GOVT. OF INDIA

PRERNA TYAGI
NOTARY
MUZAFFARNAGAR
4 NOV 2024

(3)

Response-

1. For complying of direction passed by Hon'ble NGT in this matter, the Joint Committee Report is attached herewith as **Annexure-1**.

NOTARY

2. Therefore, the above joint committee report on behalf of District Magistrate, Muzaffarnagar is submitted before this Hon'ble Tribunal for perusal and kind consideration.

NOTARY

4.11.24

Deponent

VERIFICATION

I, the deponent named above, do hereby verify that the content of all the paras of this affidavit is true to my knowledge and true on the basis of records and as per legal advice. No part of it is false and nothing material has been concealed. So help me GOD.

NOTAR

Verified at Muzaffarnagar on ..... day of November, 2024.

NOTARY

4.11.24

Deponent

NOTARY PRERNA TYAGI NOTARY MUZAFFARNAGAR Reg. No. 7866 NOTARIAL GOVT. OF INDIA

Solemnly affirm
the deponent
s/are identified by Shri
I have satisfied myself by examining the
deponent who understand the contents
the affidavit which has been read out and
explained by me to the deponent Fee
Charged Rs.
NOTARY DISTT. MUZAFFARNAGAR

Identified by
VIKRANT RAI
Advocate
MUZAFFARNAGAR

PRERNA TYAGI
NOTARY
MUZAFFARNAGAR

- 4 NOV 2024

JOINT FACTUAL REPORT

(October 17th to 18th, 2024)

IN THE MATTER OF

GAUTAM Vs STATE OF UTTAR PRADESH

[O.A. No. 797/2024]

-Prepared by-
The Joint Committee of CPCB, UPPCB, and District Administration, Muzaffarnagar

- Constituted by -

Hon'ble National Green Tribunal

(Order dated 20.08.2024)

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DETAILED FACTUAL REPORT IN COMPLIANCE TO HON'BLE NATIONAL GREEN TRIBUNAL (NGT) ORDER DATED 20.08.2024 IN ORIGINAL APPLICATION NO. 797/2024 IN THE MATTER OF GAUTAM VS STATE OF UTTAR PRADESH

1. SUBJECT MATTER

Matter: Original Application no. 797/2024 titled Gautam Vs State of Uttar Pradesh

Subject: Detailed factual report in compliance to Hon'ble NGT order dated 20.08.2024 in OA No. 797/2024 in the matter of Gautam Vs State of Uttar Pradesh in reference to grievance registered by Hon'ble NGT on the basis of a letter petition dated 26.10.2023 sent by Gautam, s/o Virender r/o Makhiyali village, Muzaffarnagar.

2. HON'BLE NGT ORDER DATED 21.05.2024

Hon'ble NGT in OA No. 797/2024 in the matter of Gautam Vs State of UP directed the following vide its order dated 20.08.2024 **(ANNEXURE – I)**:

3.*"The allegations made in the letter petition is ex-facie give rise to a substantial question relating to environmental arising out of implementation of enactments mentioned in Schedule-1 of NGT Act, 2010 but before taking any further action in the matter we find it appropriate to obtain a Factual Report for which we constitute a Joint Committee comprising Uttar Pradesh State Pollution Control Board, District Magistrate, Muzaffarnagar and Central Pollution Control Board.*

4. District Magistrate, Muzaffarnagar shall be the Nodal Agency for coordination and compliance of this order.

5. Above Committee shall visit the site, collect relevant information and submit a Factual Report within two months."

2.1. Applicant has mainly highlighted the following issues in Original Application No. 797/2024:

i. Significant air pollution is being caused by burning solid waste & plastic and emission of black gases from various industrial units, namely M/s Balaji Paper Mill, M/s Agarwal Paper Mill, M/s Meenu Paper Mill, M/s Bageshwari Paper Mill, and M/s Tehri Paper Mill situated in village Makhiyaali, Muzaffarnagar.

ii. In petition, the complainant has also raised issues related to various health problems and accident due to emission of black ash by above mentioned industries.

3. COMPLIANCE REPORT

In compliance of Hon'ble NGT order dated 20.08.2024, a joint committee comprising officials from the Central Pollution Control Board (CPCB), Uttar Pradesh Pollution Control Board (UPPCB) and representative from District Administration, Muzaffarnagar carried out monitoring from October 17th to 18th, 2024, to verify the factual status of the aforementioned issues. In this matter, City Magistrate, Muzaffarnagar is the nominated official on behalf of nodal agency i.e., District Magistrate, Muzaffarnagar.

3.1. Actions taken by the Committee

The details of the actions taken by the committee are as follows:

A. As per the name of the industries confirmed by Regional office Muzaffarnagar, Uttar Pradesh Pollution Control Board, following industries mentioned in the Hon'ble NGT order dated 20.08.2024 were visited:

i. M/s Tirupati Balaji Fibers Private Limited, Bhopa Road, Muzaffarnagar
ii. M/s Agarwal Duplex Board Mills Ltd, Bhopa Road, Muzaffarnagar
iii. M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar
iv. M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar, and
v. M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar

B. Ambient air quality monitoring at two locations in Makhiyaali village, Muzaffarnagar.

3.2. Location map

The joint committee visited industries mentioned in the Hon'ble NGT order dated 20.08.2024 in OA no. 269/2024 and village Makhiyali. The map showing industries, and ambient air monitoring locations in Makhiyaali village are shown below in **Figure 1.**

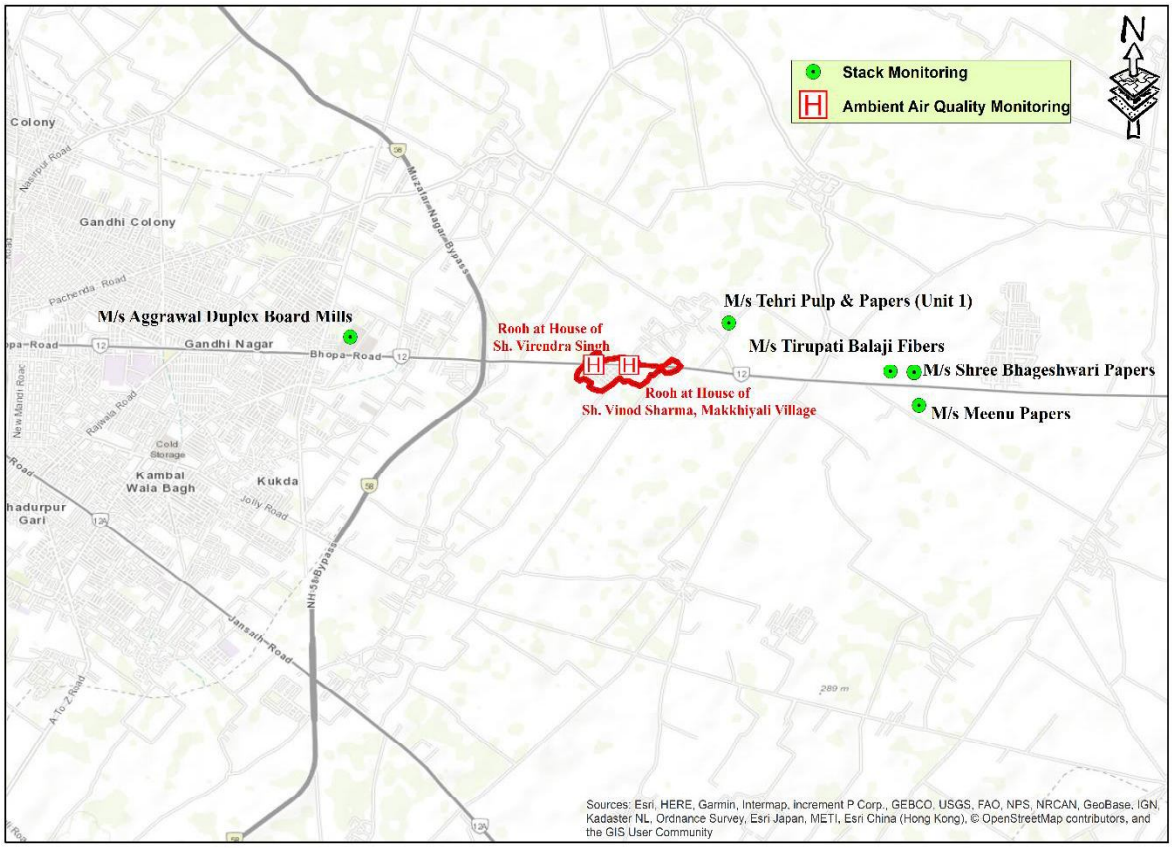


Figure 1: Map showing locations of industries, ambient air monitoring locations and village Makhiyaali

3.3. Details of site visit

All 5 industries mentioned in Hon'ble NGT order dated 20.08.2024 in OA no. 797/2024, were found operational. Information regarding statutory documents, production details, boiler details, ash management and air pollution control measures was collected.

Details of stack emission samples collected during visit:

Stack emission monitoring in all five industries, and ambient air quality monitoring at 2 locations in Makhiyaali village was carried out by RO Muzaffarnagar UPPCB.

Details of stack monitoring and ambient air quality monitoring are as follows:

i. Industries mentioned in Hon'ble NGT order dated 20.08.2024
   a. Stack emission monitoring – 5 (analysis report attached as **ANNEXURE-II**)

ii. Ambient air monitoring – 2 (upwind & downwind direction of village Makhiyaali, Muzaffarnagar, analysis report attached as **ANNEXURE-III**)

The committee also interacted with the complainant to discuss about the issues raised in the petition. Photography of the monitoring and sampling processes were carried out during the visit.

Out of the 5 respondent industries in Hon'ble NGT order dated 20.08.2024 in OA no. 794/2024, the detailed inspection of 3 industries namely, M/s Agarwal Duplex Board Mills, M/s Meenu Paper Mills Private Limited, and M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, was already carried out during December, 2023-January, 2024 by a joint committee comprising of officials from CPCB, MoEF&CC, UPGWD, UPPCB and District Administration in the matter Original Application No. 540/2023 titled Niramaya Jan Utthan Sansthan Vs. State of Uttar Pradesh & Ors. and detailed inspection of 2 industries namely, M/s Tirupati Balaji Fibers Private Limited, and M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2 was already carried out during October, 2023-December, 2023 by a joint committee comprising of officials from CPCB, UPPCB and District Administration in the matter Original Application No. 744/2022 in the matter of Mohrram Ali Vs State of UP with OA No. 277/2022 in the matter of Liyakat Ali & Ors Vs State of UP.

The detailed reports of industries along with action plan was filed before Hon'ble NGT on 04.04.2024 in the matter of OA No. 540/2023 and on 11.01.2024 in the matter Original Application No. 744/2022 in the matter of Mohrram Ali Vs State of UP with OA No. 277/2022 in the matter of Liyakat Ali & Ors Vs State of UP and the same are annexed as **ANNEXURE-IV & ANNEXURE-V** respectively**.**

The report of the joint committee filed before Hon'ble NGT in the matter Original Application No. 540/2023 titled Niramaya Jan Utthan Sansthan Vs. State of Uttar Pradesh & Ors. was accepted by Hon'ble Tribunal and the verbatim of the order dated 08.04.2024 in the matter is as follows:

"***3.*** *The Committee had earlier submitted the interim report and has thereafter, submitted final report on 04.04.2024. In the final report, violation of environmental norms by various industrial units have been found. These units are not before the Tribunal today and they are required to be heard before taking action. It is the responsibility of the UPPCB to give an opportunity of hearing to the units, ascertain the extent of violation, if any, and take remedial/punitive action. For this purpose, the concerned units will be given an opportunity of hearing on the findings which have been recorded by the joint Committee against them and a*

final conclusion in respect of violation will be drawn by UPPCB only after considering the reply and giving an opportunity to the industrial unit. Learned Counsel appearing for the UPPCB submits that this exercise will be completed within three months.

4. *Hence, we dispose of the OA directing the Member Secretary, UPPCB to do the needful in terms of the observations made above and take appropriate action including the action of imposition of EC against the industrial units which are found to be violating the environmental norms by UPPCB and file action taken report before the Registrar General of the Tribunal within four months. If found necessary, the matter will be listed before the Bench for consideration."*

4. EXECUTIVE SUMMARY

4.1. Visit to industries mentioned in the Hon'ble NGT order dated 20.08.2024

The committee carried out site visit in 5 industrial units mentioned in the petition. All 5 industrial units were found operational during visit and laboratory analysis of stack emission samples show compliance w.r.t. stack emission norms. The detailed compliance status of industries is given in Table 1 below:

Table 1: Detailed compliance status of industries mentioned in the Hon'ble NGT order dated 20.08.2024

S. no.	Name of unit	Operational status	Validity of CTO issued under Air Act, 1981	Boiler/ Turbine capacity	Air Pollution Control Device and stack height (m)	Fuel used in Boiler	Boiler ash generation (MT/d)	Ash disposal method	Compliance status w.r.t. stack emission norms
1	M/s Tirupati Balaji Fibers Private Limited, Bhopa Road, Muzaffarnagar	Operational	Valid	Boiler-15 TPH	Multi Cyclone & Wet Scrubber (stack height-30 m)	Bagasse, wood chips, Briquettes, Husk	0.80 MT/day	Brick Kiln	Complying

S. no.	Name of unit	Operational status	Validity of CTO issued under Air Act, 1981	Boiler/ Turbine capacity	Air Pollution Control Device and stack height (m)	Fuel used in Boiler	Boiler ash generation (MT/d)	Ash disposal method	Compliance status w.r.t. stack emission norms
2.	M/s Agarwal Duplex Board Mills Ltd, Bhopa Road, Muzaffarnagar	Operational	Valid	Boiler-23 TPH and Turbine-3.0 MW	Electrostatic Precipitator (ESP) (stack height-47 m)	Paddy husk, Coal & Bagasse	1.33 MT/day	Landfilling in low lying area	Complying
3.	M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar	Operational	Valid	02 nos. of boiler (capacity -11 TPH & 12 TPH) & Turbine-1.5 MW	dust collector & wet scrubber (stack height-35 m)	Rice husk, bagasse, coal & woodeen chips	25.56 MT/day	Brick Kiln	Complying
4.	M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar, and	Operational	Valid	Boiler-36 TPH & Turbine-6 MW	Electrostatic Precipitator (ESP) (stack height-52 m)	Coal, Biomass & Refuse Derived Fuel (RDF)	47.49 MT/day	Cement plant	Complying
5.	M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar	Operational	Valid	52 TPH (operational) & 14 TPH (non – functional & Turbine-8 MW	Electrostatic Precipitator (ESP) (Stack height-62m)	RDF, Biomass & Coal	64.37 MT/day	Cement plant	Complying

5. DETAILED REPORT

The report is prepared in two parts, which are as follows:

- Part 1 (sub-section 5.1) consists of observations and findings of the visit to industries mentioned in the Hon'ble NGT order dated 20.08.2024.
- Part 2 (sub-section 5.2) provides details about the ambient air quality in Makhyaali village.

5.1. Inspection of industries mentioned in the Hon'ble NGT order dated 21.05.2024

The petitioner in the matter of OA No. 797/2024 raised issue that air pollution is being caused by burning solid waste & plastic, and emission of black gases by following industrial units:

i. M/s Tirupati Balaji Fibers Private Limited, Bhopa Road, Muzaffarnagar
ii. M/s Agarwal Duplex Board Mills Ltd, Bhopa Road, Muzaffarnagar
iii. M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar
iv. M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar, and
v. M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar

The schedule of visit to above mentioned industries is given in Table 2 below:

Table 2: Schedule of visit of industries mentioned in the Hon'ble NGT order dated 21.05.2024

S. No.	Name of industrial unit	Operational status	Date of inspection
1.	M/s Tirupati Balaji Fibers Private Limited, Bhopa Road, Muzaffarnagar	Operational	October 17, 2024
2.	M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar	Operational	October 17, 2024
3.	M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar	Operational	October 17, 2024
4.	M/s Agarwal Duplex Board Mills Ltd, Bhopa Road, Muzaffarnagar	Operational	October 18, 2024
5.	M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar	Operational	October 18, 2024

The observations (industry-wise) made by the joint committee are as follows:

i. M/s Tirupati Balaji Fibers Private Limited, Bhopa Road, Muzaffarnagar, Uttar Pradesh-251001

a. Statutory compliance:

- Unit is having valid Consolidated Consent under Water Act, 1974 and Air Act, 1981 having validity up to 31.12.2024.
- Unit is having valid Authorization issued under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity up to 20.12.2027.
- Unit is having valid No Objection Certificates (NOCs) for abstraction of ground water from 01 borewell having validity up to 18.01.2027.

b. Production detail:

- Consented production: writing, printing & kraft paper @ 150 MT/day using waste paper as raw material.
- Average production: As per logbook data (01.08.2024 to 16.10.2024), the average daily production was 89.52 MT/day.
- Average raw material consumption: As per logbook data (01.08.2024 to 16.10.2024), the average daily raw material consumption was 105.26 MT/day.

c. Operational status:

- Unit was found operational during visit on 17.10.2024.

d. Boiler details:

- Unit has installed 01 no. of boiler of capacity 15 TPH and same was found operational during visit.
- Unit is using wood chips, bio-briquettes, Bagasse & husk as fuel in the boiler for meeting the steam requirements in production section. As per logbook data (01.08.2024 to 16.10.2024), the average daily fuel consumption in boiler is given below:

Type of fuel	Bagasse	wood chips	Briquettes	Husk	Total
Total (MT)	2432.68	222.18	124.79	117.08	2896.73
Avg. daily (MT/day)	36.86	3.36	1.89	1.77	43.88

- Unit has one pyrolysis plant of capacity 10 TPD is installed within unit's premises. Plastic waste generated from production process is used as raw material in pyrolysis plant for generation of pyro fuel oil.

e. Ash management:
    - Unit has made agreement (effective from 23.12.2023) with Sh. Nitin Kumar s/o Sh. Jagmohan, owner of Brick Kiln namely M/s Shiva Brick Field, Vill-Naseerpur, Muzaffarnagar for disposal of boiler ash (for manufacturing of bricks).
    - As per logbook data, average ash generation during 01.07.2024 to 16.10.2024 was 0.79 MT/day.

f. Air pollution control measures:
    - Unit has provided stack of height 30 m attached with 15 TPH boiler equipped with Multi cyclone & wet scrubber as Air Pollution Control Device (APCD).

g. Stack emission monitoring:
    - Particulate Matter (PM) – 48.4 mg/Nm^3 (against the stipulated norm of 80 mg/Nm^3)
    - Sulphur dioxide (as SO_2)- 22.0 mg/Nm^3 (against the stipulated norm of 600 mg/Nm^3)
    - Oxides of Nitrogen (NO_X)- 36.0 mg/Nm^3 (against the stipulated norm of 300 mg/Nm^3)

Compliance status: Complying w.r.t notified stack emission norms.

ii. M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar, Uttar Pradesh-251203

a. Statutory compliance:
    - Unit is having valid Consolidated Consent and Authorization (CCA) under Water Act, 1974 and Air Act, 1981 having validity up to 31.12.2024.
    - Unit is having valid Authorization under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity up to 31.12.2024.

- Unit is having valid NOCs for abstraction of ground water from 02 nos. of borewells having validity up to 26.07.2026.

b. Production detail:

- Consented production: Kraft paper @ 190 MT/day using waste paper @ 230 MT/day as raw material and captive power generation @1.5 MW.
- Average production: As per logbook data (01.07.2024 to 16.10.2024), the average daily production was 154.07 MT/day, which is within the consented production capacity of the unit.

c. Operational status:

- Unit was found operational during visit on 17.10.2024.

d. Boiler details:

- The unit has installed 02 nos. of boiler (capacity-11 TPH & 12 TPH) for meeting steam requirements. Unit has also installed a turbine of capacity 1.5 MW.
- The unit was using rice husk, bagasse, coal & wooden chips as fuel in boiler. As per logbook data (01.07.2024 to 16.10.2024), the fuel consumption in boiler is given below:

Type of fuel	Straw/husk	Coal	Wooden chips	Total
Total (MT)	5089.7	7072.31	2105	14267.01
Avg. daily (MT/day)	55.32	76.87	22.88	155.07

e. Ash management:

- The unit has made agreement (effective from 06.01.2023) with Sh. Rahul Batra s/o Dinesh Mohan Batra owner of Brick Kiln namely M/s Shiva Bricks Supply, Vill-Sandhawli, Muzaffarnagar.
- As per logbook data, average ash generation during 01.07.2024 to 16.10.2024 was 25.56 MT/day.

f. Air pollution control measures:

- Unit has provided stack of height 35 m attached with boilers of 11 TPH and 12 TPH capacity equipped with dust collector & wet scrubber as APCD.

g. Stack emission monitoring:

- Particulate Matter (PM) – 46.2 mg/Nm^3 (against the stipulated norm of 80 mg/Nm^3)

- Sulphur dioxide (as SO_2)- 26.0 mg/Nm^3 (against the stipulated norm of 600 mg/Nm^3)
- Oxides of Nitrogen (NO_X)- 46.0 mg/Nm^3 (against the stipulated norm of 300 mg/Nm^3)

Compliance status: Complying w.r.t notified stack emission norms.

iii. M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar, Uttar Pradesh-251001

a. Statutory compliance:
   - Unit is having valid Consolidated Consent and Authorization (CCA) under Water Act, 1974 and Air Act, 1981 having validity up to 31.12.2024 for both the units Unit-1 & Unit-2.
   - Unit is having valid NOCs for abstraction of ground water from 02 nos. of borewells having validity up to 31.07.2025 for both the units.

b. Production detail:
   - Consented production:
     Unit – 1: Production of unbleached grade paper (i.e. Kraft paper) @ 100 MT/day using Waste paper as raw material
     Unit – 2: Production of bleached grade paper (i.e. Writing & Printing) @ 100 MT/day using Waste paper as raw material
   - Average production: As per logbook data (01.08.2024 to 16.10.2024), the average daily production was 161.16 MT/day (Unit-1: 110.10 MT/day and Unit-2: 51.06 MT/day), which indicates that Unit-1 is producing more than the consented capacity of 100 MT/day. Unit-1 is advised to revise their CCA for increased production capacity.

c. Operational status:
   - Unit was found operational during visit on 17.10.2024.

d. Boiler details:
   - The unit has installed 01 no. of boiler of 36 TPH capacity for meeting steam requirements. Unit has also installed a turbine of capacity 6 MW.
   - The unit was using Coal, Bagasse, Rice husk, RDF as fuel in boiler. As per logbook data (01.08.2024 to 16.10.2024), the fuel consumption in boiler is given below:

Type of fuel	Coal	Bagasse	Rice husk	RDF	Total
Total (MT)	10720	0	2435	2914	16069
Avg. daily (MT/day)	155.36	0	35.29	42.23	232.88

e. Ash management:

- As per logbook data, average ash generation during 01.08.2024 to 16.10.2024 was 47.49 MT/day, which is less than the estimated ash generation of 59.77 MT/day.
- Unit has made agreement with M/s Malwa trading Company, Bhopa road, Muzaffarnagar & M/s Ganpati Engineering & Construction Utility for supply of ash to cement plants.

f. Air pollution control measures:

- Unit has provided stack of height 52 m attached with 36 TPH boiler with Electro Static Precipitator (ESP) as APCDs.

g. Stack emission monitoring:

- Particulate Matter (PM) – 44.6 mg/Nm^3 (against the stipulated norm of 80 mg/Nm^3)
- Sulphur dioxide (as SO_2)- 32.0 mg/Nm^3 (against the stipulated norm of 600 mg/Nm^3)
- Oxides of Nitrogen (NO_X)- 56.0 mg/Nm^3 (against the stipulated norm of 300 mg/Nm^3)

Compliance status: Complying w.r.t notified stack emission norms.

iv. M/s Agarwal Duplex Board Mills Ltd, Bhopa Road, Muzaffarnagar, Uttar Pradesh-251203

a. Statutory compliance:

- Unit is having valid Consolidated Consent and Authorization (CCA) under Water Act, 1974 and Air Act, 1981 having validity up to 31.12.2024.
- Unit is having valid Authorization under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity up to 31.12.2024.
- Unit is having valid No Objection Certificates (NOCs) for abstraction of ground water from 02 nos. of borewells having validity up to 13.03.2026.

b. Production detail:

- Consented production: Duplex Board, MG Poster & kraft paper @ 160 MT/day using waste paper@190 MT/day as raw material.
- Average production: As per data provided by the unit, the average daily production during 01.08.2024 to 17.10.2024 was 163 MT/day. Unit is advised to revise their CCA for increased production capacity.
- Average raw material consumption: As per data provided by the unit, the average daily raw material consumption during 01.08.2024 to 17.10.2024 was 175.55 MT/day.

c. Operational status:

- Unit was found operational during visit on 18.10.2024.

d. Boiler details:

- The unit has installed 01 no. of boiler of 23 TPH for meeting steam requirements using husk, coal & bagasse as fuel.
- The unit was using rice husk, bagasse & coal as fuel in boiler. As per logbook data (01.08.2024 to 17.10.2024), the unit has used rice husk only as fuel in the boiler, and the avg. daily fuel consumption is given below:

Type of fuel	Total (MT)	Avg. daily (MT/day)
Rice husk only	9924	127.23

e. Ash management:

- As per logbook data (01.08.204 to 16.10.2024), the average daily ash generation was 1.33 MT/day.
- Unit is disposing boiler ash for landfilling in low lying land area at Barla baseda road near DJ Hotel Muzaffarnagar.

f. Air Pollution Control Measures:

- Unit has provided stack of height 47 m attached with 23 TPH boiler with Electrostatic precipitator (ESP) as APCD.

g. Stack emission monitoring:

- Particulate Matter (PM) – 42.6 mg/Nm^3 (against the stipulated norm of 80 mg/Nm^3)
- Sulphur dioxide (as SO_2)- 34.0 mg/Nm^3 (against the stipulated norm of 600 mg/Nm^3)

- Oxides of Nitrogen (NO_X)- 56.0 mg/Nm^3 (against the stipulated norm of 300 mg/Nm^3)

Compliance status: Complying w.r.t notified stack emission norms.

v. M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, Bhopa Road, Muzaffarnagar, Uttar Pradesh-251001

a. Statutory compliance:
   - Unit is having valid Consolidated Consent and Authorization (CCA) under Water Act, 1974 and Air Act, 1981 having validity up to 31.12.2028 for Unit-1 and 31.12.2026 for Unit-2.
   - Unit is having valid Authorization under the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 having validity up to 31.12.2028 for Unit-1 and 31.12.2026 for Unit-2.
   - Unit is having valid NOCs for abstraction of ground water from 03 nos. of borewells having validity up to 30.03.2027 combined for both units i.e. Unit–1 & Unit–2.

b. Production detail:
   - Consented production: Unit-1- Kraft paper @ 250 MT/day using waste paper @ 250 MT/day as raw material.
     Unit-2- Kraft paper @ 350 MT/day using waste paper as raw material (quantity of raw material consumption not mentioned in CCA).
   - Average production: As per logbook data (01.08.2024 to 16.10.2024), the average daily production was 434.25 MT/day (Unit-1: 189.91 MT/day & Unit-2: 244.34 MT/day) against the consented value of 600 MT/day.
   - Average raw material consumption: As per logbook data (01.08.2024 to 16.10.2024), the average daily raw material consumption was 431.82 MT/day (Unit-1: 200.97 MT/day & Unit-2: 230.85 MT/day)

c. Operational status:
   - Unit (i.e. Unit-1& Unit-2) was found operational during visit on 18.10.2024.

d. Boiler details:
   - The unit has installed 52 TPH (operational, common for Unit – 1 & Unit – 2) & 14 TPH (non – functional, old boiler as part of Chemical recovery plant when unit was using agro residue as raw material) for meeting steam requirements. Unit has installed a turbine of capacity 8 MW.

- The unit is using RDF, Biomass & Coal as fuel in boiler. As per logbook data (01.08.2024 to 16.10.2024), the fuel consumption in boiler is given below:

Type of fuel	Coal	Bagasse	Rice husk	RDF
Total (MT)	8055	16794.15	360.975	10080
Avg. daily (MT/day)	115.07	239.92	5.16	144

e. Ash management:

- As per logbook data, average ash generation during 01.08.2024 to 16.10.2024 was 64.37 MT/day, which is nearest to the estimated ash generation of 65.88 MT/day.
- The Boiler ash generated from the unit was being sent to cement plants as Unit has made agreement (effective from 01.08.2023) with M/s Bulk Ash Supplier, Bhopa road, Muzaffarnagar for supply of ash to cement plants.

f. Air pollution control measures:

- Unit has provided stack of height 62 m attached with 52 TPH boiler with Electro Static Precipitator (ESP) as APCDs.

g. Stack emission monitoring:

- Particulate Matter (PM)-42.8 mg/Nm^3 (against the stipulated norm of 80 mg/Nm^3)
- Sulphur dioxide (as SO_2)- 32.0 mg/Nm^3 (against the stipulated norm of 600 mg/Nm^3)
- Oxides of Nitrogen (NO_X)- 48.0 mg/Nm^3 (against the stipulated norm of 300 mg/Nm^3)

  Compliance status: Complying w.r.t stack emission norms.

5.2. Ambient air quality monitoring in Makhiyaali village, Muzaffarnagar

Makhiyaali village is located in the South of Bhopa road. Makhiyaali village is located about 1.5 KM in South-East direction of four industries namely; M/s Meenu Paper Mills Private Limited, M/s Tehri Pulp and Paper Ltd Unit- 1 & 2, M/s Tirupati Balaji Fibers Private Limited, and M/s Shree Bhageshwari Papers Pvt Ltd Unit- 1 & 2, mentioned in OA No. 797/2024 and about 2.5 KM in South-west direction of one industry M/s Agarwal Duplex Board Mills Ltd. Residents of Makhiyaali village informed that they experience ash deposition on rooftops, as well as health issues. Villagers also emphasized on issues accident occurs due to smoke on the

Bhopa road. During the visit, dust consisting of ash were found deposited on the roof top of the houses.

Ambient air quality monitoring was carried out at two locations in Makhiaali village for 24 hours at the roof of house of Shri Virendra Singh (in upwind direction) and at the roof of house of Shri Vinod Sharma (in downwind direction). The value of Particulate matter-PM10(Less than 10Micron) in ambient air was found as 130.85 $\mu g/m^3$ at upwind direction and 117.89 $\mu g/m^3$ at downwind direction. The air quality of Makhiyaali village was not meeting the National Ambient Air Quality Standards of 100 $\mu g/m^3$ (notification dated 18/11/2009). The higher value may be due to heavy vehicular movement including public transport.

6. CONCLUSIONS

6.1. Industries mentioned in the Hon'ble NGT order dated 20.08.2024

- The committee conducted site visits to the five industrial units mentioned in the petition. All five industries were found operational.
- All units have valid consents under Water Act, 1974 & Air Act, 1981, Authorization under Hazardous Wastes Rules, 2016 and No Objection Certificate for abstraction of ground water from borewells installed within the premises.
- As recommended under the Environment (Protection) Rules, 1986, industries having boilers above 15 tonnes capacity have installed bag filter/electrostatic precipitator as air pollution control device and boilers below 15 tonnes capacity have installed cyclone/multi-cyclone as air pollution control device.
- The units use various fuels in their boilers, including biomass (rice husk, bagasse, bio-briquettes, wood chips), RDF, plastic waste, and coal.
- Boiler ash generated by the units is being used for filling in low-lying land, brick manufacturing and in cement plant.
- Stack emission monitoring results showed that all five units complied with stack emission norms.

7. RECOMMENDATIONS

7.1. Industry

- Units shall operate the Air Pollution Control Devices (APCDs) properly so that no emission containing fly ash/black gases is emitted by industries.

- Units shall conduct regular maintenance of existing air pollution control equipment to ensure their optimal performance.
- Units shall ensure scientific storage & disposal of boiler ash.
- Units shall ensure maintain proper records of its fuel consumption in boiler, boiler ash generation and disposal.
- Unit shall share the details of location etc. to UPPCB for site selection of boiler ash disposal, safe operation and for development of vegetation cover after exhaustion of the capacity of filling site according to the following criteria:
    a. Sites must be properly demarcated and fenced to restrict human and animal intrusion.
    b. After reaching capacity, sites must be properly capped with about 30 cm of topsoil to promote vegetation growth.
    c. Sites must be properly lined and made impermeable to prevent any contamination of surface water and groundwater.
- Boiler ash generated by the units shall be utilized for other beneficial purposes, including:
    a. Manufacturing building materials such as bricks, blocks, tiles, fiber cement sheets, pipes, boards, panels, and ash & geo-polymer-based construction materials.
    b. Manufacturing cement and Ready Mix Concrete (RMC).
    c. Construction of road and flyover embankments.
    d. Controlled agricultural use based on soil testing.
    e. Any other eco-friendly purpose as notified from time to time.
- Scattered/haphazard disposal of boiler ash by industrial units, if any, should be completely stopped.
- Units shall maintain proper record regarding generation, storage and disposal of boiler ash.
- Units shall also comply with the recommendations made by the joint committee constituted in compliance to Hon'ble NGT orders dated 12.09.2023 & 12.12.2023 in OA No. 540/2023 in the matter of Niramaya Jan Utthan Sansthan Vs. State of Uttar Pradesh & Ors., which are reproduced as below:

Action Plan for Non-paper solid waste namely, Plastic Waste, Boiler Ash, ETP Sludge and surface drain

The action plan aims to establish a robust framework for the effective handling, disposal, and monitoring of Plastics Waste, Boiler Ash and ETP sludge generated by industrial units.

Key Components

a. Constitution of a Society and Special Purpose Vehicle (SPV)

i. **Society Formation**: A society shall be constituted, comprising all relevant stakeholders, including industrial units and regulatory bodies. The State Pollution Control Boards (SPCBs) shall facilitate the establishment of this society.

ii. **Special Purpose Vehicle (SPV)**: The society shall create an SPV specifically dedicated to managing Plastics Waste, Boiler Ash and ETP sludge generated by industrial units.

b. Membership and Participation

i. **Membership**: All industrial units within the sector must be members of the society. This ensures collective responsibility and participation in waste management efforts.

c. Waste Generation and Record Keeping

i. **Logbook Maintenance**: Member units must maintain a logbook that records waste quantities, types, and disposal methods. This logbook will serve as a crucial reference for waste management audits and assessments.

d. Supervision and Payment

i. **SPCB Supervision**: The SPCBs shall supervise waste management practices within member units. This includes overseeing waste handling, transportation, disposal and verification through logbook & manifest system slip.

ii. **Cost Allocation**: Member units shall bear the cost associated with waste management, including transportation, treatment, and final disposal.

e. SPV Responsibilities

Special Purpose Vehicle (SPV) Responsibilities in Hazardous Waste Management

The SPV will play a crucial role in ensuring compliance with regulations governing the transportation of hazardous industrial waste.

Responsibilities related to Hazardous Waste Transportation:

i. Manifest System Facilitation:

- The SPV will facilitate the proper use of the six-copy manifest system.
- This includes ensuring generators and transporters understand the color-coded copies and their designated actions:
    - **White Copy:** Forwarded to the State Pollution Control Board (SPCB) by the generator.

- **Light Yellow Copy:** Signed and returned to the generator by the transporter.
- **Pink Copy:** Retained by the disposal facility operator.
- **Orange Copy:** Returned to the transporter by the facility after accepting waste.
- **Green Copy:** Forwarded to the SPCB by the facility after disposal.
- **Blue Copy:** Returned to the generator by the facility after disposal.

ii. Awareness and Implementation:

- The SPV will actively promote awareness among member units regarding proper packaging, labelling, and manifest system requirements for waste transportation.
- The SPV will collaborate with SPCBs to ensure member units receive guidance on:
  - Safe handling, storage, and transportation of waste.
  - Accurate labelling of waste containers, including information on corrosive, reactive, ignitable, or toxic properties.

iii. Information Dissemination:

- The SPV will provide member units with access to relevant information regarding the Transport Emergency (TREM) Card (Form 10). This card details the hazardous nature of the waste and necessary emergency measures.

iv. Data Management and Reporting:

- **Transit and Disposal Records**: The SPV shall maintain records of waste transit and final disposal. These records will include details such as transportation routes, disposal sites, and quantities.
- **Quarterly and Monthly Reporting**: The SPV shall submit quarterly and monthly reports to both member units and the SPCBs. These reports will outline waste management activities, progress, and compliance with regulations.
- **Verification by SPCBs and maintaining compliance**: The SPV will collaborate with SPCBs in identifying potential compliance issues and reporting any discrepancies encountered during the transportation process. The SPCBs will verify the accuracy and completeness of the SPV's records. This ensures transparency and accountability in Plastics Waste, Boiler Ash and ETP sludge management practices.

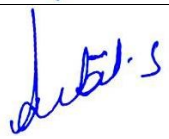
8. ACTION PLAN FOR INDUSTRIES SUBMITTED IN COMPLIANCE TO OA NO. 540/2023 IN THE MATTER OF NIRAMAYA JAN UTTHAN SANSTHAN VS. STATE OF UTTAR PRADESH & ORS.

Violations/ activities requiring immediate action (Industrial units having either no ETP or incomplete ETP for effluent treatment)

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
1.	Inspection of industries in Begrajpur industrial area for assessment of existing effluent treatment, emission control infrastructure, Hazardous waste management facility	UPPCB along with the district administration	Mandatory	03 months
2.	24 hour monitoring of flow & waste water characteristics (composite sampling) of Begrajpur drain to assess the actual potential of discharging pollution load	UPPCB	Mandatory	03 months
3.	Immediately stop the operation of unit discharging untreated effluent or operating without adequate infrastructure for effluent treatment & emission control in Begrajpur industrial area	UPPCB along with the district administration	Mandatory	03 months
4.	Stored legacy hazardous waste in Begrajpur industrial area shall be transferred to the TSDF site for scientific disposal to rule out possibility of illegal disposal in to the drain during rainy season	UPPCB along with the district administration	Mandatory	03 months
5.	Legacy solid waste (plastic waste, ETP sludge and boiler ash) dumped at different locations in Muzaffarnagar shall be transferred to the TSDF and authorized recyclers for scientific disposal	UPPCB along with the district administration	Mandatory	03 months
6.	Carry out feasibility study (Effluent characteristics & load, topography of industrial area, land availability etc.) for requirement of Common effluent Treatment Plant (CETP) with advance	UPPCB and Industry association	Mandatory	06 months

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
	technologies in Begrajpur industrial area in consensus with the operating industries in the area			
7.	Provide provision of segregation of high and low COD effluent streams	Pharmaceutical industries	Mandatory	01 month
8.	Setup evaporation-concentration/ incineration system for high COD effluent stream having recalcitrant substances		Mandatory	06 months
9.	Setup three stage ETP system (consisting of Primary, Secondary (biological aerobic) and tertiary treatment) for weak strength low COD effluent stream along with condensate from high COD stream and also explore other advance treatment technologies available		Mandatory	06 months
10.	Restrict the impermeable storage capacity of spent wash at any stage to 07 days equivalent of production and excess storage facilities beyond this shall be levelled/ dismantled	Distillery industry (Molasses based)	Mandatory	03 months
Action Plan for non-paper solid waste namely, Plastic Waste, Boiler Ash, ETP Sludge and surface drain				
11.	Constitution of a Society and Special Purpose Vehicle (SPV)	UPPCB and Industrial Cluster	Mandatory	1 Month
12.	Agreement and Membership for Society and SPV	Industrial Cluster	Mandatory	1 Month
13.	Action plan for non-paper solid waste namely, Plastic Waste, Boiler Ash, ETP Sludge and surface drain	Industrial Cluster	Mandatory	2 Months
14.	Waste Generation and Record Keeping	Industrial Cluster and SPV	Mandatory	2 Months Onwards
15.	Verification of end-to-end waste disposal	SPV and UPPCB	Mandatory	2 Months Onwards
16.	Data Management and Reporting	Industrial Cluster and SPV	Mandatory	2 Months Onwards

Joint Committee:

S. no.	Name and designation of committee member	Organization	Signature
1.	Shri Vikas Kashyap, City Magistrate, Muzaffarnagar	District Administration (Nodal agency)	
2.	Shri Ankit Singh, Regional Officer, Muzaffarnagar	Uttar Pradesh Pollution Control Board	
3.	Sh. Imraan Ali, Env. Engineer, Regional Office, Muzaffarnagar	Uttar Pradesh Pollution Control Board	
4.	Ms. Reena Satavan, Additional Director & Scientist 'E'	Central Pollution Control Board	
5.	Dr. R. K Singh, Scientist 'D'	Central Pollution Control Board	

Photographs taken in M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar


GPS Map Camera
Muzaffarnagar, Uttar Pradesh, India
FQ9R+M5V, Bhopa Rd, Muzaffarnagar, Bhandura, Uttar Pradesh 251001, India
Lat 29.470363°
Long 77.790801°
22/10/24 01:04 PM GMT +05:30
Google

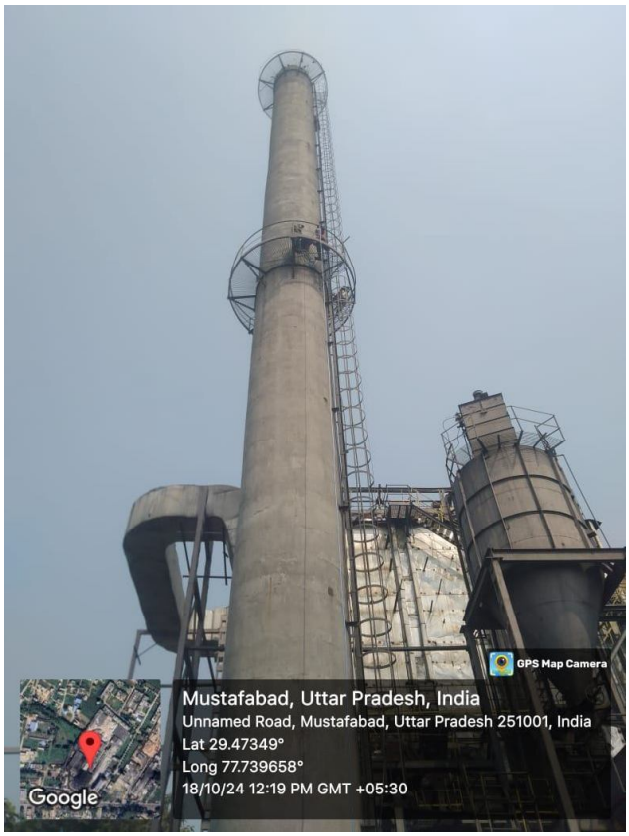

GPS Map Camera
Muzaffarnagar, Uttar Pradesh, India
FQ9R+M5V, Bhopa Rd, Muzaffarnagar, Bhandura, Uttar Pradesh 251001, India
Lat 29.470332°
Long 77.790813°
22/10/24 01:05 PM GMT +05:30
Google


GPS Map Camera
Muzaffarnagar, Uttar Pradesh, India
FQCQ+24J, SH 12, Uttar Pradesh 251001, India
Lat 29.470440°
Long 77.788622°
22/10/24 02:35 PM GMT +05:30
Google


GPS Map Camera
Muzaffarnagar, Uttar Pradesh, India
FQCQ+24J, SH 12, Uttar Pradesh 251001, India
Lat 29.470444°
Long 77.788647°
22/10/24 02:34 PM GMT +05:30
Google


GPS Map Camera
Ghaziabad, Uttar Pradesh, India
near Bhikanpur, Wine shop, 163, Ghaziabad, Bhandura, Uttar Pradesh 201206, India
Lat 29.468381°
Long 77.790441°
18/10/24 02:11 PM GMT +05:30
Google


GPS Map Camera
Makhiyaali, Uttar Pradesh, India
FQGF+2RQ, Makhiyaali, Chandpur, Uttar Pradesh 251001, India
Lat 29.474709°
Long 77.773995°
18/10/24 02:15 PM GMT +05:30
Google


GPS Map Camera
Mustafabad, Uttar Pradesh, India
Unnamed Road, Mustafabad, Uttar Pradesh 251001, India
Lat 29.47349°
Long 77.739658°
18/10/24 12:19 PM GMT +05:30
Google


GPS Map Camera
Mustafabad, Uttar Pradesh, India
Unnamed Road, Mustafabad, Uttar Pradesh 251001, India
Lat 29.473492°
Long 77.739658°
18/10/24 12:19 PM GMT +05:30
Google

Roof of Sh. Vinod Sharma S/o Sh. Om Prakash Sharma House

Ambient air monitoring

37

Roof of Sh. Virendra Singh S/o Sh. Omkar Singh House

Ambient air monitoring

38

Corrected on 04.09.2024

Item No.06 Court No. 2

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No.797/2024

Gautam Applicant

Versus

State of Uttar Pradesh Respondent

Date of hearing: 20.08.2024

CORAM: HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER

Applicant(s): None

ORDER

1. This Original Application, in exercise of *suo-moto* jurisdiction in view of law laid down by Supreme Court *Municipal Corporation of Greater Mumbai Versus Ankita Sinha and Others, has been registered* under Sections 14 and 15 of National Green Tribunal Act, 2010 (hereinafter referred to as '**NGT Act, 2010**'), on a letter petition dated 26.10.2023 sent by Gautam son Virender resident of village Makhiyaali, Police Station Mandi, District Muzaffarnagar.

2. Complainant has said that certain paper mills namely: Balaji Paper Mill, Agarwal Paper Mill, Meenu Paper Mill, Bageshwari Paper Mill, and Tehri Paper Mill situated in village Makhiyaali are operating by burning solid waste and plastic and thereby causing air pollution in the nearby rural area causing health hazards to the people residing in area. Black gas spread in entire surrounding villages is causing several accidents on highway and many people have died but no action has been taken by concerned authorities despite several complaints.

3. The allegations made in the letter petition is ex-facie give rise to a substantial question relating to environmental arising out of implementation of enactments mentioned in Schedule-1 of NGT Act, 2010 but before taking any further action in the matter we find it appropriate to obtain a Factual Report for which we constitute a Joint Committee comprising Uttar Pradesh State Pollution Control Board, District Magistrate, Muzaffarnagar and Central Pollution Control Board.

4. District Magistrate, Muzaffarnagar shall be the Nodal Agency for co-ordination and compliance of this order.

5. Above Committee shall visit the site, collect relevant information and submit a Factual Report within two months.

6. List on 06.11.2024.

Sudhir Agarwal, JM

Dr. Afroz Ahmad, EM

August 20, 2024
Original Application No.797/2024
M

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
Kamal Cinema Building,Railway Road, Muzaffarnagar

Stack Emission Test Report

Ref No.28756376/MuzaffarNagar/2024 **Date: 30/10/2024**

1- Name & Address of Industry: TIRUPATIBAALAJI FIBERRS PRIVATE LIMITED, 9 TH KM BHOPA ROAD
2- Sample Collected By: (1) Diwakar Dev Gahlaut; J.R.F (2) Ravish Pratap Singh: J.R.F
3- Date of Monitoring: 17/10/2024
4- Source of Sampling: Stack
5- Stack attached to: Boiler
6- Stack Height: 30 Meters
7- Total No. of Boiler: 01
8- Capacity of Boiler: 15 TPH
9- Fuel used: Biomass
10- Quantity of Fuel used: 70 TPD
11- Flue Gas Velocity: 7.3 m/s
12- Air Pollution Control Device: Multi Cyclone & Wet Scrubber
13- Other remarks (if any): At the time of inspection industry found operational.
14- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Parameter	Unit	Result	Standards
1	Particulate Matter (PM)	mg/Nm3	48.4	80(As per CAQM Direction No.62)
2	Oxide of Nitrogen (NOx)	mg/Nm3	36.0	300
3	Sulphur Dioxide (As SO2)	mg/Nm3	22.0	600

Note: The results in the Test Report relate only to the items tested. The Report shall not be reproduced-except in Full, without the written permission of laboratory.

Analysed by-
[Sarvesh Kumar LA]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.30 16:57:12 +05'30'
Regional Officer

STACK MONITORING		
Parameters	**Test Method**	**Range of Detection**
PM	IS Method No. 11255 (Part-1) 1985	01-5000 mg/Nm3

----------End of report----------

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building,Railway Road, Muzaffarnagar

Stack Emission Test Report

Ref No.28756272/MuzaffarNagar/2024 **Date: 30/10/2024**

1- Name & Address of Industry: MEENU PAPER MILLS PRIVATE LIMITED, 9.5th Km Stone,Bhopa Road

2- Sample Collected By: (1) Diwakar Dev Gahlaut; J.R.F (2) Ravish Pratap Singh: J.R.F

3- Date of Monitoring: 17/10/2024

4- Source of Sampling: Stack

5- Stack attached to: Boiler

6- Stack Height: 35 Meters

7- Total No. of Boiler: 02

8- Capacity of Boiler: 12 TPH & 11 TPH

9- Fuel used: Baggase, Rice Husk, Coal

10- Quantity of Fuel used: 100 TPD

11- Flue Gas Velocity: 7.4 m/s

12- Air Pollution Control Device: Multi Cyclone & Wet Scrubber

13- Other remarks (if any): At the time of inspection industry found operational.

14- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Parameter	Unit	Result	Standards
1	Particulate Matter (PM)	mg/Nm3	46.2	80(As per CAQM Direction No.62)
2	Oxide of Nitrogen (NOx)	mg/Nm3	46.0	300
3	Sulphur Dioxide (As SO2)	mg/Nm3	26.0	600

Note: The results in the Test Report relate only to the items tested. The Report shall not be reproduced-except in Full, without the written permission of laboratory.

Analysed by-
[Sarvesh Kumar LA]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.30 16:57:44 +05'30'

Regional Officer

STACK MONITORING		
Parameters	**Test Method**	**Range of Detection**
PM	IS Method No. 11255 (Part-1) 1985	01-5000 mg/Nm3

----------End of report----------

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD
Kamal Cinema Building,Railway Road, Muzaffarnagar

Stack Emission Test Report

Ref No.28756296/MuzaffarNagar/2024 **Date: 30/10/2024**

1- Name & Address of Industry: SHREE BHAGESHWARI PAPERS PVT LTD STEEL DIVISION, 9th Km stone Bhopa Road , Muzaffarnagar,MUZAFFAR NAGAR,251001

2- Sample Collected By: (1) Diwakar Dev Gahlaut; J.R.F (2) Ravish Pratap Singh: J.R.F

3- Date of Monitoring: 17/10/2024

4- Source of Sampling: Stack

5- Stack attached to: Boiler

6- Stack Height: 52 Meter

7- Total No. of Boiler: 01

8- Capacity of Boiler: 36 TPH

9- Fuel used: RDF, Biomass, Coal

10- Quantity of Fuel used: 110 TPD

11- Flue Gas Velocity: 7.4 m/s

12- Air Pollution Control Device: ESP

13- Other remarks (if any): At the time of inspection industry found operational.

14- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Parameter	Unit	Result	Standards
1	Particulate Matter (PM)	mg/Nm3	44.6	80(As per CAQM Direction No.62)
2	Sulphur Dioxide (As SO2)	mg/Nm3	22.0	600
3	Oxide of Nitrogen (NOx)	mg/Nm3	40.0	300

Note: The results in the Test Report relate only to the items tested. The Report shall not be reproduced-except in Full, without the written permission of laboratory.

Analysed by-
[Sarvesh Kumar LA]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.30 16:57:28 +05'30'

Regional Officer

STACK MONITORING		
Parameters	**Test Method**	**Range of Detection**
PM	IS Method No. 11255 (Part-1) 1985	01-5000 mg/Nm3

----------End of report----------

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building,Railway Road, Muzaffarnagar

Stack Emission Test Report

Ref No.28756449/MuzaffarNagar/2024 **Date: 30/10/2024**

1- Name & Address of Industry: AGARWAL DUPLEX BOARD MILLS LTD, 4th Km Stone , Bhopa Road , Muzaffarnagar,MUZAFFAR NAGAR,251001

2- Sample Collected By: (1) Diwakar Dev Gahlaut; J.R.F (2) Ravish Pratap Singh: J.R.F

3- Date of Monitoring: 18/10/2024

4- Source of Sampling: Stack

5- Stack attached to: Boiler

6- Stack Height: 47 Meter

7- Total No. of Boiler: 01

8- Capacity of Boiler: 23 TPH

9- Fuel used: Coal, Paddy Husk, Baggase

10- Quantity of Fuel used: 125 TPD

11- Flue Gas Velocity: 7.3 m/s

12- Air Pollution Control Device: ESP

13- Other remarks (if any): At the time of inspection industry found operational.

14- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Parameter	Unit	Result	Standards
1	Particulate Matter (PM)	mg/Nm3	42.6	80(As per CAQM Direction No.62)
2	Sulphur Dioxide (As SO2)	mg/Nm3	28.0	600
3	Oxide of Nitrogen (NOx)	mg/Nm3	44.0	300

Note: The results in the Test Report relate only to the items tested. The Report shall not be reproduced-except in Full, without the written permission of laboratory.

Analysed by-
[Sarvesh Kumar LA]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.30 16:56:36 +05'30'

Regional Officer

STACK MONITORING		
Parameters	**Test Method**	**Range of Detection**
PM	IS Method No. 11255 (Part-1) 1985	01-5000 mg/Nm3

----------End of report----------

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building,Railway Road, Muzaffarnagar

Stack Emission Test Report

Ref No.28756434/MuzaffarNagar/2024 **Date: 30/10/2024**

1- Name & Address of Industry: TEHRI PULP AND PAPER LTD UNIT 1, 9th K.M stone Bhopa Road Muzaffarnagar,MUZAFFAR NAGAR,251001

2- Sample Collected By: (1) Diwakar Dev Gahlaut; J.R.F (2) Ravish Pratap Singh: J.R.F

3- Date of Monitoring: 18/10/2024

4- Source of Sampling: Stack

5- Stack attached to: Boiler

6- Stack Height: 62 Meter

7- Total No. of Boiler: 01

8- Capacity of Boiler: 52 TPH

9- Fuel used: RDF, Baggase

10- Quantity of Fuel used: 200 TPD

11- Flue Gas Velocity: 7.6 m/s

12- Air Pollution Control Device: ESP

13- Other remarks (if any): At the time of inspection industry found operational.

14- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Parameter	Unit	Result	Standards
1	Particulate Matter (PM)	mg/Nm3	42.8	80(As per CAQM Direction No.62)
2	Sulphur Dioxide (As SO2)	mg/Nm3	18.0	600
3	Oxide of Nitrogen (NOx)	mg/Nm3	36.0	300

Note: The results in the Test Report relate only to the items tested. The Report shall not be reproduced-except in Full, without the written permission of laboratory.

Analysed by-
[Sarvesh Kumar LA]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.30 16:56:55 +05'30'

Regional Officer

STACK MONITORING		
Parameters	**Test Method**	**Range of Detection**
PM	IS Method No. 11255 (Part-1) 1985	01-5000 mg/Nm3

----------End of report----------

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building,Railway Road, Muzaffarnagar

Ambient Air Test Report

Ref no-28778198/MuzaffarNagar/2024 **Date: 25/10/2024**

1- Name of Place and Address: Bhopa Road, Village Makhiyali, Muzaffarnagar ,Muzaffarnagar

2- Date of sample Collection: 19/10/2024

3- Date of sample Receipt in Laboratory: 20/10/2024

4- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Monitoring Location	Area Categoory	Shift	Monitored By	Sulphar di-oxide(µg/m3)	Nitrogen di-oxide(µg/m3)	Particulate Matter PM10(Less than 10Micron) (µg/m3)	Particulate Matter PM2.5(Less than 2.5 Micron) For 24 Hours (µg/m3)
1	Roof of Virendra Singh House, Village Makhiyali, MZN	Residential	I	(1) Ravish Pratap Singh; J.R.F (2) Alam Saifi; F.A	Not Analyzed	Not Analyzed	132.76	Not Analyzed
2	Roof of Virendra Singh House, Village Makhiyali, MZN	Residential	II	(1) Ravish Pratap Singh; J.R.F (2) Alam Saifi; F.A	Not Analyzed	Not Analyzed	130.62	Not Analyzed
3	Roof of Virendra Singh House, Village Makhiyali, MZN	Residential	III	(1) Ravish Pratap Singh; J.R.F (2) Alam Saifi; F.A	Not Analyzed	Not Analyzed	129.16	Not Analyzed

Note: 1. The results in the Test Report relate only to the items tested. 2. The Report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

Analysed by-
[Diwakar Dev Gahlot]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.25 12:43:44 +05'30'

Regional Officer

AIR TESTING			
AMBIENT AIR			
S.R.	**Parameters**	**Test Method**	**Range of Detection**
1.	Sulphur dioxide (SO2)	IS Method No. 5182 (Part-2) 2012	05-750 µg/m3
2.	Nitrogen dioxide (NO2)	IS:5182 Part(6) 2012	6-500 µg/m3
3.	Particulate Matter (PM10) Less than 10 microns	IS:5182 Part (23) 2006	05-1000 µg/m3
4.	Particulate Matter (PM2.5) Less than 10 microns	IS:5182 Part (24) 2012	05-200 µg/m3

REGIONAL LABORATORY MuzaffarNagar
UTTAR PRADESH POLLUTION CONTROL BOARD

Kamal Cinema Building,Railway Road, Muzaffarnagar

Ambient Air Test Report

Ref no-28778164/MuzaffarNagar/2024 **Date: 25/10/2024**

1- Name of Place and Address: Bhopa Road, Village Makhiyali, Muzaffarnagar ,Muzaffarnagar

2- Date of sample Collection: 19/10/2024

3- Date of sample Receipt in Laboratory: 20/10/2024

4- Further details of sample location and Test methods followed are appened overleaf:

Sr no.	Monitoring Location	Area Categoory	Shift	Monitored By	Sulphar di-oxide(µg/m3)	Nitrogen di-oxide(µg/m3)	Particulate Matter PM10(Less than 10Micron) (µg/m3)	Particulate Matter PM2.5(Less than 2.5 Micron) For 24 Hours (µg/m3)
1	Roof of Vinod Sharma House, Village Makhiyali, MZN	Residential	I	(1) Ravish Pratap Singh; J.R.F (2) Alam Saifi; F.A	Not Analyzed	Not Analyzed	128.64	Not Analyzed
2	Roof of Vinod Sharma House, Village Makhiyali, MZN	Residential	II	(1) Ravish Pratap Singh; J.R.F (2) Alam Saifi; F.A	Not Analyzed	Not Analyzed	120.80	Not Analyzed
3	Roof of Vinod Sharma House, Village Makhiyali, MZN	Residential	III	(1) Ravish Pratap Singh; J.R.F (2) Alam Saifi; F.A	Not Analyzed	Not Analyzed	104.22	Not Analyzed

Note: 1. The results in the Test Report relate only to the items tested. 2. The Report shall not be reproduced-except in full, without the written permission of laboratory. 3. The test report pertains to the sample as received in Lab.

Analysed by-
[Diwakar Dev Gahlot]

Authorised Signatory-

Ankit Singh (RO)

Ankit Singh
Digitally signed by Ankit Singh
Date: 2024.10.25 12:43:24 +05'30'

Regional Officer

AIR TESTING			
AMBIENT AIR			
S.R.	**Parameters**	**Test Method**	**Range of Detection**
1.	Sulphur dioxide (SO2)	IS Method No. 5182 (Part-2) 2012	05-750 µg/m3
2.	Nitrogen dioxide (NO2)	IS:5182 Part(6) 2012	6-500 µg/m3
3.	Particulate Matter (PM10) Less than 10 microns	IS:5182 Part (23) 2006	05-1000 µg/m3
4.	Particulate Matter (PM2.5) Less than 10 microns	IS:5182 Part (24) 2012	05-200 µg/m3

Joint Monitoring Report
on
Industrial Clusters of Muzaffarnagar, Uttar Pradesh
(27th December 2023 – 17th January 2024)

In the matter of

Niramaya Jan Utthan Sansthan

Vs.

State of Uttar Pradesh & Ors.

[O.A. NO. 540/2023]

-Prepared by-
The Joint Committee of MoEF&CC, CPCB, UPPCB, UPGWD and District Administrations of Muzaffarnagar

Constituted by
Hon'ble National Green Tribunal
(Order dated 12.09.2023 & 12.12.2023**)**

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Report in compliance to Hon'ble NGT Orders dated 12.09.2023 & 12.12.2023 in OA No. 540/2023 in the matter of Niramaya Jan Utthan Sansthan Vs. State of Uttar Pradesh & Ors.

1. Background

This report is in compliance to Hon'ble NGT orders dated 12.09.2023 & 12.12.2023 in OA No. 540/2023 in the matter of Niramaya Jan Utthan Sansthan Vs. State of Uttar Pradesh & Ors.

A. Hon'ble NGT Order

The Hon'ble NGT considered the matter on 12.09.2023. The verbatim of the relevant para of the order dated 12.09.2023 is reproduced below:

*"**2.** In view of the allegation made in the application, we deem it proper to appoint a joint Committee comprising of Director deputed by Member Secretary, Central Pollution Control Board, Ground Water Department, Uttar Pradesh, Member Secretary, State Pollution Control Board, Integrated Regional Office, MoEF&CC, Lucknow and District Magistrate. The District Magistrate will act as nodal agency to coordinate between the Committee Members. The Committee will visit the site, collect samples, get the analysis done and also find out the extent, if any, of the pollution caused by these industries and their effect on the environment and health of the local residents. The Committee will submit the report within eight weeks 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.** The Committee will also serve the copy of the report to the respondent nos. 3 to 39 who will have an opportunity to file the response before the Tribunal on the next date, if any adverse is found by the Committee against them."*

In compliance of Hon'ble NGT order dated 12.09.2023 & 12.12.2023, the Joint Committee was constituted having representative from MoEF&CC, CPCB, Uttar Pradesh Pollution Control Board (UPPCB), Uttar Pradesh Groundwater Department (UPGWD) and District Administration Muzaffarnagar.

B. Issues raised in petition

a. The petitioner put allegations on the Respondents including 37 industries in District Muzaffarnagar, Uttar Pradesh for generating polluting substances which are affecting the composition of atmosphere, soil and water; and that, the villagers are dying due to various diseases.

b. The petitioner brought attention to the following issues faced by the residents of the villages located in nearby areas of the respondent industries:

   i. Health impacts on the villagers due to high level of Sulphur in air and water leading to major diseases,
   ii. Salinization of land,
   iii. Formation of sewage pools,
   iv. Release of smoke/ ash by industries directly in the air and discharge of untreated effluent by industries in drains,
   v. Industries operating without Consent to Operate (CTO) and Consent to Establish (CTE),
   vi. Solid & hazardous waste deposit on open lands,
   vii. Presence of bacteria and total hardness, alkalinity & calcium i.e., more than desirable limit in groundwater samples,
   viii. Industries are extracting groundwater without No Objection Certificate (NOC) from groundwater department,
   ix. Level of ground water considerably going down every year causing water scarcity for flora and fauna.
   x. Environmental and Helth issues in 23 Villages (Niraana, Bhikki, Bilaspur, Dhandera, Bhandura, Jatmujheda, Sikheda, Sandhawli, Makhiyali, Chandpur, Tigri, Kasampura, Nagla Buzurg/Naya Gaon, Bahadarpur, Charthwal, Bahedi Village, Tisang, Jansath, Maqsoodabad, Dahkhedi, Jaroda, Vehelna, and Shernagar) of Muzaffarnagar, UP.
   xi. Six major recipient drains in the industrial clusters of Bhopa road, Jolly road, Jansath road, Vehalna and Begrajpur; carrying industrial wastewater

2. Joint Committee Constitution and Field Visit

In compliance to Hon'ble NGT orders dated 12.09.2023 & 12.12.2023 in OA No. 540/2023 in the matter of Niramaya Jan Utthan Sansthan Vs. State of Uttar Pradesh & Ors. Joint Committee constituted comprises of Dr AK Vidyarthi, Director and Divisional Head, WQM-II, Central Pollution Control Board; Shri Ankit Singh, Regional Officer, Muzaffarnagar, UPPCB; Shri Ashish Kumar Singh Choudhary, Hydrologist, UP Ground Water Department; Dr AK Gupta, Additional Director, Scientist-E, MoEF&CC - Regional Office, Lucknow and Shri Vikash Kashyap, City Magistrate, Muzaffarnagar (Nodal Officer). Joint teams carried out inspection and survey Muzaffarnagar Industries as listed under O.A. 540/2023 and its surrounding areas during 27th December 2023 – 17th January 2024.

The petition included list of 37 nos. of industrial units, which was verified by UPPCB. After verification, UPPCB provided a list of 32 industrial units. The joint committee carried out inspection/monitoring of these 32 industrial units on surprise basis.

The joint committee carried out inspections/monitoring in five rounds i.e., on Dec 27-28, 2023, Jan 03-04,2024, Jan 11-12, 2024, Jan 16-17, 2024 and Jan 29-30, 2024 as below:

i Inspection of 32 industrial units as per the list provided by UPPCB to investigate pollution issues i.e., plastic waste management, boiler ash management and effluent system management;
ii Survey of 23 nos. of villages (as mentioned in the petition) for surface/groundwater and drain monitoring;
iii Monitoring of 06 no. of major recipient drains in the industrial clusters of Bhopa road, Jolly road, Jansath road, Vahelna and Begrajpur;
iv Stack monitoring of 32 industrial units and ambient air quality monitoring in the industrial clusters of Bhopa road, Jolly road, Jansath road, Vahelna and Begrajpur.

The joint team conducted inspection of various aspects, including the industrial processes, safety management measures, and water consumption patterns within the manufacturing processes. Additionally, the team collected samples and gathered information on following:

a Verification of legal documents required to operate the industrial unit;
b Collection of samples from ETP - Inlet, Outlet & Aeration tank for compliance verification;
c Collection of secondary data such as logbooks of raw material consumption, production, freshwater abstraction & consumption, effluent generation, reused & discharge, details of effluent management scheme, etc.
d Monitoring of recipient drain i.e., upstream and downstream of the industrial unit;
e Assessment of Groundwater withdrawal/fresh water consumption, groundwater quality and effluent management;
f Assessment of waste disposal practices i.e., hazardous waste, plastic waste;
g Ash management i.e., ash generation and disposal; and
h Stack emission monitoring of industrial units for analysis of emission quality.

i Ambient air quality monitoring in major industrial clusters of Bhopa road, Jolly road, Jansath road, Vahelna and Begrajpur

j Survey and monitoring of surface/ground water in affected villages & drains as mentioned in the petition

3. Joint survey of Muzaffarnagar industrial area and its surrounding

A. Industrial cluster

I. Bhopa Road

a. Geographical attributes of Bhopa Road industrial cluster

Bhopa Road, situated in the Muzaffarnagar district, is ~14 Kms long which connects Muzaffarnagar city with Bhopa village and passes through the villages Makhiyali, Jat Mujhera and Kasampura. An industrial cluster (~area-1.7 Km^2) is located between 29°28'6.32"-29°28'19.02" N and 77°44'19.40"-77°48'29.80" E, in the stretch of ~6.76 Kms of the road. The list of fourteen industrial units provided by UPPCB were inspected by the committee. These fourteen units lies between 29°27'-29°28' N, 77°44'-77°48' E and comprises of pulp & paper industries. Among these units, eight are located on the left-hand side of Bhopa Road (when moving from Makhiyali towards Bhopa village), while the remaining six are located on the right-hand side. Also, seven villages mentioned in the petition, namely Makhiyali, Jat Mujhera, Chandpur, Tigri, Kasampura, Nangala Buzurg and Bhandura, are situated in the radius of ~4.5 Kms to the industrial cluster. The geographical layout of the industrial cluster on Bhopa Road, as well as the recipient drains (Dhandera and Jat Mujhera) and neighbouring villages, is illustrated in **Figure 1**.

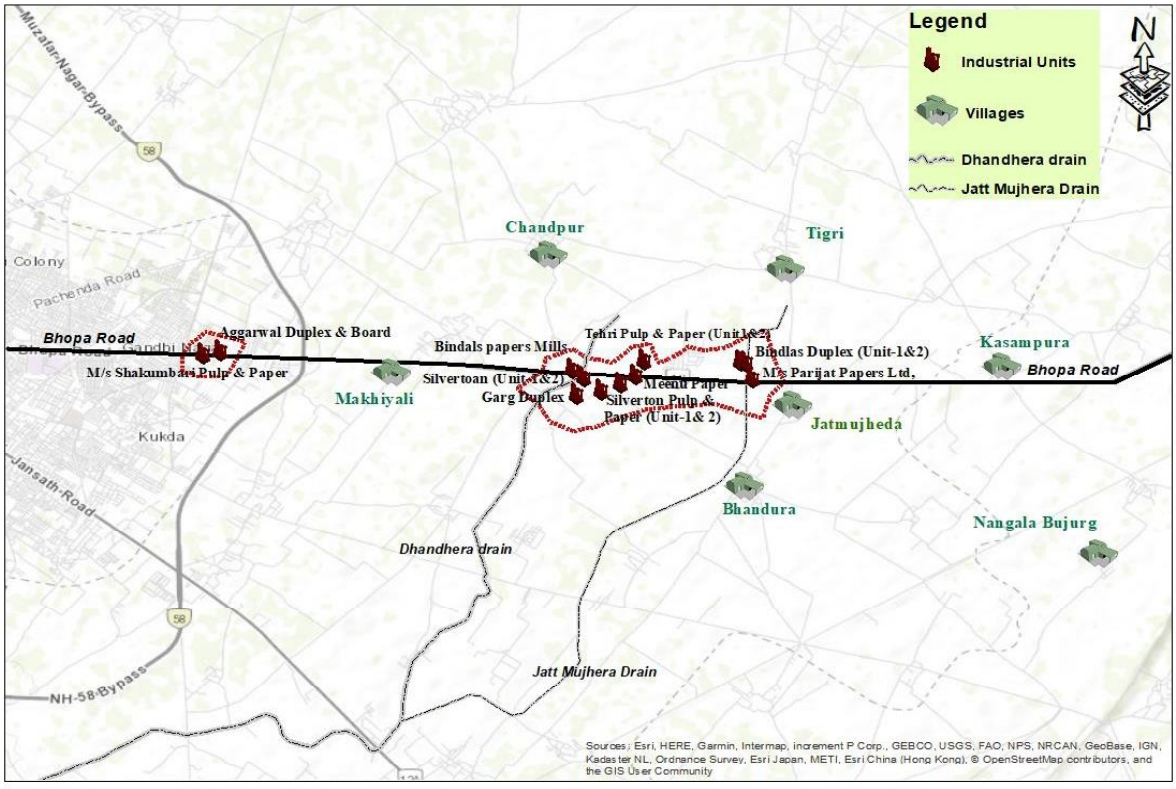

Figure 1 Location map showing industrial cluster located on Bhopa Road & recipient drains along with villages in the vicinity

b. Industrial pollution at Bhopa Road

All 14 units located at Bhopa Road were operational during inspection. Out of fourteen units, one unit operates on ZLD system, while the remaining thirteen have permission to discharge effluents. Out of fourteen units, eleven units were non-complying w.r.t. effluent discharge

norms. These units discharge partially treated effluent of about 12.02 MLD into the recipient drains of Bhopa Road industrial cluster i.e. Dhandera and Jat Mujhera drain.

Solid waste generated by the industrial cluster comprises of ETP sludge, boiler ash and plastic waste. The collective estimated generation of ETP sludge was approximately 21.7 MT/day, boiler ash was 476 MT/day and plastic waste was 69.79 MT/day. ETP sludge generated by the cluster is either sent to TSDF (Bharat Oil & Waste Management Ltd. & M/s Sheetala Waste Management Project, Dist. Bulandshahar, U.P.) or sent to sun-dried board manufacturing units or reused in manufacturing process or utilized as fuel in boilers along with coal and bagasse. Boiler ash is either sent to brick & cement manufacturing companies or disposed off in low lying areas, and plastic waste is either sent to waste to energy plants (WEPs) installed by M/s K K Duplex and Paper Mills Pvt. Ltd., Jansath Road (28.47 MT/day) & M/s Silvertoan Papers Ltd., Bhopa Road (16.07 MT/day) or to other plastic waste processing/recycling companies (25.28 MT/day). As per Plastic Waste Management (Amendment) Rules, 2022, Section 14, subsection 14.1-14.4, any industry which generate plastic waste can handover to Producers, Importers & Brand-Owners or third-party agencies acting on their behalf with a view to their treatment and recycling or their identified end use. For disposal, plastic waste from industrial cluster of Bhopa road, is sent to four plastic waste recycler agencies (M/s Harshit Trading Company, M/s Nuvoco Vistas Corporation Ltd., M/s Tirupati Balaji Fibers and M/s Suraj Plastic Company) granted CTO by SPCBs, to manufacture/produce shredded plastic, plastic granules and cement manufacturing. Out of four agencies mentioned, three are registered under EPR whereas one agency, namely M/s Harshit Trading Company is not registered in EPR. Hence, it can be inferred that the plastic waste processing/ recycling agencies are scientifically managing the plastic waste of the cluster. However, the end use of disposal of plastic waste by plastic waste processing/ recycling agencies could not be verified.

c. Characteristics of recipient drains on Bhopa Road

Two drains, namely Dhandera drain and Jat Mujhera drain passes through Bhopa Road. Dhandera drain, originating near Bhopa Road, was monitored at three locations on Bhopa Road and BOD & COD in the drain ranged as 38-124.5 mg/l and 162-341 mg/l, respectively. Jat Mujhera drain, also originating near Bhopa Road, was monitored at two locations on Bhopa Road and BOD & COD in the drain ranged as 42-1057 mg/l and 258-2572 mg/l, respectively. Both these drains carry partially treated/untreated effluent from pulp & paper industries operating in Bhopa Road cluster.

d. Groundwater quality at Bhopa Road

A total of ten groundwater samples were collected from the industrial premises. The groundwater quality was meeting the drinking water standards (IS 10500:2012).

e. Stack and ambient air quality monitoring at Bhopa Road

All fourteen units were found complying w.r.t. stack emission norms. Ambient air quality was also monitored at two locations namely, M/s Parijat Paper Mills Ltd. and M/s Agarwal Duplex Board Mills Ltd. PM_{10} varied as 176.1-264.8 mg/m^3 and $PM_{2.5}$ varied as 95.7-164.58 mg/m^3.

The concentration of PM_{10} and $PM_{2.5}$ exceeded the National Ambient Air Quality Standards (notification dated 18/11/2009) by 43.2-62.2 % and 37.3-63.5%, respectively.

II. Jolly Road

a. Geographical attributes of Jolly Road industrial cluster

Jolly Road, situated in the Muzaffarnagar district, is ~12 Kms long which connects Muzaffarnagar city with Jauli village and passes through the villages Bilaspur, Sikhreda and Mirzatilla. An industrial cluster (~area-4.95 Km^2) is located between 29°26'23.9"-29°26'37.7" N and 77°46'9.22"-77°47'14.39" E, in the stretch of ~1.5 Kms of the road. The list of five industrial units provided by UPPCB were inspected by the committee. These five units lies between 29°25'-29°26' N, 77°46'-77°47' E and comprises of 3 pulp & paper, 1 distillery and 1 bottling unit. Among these units, one is located on the left-hand side of Jolly Road (when moving from Bilaspur towards Jauli village), while the remaining four are located on the right-hand side. Also, two villages mentioned in the petition, namely Bilaspur and Dhandera, are situated in the radius of ~4 Kms to the industrial cluster. The geographical layout of the industrial cluster on Jolly Road, as well as the recipient drains (Dhandera and Jat Mujhera) and neighbouring villages, is illustrated in **Figure 2**.

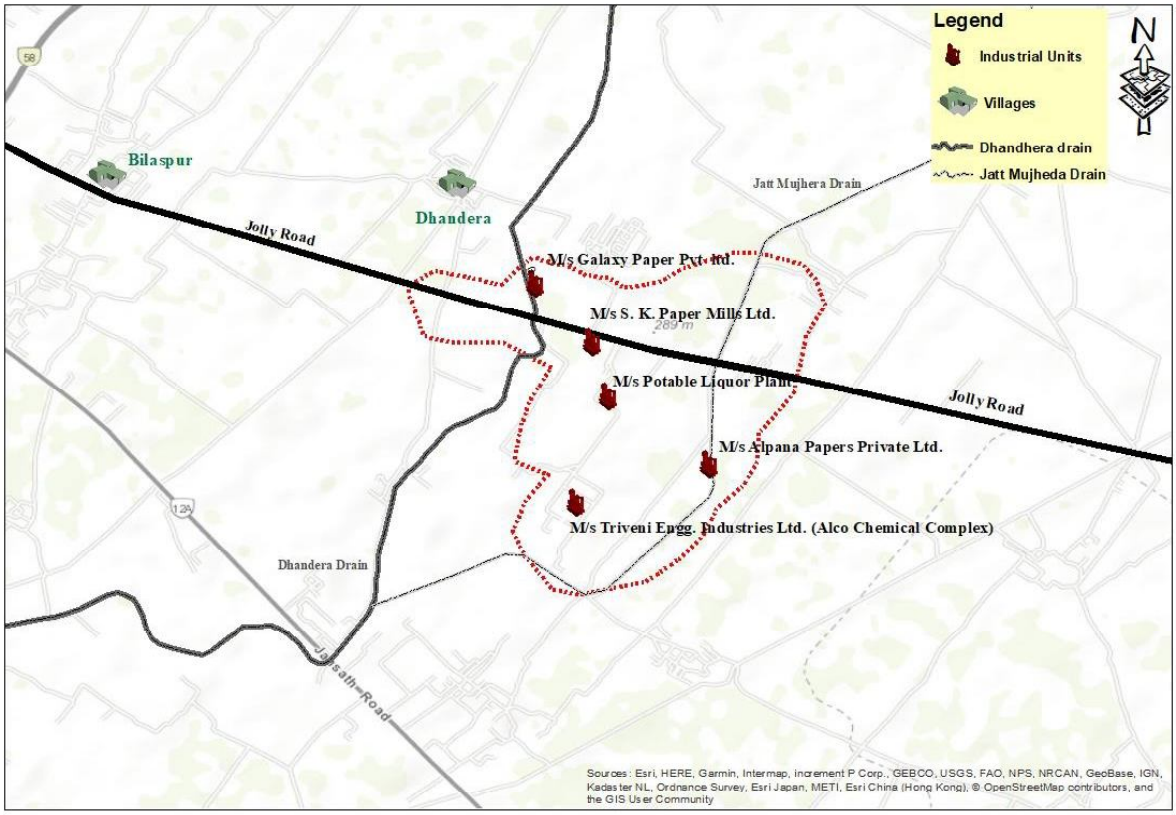

Figure 2 Location map showing industrial cluster located on Jolly Road & recipient drains along with villages in the vicinity

b. Industrial pollution at Jolly Road

All 5 units located at Jolly Road were operational during inspection. Out of five units, three units operates on ZLD system. Based on compliance status, one unit have trivial non-

compliance w.r.t. effluent discharge norms which indicates that this unit discharge partially treated effluent of about 0.17 MLD into Dhandera drain.

Solid waste generated by the industrial cluster comprises of ETP sludge, boiler ash and plastic waste. The collective estimated generation of ETP sludge was approximately 1.73 MT/day, boiler ash was 82 MT/day and plastic waste was 3.85 MT/day. ETP sludge generated by the cluster is sent to TSDF (M/s Sheetala Waste Management Project, Dist. Bulandshahar, U.P.). Boiler ash is sent to Brick Kilns, such as Rajaji Bricks & Tiles Industries, as well as to landfills. As per Plastic Waste Management (Amendment) Rules, 2022, Section 14, subsection 14.1-14.4, any industry which generate plastic waste can handover to Producers, Importers & Brand-Owners or third-party agencies acting on their behalf with a view to their treatment and recycling or their identified end use. For disposal, plastic waste from industrial cluster of Jolly Road, is sent to M/s Harshit Trading Company for plastic waste recycling, which is granted CTO by SPCBs, to manufacture/produce shredded plastic and plastic granules. However, M/s Harshit Trading Company is not registered under EPR. Hence, it can be inferred that the plastic waste processing/ recycling agency is scientifically managing the plastic waste of the cluster. However, the end use of disposal of plastic waste by plastic waste processing/ recycling agency could not be verified.

The committee also found an illegal plastic waste dumping site (**Figure 3**) on Jolly Road near M/s S. K. Papers Pvt. Ltd. (geographical coordinates-29.443921, 77.76867). The committee interacted with the people present at the site, who informed that the waste is segregated by the rag pickers and thereafter sold to the local vendors.

Figure 3 Plastic waste dumping site located on Jolly Road

c. Characteristics of recipient drains on Jolly Road

Two drains, namely Dhandera drain and Jat Mujhera drain passes through Jolly Road. Dhandera drain, originating near Bhopa Road, was monitored at three locations on Jolly Road and BOD & COD in the drain ranged as 152-224 mg/l and 516-664.8 mg/l, respectively. Jat Mujhera drain, also originating near Bhopa Road, was monitored at three locations on Jolly Road and BOD & COD in the drain ranged as 42-1480 mg/l and 258-2951 mg/l, respectively.

Both these drains carry partially treated/untreated effluents from industries operating in Jolly Road cluster.

d. Groundwater quality at Jolly Road

A total of five groundwater samples were collected from the industrial premises. The groundwater quality was meeting the drinking water standards (IS 10500:2012).

e. Stack and ambient air quality monitoring at Jolly Road

All five units were found complying w.r.t. stack emission norms. Ambient air quality was also monitored at one location namely, M/s Alpana Papers Pvt. Ltd. PM_{10} varied as 144.1-168.6 mg/m^3 and $PM_{2.5}$ varied as 94.64-106.5 mg/m^3. The concentration of PM_{10} and $PM_{2.5}$ exceeded the National Ambient Air Quality Standards (notification dated 18/11/2009) by 30.6-40.7% and 31.9-43.6%, respectively.

III. Jansath Road

a. ***Geographical attributes of Jansath Road industrial cluster***

Jansath Road, situated in the Muzaffarnagar district, is ~20 Kms long which connects Muzaffarnagar city with Jansath village and passes through the villages Shernagar, Nirana, Sikheda and Kawaal. An industrial cluster (~area-1 Km^2) is located between 29°25'2.55"-29°25'32.61" N and 77°45'21.73"-77°45'50.70" E, in the stretch of ~1.2 Kms of the road. The list of ten industrial units provided by UPPCB were inspected by the committee. These ten units lies between 29°25'1.28"-29°26'1.28" N, 77°45'23.58"-77°47'43.84" E and comprises of 6 pulp & paper, 1 slaughter house, 1 textile, 1 pharmaceutical and 1 chemical industry. Among these units, seven are located on the left-hand side of Jansath Road (when moving from Shernagar towards Jansath village), while the remaining three are located on the right-hand side. Also, eight villages mentioned in the petition, namely Shernagar, Nirana, Bhikki, Bahadarpur, Sikheda, Jansath, Maqsudabad and Dhakedi, are situated in the radius of ~7.5 Kms to the industrial cluster. The geographical layout of the industrial cluster on Jansath Road, as well as the recipient drains and neighbouring villages, is illustrated in **Figure 4**.

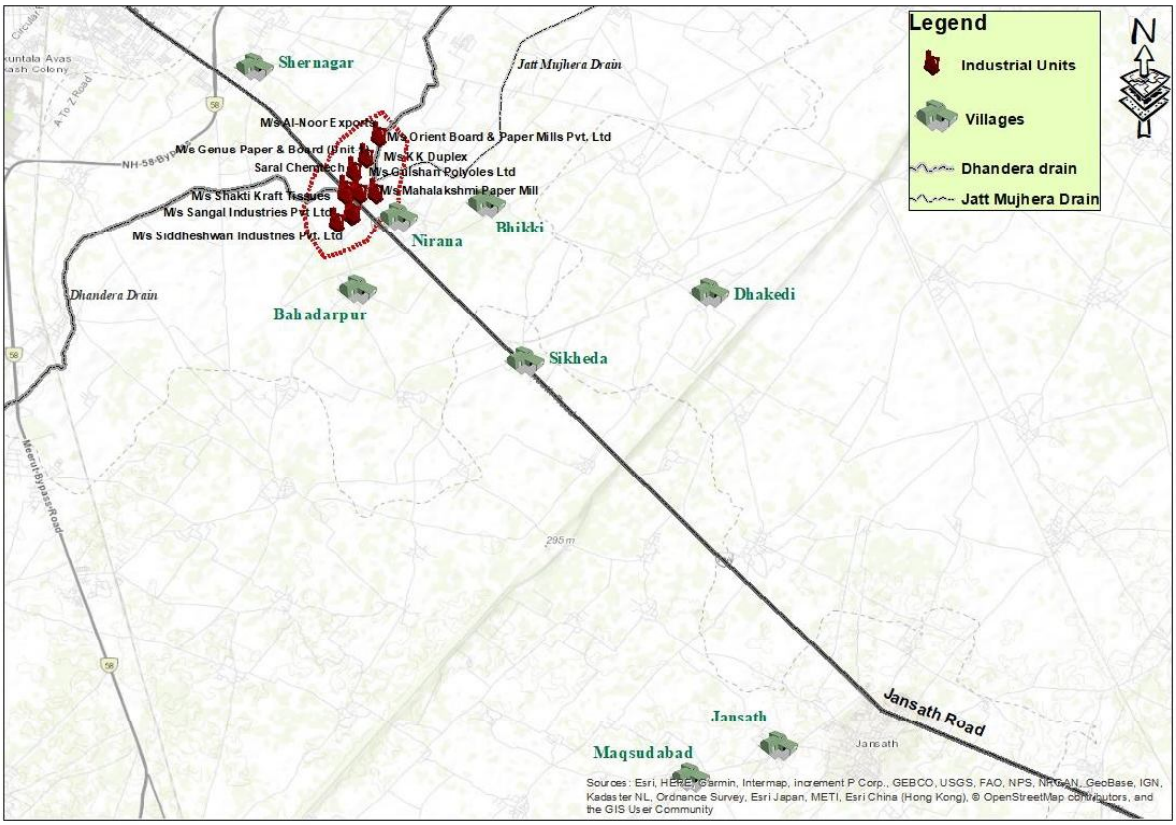

Figure 4 Location map showing industrial cluster located on Jansath Road & recipient drains along with villages in the vicinity

b. Industrial pollution at Jansath Road

All 10 units located at Jansath Road were operational during inspection. Out of ten units, two units operate on ZLD system, one was dry and seven units have permission to discharge effluents. Out of ten units, seven units were non-complying w.r.t. effluent discharge norms. These units discharge partially treated effluent of about 3.58 MLD into Dhandera drain.

Solid waste generated by the industrial cluster comprises of ETP sludge, boiler ash and plastic waste. The collective estimated generation of ETP sludge was approximately 7.4 MT/day, boiler ash was 160 MT/day and plastic waste was 44.9 MT/day. ETP sludge generated by the cluster is either sent to TSDF (Bharat Oil & Waste Management Ltd.) or sent to sun-dried board manufacturing units or reused in manufacturing processes or utilized as manure for gardening. Boiler ash is either sent to brick manufacturing companies or disposed off in low lying areas. Plastic waste is either sent to WEP installed by M/s K K Duplex and Paper Mills Pvt. Ltd., Jansath Road (34.2 MT/day) or gasifier installed by M/s Shakti Kraft Tissues, Jansath Road (3.37 MT/day) or other plastic waste processing/recycling companies (7.32 MT/day). As per Plastic Waste Management (Amendment) Rules, 2022, Section 14, subsection 14.1-14.4, any industry which generate plastic waste can handover to Producers, Importers & Brand-Owners or third-party agencies acting on their behalf with a view to their treatment and recycling or their identified end use. For disposal, plastic waste from industrial cluster of Jansath Road, is sent to two plastic waste processing/ recycling agencies (M/s Harshit Trading Company and

M/s Dew Resource Management) for plastic waste recycling, which are granted CTO by SPCBs, to manufacture/produce shredded plastic and plastic granules. However, both agencies are not registered under EPR. Hence, it can be inferred that the plastic waste processing/ recycling agencies are scientifically managing the plastic waste of the cluster. However, the end use of disposal of plastic waste by plastic waste processing/ recycling agencies could not be verified.

c. Characteristics of recipient drains on Jansath Road

Dhandera drain, originating near Bhopa Road, pass through Jansath Road industrial cluster and Jat Mujhera drain, also originating near Bhopa Road, meets Dhandera drain near Jansath Road after traversing ~8 Kms from origin. Dhandera drain was monitored at five locations on Jansath Road and BOD & COD in the drain ranged as 210-248 mg/l and 523-744 mg/l, respectively. The wastewater characteristics of Jat Mujhera drain before confluence with Dhandera drain showed BOD-248 mg/l, COD-736.8 mg/l & Colour-80 Hazen. Jat Mujhera drain confluence with Dhandhera drain at upstream of industrial cluster of Jansath road. Dhandhera drain carry partially treated/untreated effluents from industries operating in Jansath Road cluster.

d. Groundwater quality at Jansath Road

A total of ten groundwater samples were collected from the industrial premises. The groundwater quality was meeting the drinking water standards (IS 10500:2012).

e. Stack and ambient air monitoring at Jansath Road

All ten units were found complying w.r.t. stack emission norms. Ambient air quality was also monitored at two locations namely, M/s Mahalaxmi Crafts & Tissues Pvt. Ltd. and M/s Al-Noor Exports. PM_{10} varied as 184.78-206.17 mg/m^3 and $PM_{2.5}$ varied as 68.47-114.7 mg/m^3. The concentration of PM_{10} and $PM_{2.5}$ exceeded the National Ambient Air Quality Standards (notification dated 18/11/2009) by 45.9-51.5% and 12.4-47.7%, respectively.

IV. Vahelna Road

a. Geographical attributes of Vahelna Road industrial cluster

Vahelna Road, situated in the Muzaffarnagar district, is ~1.4 Km long which connects Vahelna village with the National Highway NH-334. An industrial cluster (~area-1 Km^2) is located between 29°25'34.91"-29°25'39.07" N and 77°41'18.22"-77°41'42.49" E, in the stretch of ~0.6 Km of the road. The geographical layout of the industrial cluster on Vahelna Road, as well as Vahelna drain, is illustrated in **Figure 5**.

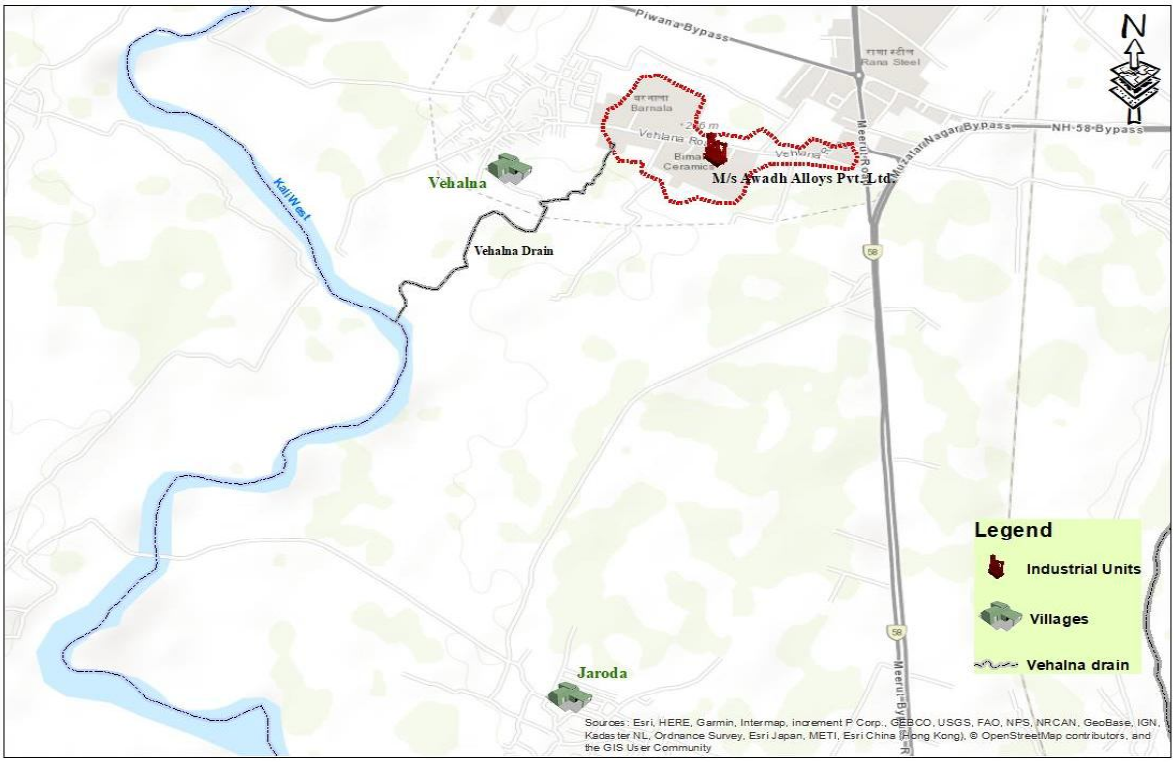

Figure 5 Location map showing industrial cluster located on Vahelna Road & recipient drains along with villages in the vicinity

b. Industry inspection at Vahelna Road

As per list provided by UPPCB, Vahelna Road industrial cluster consists of 18 industries which comprises of mainly rolling mills/refractories/metal casting/chemical units (17 nos.) and 1 pulp and paper unit. The committee inspected 1 unit mentioned in the petition, namely M/s Avadh Alloys Pvt. Ltd. (29°25'35.51"N, 77°41'35.88"E), which is located at the left-hand side of Vahelna Road (when moving from NH-334 towards Vahelna village). The committee observed that no process/operation was going on inside the unit's premises which generates wastewater and the machinery were found dismantled.

c. River and drain monitoring at Vahelna Road

A drain flows nearby Vahelna industrial area. The drain originates from Vahelna industrial area (29.427436, 77.688646) and carries wastewater of industries located on Vahelna Road along with sewage of Vahelna village. The drain traverses ~3 Kms before meeting river Kali-West at the left bank near Vahelna village. Wastewater sampling was carried out from the drain before confluence with river Kali-West which showed color-80 Hazen, BOD-68 mg/l, COD-320 mg/l, TSS-112 mg/l and TDS-1180 mg/l. To assess the water quality of river Kali-West, water samples were collected before and after confluence of the Vahelna drain with the river. Water quality of river Kali-West before confluence of Vahelna drain showed BOD-52 mg/l & COD-256 mg/l and after confluence of Vahelna drain showed BOD-56 mg/l & COD-288 mg/l.

d. Ambient air monitoring at Vahelna Road

Ambient air quality was also monitored at one location namely, M/s Suyash Kraft and Papers Ltd. PM_{10} varied as 124.58-137.22 mg/m^3 and $PM_{2.5}$ varied as 57.4-68.1 mg/m^3. The

concentration of PM_{10} and $PM_{2.5}$ exceeded the National Ambient Air Quality Standards (notification dated 18/11/2009) by 19.7-27.1% and 4.1-11.9%, respectively.

V. Begrajpur

In compliance of Hon'ble NGT order dated 12.12.2023 in matter of OA 540/2023, the joint team of CPCB and UPPCB carried out preliminary survey of Begrajpur industrial area and sampling of Begrajpur drain & its subsidiary channels on 29th and 30th January 2024.

a. Geographical attributes of Begrajpur industrial cluster

Begrajpur industrial area (29.37246, 77.70547) was established by UPSIDC in Khatauli block of Muzaffarnagar district of Uttar Pradesh. It is located on NH 334 (previously NH 58) between Muzaffarnagar and Meerut near to Ghasipura village and Begrajpur village.

Wastewater sampling of Begrajpur drain was carried on 30.12.2023 and two samples were collected one at d/s of Megma pharmaceutical & one b/c to Dhandera drain and pH in both samples was observed acidic (2.2-4.2). Analysis results are annexed at Annexure - II.

Intermittent discharge of acidic as well as alkaline effluents were observed in main drain and its subsidiary channels.

a. Industrial Cluster

UPPCB provided information of 32 industries. However, during survey addition 19 industries were also found operating in the industrial area. Mostly industries are of small scale (fall in MSME category) and not included in the GPI category so far. Majorly battery recycling, engineering fabrication, metal surface finishing/processing, chemical and other waste recycling such as E-waste, plastic moulding and tyre pyrolysis are operating in the industrial area (35 units). Others are pharmaceutical (1), fertilizer manufacturing/formulation units (1), Textile (3), distillery (1) and bone processing. The list is attached as **Annexure-I.** Some of the industrial units were observed not having information board on their gate.
Layout map as displayed, in industrial area, is provided below

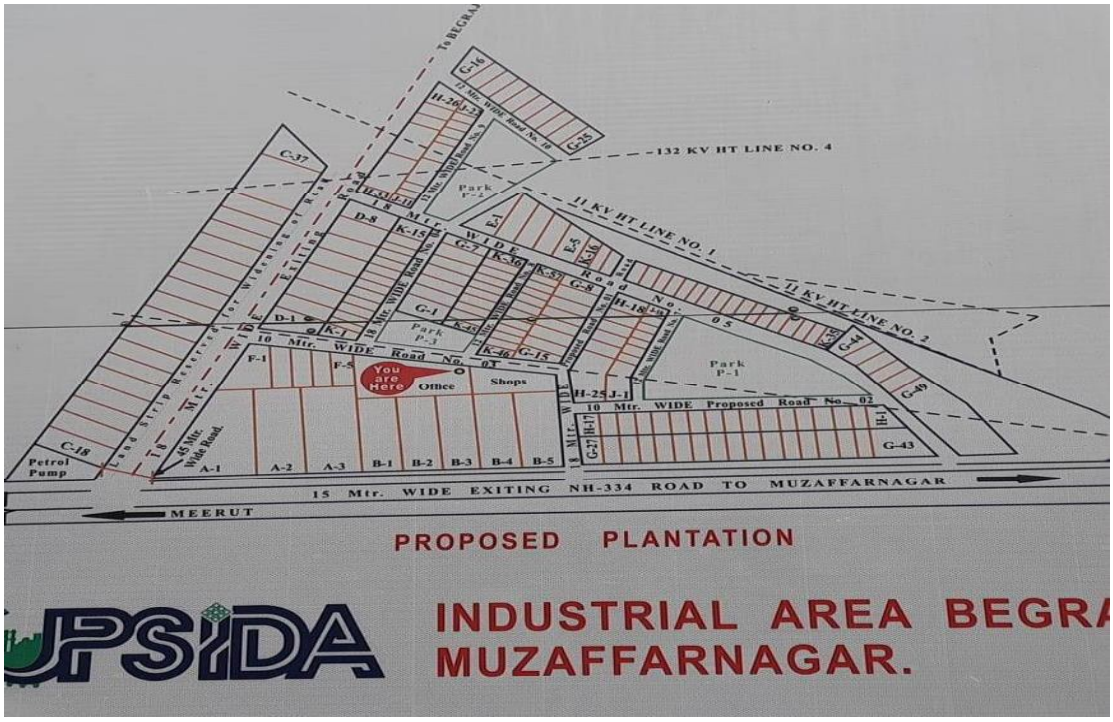

Figure 6 Industrial Area of Begrajpur, Muzaffarnagar

b. Characteristics of recipient drain

Main drain of the industrial area is Begrajpur drain (i.e. Channel 1) which starts from (Latitude 29.376107, Longitude 77.703984) near Muzaffarnagar Highway. Subsidiary drains (Channel 2 & 1A, 1B, 1C etc.) receive trade effluent and domestic wastewater from the industries located in industrial area and join to main Begrajpur drain which finally meets to Dhandhera drain ((Lat: 29.373993, Long: 77.692937). Few industries also discharge directly into Dhandera drain.

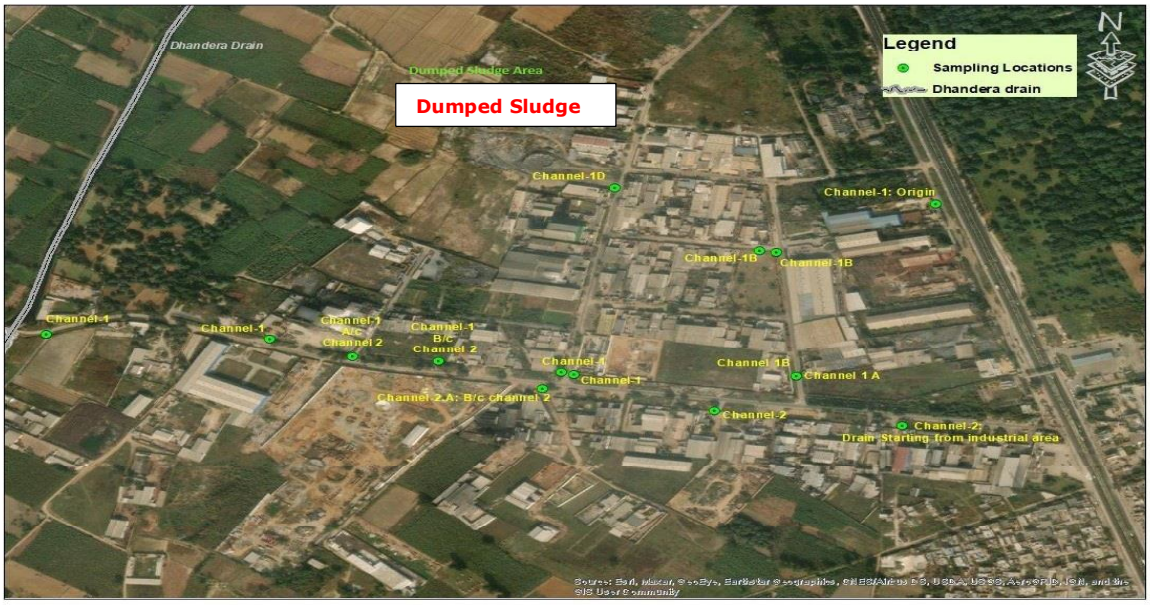

Figure 7 Satellite map of Industrial area Begrajpur

Most of the units in industrial area are doing batch process. Therefore, intermittent flow of various coloured effluents were observed in subsidiary channels. Location of samples collected from Begrajpur industrial area is shown in Figure 7.

- Based on analysis results following observations are made:
- Values of parameters in sample of main drain channel outside of industrial area (Lat: 29.376107, Long: 77.703984) were observed as pH: 7.7, BOD: 29 mg/l, COD: 114 mg/l, TSS:17 mg/l. Trace metals were observed either BDL or in traces.
- Diurnal fluctuation in pH was observed, in wastewater of Begrajpur drain before confluence to Dhandera and onsite nature of pH was observed acidic and alkaline both. However, in samples collected before confluence to Dhandera drain pH ranged 2.0 - <2 (acidic) and other parameters were ranged as BOD (82-263 mg/l), COD (302-711 mg/l), TSS (172-252 mg/l) and TDS (2988-5460 mg/l).
- pH (9.6-2), Color (upto 308 Hazen), BOD (upto 687 mg/l), COD (upto 2654 mg/l), TSS (upto 2736 mg/l), TDS (upto 35004 mg/l), Sulphide (upto 55.0 mg/l), Nitrate (upto 21.5 mg/l), Sulphate (456 mg/l), Chloride (1722 mg/l) and metal concentration of Copper (upto 215.1 mg/l), Total Chromium (9.59 mg/l), Iron (upto 3325 mg/l), Manganese (upto 1175 mg/l), Nickel (upto 26.49 mg/l), lead (upto 8.9 mg/l) and Zinc (upto 2403 mg/l) were observed in samples of various channels of industrial area joining to main channel.
- High concentration of metals (Zinc, Manganese, Nickel, Iron, Copper, chromium) was observed in wastewater samples collected during morning and evening hours.
- Analysis result attached (Annexure-II).

c. Un-authorized disposal of Hazardous waste / sludge

Waste sludge and ash were found dumped in un-scientific manner on open land at various locations in industrial area, along Dhandera drain and also being used for landfilling in vacant plots. Two samples of dumped sludge were collected for analysis.

Very high concentration of metals namely Antimony, Chromium, Copper, Iron, Manganese, Nickel, Lead and Zinc have been found in sludge samples. Analysis results show Arsenic (upto 10.1 mg/kg), Cadmium (6.2 mg/kg), Copper (upto 7112 mg/kg), Chromium (584 mg/kg), Iron (upto 311860 mg/kg), Manganese (upto 3173 mg/kg), Nickel (upto 245.4 mg/kg), Lead (upto 12380 mg/kg), Antimony (54.9 mg/kg) and Zinc (upto 7069 mg/kg).

d. Ambient air quality

- High acidic fumes and volatile organics in the air were felt in industrial area.
- Fugitive emissions emitting obnoxious odors were noticeable during the evening hours.
- No ambient air quality monitoring system is installed in industrial area.

Status of stack monitoring (one unit) on 22/01/2024 and ambient air quality monitoring conducted by UPCCB on 22/02/2023 at two locations for PM10 & PM2.5 in Begrajpur industrial area:

Ambient air quality was monitored at two locations namely, M/s Magma Industries Ltd. and M/s Chakradhar Chemicals Pvt. Ltd. PM_{10} varied as 124.51-162.72 mg/m^3 and $PM_{2.5}$ varied as 57.44-88.30 mg/m^3. The concentration of PM_{10} and $PM_{2.5}$ exceeded the National Ambient Air Quality Standards (notification dated 18/11/2009) by 24-62% and 4.3-9-47.16%, respectively.

B. Sector-wise industrial report

I. Details of industry visit

Inspection of 23 nos. of Pulp & Paper industries (14 units are located at Bhopa road, 06 units at Jansath road and 03 units at Jolly road clusters) and 09 nos. of industries in others category (i.e. Sugar, Distillery, Pharmaceuticals, Slaughterhouse, Food processing and metal processing), mentioned in petition, located in Muzaffarnagar were carried out by joint committee during 27th December 2023 – 17th January 2024.

Spatial distribution of industries along with recipient drains is shown in Figure 8 below:

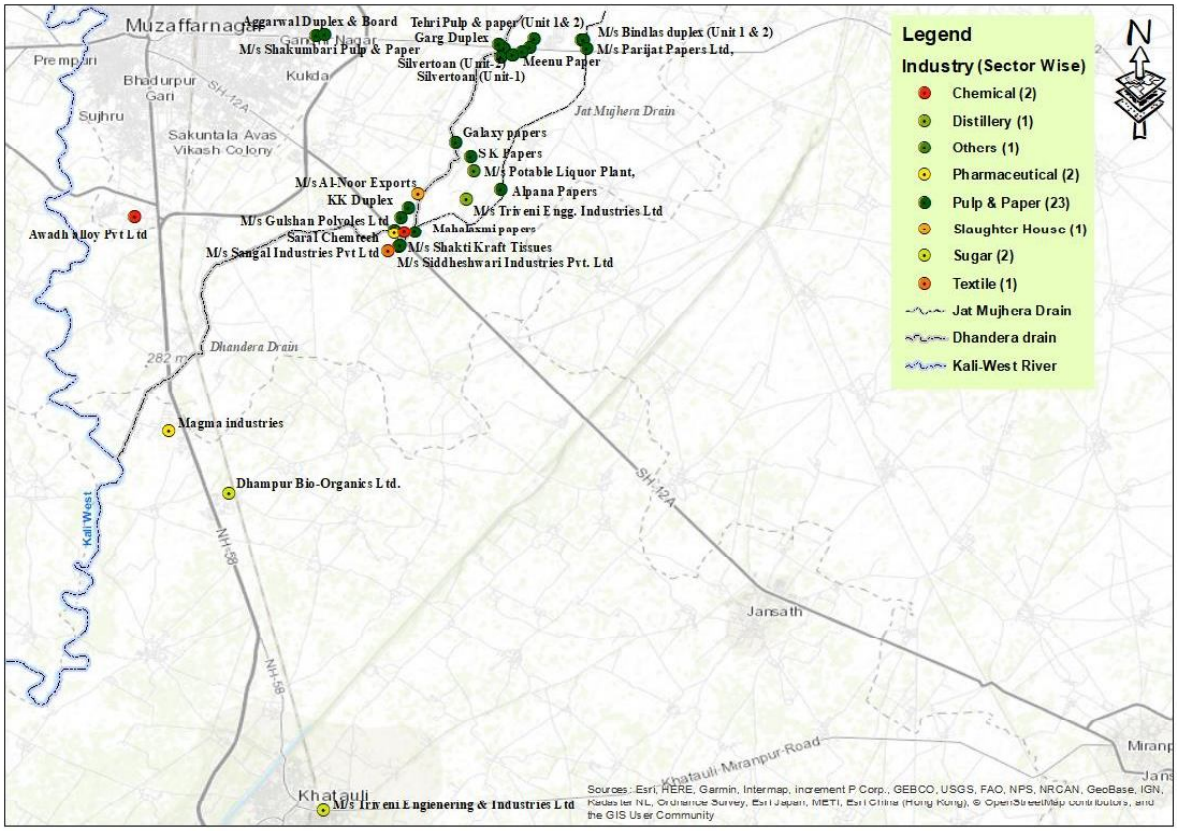

Figure 8 Spatial distribution of industries along with recipient drains

Details of industries as per the inspection carried out by Joint committee is mentioned in Table 1 and 2 below:

Table 1: General details and compliance status of industries inspected by joint committee

S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
BHOPA ROAD, MUZAFFARNAGAR									
PULP & PAPER									
1.	M/s Bindlas Duplex Ltd. (Unit-1)	Yes	Yes	Yes	Yes	ESP	Jat Mujhera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
2.	M/s Bindlas Duplux Ltd. (Unit-2)	Yes	Yes	Yes	Yes	ESP	Jat Mujhera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
3.	M/s Tehri Pulp & Papers Ltd. (Unit-1)	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required

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S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
4.	M/s Tehri Pulp & Papers Ltd. (Unit-2)	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
5.	M/s Meenu Paper Mills Pvt. Ltd.	Yes	Yes	Yes	Yes	Dust Collector and Wet scrubber	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
6.	M/s Aggarwal Duplex & Board Mills Ltd.	Yes	Yes	Yes	Yes	ESP	Kukra drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
7.	M/s Silvertoan Papers Ltd. (Unit-1)	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required

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S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
8.	M/s Silvertoan Papers Ltd. (Unit-2)	Yes	Yes	Yes	Yes	Wet Scrubber	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
9.	M/s Garg Duplex and Paper Mills Pvt. Ltd.	Yes	Yes	Yes	Yes	ESP, Multicyclone and Wet scrubber	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
10.	M/s Parijat Papers Ltd.	Yes	Yes	Yes	Yes	Multicyclone and Wet scrubber	Jat Mujhera drain	Complying (operating on ZLD)	Inadequate metering facility at ETP
11.	M/s Shakumbari Pulp & Paper	Yes	Yes	Yes	Yes	ESP	Kukra drain	Non-complying w.r.t. discharge norms	Proper operation & maintenance is required
12.	M/s Bindals Papers Mills Ltd.	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Complying (operating on ZLD)	Permission for discharge as per

S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
13.	M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-1)	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Complying (operating on ZLD)	consent issued by UPPCB
14.	M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-2)	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
JANSATH ROAD, MUZAFFARNAGAR									
PULP & PAPER									
15.	M/s K K Duplex and Paper Mills Pvt. Ltd.,	Yes	Yes	Yes	Yes	Bag Filter	Dhandera drain	Complying (operating on ZLD)	-
16.	M/s Siddheshwari Industries Pvt. Ltd.,	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Non-complying w.r.t. discharge norms	Proper operation & maintenance is required

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S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
17.	M/s Shakti Kraft Tissues	Yes	Yes	Yes	Yes	Multicyclone and Wet scrubber	Dhandera drain	Complying (operating on ZLD)	-
18.	M/s Orient Board & Paper Mills Pvt. Ltd.	Yes	Yes	Yes	Yes	Multicyclone and Wet scrubber	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
19.	M/s Mahalakshmi Paper Mills	Yes	Yes	Yes	Yes	Multicyclone and Wet scrubber	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
20.	M/s Genus Paper & Boards Ltd.	Yes	Yes	Yes	Yes	ESP	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
OTHER SECTOR INDUSTRIES									

S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
21.	M/s Gulshan Polyols Ltd.	Yes	Yes	Not available	Yes	Yes	Dhandera	Non-complying w.r.t. discharge norms	Inefficient Operation & Maintenance
22.	M/s Al-Noor Exports Jansath Road	Yes	Yes	Yes	Yes	Yes	Dhandera	Non-complying w.r.t. discharge norms	Inefficient Operation & Maintenance
23.	M/s Sangal Industries Pvt Ltd, Jansath Road	Yes	Yes	NA	Dry unit	NA	Dhandera	Complying	Dry process, no requirement of ETP and boiler
24.	M/s Saral Chemtech LLP, Jansath road	Yes	Yes	Yes	Yes	Yes	Dhandera	Non-complying w.r.t. discharge norms	Inadequate and inefficient Operation & Maintenance of ETP
JOLLY ROAD, MUZAFFARNAGAR									
PULP & PAPER									
25.	M/s S. K. Paper Mills Ltd.	Yes	Yes	Yes	Yes	Multicyclone, Dust Collector and Wet scrubber	Dhandera drain	Non-complying w.r.t. discharge norms	ETP upto tertiary level, proper operation &

S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
									maintenance is required
26.	M/s Galaxy Paper Private Ltd.	Yes	Yes	Yes	Yes	Multicyclone and Wet scrubber	Dhandera drain	Complying (operating on ZLD)	-
27.	M/s Alpana Papers Private Ltd.	Not obtained	Only Consent to Establish	Not obtained	Yes	Wet Scrubber	Jat Mujheda	Non-complying (operating without CTO)	Unit claims ZLD but no flow meter at borewells, ETP inlet, ETP outlet and reuse point
OTHER SECTOR INDUSTRIES									
28.	M/s Triveni Engineering & Industries Ltd. Alco Chemical	Yes	Yes	Yes	Yes	Yes	Jat Mujhera drain	Non – Complying with excess lagoon capacity	Molasses unit The unit is having excess 02 lagoons of capacity 28000 m^3 against the permitted capacity of 6000m^3, which is in violation

S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
	Complex & M/s Potable Liquor Plant (bottling unit)								of the consent condition
		Yes	Yes	Yes	Yes	Yes	Jat Mujhera drain	Complying	Grain unit The unit operates its ZLD systems to handle the spent wash (thin stillage) and other effluents generated during the operation
		Yes	Yes	Yes	Yes	Not required	Dhandera drain	Complying	Bottling Plant
MEERUT ROAD, MUZAFFARNAGAR									
OTHER SECTOR INDUSTRIES									
29.	M/s Dhampur Bio Organics Ltd, Unit-Mansurpur,	Yes	Yes	Yes	Yes	Yes	Mansurpur drain	Complying	-

S. No.	Name of industry	Valid Ground water NOCs (Yes/No)	Valid Water and Air consent (Yes/No)	Valid Hazardous Waste Authorization (Yes/No)	ETP installed (Yes/No)	Air Pollution Control Device (APCD) (Yes/No)	Recipient drain	Compliance status w.r.t effluent discharge norms and *emission norms	Remark
30.	M/s. Triveni Engineering And Industries, Khatauli	Yes	Yes	Yes	Yes	Yes	Khatauli Sugar mill drain	Non-Complying w.r.t. discharge norms	ETP upto tertiary level, proper operation & maintenance is required
31.	M/s Magma Industries Begrajpur Industrial Area	Yes	Yes	Yes	Yes	Yes	Begrajpur	Non-complying w.r.t. discharge norms	Inadequate ETP/ dilution of ETP system
32.	M/s Avadh Alloys Pvt. Ltd., Meerut Road,	Metal processing unit, found dismantled							

Note: All units found complying w.r.t. stipulated stack emission norms

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Table 2: Details of production, freshwater consumption, effluent discharge and solid waste management

S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
BHOPA ROAD, MUZAFFARNAGAR												
PULP & PAPER												
1.	M/s Bindlas Duplex Ltd. (Unit-1)	C2	200	137.29	6.50	5.93	10	5.9	38.15	4.59	2.72	Logbook /records not maintained
2.	M/s Bindlas Duplux Ltd. (Unit-2)	C1	250	148.49	6.56	3.13					7.1	Logbook /records not maintained
3.	M/s Tehri Pulp & Papers Ltd. (Unit-1)	C2	250	208.22	6.00	5.48	7.47	11.51	58.22	31.57	2.62	Logbook /records not

S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
												maintained
4.	M/s Tehri Pulp & Papers Ltd. (Unit-2)	C2	350	262.18	2.93	2.48	8.4				0.32	Logbook /records not maintained
5.	M/s Meenu Paper Mills Pvt. Ltd.	C2	190	170.93	2.48	0.62	5.98	4.59	13.06	11.35	0.71	0.64
6.	M/s Aggarwal Duplex & Board Mills Ltd.	C1	160	146.43	8.12	4.09	5.13	1.48	22.5	2.125	1.74	Logbook /records not maintained
7.	M/s Silvertoan Papers Ltd. (Unit-1)	B2	180	165.51	7.31	6.69	2	0.95	31.26	25.14	0.65	0.005
8.	M/s Silvertoan Papers Ltd. (Unit-2)	C2	300	151.71	3.88	3.56	5.14	2.23	28.72		0.49	

S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
9.	M/s Garg Duplex and Paper Mills Pvt. Ltd.	C1	415	248.15	2.71	0.28	5.92	2.19	40.56	27.82	0.45	Logbook /records not maintained
10.	M/s Parijat Papers Ltd,	C2	150	121	1.74	0.00	4.2	1	1.39	1.4	0.008	0.007
11.	M/s Shakumbari Pulp & Paper	C2	140	83.28	3.17	1.40	2.9	1.23	1.3	1.4	0.01	0.008
12.	M/s Bindals Papers Mills Ltd.	B1	300	302.63	16.59	14.56	Nil (raw material-agro residues)		126.3	126.44	3.42	0.077
13.	M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-1)	C2	300	180.54	2.00	1.78	6.32	3.14	114.43	88.04	1.175	0.012
14.	M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-2)	C1	300	180.95	13.08	9.29	6.33	3.36			0.287	0.020
Total – Bhopa Road			**3485**	**2507.31**	**-**	**-**	**69.79**	**37.58**	**475.89**	**319.87**	**21.70**	**0.77**

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S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
Pulp & Paper: Total freshwater consumption – 16.19 MLD; Total effluent discharge – 12.02 MLD												
JANSATH ROAD, MUZAFFARNAGAR												
PULP & PAPER												
15.	M/s K K Duplex and Paper Mills Pvt. Ltd.,	C1	200	96.79	1.70	0.00	4.85	4.85	11.36	11.67	No primary treatment	No primary treatment
16.	M/s Siddheshwari Industries Pvt. Ltd.,	C2	200	163.04	3.93	1.63	6.4	1.655	23.9	Logbook/records not maintained	0.019	Logbook/records not maintained
17.	M/s Shakti Kraft Tissues,	C2	150	95.15	2.45	0.00	3.37	1.01	1.8	Logbook/records not maintained	No primary treatment	No primary treatment

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S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
18.	M/s Orient Board & Paper Mills Pvt. Ltd.,	C2	190	91.19	4.74	2.97	3.19	1.42	1.75	1.93	0.030	0.002
19.	M/s Mahalakshmi Paper Mills	C2	200	117.88	5.03	1.04	4.13	1.02	2.12175	3.64	1.29	Logbook /records not maintained
20.	M/s Genus Paper & Boards Ltd.,	C1	525	295.09	6.96	5.80	22.97	22.97	72.64	55.42	5.68	5.55
Total – Paper sector – Jansath Road			**1465**	**859.14**	**-**	**-**	**44.91**	**32.92**	**113.57**	**72.66**	**7.02**	**5.55**
Pulp & Paper: Total freshwater consumption – 4.12 MLD; Total effluent discharge – 2.37 MLD												
OTHER SECTOR INDUSTRIES												
21.	M/s Gulshan Polyols Ltd.	Food processing	550	311.36	2.7	2.16	NA	NA	43.7	40	0.01	0.01

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S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
22.	M/s Al-Noor Exports Jansath Road	Slaughterhouse	100	51.55	3.68	3.40	NA	NA	0.2	Logbook records not maintained	0.38	0.38
23.	M/s Sangal Industries Pvt Ltd, Jansath Road	Textile	18	13.06	Dry process							
24.	M/s Saral Chemtech LLP, Jansath road	Pharmaceutical 1	2.33	2.16	11.70	2.61	NA	NA	0.53	0.53	0.02	0.02
Total – Other sector – Jansath Road			670.33	378.13	-	-	-	-	44.43	40.53	0.41	0.41
Other sector: Total freshwater consumption – 1.05 MLD; Total effluent discharge – 0.85 MLD												
JOLLY ROAD, MUZAFFARNAGAR												
PULP & PAPER												

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S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
25.	M/s S. K. Paper Mills Ltd.	C1	42	36.4	7.25	4.66	1.27	1	0.74	Logbook records not maintained	0.94	0.33
26.	M/s Galaxy Paper Private Ltd.	C2	100	46.96	2.81	0	1.89	0.26	0.31	Logbook records not maintained	0.79	Logbook records not maintained
27.	M/s Alpana Papers Private Ltd.	C2	100	Estimated 12.51 MT/day	Estimated 3.00	0.00	Estimated 0.69	No record provided	Estimated 0.94	Logbook records not maintained	No primary treatment	No primary treatment
Total			**242**	**95.87**	**-**	**-**	**3.85**	**1.26**	**1.99**	**-**	**1.73**	**0.33**

S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
Pulp & Paper: Total freshwater consumption – 0.43 MLD; Total effluent discharge – 0.17 MLD												
OTHER SECTOR INDUSTRIES												
28.	M/s Triveni Engineering & Industries Ltd. Alco Chemical Complex,	Molasses	200 KLD (B-heavy molasses) or 160 KLD (C-heavy Molasses)	170 KLD	5.29 KL/KL of alcohol produced	ZLD	NA	NA	80	76.71	NA	NA
		Grain	60 KLD	50 KLD	4.3 KL/KL of alcohol produced	ZLD	NA	NA				

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S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
		Bottling plant	IMFL-12000 cases/day & Country Liquor-24000 cases/day	No record provided	NA	ZLD	NA	NA				
Total – Other sector – Jolly Road			-	220 KLD	-	-	-	-	80	76.71	-	-
Other sector: Total freshwater consumption – 1.08 MLD; Total effluent discharge – ZLD												
MEERUT ROAD, MUZAFFARNAGAR												
OTHER SECTOR INDUSTRIES												
29.	M/s Dhampur Bio Organics Ltd, Unit-Mansurpur,	Sugar	7000 TCD	8034.93 TCD	51.23 Ltr./T of cane crush	79.79 Ltr./T of cane crush	NA	NA	39	40.67	1.46	1.46
30.	M/s. Triveni Engineering And Industries, Khatauli	Sugar	16000 TCD	13286 TCD	7.31 Ltr./T of cane crush	60.83 Ltr./T of cane crush	NA	NA	33.1	41.62	1.6	1.6

S. No.	Name of industry	*Category	Production (MT/day)		Specific Freshwater Consumption (KL/MT)	Specific Effluent Discharge (KL/MT)	Plastic Waste (MT/day)		Boiler Ash (MT/ day)		ETP Sludge (MT/ day)	
			Consented	Actual avg.			Estimated	Actual avg.	Estimated	Actual avg.	Estimated	Actual avg.
31.	M/s Magma Industries Begrajpur Industrial Area	Pharmaceutical	16.67	0.98	37.45	19.79	NA	NA	Fuel consumption record not available	0.4	0.006	0.002
32.	M/s Avadh Alloys Pvt. Ltd., Meerut Road,	Metal processin	Unit found dismantled									
Total – Other sector – Meerut Road			23016.67	21321.91	-	-	-	-	72.1	82.69	3.06	3.06
Other sector: Total freshwater consumption – 0.54 MLD; Total effluent discharge – 1.47 MLD												
Total freshwater consumption – 23.43 MLD; Total effluent discharge – 16.88 MLD												

Category

B1 – Pulp & Paper industry producing bleached grade paper using agro residues

B2 – Pulp & Paper industry producing unbleached grade paper using agro residues

C1 – Pulp & Paper industry producing bleached grade paper using waste paper

C2 – Pulp & Paper industry producing unbleached grade paper using waste paper

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II. Observations & Findings

a. *Environmental Clearance*

Among the 32 industrial units, 6 have received environmental clearance from MoEF&CC/SEIAA. These 6 units are fully compliant with the conditions stipulated in their respective environmental clearances.

b. *Freshwater Consumption, Effluent Management and Disposal*

1) Pulp & Paper industries

- As per the various gazette notifications under E(P) Rules, 1986, Pulp & Paper industries were categorized based on the scale of production. Category wise notified discharge norms are mentioned in Table 3 below:

Table 3: Notified discharge norms under E(P) Rules, 1986 for Pulp & Paper industries based on scale of production

Parameters	Notified standards	
	Large Pulp & Paper Mills (Capacity above 24000 MT/Annum)	**Small Pulp & Paper Mills (Capacity up to 24000 MT/Annum)**
pH	7.0-8.5	5.5-9.0
TSS (mg/L)	50	100
BOD (mg/L)	30	30 (discharge into inland surface water) 100 (discharge on land)
COD (mg/L)	350	-
AO_x	1 kg/MT of paper produced	2 kg/MT of paper produced (discharge on land)
SAR	-	26 (discharge on land)
Sp. Effluent Discharge	100 KL/MT of paper produced	200 KL/MT of paper produced (agro based) 75 KL/MT of paper produced (waste paper based)

- Pulp & Paper industries operating in Muzaffarnagar are either using waste paper or agro residues as raw material or mixture of both for producing bleached grade (writing-printing, Duplex board, tissue etc.) and unbleached grade of paper (i.e. kraft paper).
- In Waste paper based industries, the effluent is generated from Pulping section and Paper machine. The effluent generated from paper machine is recycled to Pulping section. Finally, for management of effluent from pulping section, industries have installed Fibre recovery units and Effluent Treatment Plant (ETP).
- In agro residues based industries, the effluent is generated from cooking/digestion section (used for separation of lignin and other impurities from agro waste to obtain cellulosic fibres) known as Black Liquor (typically having high solid content around 8 – 12% and COD in the range of 75000 – 125000 mg/L) and other low strength effluent streams from Pulping & other sections.

- Out of 23 nos. of pulp & paper industries inspected by joint committee:
  - 21 nos. of industries were found using waste paper/readymade pulp as raw material for producing:
    bleached grade paper – 07 industries
    unbleached grade paper – 14 industries
  - 02 nos. of industries were using agro residues as raw material for producing:
    bleached grade paper (writing-printing) – 01 industry
    unbleached grade paper (Kraft) – 01 industry
- Out of these 21 nos. of waste paper based industries, 06 nos. of industries (02 at Bhopa road, 02 at Jansath road and 02 at Jolly road) were found operating on Zero Liquid Discharge (ZLD). ZLD scheme majorly consisting of fibre recovery units (Sedicell, krofta etc.) followed by primary settling unit.
- Total 16 nos. of industries with permission to discharge have installed ETP consisting of Primary treatment, Secondary (aerobic biological) treatment followed by tertiary filtration system (such as Pressure Sand Filter, Activated Carbon Filter, Dual Media Filter, Multi Grade Filter etc.) for treatment of generated effluent.
- Criteria adopted for verification of ZLD:
  - Specific freshwater consumption ≤ 3.0 KL/MT of product
  - Effluent recycling in closed loop
  - High values of COD & TDS (20,000 mg/l and above)
- The treatment schemes were voluntarily adopted by industries due to implementation of "Charter for Water Recycling & Pollution Prevention in Pulp & Paper industries" (hereby referred to as 'Charter') in years 2012 and 2015 by CPCB in river Ganga basin states.
- As per the Charter, the industries have been categorised based on Raw material type and grade of paper produced, and category wise targets for specific freshwater consumption and specific effluent discharge are mentioned in Table 4 below:

Table 4: Category wise benchmark for specific freshwater consumption & specific effluent discharge in Pulp & Paper industries

Type of Industry	Category	Benchmark values (KL/MT of product)	
		Specific Fresh water consumption	Specific Effluent discharge
Agro Based Pulp & Paper Mills producing bleached grades of chemical pulps, papers, paperboards & newsprint	B1	50	40
Agro Based Pulp & Paper Mills producing unbleached grades of papers and paperboards	B2	25	20

RCF and Market Pulp Based Paper Mills producing bleached grades of papers, paperboards & newsprint	C1	15	10
RCF and Market Pulp Based Paper Mills producing unbleached grades of papers and Paperboards	C2	10	6

- Category wise Specific freshwater consumption and discharge values in Pulp & paper industries in Muzaffarnagar, before and after Charter implementation in year 2015 is shown in Table 5 below:

Table 5: Category wise Specific freshwater consumption and discharge values in Pulp & paper industries in Muzaffarnagar, before and after Charter implementation in year 2015

Category	**Sp. Freshwater Consumption (KL/MT of paper)**			**Sp. Effluent Discharge (KL/MT of paper)**		
	Before Charter (2015)	**After Charter (2015)**	**% reduction**	**Before Charter (2015)**	**After Charter (2015)**	**% reduction**
B1	87.4	58	33.64	62	46	25.81
B2	-	-	-	-	-	-
C1	26.1 – 40	14.8 – 19.6	43.30 - 51	17 – 28	9.6 – 14.6	43.5 – 47.8
C2	22.4 – 42.5	14.2 – 19	33.5 – 65.2	15.7 – 31.8	9.3 – 13	39.5 – 68.5

- Charter implementation resulted in reduction in specific freshwater consumption and discharge over a period of time due to increased recycling of treated/partially treated effluent, however as a result, the concentration of pollutants in raw effluent have further increased. Therefore, there is a need for augmentation/upgradation of ETP with better and more efficient technologies available to ensure consistent compliance w.r.t. stipulated effluent discharge norms.
- As per the visit carried out by joint committee during 27th December 2023 – 17th January 2024, the category wise details of actual specific freshwater consumption, specific effluent discharge and raw effluent characteristics are mentioned in Table 6 below:

Table 6: Category wise details of actual specific freshwater consumption, specific effluent discharge and raw effluent characteristics

Category	**No. of industries**	**Avg. daily production**	**Specific Fresh water consumption**	**Specific Effluent discharge**	**Avg. Inlet BOD (mg/l)**	**Avg. Inlet COD (mg/l)**	**Avg. Inlet TSS (mg/l)**	**Avg. Inlet TDS**

			(KL/MT of product)	(KL/MT of product)				(mg/l)
B1 having discharge	01	302.63	16.59	14.56	848	2028	2524	4676
B2 having discharge	01	165.5	7.31	6.69	3775	11312	1963	6240
C1 having discharge	06	175.92	2.7 – 13	0.27 – 9.3	1766	4634	3715	3519
C2 having discharge	10	156.26	2.0 – 6.5	0.6 – 5.9	2668	6563	2104	6610
C1 on ZLD	01	96.79	1.70	0	3780	8292	762	12536
C2 on ZLD	04	68.90	1.74 – 3.0	0	9926	24602	7075	21726

- Though installed ETPs seems adequate as per quantity of effluent generated at consented production capacity, but due to poor operation & maintenance issues and increased concentration of pollutants, 15 nos. of waste paper based industries are non-complying (trivial violation) w.r.t. stipulated discharge norms and 01 no. of industry found complying as it was operating on ZLD.
- Out of 02 nos. of agro residues based industries, 01 no. of industry is producing Kraft Paper and other is producing writing-printing grade, both located at Bhopa road and have installed Chemical Recovery Plant (CRP) to ensure zero black liquor discharge. Both CRPs were found operational during visit. ETPs consisting of Primary treatment, Secondary (aerobic biological) treatment followed by tertiary filtration system (such as Pressure Sand Filter, Activated Carbon Filter, Dual Media Filter etc.) for treatment of generated effluent other than black liquor. One industry was found complying as it was operating on ZLD on date of visit, by treating the effluent through ETP followed by RO plant (RO permeate was being used in process and reject was being used for cooling tower makeup), and other one was found non-complying w.r.t. stipulated discharge norms.
- ZLD system has been voluntarily adopted by industries, and they are aware that it shall produce inferior quality products, thus it should not be enforced uniformly.
- V-notch have been installed at inlet and outlet of ETPs
- There is no uniformity in treatment scheme, however typical effluent management scheme opted by industries operating on ZLD is as below:

  Raw effluent – Fibre recovery unit – Primary treatment – Effluent recycled back to production
- Analysis results of sample collected from inlet and outlet/recycling line of ETPs installed in waste paper based ZLD units show negligible reduction in effluent parameters such as BOD and TSS (3 – 13 %) which indicates poor performance of ETP, due to high concentration of BOD, COD & TSS.
- There is no TDS reduction unit installed in the ETPs of waste paper based industries operating on ZLD.

- ***Issue of purging in Waste paper based Pulp & Paper units operating on ZLD***

  Due to continuous recycling of effluent in closed loop causes significant decrease of the oxygen content of the process water, approaching anaerobic conditions associated with a microbiologically induced reduction of sulphate to hydrogen sulphide and the formation of odorous, low-molecular fatty acids, build-up of pollutants (majorly TDS and organics, ≥ 20,000 mg/l) occurs which leads to scaling, intensified growth of microorganisms and a higher demand for fungicides, poor product quality and aggressive corrosion of pipelines & equipments caused by high contents of chlorides, sulphates and organic acids, hence it is suspected that to avoid these issues, the possibility of periodical purging of some quantity of effluent into recipient water body/drains (may be on fortnightly/ weekly basis) by industries operating on ZLD cannot be ruled out as also evident from the physical conditions and water quality of recipient drains.
- There is need to have proper engineered system so that possibility/requirement of purging out of effluent can be eliminated. Industries shall upgrade/augment their ETP by installing Secondary biological treatment (anaerobic-aerobic) and Tertiary treatment to ensure proper ZLD system in scientific manner. Industries may also explore other advance technologies available.

2) Other industries (Sugar, Distillery, Pharmaceutical, Slaughter house, Food & Metal processing and dry textile unit)

- For management of effluent generated from manufacturing activities, industries have installed Effluent Treatment Plant (ETP). Out of 09 nos. of industries, 02 are pharmaceutical, 02 are sugar, 01 distillery, 01 slaughter house, 01 food processing, 01 textile (dry process) and 01 metal processing industry (dismantled). Distillery was found operating on ZLD and remaining operational industries have permission to discharge (except textile unit). Compliance status of individual industries can be referred from Table 1. Industry wise details of effluent management scheme are separately described below:

i. Pharmaceutical industries

- The pharmaceutical industries were engaged in production of Diclofenac & Aceclofenac.
- No segregation of high COD and low COD streams was observed.
- Existing effluent treatment scheme found inadequate for treatment of quality of effluent (COD > 4800 mg/l) generated from manufacturing processes or other industrial operations.
- Dilution of ETP outlet observed as more than 97 % reduction in BOD & COD which appears to be practically impossible for the existing ETP system based on activated sludge process.
- ETP system comprises of either primary clarifier or primary clarifier followed by biological treatment with poor operation and maintenance which is considered inadequate to treat both effluent streams (high COD which are considered as re-calcitrant effluent as well as low COD streams).
- Values of specific fresh water consumption were 37.45 KL/MT of product & 11.70 KL/MT of product. Values of specific effluent discharge were 19.79 KL/MT of product & 2.61 KL/MT of product.

ii. Sugar industries

- The sugar industries were engaged in production of Refined Sugar using Cane as raw material. Both the industries have installed ETP consisting of Physico-Chemical, Secondary (biological aerobic) treatment followed by tertiary filtration system (i.e. Pressure Sand Filter and Activated Carbon Filter). Treated effluent was being reused in process and remaining quantity used for irrigation in agriculture fields. Values of specific fresh water consumption were 51.23 ltr./ton of cane crushed & 7.31 ltr./ton of cane crushed. Values of specific effluent discharge were 79.79 ltr./ton of cane crushed & 60.83 ltr./ton of cane crushed.

iii. Distillery industry

M/s Triveni Engineering & Industries Ltd. Alco Chemical Complex, has three manufacturing units i.e. Molasses based distillery plant, Grain based distillery plant and a Bottling plant within the industrial complex. Details are separately described below:

- **Molasses distillery plant**

  For achieving ZLD in Molasses based plant, unit has installed 06 stage Multi Effect Evaporator (MEE), Incineration boiler for Spent wash management, and RO based CPU for MEE condensate and other low strength effluents. Specific fresh water consumption was 5.29 KL/KL of alcohol produced. Specific Spent wash generation was 6.59 KL/KL of alcohol produced. Excess capacity for spent wash storage in lagoons was observed.

- **Grain distillery plant**

  For achieving ZLD in Grain based plant, unit has installed 7 stage MEE followed by Decanter and Dryer. Generated DDGS from the dryer was sold to market. For treatment of MEE condensate and other low strength effluents, unit has installed RO based CPU. Specific fresh water consumption was 4.3 KL/KL of alcohol production.

- **Bottling plant**

  For achieving ZLD in bottling plant, unit has installed Physico-Chemical, Secondary (biological aerobic) treatment followed by tertiary filtration system (i.e. Pressure Sand Filter and Activated Carbon Filter). Treated effluent was being reused in process.

iv. Slaughterhouse industry

- M/s Al-Noor Exports has installed ETP consisting of Physico-Chemical, Secondary (biological 03 stage aerobic) treatment followed by tertiary filtration system (i.e. Pressure Sand Filter and Activated Carbon Filter). Treated effluent is discharged into Dhandera drain. Specific fresh water consumption was 3.68 KL/MT of product and specific effluent discharge was 3.40 KL/MT of product.

v. Food processing industry

- M/s Gulshan Polyols Ltd. has installed ETP consisting of Physico-Chemical, Secondary (biological anaerobic-aerobic) treatment followed by tertiary filtration system (i.e. Pressure Sand Filter and Activated Carbon Filter). Treated effluent is discharged into Dhandera drain. Specific fresh water consumption was 2.7 KL/MT of product and specific effluent discharge was 2.16 KL/MT of product.

vi. **Textile industry** was found operating on dry process (fiber/yarn spinning only).

vii. **Metal processing industry** was found dismantled during visit.

c. Solid Waste Generation and Disposal

- For estimation of solid waste generation (i.e. plastic waste, boiler ash and ETP sludge), certain assumptions were made based on the expert opinion from CPPRI, and IIT Delhi, literature survey and inputs from industry representatives.
- Pulp & paper industries typically generate non-paper solid waste @ 10% of raw material (waste paper) assuming 90% efficiency. These industries receive plastic majorly in form of lamination and packaging in the raw material (i.e. waste paper) which is removed during pulping process in Pulpers and screens at ETP inlet, and stored separately in heaps in open areas or under sheds for 3 – 5 days for drying and then weighed for maintaining logbooks.
- Plastic waste generation rate taken as @ 3% of indigenous waste paper and 4% of imported waste paper.
- Other industries such as Sugar, Distillery, Pharmaceutical, Slaughter house, Food & Metal processing, dry textile unit do not have waste plastic component in their raw material, hence no such plastic waste is generated from these industries.
- Different types of fuels such as biomass (i.e. bagasse, rice husk, wood barks, leaves), coal, plastic and Refuse Derived Fuel were found being used in the boilers installed in the industries.
- Estimation of Boiler ash generation rate taken as 2.5% for bagasse, 30-35% for coal, 5% for plastic and 17% in case of rice husk & Refuse Derived Fuel.
- ETP sludge (biological) generation as 30% of TSS load in raw effluent at ETP inlet.
- Actual quantities of solid waste generation (i.e. plastic waste, boiler ash and ETP sludge) were also calculated based on the logbooks/records provided by the industries.
- Details of estimated and actual generation of plastic waste, boiler ash & ETP sludge are mentioned in subsequent sections:

a. Plastic Waste

- Estimated plastic waste quantity to be generated from industries located at Bhopa road, Jansath road and Jolly road is 69.79 MT/day, 44.91 MT/day and 3.85 MT/day, respectively, i.e. a total of 118.55 MT/day.
- Actual plastic waste quantity generated and reported by industries located at Bhopa road, Jansath road and Jolly road is 37.58 MT/day, 32.92 MT/day and 1.26 MT/day, respectively, i.e. a total of 71.76 MT/day.
- Gap of 46.79 MT/day in estimated and actual plastic waste generation quantity needs proper record keeping.
- Plastic waste generated from industries is being provided to plastic waste recyclers, Waste to energy plants authorized by SPCB (quantity 71.76 MT/day). Therefore, industries are meeting with the legal requirements for plastic waste management/disposal, however end use couldn't be verified by joint committee.

- Receipts/invoices of plastic waste received by authorized recyclers and waste to energy plants was obtained and matched with the actual plastic waste disposal data provided by industries.
- Therefore, there is a need of proper monitoring, record keeping system in line with common facilities to be created at cluster level, which should be monitored through SPCB.
- Waste to energy plants or other scientific modes of disposal may be explored by industries at cluster level for ensuring better resource/material/energy recovery.

b. Boiler ash

- Estimation of boiler ash generation from Pulp & paper industries was carried out based on following considerations:
  - Daily steam requirement is estimated as 1.8 MT steam /MT of paper (for waste paper based unit) and 6 MT/MT of paper (for agro based unit)
  - Daily fuel requirement is estimated based on steam generation @ 3 MT steam/MT of Indian Coal, 4 MT steam/MT of Imported Coal, 2.5 MT steam/MT of Bagasse and 3 MT steam/MT of Rice Husk
- Estimation of boiler ash generation from Other category industries was carried out based the actual fuel consumption data provided by the industries.
- Estimated boiler ash quantity generated from industries located at Bhopa road, Jansath road, Jolly road and Meerut road is 475.89 MT/day, 158 MT/day, 81.99 MT/day and 72.1 MT/day, respectively i.e. a total of 787.98 MT/day.
- Total actual boiler ash quantity generated from industries located at Bhopa road, Jansath road, Jolly road and Meerut road is 319.87 MT/day, 113.19 MT/day, 76.71 MT/day and 82.69 MT/day, respectively i.e. a total of 592.46 MT/day.
- It was observed that most of the generated ash was being disposed off for land filling in low lying areas within and outside the premises.
- Some units have made agreements with brick kilns for brick manufacturing, however end use couldn't be verified.
- Gap of 195.52 MT/day in estimated and actual boiler ash generation quantity indicates unscientific disposal or poor record keeping.
- Therefore, there is a need of proper monitoring, record keeping system in line with common facilities to be created at cluster level, which should be monitored through SPCB to ensure scientific disposal of ETP sludge.
- Industries at cluster level need to explore methods of scientific reuse/disposal of boiler ash.

c. ETP Sludge

- Sludge from ETPs installed in industries is majorly generated from Primary clarifier (i.e. Primary sludge) and Secondary clarifier (i.e. biological sludge). Secondary sludge mostly consists of biosolids along with the part of primary sludge.
- In Pulp & Paper industries, sludge generated from primary clarifier majorly consists of pulp fiber, which is recycled back to pulpers without measurement as a standard practice in all industries to improve product yield. Sludge generated from secondary clarifier, is being used

by most of the industries for making egg tray/boards and some are utilizing as subsidiary fuel in boiler after mechanical dewatering.

- In other category industries (except pharmaceutical industries), primary and secondary sludge is being utilized as a manure after mechanical dewatering. ETP sludge generated from Pharmaceutical industries is being provided to TSDF.
- Total estimated ETP sludge quantity generated from industries located at Bhopa road, Jansath road, Jolly road and Meerut road is 21.7 MT/day, 7.43 MT/day, 1.73 MT/day and 3.06 MT/day, respectively i.e. a total of 33.92 MT/day.
- Total actual ETP sludge quantity generated from industries located at Bhopa road, Jansath road, Jolly road and Meerut road is 0.77 MT/day, 5.96 MT/day, 0.33 MT/day and 3.06 MT/day, respectively i.e. a total of 10.12 MT/day.
- Gap of 23.8 MT/day in estimated and actual ETP sludge generation quantity indicates unscientific disposal or poor record keeping.
- Therefore, there is a need of proper monitoring, record keeping system in line with common facilities to be created at cluster level, which should be monitored through SPCB to ensure scientific disposal of ETP sludge.
- Industries at cluster level need to explore methods of scientific reuse/disposal of Secondary sludge.

III. Major Issues

a. Discharge of untreated effluent by pharmaceutical industries.
b. Periodic purging of effluents having high pollution load from Zero Liquid Discharge (ZLD) industrial units into recipient drains.
c. Poor operation & maintenance of ETPs by industries discharging effluent resulting in non-compliance with effluent discharge norms and deterioration in water quality of recipient drains/water bodies.
d. Unscientific disposal of plastic waste (46.79 MT/day), boiler ash (195.52 MT/day) and ETP sludge (23.80 MT/day)
e. Improper record keeping of freshwater consumption, effluent generation, effluent recycle and effluent discharge.
f. **Sewage Management:** Out of the 32 industrial units, only three have installed Sewage Treatment Plants (STPs) for treating domestic sewage. Despite the requirement outlined in the Consent To Operate (CTO) or Consent To Establish (CTE) issued to all 32 industrial units, only three have complied by installing STPs.

C. Drain

I. Dhandera and Jat Mujhera drain system

Dhandhera drain from origin to confluence with Jat Mujhera

The Dhandhera drain originates in Kanamheri village at coordinates 29.476284, 77.790211, near M/s Tehri pulp and paper (Figure 9). It has two second-order/ tributaries drains: Jat Mujhera and Begrajpur Industrial drain. Both of these drains receive effluents from industries along Bhopa Road, Jolly Road, Jansath Road, and the Begrajpur industrial area.

Before merging with Jat Mujhera drain, the Dhandhera drain traverse a distance of approximately seven kilometers. Along this stretch, there are 15 industries (out of 21 mentioned in petition filed in OA 540/2023) discharging wastewater into the Dhandhera drain. Wastewater samples collected from the Dhandhera drain before its confluence with Jat Mujhera drain exhibit high color (60-100 Hazen), BOD (38 to 224 mg/l), and COD (113 to 664.8 mg/l). At the upstream of M/s S K Paper, the flow of the drain was measured as 16.206 MLD with a BOD of 192 mg/l, contributing a pollution load of 3.2 TPD at this point.

The Jat Mujhera drain originates at coordinates 29.475030, 77.808448, where it was found dry. Flow in the drain begins near the outlet of M/s Bindlas Duplex Ltd. at Bhopa Road. It covers a total length of approximately 8.02 km before merging with the Dhandera drain. Industries within the catchment area of Jat Mujhera drain include 4 Pulp & Paper establishments at Bhopa Road, 3 at Jolly Road, and 2 Distilleries. High pollution load was observed in Jat Mujhera drain with BOD ranging from 56 to 1480 mg/l and COD ranging from 268 to 2951 mg/l.

After merging with Jat Mujhera drain, the Dhandhera drain continues its course until discharging into the River Kali West at coordinates 29.364904, 77.688793. It covers a distance of around 15 km after confluence with Jat Mujhera drain. Wastewater samples collected from Dhandhera drain at various locations from its confluence Jat Mujhera until its discharge into R. Kali west show high levels of color (50-100 Hazen), BOD (42-903 mg/l), and COD (258-2491 mg/l). Details of Dhandhera and Jat Mujhera drain and Impact of industries is given in Table 5 and 6 respectively.

According to the Uttar Pradesh Pollution Control Board (UPPCB), there are a total of 31 industries located within the catchment area of the Dhandhera drain from its origin to its confluence with River Kali. Among these, 21 industries were inspected as mentioned in the petition filed in OA 540/2023.

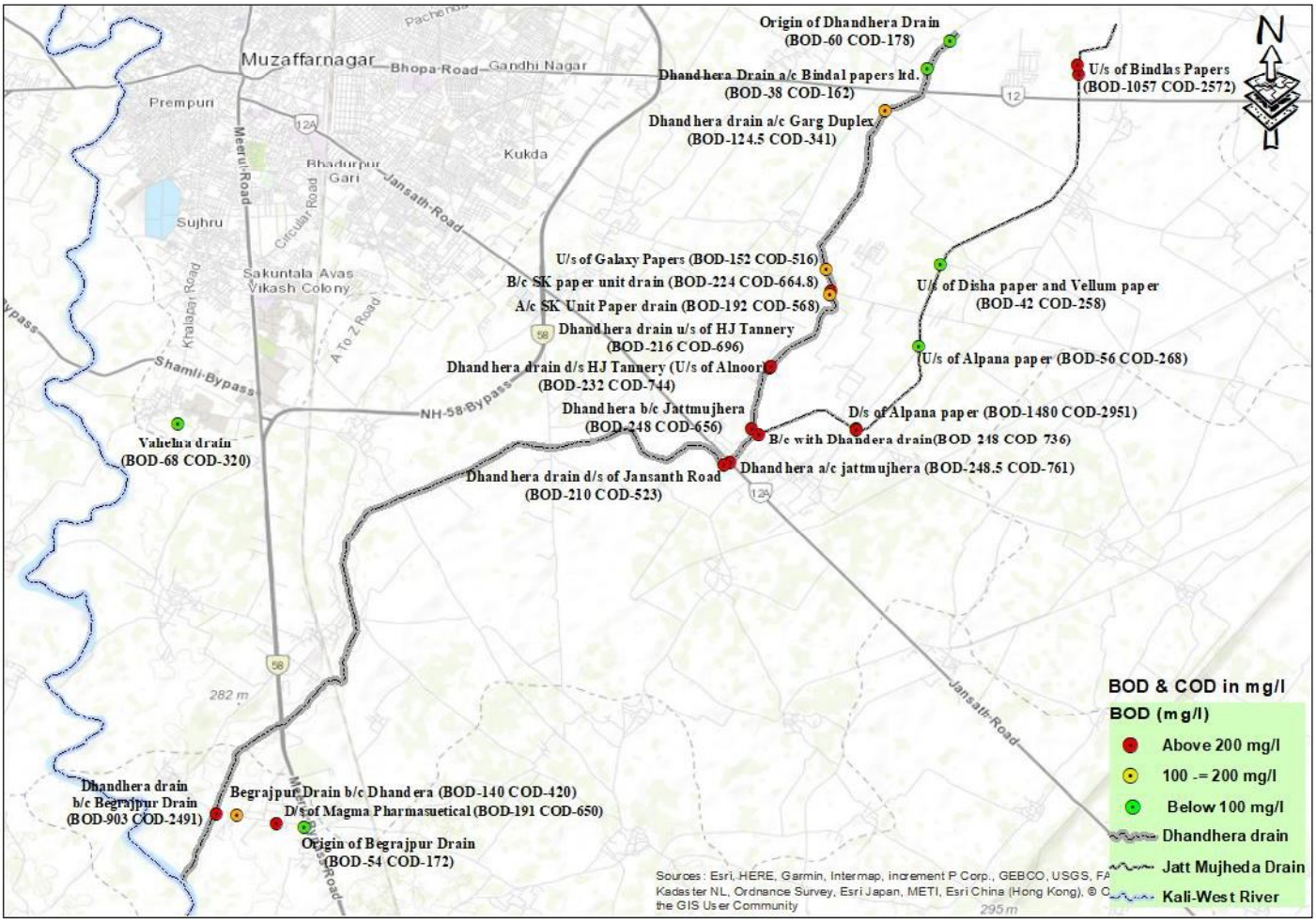


Figure 9 Map of Dhandera Drain System

II. Vahelna Drain

The Vahelna drain originates from the industrial area of village Vahelna (29.426395, 77.694847). This drain carries both domestic sewage and industrial effluent. After traveling approximately 2.15 km, it discharges into River Kali West. Samples were taken from the drain after the mixing of domestic and industrial discharge at coordinates 29.425637, 77.688822, just before its confluence with River Kali West. The flow rate of the drain was measured at 0.185 MLD, BOD - 68 mg/l and COD – 322 mg/l According to UPPCB reports, there are 18 industries in the catchment area of the Vahelna drain. Only one industry was mentioned in petition in OA no. 540/2023, and during inspection it was found to be dismantled.

Table 7 Dhandhera drain and Impact of Industries along the drain

Industry Code	Industry name	Upstream		Downstream		Remark
		Code	BOD (mg/l)	Code	BOD (mg/l)	
A	1. M/s Tehri Pulp & Papers Ltd Unit-1	Dry at origin		D1	60	Flow of drain starts from downstream of Tehri Pulp & Paper unit 1 & 2

	2. M/s Tehri Pulp & Papers Ltd. Unit-2					
B	3. M/s Bindals Papers Mills Ltd 4. M/s Silvertoan Papers Ltd. Unit -1 5. M/s Silvertoan Papers Ltd. Unit-2 6. M/s Meenu Paper Mills Pvt 7. M/s Silverton Pulp & Papers Pvt. Ltd. Unit-1 8. M/s Silverton Pulp & Papers Pvt. Ltd.Unit-2	U1	60	D2	38	Impact: No adverse Impact
C	9. M/s Garg Duplex and Paper Mills Pvt	U2	38	D3	**124.5**	Impact : Increase in BOD
D	10. M/s Galaxy Paper Private limited	U3	152	D4	**224**	Impact : Increase in BOD
E	11. M/s S. K. Paper Mills Ltd.	U4	224	D5	192	Impact: No adverse Impact
F	12. M/s Al-Noor Exports	U5	70	D6	**90**	Impact : Increase in BOD
G	13. M/s Orient Board & Paper Mills Pvt. Ltd.	U6	60	D7	**86**	Impact : Increase in BOD
H	14. M/s Genus Paper & Boards Ltd	U7	35	D8	**42**	Impact : Increase in BOD
I	15. M/s Mahalakshmi Paper Mills	U8	70	D9	**82**	Impact : Increase in BOD
J	16. M/s Gulshan Polyoles Ltd. 17. M/s K K duplex 18. M/s Saral Chemtech, Khasra 19. M/s Shakti Kraft Tissues	U9	248	D10	32	Impact: No adverse Impact
K	20. M/s Siddheshwari Industries Pvt. Ltd	U10	32	D11	**46**	Impact : Increase in BOD
L	21. M/s Sangal Industries Pvt Ltd,	U11	46	D12	**210**	Impact : Increase in BOD
M	Dhandera drain before confluence with river Kali-West	U12	210	D13	***903***	Impact : Increase in BOD

Table 8 Jat Mujhera drain and Impact of Industries along the drain

Industry Code	Industry name	Upstream		Downstream		Remark
M	22. M/s Bindlas Papers Mills Ltd.	**Code**	**BOD (mg/l)**	**Code**	**BOD (mg/l)**	

	23. M/s Parijat Papers Ltd	Dry at origin		D1	***1057***	Impact : High BOD
N	24. M/s Potable Liquor Plant 25. M/s Alpana Papers Private Ltd.	U3	56	D3	***1480***	Impact : Increase in BOD
O	26. M/s Triveni Engg. Industries Ltd. (Alco Chemical Complex)	U5	***1480***	D5	**248**	Impact: No adverse Impact

III. Observation

1. The Dhandera drain was observed to be dry at its origin. Flow in the drain originates from downstream of the Tehri Pulp & Paper Unit.
2. The Dhandhera Drain carries both domestic sewage and effluent discharge from industrial units located along Bhopa Road, Jolly Road, and Jansath Road.
3. The Dhandera drain is connected with two major secondary drains, namely the Jat Mujhera and Begrajpur Drain.
4. The width of the Dhandera drain measures approximately 3 to 6.5 meters, with a depth ranging from approximately 1.5 to 3.5 feet
5. Significant pollution was detected in the Jat Mujhera drain, with BOD levels measuring approximately 1480 mg/l and COD levels around 2951 mg/l.

D. Villages and Groundwater

In compliance of Hon'ble NGT order dated 12.09.2023 & 12.12.2023 in OA No. 540/2023 titled Niramaya Jan Utthan Sansthan vs. State of Uttar Pradesh & Ors. A joint team of officials from Central Pollution Control Board (CPCB), Uttar Pradesh Pollution Control Boards (UPPCB) & UP Ground Water Board carried out survey of 23 villages for assessment of groundwater quality. Out of 23 villages, 08 villages are located on Jansath Road (Niraana, Jansath, Bhikki, Shernagar Sikheda, Bahadarpur, Maqsoodabad and Dahkhedi) 07 villages on Bhopa Road (Makhiyali, Jat Mujhera, Chandpur, Tigri, Kasampura, Nagla Buzurg/Naya Gaon and Bhandura), 02 villages on Jolly Road (Bilaspur, Dhandera) 02 villages on Vahelna Road (Jaroda and Vahelna) one village on NH-9 - Sandhawli, one village (Tisang) on Khatauli-Jansath Road, One village (Bahedi) on Saharanpur Road and one village (Charthawal) on Muzaffarnagar-Thanabhawan Road. The survey was carried during 03.01.2024 - 04.01.2024 and 11.01.2024 - 12.01.2024. During the survey samples were collected from 73 locations, out of which groundwater samples were collected from 68 locations, samples from drains were obtained from three distinct locations, namely, one from the pond in Niraana village, another from the sugar Mill drain in Khatauli, and third from Vahelna village. During the survey, joint teams visited the individual villages, interacted with local villagers regarding the ground water usage, quality, problems related to groundwater use, and any observed impacts on health due to diseases potentially linked to groundwater use in villagers.

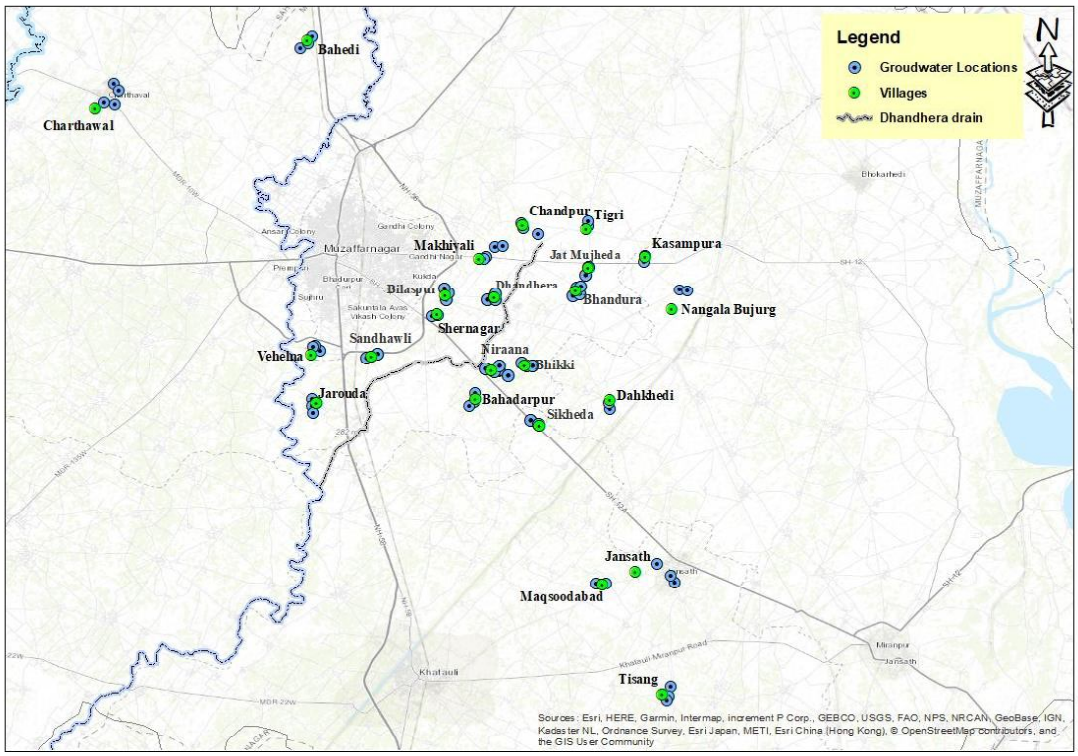


Figure 10 Sampling locations of groundwater in Muzaffarnagar district (Uttar Pradesh)

Analysis of samples were carried out at the UPPCB Laboratory. Analysis result values were compared with permissible limits for individual parameters in Drinking Water Standard of BIS standards for drinking water– IS 10500:2012. The detailed of sampling locations and analysis reports of the samples collected are enclosed as **Annexure – III and IV**.

I. Analysis of Groundwater Quality Index, Total hardness and Total dissolved solids

Based on the analysis of groundwater samples collected from the 23 villages visited by the joint team classification of water quality was made based on Groundwater Quality Index, Total hardness and Total Dissolved Solids.

Groundwater Quality Index

It is a comprehensive measure that assesses the overall health of a water body by considering various parameters such as pH, dissolved oxygen, turbidity, and nutrient levels according to Talpur et al. (2020) and Batabyal and Chakraborty (2015). It takes a holistic approach, considering the collective impact of multiple factors rather than analyzing each data point individually, especially in large datasets where it's not feasible to scrutinize every parameter. It is internationally recognized and published in peer-reviewed journals, ensuring its credibility and reliability. It assigns weightage to each parameter based on their respective impacts, providing a standardized and systematic way to evaluate and monitor water quality over time. Details on Groundwater Quality Index calculation is provided at **Annexure – V**.

Groundwater Quality Index is calculated based on nine Water Quality Parameters (pH, TDS, Cl^-, F, SO_4^{-2}, NO_3-N, Fe and Mn). The Groundwater Quality Index suggests 63.3% of samples under excellent and Good Quality, ~28% of samples under Poor and Very Poor Water Quality and ~8.8% water sample unsuitable for drinking purpose.

Water Quality Index exceeding 300 has been recorded at six location in villages, Jansath (2 locations), Vahelna (1 location) and Tisang (3 locations), indicating water quality unsuitable for drinking.

Water Quality Index ranging between 200 to 300 has been observed at six locations in Maqsoodabad (1 location), Dahkhedi (2 locations), and Jaroda (3 locations), indicating very poor water quality.

Table 9 Groundwater Quality Index

Index value	Water quality	No of samples	Percentage of water samples
<50	Excellent	28	41.2
50-100	Good water	15	22.1
100-200	Poor water	13	19.1
200-300	Very poor water	6	8.8

>300	**Water unsuitable for drinking**	**6**	**8.8**

Total Hardness Classification

Total hardness Classification is based on Sawyer and McCarty's classification system, proposed in 1967. It offers a structured framework for assessing water quality based on total hardness. Total hardness, typically measured in terms of calcium carbonate ($CaCO_3$) concentration, categorizes water into four classes: soft, moderately hard, hard, and very hard. Soft water contains less than 75 mg/L of $CaCO_3$, while very hard water exceeds 300 mg/L. This classification aids in understanding water's suitability for various purposes, such as drinking, agricultural, and industrial use, as hardness can affect soap effectiveness, scale formation, and corrosion rates in pipes and equipment.

Total Hardness of groundwater data varies from 126 to 945 mg/l. Around 50% samples were in category of very hard, 47% in Hard and only 3% of moderate hardness. Hardness is the amount of dissolved calcium and magnesium in the water. Water moving through soil and rock dissolves naturally occurring minerals and carries them into the groundwater as it is a great solvent for calcium and magnesium. The high concentration of TH in groundwater may cause kidney stone in human beings.

Table 10 Water Quality Classification based on Total hardness

TH Value	Water Quality	No of Samples	Percentage of Samples
<75	**Soft**	**0**	**0.0**
75-150	**Moderately hard**	**2**	**2.9**
150-300	**Hard**	**32**	**47.1**
>300	**Very hard**	**34**	**50.0**

Total Dissolved Solids (TDS)

Total Dissolved Solids classification is based on Davis and De Wiest (1966) classification system. The TDS classification system delineates water into categories based on its dissolved solids content. This classification provides insights into water's salinity levels, which impact its palatability, suitability for irrigation, and effects on ecosystems. TDS is the weight of residue remained after a water sample is evaporated to dry state. It includes calcium, magnesium, sodium, potassium, carbonate, bicarbonate, chloride and sulphate. In the present survey data, it ranges between 171.4 to 1352 mg/l. The agricultural practices, residential runoff, leaching of soil causing contamination and point source water pollution discharge from industrial or sewage treatment

plants are the primary sources for TDS (Boyd 2000). Based on TDS classification, water quality of 95.6% samples falls under Drinking water either Desirable or permissible drinking water quality and 4.4% of samples useful for Irrigation purpose only.

Table 11 Water Quality Classification based on TDS

TDS Value	Water Quality	No of Samples	Percentage of Samples
<500	Desirable for Drinking	47	69.1
500 – 1000	Permissible for Drinking	18	26.5
1000 - 3000	Useful for irrigation	3	4.4
>3000	Unfit for drinking and irrigation	0	0.0

II. Analysis of heavy metals in groundwater samples

During joint inspection of 23 villages, it was found that approximately 22 villages had high iron concentrations in their groundwater, ranging from 0.02 to 13.6 mg/l. A total of 87% of the samples collected for heavy metal analysis (59 out of 68 samples) exceeded the maximum permissible limit of 0.3 mg/l, as per the drinking water standards (IS:10500:2012). Villages with iron concentrations surpassing the permissible limits include Jansath, Niraana, Charthawal, Bahedi, Tisang, Vahelna, Jaroda, Bilaspur, Dhandhera, Bhandura, Nagla Buzurg, Kasampura, Tigri, Chandpur, Jat Mujhera, Makhiyali, Dahkhedi, Maqsoodabad, Sikheda, Shernagar, Bhikki, and Sandhwali.

The elevated iron concentrations observed in Uttar Pradesh, as reported by Kalicharan (2007), indicated significant metal ion content in the surveyed wells. The increased iron concentration may be attributed to the corrosion of pump components (Langaneger, 1987) and the interaction between oxidized iron minerals and organic matter, leading to the dissolution of Fe_2CO_3 at a lower pH (Mondal et al., 2010). Despite initially clear well water, it quickly turned cloudy and brown due to $Fe(OH)_3$ precipitation. Another factor contributing to heightened iron concentration is the depletion of dissolved oxygen by organic matter, resulting in reduced conditions. Under such conditions, the solubility of iron-bearing minerals increases, enriching dissolved iron in groundwater (Applin and Zhao, 1989; White et al., 1991). Most studies suggest that the high iron values are primarily due to geogenic factors.

During joint inspection of 23 villages, it was found that 13 villages exhibit elevated concentrations of Manganese (Mn), ranging from 0.313 to 7.57 mg/l. A total of 48% of the heavy metal samples collected (33 out of 68 samples) surpass the maximum permissible limit of 0.3 mg/l, according to the drinking water standards (IS:10500:2012). Villages with Mangnese concentrations was found surpassing the permissible limits of 0.3 mg/l include Jansath, Charthawal, Bahedi, Tisang,

Vahelna, Jaroda, Nagla Buzurg, Chandpur, Bahadarpur, Makhiyali, Dahkhedi, Maqsoodabad and Shernagar.

Manganese occurs naturally in groundwater, particularly in anaerobic environments. Its concentration is influenced by factors such as rainfall chemistry, aquifer lithology, geochemical conditions, groundwater flow paths, and residence time, which can vary significantly in both space and time. The release of manganese may occur through leaching from overlying soils, minerals in underlying rocks, and minerals within the aquifer itself.

During joint inspection of 23 villages, it was found that 19 villages exhibit elevated concentrations of sulphides, ranging from 0.22 to 2.3 mg/l. A total of 71% of the samples collected for general parameters (48 out of 68 samples of groundwater) exceed the maximum permissible limit of 0.05 mg/l, according to the drinking water standards (IS:10500:2012).

The villages where sulphide concentrations surpassed permissible limits include Charthawal, Bahedi, Tisang, Bilaspur, Dhandhera, Bhandura, Maqsoodabad, Shernagar, Bhikki, Niraana, Makhiyali, Sikheda, Bahadarpur, Chandpur, Jansath, Jaroda, Jat Mujhera, Vahelna and Sandhwali. According to the research conducted by Ram et al. in 2021, the dissolution and leaching of sulphate from rocks containing gypsum, iron sulfides, and other sulfur-bearing compounds could lead to elevated concentrations of sulphate and chloride in groundwater.

During joint inspection of 23 villages, it was found that 10 villages exhibit elevated concentrations of fluoride, ranging from 1.527 to 2.74 mg/l. A total of 30.88 % of the general parameter samples (21 out of 68 groundwater samples) exceed the maximum permissible limit of 1.5 mg/l, according to the drinking water standards (IS:10500:2012). Villages where fluoride concentrations surpassed permissible limits include Maqsoodabad, Jansath, Makhiyali, Jaroda, Vahelna, Tisang, Bahedi, Bahadarpur, Shernagar and Charthawal.

Several studies conducted across various areas in Uttar Pradesh, such as by Ram et al., 2021 in Mahoba District; Kumar et al, 2021 in Lucknow; Ali et al., 2016, Agra; Verma et al., 2023 in Lakhimpur (Kheri); revealed similar findings on elevated fluoride concentration. The research suggests that the lower concentration of Ca^{2+} in the groundwater facilitates the chemical weathering and dissolution of fluorite, leading to an increased fluoride concentration. Fluoride (F) in groundwater is geogenic in nature. Groundwater contains fluorides released from various fluoride-bearing minerals, primarily due to groundwater-host rock interaction.

III. Other observations

- The Chief Medical Officer vide letter dated 05.02.2024, has submitted that based on data available via health camps and OPDs during April, 2023 to January, 2024, no serious disease/ health issue found in the villages as mentioned in the complaint. However, 05 cancer cases were reported in village Nara, which was not mentioned in complain and not surveyed.
- In villages where alternative water sources such as submersible pumps or household connections from the Jal Jeevan Mission are available, handpumps are not utilized for drinking water.

- Across most villages, there is a lack of infrastructure for wastewater treatment from households, including sewage, or proper discharge mechanisms for wastewater into drains or rivers. Consequently, wastewater accumulates in unlined ponds within and around the villages, which are not routinely cleaned.
- During the site visit, the team observed wastewater-filled ponds alongside deteriorating vegetation, solid waste, and sludge accumulation.
- The utilization of ponds in nearly all villages for wastewater discharge may contribute to groundwater contamination in the villages and surrounding areas.
- Team has observed deposition of ashes on vegetation and trees in nearby farms of Bhandura village as well as suspended ash particle in the air near the village.
- The majority of residents in the villages have reported no significant diseases, health-related concerns, or unusual spikes in health issues in the village.

4. Recommendations

A. Industry

I. <u>Pulp & Paper industries</u>

a. All Pulp & Paper industries shall:

- Install Rotary drum screener at ETP inlet for separation of plastics & other coarse fractions (or other floating materials) from raw effluent stream and collected plastics shall be disposed scientifically.
- Install electromagnetic flow meter with totalizer at ETP Inlet, ETP outlet, effluent recycle line at ETP and effluent reuse point, and maintain logbooks for the same on daily basis.
- Install separate flow meter with totalizer at all freshwater consumption points such as process area, domestic consumption and boiler, and maintain logbooks for the same on daily basis.
- Ensure scientific disposal of solid waste (i.e. Plastic waste, boiler ash and ETP sludge) and maintain proper records of generation and disposal.

b. Agro residue (B1 & B2 category) based industries shall upgrade/augment their ETP by installing secondary biological treatment system (either anaerobic-aerobic treatment or 02 stage extended aeration system in series) followed by tertiary treatment units consisting of filtration system (i.e. Pressure Sand Filter, Activated Carbon Filter followed by Micro-filtration/Ultrafiltration). For treatment of effluent generated from wet washing section, industries shall install anaerobic treatment unit.

c. Waste paper/recycle fiber (C1 & C2 category) based industries operating at ZLD must:

- Upgrade/augment their ETP by installing secondary biological treatment (anaerobic-aerobic)
- Ensure 70 % reduction in BOD & TSS after secondary biological treatment stage.
- Ensure that characteristics of recycled water used in process (in closed loop) shall meet BOD <2000 mg/l; COD < 4000 mg/l and TSS < 400 mg/l.

d. Waste paper/recycle fiber (C1 & C2 category) based industries operating at ZLD may also explore other advance technologies available like advance oxidation, membrane filtration, electro-oxidation etc. for complete reuse/recycling to ensure ZLD.

e. Waste paper/recycle fiber-based industries (C1 & C2) discharging treated effluent shall:

- Upgrade/augment their ETP by installing physico-chemical treatment, secondary biological treatment (either anaerobic-aerobic treatment or 02 stage extended aeration system in series) followed by tertiary treatment units consisting of filtration system (i.e. Pressure Sand Filter, Activated Carbon Filter followed by Micro-filtration/Ultrafiltration).
- Explore other advance effluent treatment technologies available like advance oxidation, membrane filtration etc. to ensure consistent compliance with stipulated discharge norms.

II. Other industries

a. All industries shall:
- Improve Operation & Maintenance of ETP
- Install electromagnetic flow meter with totalizer at ETP Inlet, ETP outlet, effluent recycle line at ETP and effluent reuse point, and maintain logbooks for the same on daily basis.
- Install separate flow meter with totalizer at all freshwater consumption points such as process area, domestic consumption and boiler, and maintain logbooks for the same on daily basis.
- Explore the possibility of reuse of treated effluent to maximum extent
- Ensure scientific disposal of solid waste (i.e. Boiler ash and ETP sludge) and maintain proper records of generation and disposal.

b. Pharmaceutical industries shall:
- Provide provision of segregation of high and low COD effluent streams
- Setup evaporation-concentration/incineration system for high COD effluent stream having recalcitrant substances
- Setup three stage ETP system (consisting of Primary, Secondary (biological aerobic) and tertiary treatment (i.e. Pressure Sand Filter, Activated Carbon Filter followed by Micro-filtration/Ultrafiltration) for weak strength low COD effluent stream and also explore other advance treatment technologies available
- Install OCEMS at ETP outlet and provide connectivity with CPCB/SPCB servers

c. Sugar industries shall:
- Install DO sensor with display in the aeration tanks to optimize the power consumption of air blowers
- Explore the feasibility of anaerobic treatment unit in ETP for energy saving and improved treatment efficiency

d. Distillery industry shall restrict the impermeable storage capacity of spent wash at any stage to 07 days equivalent of production and excess storage facilities beyond this shall be levelled/ dismantled.

e. Slaughterhouse industry shall:
- Install anaerobic treatment unit in ETP for energy saving and improved treatment efficiency
- Install DO sensor with display in the aeration tanks to optimize the power consumption of air blowers
- Install ammonia gas sensors with alarm system in ammonia plant.
- Install disinfection unit in ETP to ensure safe reuse of treated effluent in lairage section, floor washing in external areas

f. Food processing industry shall:
   - Install DO sensor with display in the aeration tanks to optimize the power consumption of air blowers
   - Install OCEMS at ETP outlet and provided connectivity with CPCB/SPCB servers
   - Ensure marking and color coding of all ETP lines and dismantle the unnecessary pipelines nearby ETP area

g. Low cost decentralised techniques (such as Constructed wetlands, Phyto-remediation, Root zone treatment etc.) which require low energy, capital and less skilled manpower may be explored for rejuvenation of recipient drains namely Dhandera, Jat Mujheda and begrajpur industrial drain.

III. Begrajpur Industrial Area

Action Plan

- UPPCB along with the district administration carry out inspection of these industries for assessment of existing effluent treatment, emission control infrastructure, Hazardous waste management facility of the operating industries.
- Relevant CPCB SOPs such as for recycling of lead scrap and lead acid battery, recycling of waste tyre and checklist of minimum requisite facilities for utilization of hazardous waste under rule 9 of Hazardous Waste Management Rules-2016 for metal & metal bearing waste for recovery of metal salts alloys may be referred for inspection of metal processing units.
- UPPCB may carry out 24-hour monitoring of flow & waste water characteristics (composite sampling) of Begrajpur drain to assess the actual potential of discharging pollution load.
- Operation of units discharging acidic/ alkaline effluent without proper neutralization shall be immediately stopped.
- Industries operating without adequate infrastructure of effluent treatment & emission control devices shall be stopped.
- Stored legacy hazardous waste shall be transferred to the TSDF site for scientific disposal to rule out possibility of illegal disposal in to the drain.
- Possibility of transfer of effluent through tanker to the nearest Common Effluent Treatment Plant (CETP) for proper treatment may be explored.
- UPPCB/UPSIDC may install real time ambient air quality monitoring station in industrial area and real time effluent monitoring system in Begrajpur drain.
- UPPCB may also carry out feasibility study (effluent characteristics & load, topography of industrial area, land availability etc.) for requirement of CETP with advance technologies in Begrajpur industrial area in consensus with the operating industries in the area.

- Facilitation programme for industrial units for adoption of cleaner technology, waste minimization practices and water conservation. Implementation of sector specific charter in textile and distillery sector units.
- Health impact study of workers and nearby villagers exclusively lung and metal toxicity study by district administration.
- A number of battery recycling and metal processing units located in industrial area Begrajpur have been granted Consent to operate with ZLD condition. However, such units also discharge highly acidic effluent (pH<2) having high metal concentration generated from washing of empty plastic bodies of batteries, washing of working floor area. Purging / re-casting of metallic anode and cathode also generate effluent with high concentration of heavy metals. Discharge of untreated effluent from textile processing and chemical units contributed high Color, BOD, COD, Sulphide and Chloride concentration.
- The existing waste management practices adopted by ZLD units as well as other discharging units shall be reviewed and Consent to operate may be revised accordingly.
- **Air Pollution and its Control**: Other than acidic & volatile organics fumes, Obnoxious odour, fugitive emissions of smoke and particulate matter were observed during the evening hours, making the air severely polluted and unfit for breathing. It is proposed that continuous Ambient Air Quality Monitoring Stations should be installed at minimum two locations in UPSIDA industrial area Begarajpur.
- **Hazardous and Other Wastes**: Sludge and other wastes dumped in unscientific manner, need to be controlled and a TSDF site may be constructed to cater the needs of the industries located in Muzaffarnagar area so as to prevent contamination of ground water and soil.

IV. Action Plan for Non-paper solid waste namely, Plastic Waste, Boiler Ash, ETP Sludge and surface drain

The action plan aims to establish a robust framework for the effective handling, disposal, and monitoring of Plastics Waste, Boiler Ash and ETP sludge generated by industrial units.

Key Components

1. Constitution of a Society and Special Purpose Vehicle (SPV)

1.1. **Society Formation**: A society shall be constituted, comprising all relevant stakeholders, including industrial units and regulatory bodies. The State Pollution Control Boards (SPCBs) shall facilitate the establishment of this society.

1.2. **Special Purpose Vehicle (SPV)**: The society shall create an SPV specifically dedicated to managing Plastics Waste, Boiler Ash and ETP sludge generated by industrial units.

2. Membership and Participation

2.1. **Membership**: All industrial units within the sector must be members of the society. This ensures collective responsibility and participation in waste management efforts.

3. Waste Generation and Record Keeping

3.1. **Logbook Maintenance**: Member units must maintain a logbook that records waste quantities, types, and disposal methods. This logbook will serve as a crucial reference for waste management audits and assessments.

4. Supervision and Payment

4.1. **SPCB Supervision**: The SPCBs shall supervise waste management practices within member units. This includes overseeing waste handling, transportation, disposal and verification through logbook & manifest system slip

4.2. **Cost Allocation**: Member units shall bear the cost associated with waste management, including transportation, treatment, and final disposal.

5. SPV Responsibilities

Special Purpose Vehicle (SPV) Responsibilities in Hazardous Waste Management

The SPV will play a crucial role in ensuring compliance with regulations governing the transportation of hazardous industrial waste.

Responsibilities related to Hazardous Waste Transportation:

1. Manifest System Facilitation:

- The SPV will facilitate the proper use of the six-copy manifest system.
- This includes ensuring generators and transporters understand the color-coded copies and their designated actions:
    - **White Copy:** Forwarded to the State Pollution Control Board (SPCB) by the generator.
    - **Light Yellow Copy:** Signed and returned to the generator by the transporter.
    - **Pink Copy:** Retained by the disposal facility operator.
    - **Orange Copy:** Returned to the transporter by the facility after accepting waste.
    - **Green Copy:** Forwarded to the SPCB by the facility after disposal.
    - **Blue Copy:** Returned to the generator by the facility after disposal.

2. Awareness and Implementation:

- The SPV will actively promote awareness among member units regarding proper packaging, labeling, and manifest system requirements for waste transportation.
- The SPV will collaborate with SPCBs to ensure member units receive guidance on:
    - Safe handling, storage, and transportation of waste.
    - Accurate labeling of waste containers, including information on corrosive, reactive, ignitable, or toxic properties.

3. Information Dissemination:

- The SPV will provide member units with access to relevant information regarding the Transport Emergency (TREM) Card (Form 10). This card details the hazardous nature of the waste and necessary emergency measures.

4. Data Management and Reporting:

- **Transit and Disposal Records**: The SPV shall maintain records of waste transit and final disposal. These records will include details such as transportation routes, disposal sites, and quantities.

- **Quarterly and Monthly Reporting**: The SPV shall submit quarterly and monthly reports to both member units and the SPCBs. These reports will outline waste management activities, progress, and compliance with regulations.
- **Verification by SPCBs and maintaining compliance**: The SPV will collaborate with SPCBs in identifying potential compliance issues and reporting any discrepancies encountered during the transportation process. The SPCBs will verify the accuracy and completeness of the SPV's records. This ensures transparency and accountability in Plastics Waste, Boiler Ash and ETP sludge management practices.

B. Drain

Action plan for rejuvenation of Dhandera and Jat Mujhera drain

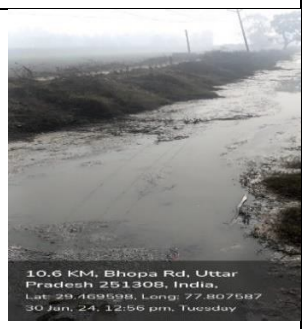
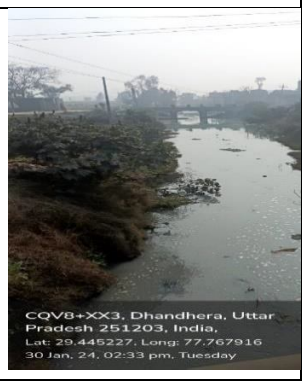
The industrial cluster have four major drains: Dhandhera drain, Jat Mujhera drain, Vahelna drain, and Begrajpur industrial drain, spanning lengths of 21 km, 8 km, 2.15 km, and 1.5 km respectively. Notably, both the Jat Mujhera and Begrajpur drains discharge into the Dhandhera drain. These drains do not have freshwater and carries partially treated industrial effluents along with episodal purging from industries engaged in zero liquid discharge (ZLD) practices and legacy solid waste.

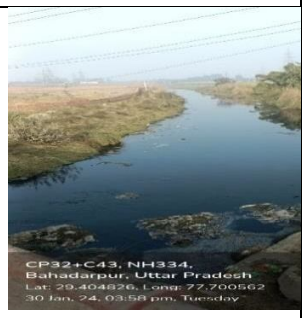
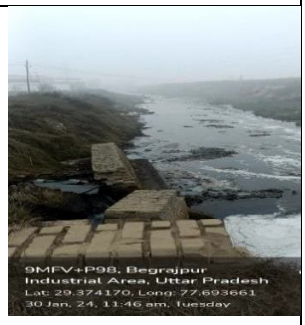
To address the pressing need for rejuvenation, it is imperative to adopt zero-energy, zero-chemical use technologies requiring minimal maintenance and handling. The Central Pollution Control Board (CPCB) has formulated guidelines on "Alternative Treatment Technologies for Wastewater Treatment in Drains," pursuant to the directives of the National Green Tribunal (NGT) in the case of OA No. 06/2012, titled Manoj Mishra Vs Union of India & Ors. The guidelines advocate for the implementation of Constructed Wetland Systems (CWS), recognized globally as an effective and environmentally sustainable approach for wastewater treatment. Constructed wetlands utilize diverse plant species and microbial communities to biodegrade pollutants without the need for external energy sources.

The efficacy of CWS has been demonstrated at Neela Hauz Lake near Sanjay Van in New Delhi, where a collaboration between the Centre for Environmental Management of Degraded Ecosystems (CEMDE), Delhi University, and the Delhi Development Authority (DDA) has led to a remarkable 90% reduction in biochemical oxygen demand (BOD) and the restoration of the once-degraded lake. CEMDE experts have surveyed the Muzaffarnagar industrial cluster and identified seven locations for the establishment of CWS in the industrial cluster. The U.P. Pollution Control Board (UPPCB) may be designated as the nodal agency for implementation. The costs associated with constructing these wetlands may be shared between the industrial cluster as part of corporate social responsibility initiatives and government agencies like the National Mission for Clean Ganga (NMCG). It is estimated that the CWS will require 1-2 years to become fully operational once implemented.

Details of possible locations selected based on the topology of drain for setting up Constructed wetland system during survey are tabled below;

Table 12 Details of possible location for setting up Constructed Wetland Systems (CWS)

Particulars	**Drain type**	Co-ordinate	Location	Flow condition	Ecological condition	Remarks	Photo
CWS-1	Dhandera	29.468285 77.785053	Bhopa road d/s for industrial cluster	Flow around 3.5 MLD Flow width-4 mtr. Flow depth- 0.2 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted	
CWS-2	Jat Mujhera	29.467504 77.807097	Bhopa road d/s for industrial cluster	Flow around 1 MLD Flow width-4 mtr. Flow depth- 0.2 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted, observed dry u/s of industrial area	
CWS-3	Dhandera	29.442093 77.774533	Jolly road d/s for industrial cluster	Flow around 5 MLD Flow width-4 mtr. Flow depth- 0.1 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted	

CWS-4	Jat Mujhera	29.439301, 77.786020	Jolly road d/s for industrial cluster	Flow around 4 MLD Flow width-4 mtr. Flow depth- 0.2 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted	
CWS-5	Dhandera	29.422672 77.757466	Jansath road d/s for industrial cluster	Flow around 5 MLD Flow width-4 mtr. Flow depth- 0.2 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted	
CWS-6	Dhandera	29.387939, 77.704233	u/s of national highway	Flow around 15 MLD Flow width-25 mtr. Flow depth- 0.2 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted	
CWS-7	Dhandera	29.373186, 77.692426	d/s of confluence of Begrajpur drain	Flow around 20 MLD Flow width-25-30 mtr. Flow depth- 0.3 mtr.	Wetland plants like Phragmites, Typha observed	Highly silted	

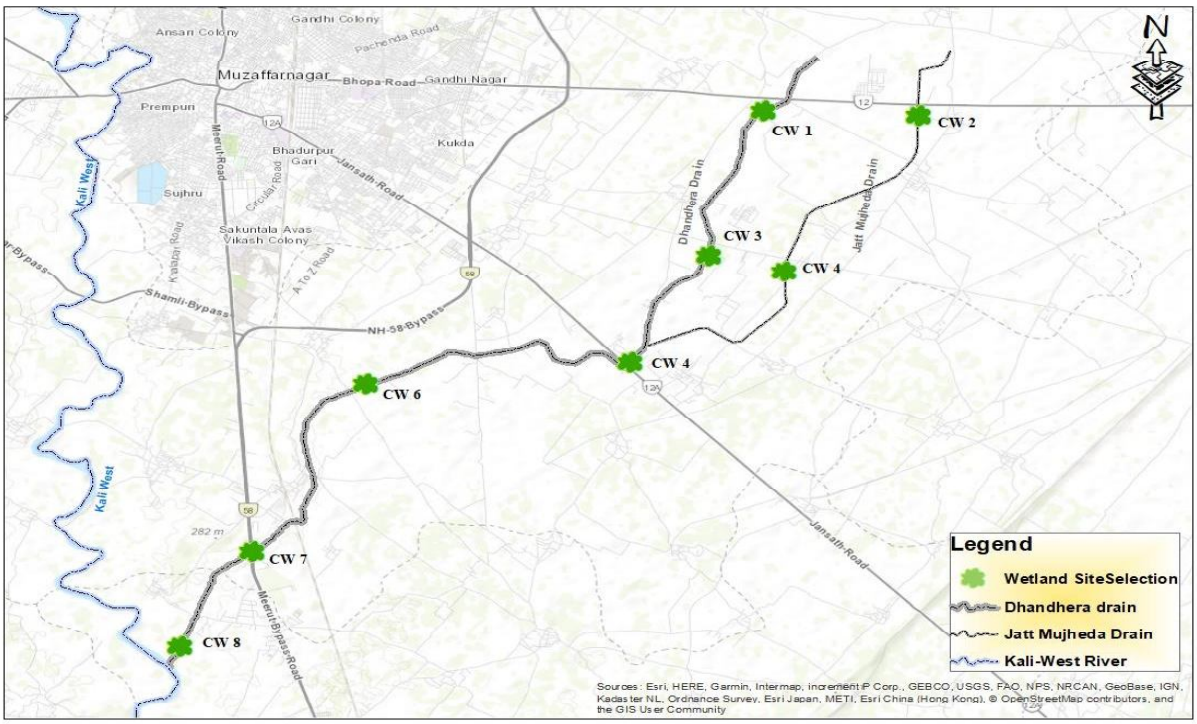


Figure 11 Catchment area of drains showing possible locations for setting up CWS

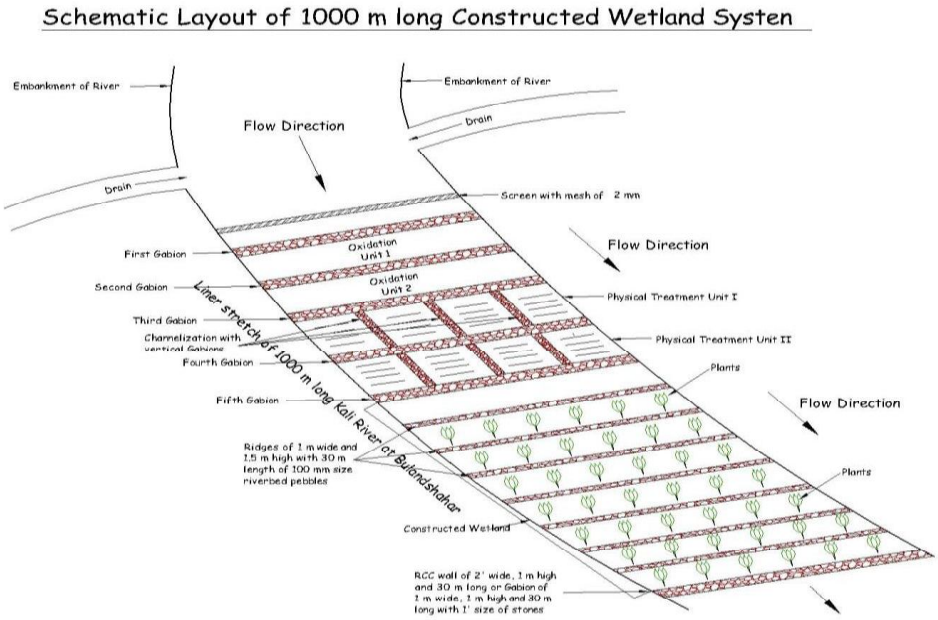


Figure 12 Schematic layout of Constructed Wetland System

Native Flora for CWS

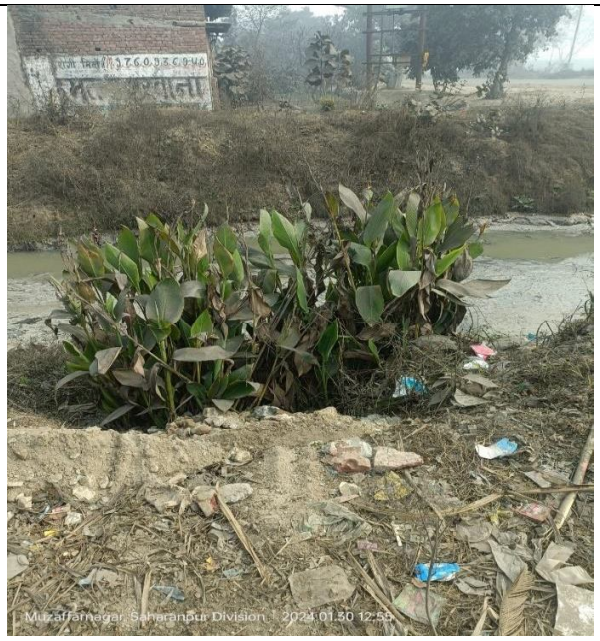
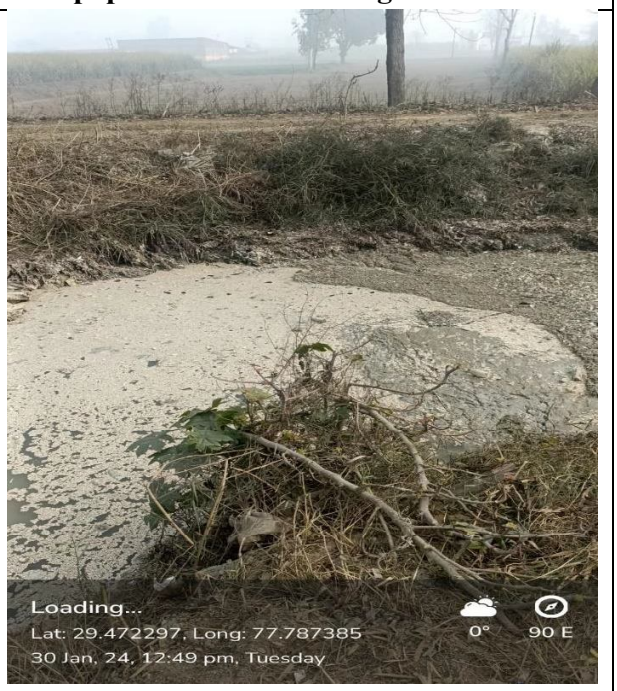
Phragmites	Indian shot
	
Typha	**Non-paper solid waste silting of drain**
	

Figure 13 Native flora for CWS in Dhandhera and Jat Mujhera drain system

C. Action Plan

I. Violations/ activities requiring immediate action (Industrial units having either no ETP or incomplete ETP for effluent treatment)

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
1.	Inspection of industries in Begrajpur industrial area for assessment of existing effluent treatment, emission control infrastructure, Hazardous waste management facility	UPPCB along with the district administration	Mandatory	03 months
2.	24 hour monitoring of flow & waste water characteristics (composite sampling) of Begrajpur drain to assess the actual potential of discharging pollution load	UPPCB	Mandatory	03 months
3.	Immediately stop the operation of unit discharging untreated effluent or operating without adequate infrastructure for effluent treatment & emission control in Begrajpur industrial area	UPPCB along with the district administration	Mandatory	03 months
4.	Stored legacy hazardous waste in Begrajpur industrial area shall be transferred to the TSDF site for scientific disposal to rule out possibility of illegal disposal in to the drain during rainy season	UPPCB along with the district administration	Mandatory	03 months
5.	Legacy solid waste (plastic waste, ETP sludge and boiler ash) dumped at different locations in Muzaffarnagar shall be transferred to the TSDF and authorized recyclers for scientific disposal	UPPCB along with the district administration	Mandatory	03 months
6.	Carry out feasibility study (Effluent characteristics & load, topography of industrial area, land availability etc.) for requirement of Common effluent Treatment Plant (CETP) with advance technologies in Begrajpur industrial	UPPCB and Industry association	Mandatory	06 months

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
	area in consensus with the operating industries in the area			
7.	Provide provision of segregation of high and low COD effluent streams	Pharmaceutical industries	Mandatory	01 month
8.	Setup evaporation-concentration/ incineration system for high COD effluent stream having recalcitrant substances		Mandatory	06 months
9.	Setup three stage ETP system (consisting of Primary, Secondary (biological aerobic) and tertiary treatment) for weak strength low COD effluent stream along with condensate from high COD stream and also explore other advance treatment technologies available		Mandatory	06 months
10.	Restrict the impermeable storage capacity of spent wash at any stage to 07 days equivalent of production and excess storage facilities beyond this shall be levelled/ dismantled	Distillery industry (Molasses based)	Mandatory	03 months
Action Plan for non-paper solid waste namely, Plastic Waste, Boiler Ash, ETP Sludge and surface drain				
11.	Constitution of a Society and Special Purpose Vehicle (SPV)	UPPCB and Industrial Cluster	Mandatory	1 Month
12.	Agreement and Membership for Society and SPV	Industrial Cluster	Mandatory	1 Month
13.	Action plan for non-paper solid waste namely, Plastic Waste, Boiler Ash, ETP Sludge and surface drain	Industrial Cluster	Mandatory	2 Months
14.	Waste Generation and Record Keeping	Industrial Cluster and SPV	Mandatory	2 Months Onwards

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
15.	Verification of end-to-end waste disposal	SPV and UPPCB	Mandatory	2 Months Onwards
16.	Data Management and Reporting	Industrial Cluster and SPV	Mandatory	2 Months Onwards

II. Violations/activities requiring technological intervention (Industrial units having trivial violation in compliance with discharge norms due to inefficient operation & maintenance of ETP/ZLD system)

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
	General recommendations			
1.	Install flow meter with totalizer (electromagnetic, ultrasonic etc.) at ETP Inlet, ETP outlet, effluent recycle line at ETP and effluent reuse point, and maintain logbooks for the same on daily basis	All industries	Mandatory	01 month
2.	Install separate flow meter with totalizer (electromagnetic, ultrasonic etc.) at all freshwater consumption points such as process area, domestic consumption and boiler, and maintain logbooks for the same on daily basis	All industries	Mandatory	01 month
3.	Installation of fine screen (ex. Rotary drum screen/Hill screen) at ETP inlet for separation of plastics (or other floating materials)	All Pulp & Paper industries	Mandatory	03 months
4.	Improve Operation & Maintenance of ETP (i.e. MLSS > 3000 mg/l, DO – 2	All industries	Mandatory	-

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
	ppm, MLVSS/MLSS ratio – 0.6 to 0.8)			
5.	Installation of DO sensor (with display) in the aeration tanks to optimize the power consumption of air blowers	All industries	Optional	-
	ETP upgradation			
6.	Installation of secondary biological treatment system (either anaerobic-aerobic treatment or 02 stage extended aeration system in series) followed by tertiary treatment units consisting of filtration system (i.e. Pressure Sand Filter, Activated Carbon Filter followed by Micro-filtration/Ultrafiltration)	Agro residue (B1 & B2 category) based Pulp & Paper industries	Mandatory	Total – 01 Year
	a. Preparation of DPR			03 months
	b. Award of work order			03 months
	c. Construction, installation and commissioning			06 months
7.	Installation of anaerobic unit for treatment of wet washing effluent	Agro residue (B1 & B2 category) based Pulp & Paper industries	Mandatory	Total – 12 months
	a. Award of work order			03 months
	b. Construction and commissioning			09 months
8.	Installation of secondary biological treatment (anaerobic-aerobic) and ensure 70-75 % reduction in BOD & TSS after secondary biological treatment stage	Waste paper/recycle fiber (C1 & C2 category) based	Mandatory	12 months

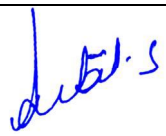
S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
9.	Ensure characteristics of recycled water used in process (in closed loop) shall meet BOD <2000 mg/l; COD < 4000 mg/l and TSS < 400 mg/l.	industries operating at ZLD	Mandatory	06 months after upgradation
10.	Explore other advance technologies available like advance oxidation, membrane filtration, electro-oxidation etc. for complete reuse/recycling to ensure ZLD		Optional	-
11.	Installation of physico-chemical treatment, secondary biological treatment (either anaerobic-aerobic treatment or 02 stage extended aeration system in series) followed by tertiary treatment units consisting of filtration system (i.e. Pressure Sand Filter, Activated Carbon Filter followed by Micro-filtration/Ultrafiltration)	Waste paper/recycle fiber based industries (C1 & C2) discharging treated effluent	Mandatory	12 months
12.	Explore other advance technologies available like advance oxidation, membrane filtration, electro-oxidation etc. to ensure consistent compliance with stipulated discharge norms		Optional	-
13.	Install OCEMS at ETP outlet and provide connectivity with CPCB/SPCB servers	Pharmaceutical industries	Mandatory	03 months
14.	Explore the feasibility of anaerobic treatment unit in ETP for energy saving and improved treatment efficiency	Sugar industries	Optional	-

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
15.	Restrict the impermeable storage capacity of spent wash at any stage to 07 days equivalent of production and excess storage facilities beyond this shall be levelled/ dismantled	Distillery industry (Molasses based)	Mandatory	03 months
16.	Install ammonia gas sensors with alarm system in ammonia plant	Slaughterhouse industry	Mandatory	03 months
17.	Install disinfection unit in ETP to ensure safe reuse of treated effluent in lairage section, floor washing in external areas		Mandatory	03 months
18.	Explore the feasibility of anaerobic treatment unit in ETP for energy saving and improved treatment efficiency		Optional	-
19.	Install OCEMS at ETP outlet and provide connectivity with CPCB/SPCB servers	Food processing industry	Mandatory	03 months
20.	Ensure marking and color coding of all ETP lines and dismantle the unnecessary pipelines nearby ETP area		Mandatory	03 months
Begrajpur industrial area				
21.	Possibility of transfer of effluent through tanker to the nearest CETP for proper treatment may be explored	UPPCB	Optional	-
22.	Installation of real time ambient air quality monitoring station in industrial area and real time effluent monitoring system of Begrajpur drain	UPPCB/UPSIDC	Optional	-
Dhandera and Jat Mujheda drain system				

S. No.	Action Points	Executing agency	Nature (Mandatory/ Optional)	Timeline for execution
23.	Design of Constructed Wetland System based on the topology and waste water characteristic of drain	Irrigation department in consultation with UPPCB and expert agency like CEMDE or others	Optional	3-6 months
24.	Desilting of drains up to bed level and strengthening of bunds with desilted Material	Irrigation department	Optional	Once in a year
25.	Vegetation development on embankments of restored drain.	Irrigation/Forest department in consultation with UPPCB and expert agency like CEMDE or others	Optional	1-2 year
26.	Setting up of series of in-situ constructed wetland systems where width of drain is maximum based on flow & wastewater characteristics of drain at that location		Optional	1-2 year
27.	Follow up monitoring of wastewater quality of drains	UPPCB	Optional	Fortnightly
28.	Supply of drinking water in 10 villages having high content of fluoride and water quality index more than 200 (water is not fit for drinking)	UPJN, District Administration	Mandatory	06 months
29.	Sealing of bore-wells (12 nos.) having water quality index more than 200 (water is not fit for drinking)	UPJN, District Administration	Mandatory	Within 1 month
30.	Development of common facility (i.e., sanitation, drinking water supply, approach road widening & afforestation) in all industrial clusters namely Bhopa Road, Jansath Road, Jolly Road, Begrajpur & Vahelna	UPJN, District Administration	Mandatory	12 months

- **The aforementioned action plan will be implemented for both Pulp & Paper industries and other industries in Muzaffarnagar, Uttar Pradesh, irrespective of whether they are listed in the petition filed under O.A. No. 540/2023 or not.**
- A detailed schematic diagram of proposed ETP is enclosed as **Annexure – VI**.
- A detailed inspection report of 32 industries monitored by Joint Committee is enclosed as **Annexure – VII.**

Joint Committee:

S.No.	Name & designation of committee member	Organization	Signature
1	Shri Vikash Kashyap, City Magistrate, Muzaffarnagar	District Administration (Nodal agency)	
2	Dr AK Vidyarthi, Director (Scientist 'F') and Divisional Head, WQM-II	Central Pollution Control Board	
3	Dr AK Gupta, Additional Director & Scientist-E	MoEF&CC - Regional Office, Lucknow	
4	Shri Ankit Singh, Regional Officer, Muzaffarnagar	Uttar Pradesh Pollution Control Board	
5	Shri Ashish Kumar Singh Choudhary, Hydrologist	UP Ground Water Department	

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3	Dr AK Gupta, Additional Director & Scientist-E	MoEF&CC - Regional Office, Lucknow	
4	Shri Ankit Singh, Regional Officer, Muzaffarnagar	Uttar Pradesh Pollution Control Board	
5	Shri Ashish Kumar Singh Choudhary, Hydrologist	UP Ground Water Department	

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 744/2022

Moharram Ali — Applicant

Versus

State of Uttar Pradesh — Respondent

With

Original Application No. 277/2022

Liyakat Ali & Ors. — Applicant(s)

Versus

State of U.P. — Respondent

S. No.	Particulars	Page No.
1.	**Report of the Joint Committee** in compliance to the Hon'ble National Green Tribunal, Principal Bench, New Delhi orders dated 22.03.2023 and 25.07.2023 in OA No. 744/2022; Moharram Ali Vs. State of Uttar Pradesh, and OA No. 277/2022; Liyakat Ali & Ors Vs. State of .UP.	
2.	**Annexure-I:** Copies of Hon'ble NGT, Principal Bench orders dated 22.03.2023 and 25.07.2023 in OA No. 744/2022; Moharram Ali Vs. State of Uttar Pradesh, with OA No. 277/2022; Liyakat Ali & Ors Vs. State of U.P.	
3.	**Annexure-II:** A copy of CPCB Office order dated 27.09.2023 of constitution of Joint Committee.	
4.	**Annexure-III:** A copy of the minutes of the joint Committee meeting held through hybrid mode on 03.10.2023.	
5.	**Annexure-IV:** Details of the 16 Pulp & Paper Industries located in Muzaffarnagar, UP.	
6.	**Annexure-V:** Summary of 16 Pulp & Paper Industries in terms of production, freshwater consumption, wastewater generation, recycling and discharge norms including Charter norms.	

7.	**Annexure-VI:** Photographs of oily sludge was observed dumped in the drain during the joint visit.	
8.	**Annexure-VII:** Summary of Fly-ash management in terms of generation and disposal by the said 16 Pulp & Paper Industries located in Muzaffarnagar, UP.	
9.	**Annexure-VIII:** Summary of Plastic waste management in terms of generation and disposal by the said 16 Pulp & Paper Industries located in Muzaffarnagar, UP.	
10.	**Annexure-IX:** Summary of the hazardous waste management in terms of generated and disposed through TSDFs/ registered recyclers.	
11.	**Annexure- X:** Photographs of oily sludge was observed dumped in the drain during the joint visit.	

(V. P. Yadav)
Scientist F
Central Pollution Control Board
Delhi-110032

Date: 11.01.2024
Place: Delhi

Report of the Joint Committee in compliance to the Hon'ble National Green Tribunal, Principal Bench, New Delhi orders dated 22.03.2023 and 25.07.2023 in OA No. 744/2022; Moharram Ali Vs. State of Uttar Pradesh, and OA No. 277/2022; Liyakat Ali & Ors Vs. State of UP

1. Background

Hon'ble NGT (PB) in the matters of OA No. 744/2022; Moharram Ali Vs. State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of UP, passed the following direction vide order dated 22.03.2023:

> *".....direct constitution of a Joint Committee headed by Scientist 'F' (not below the rank of Director) in CPCB with other members being the State PCB and the District Magistrate, Muzaffarnagar. The Committee may formulate an action plan in the light of recommendations of earlier Committees referred to above and observations hereinabove and ensure remedial action in coordination with the stakeholders and other authorities. The action will include compliance of norms and fixing accountability for the past failures. The 14 industries must follow the charter for reducing the water consumption and refrain from discharging into the drain. The Committee may meet within two weeks and conduct proceedings online or offline, undertake visit to the site and verify the facts....."*

Further, Hon'ble NGT (PB) in IA No. 636/2023 in OA No. 744 of 2022, with OA No. 277 of 2022 vide order dated 25.07.2023 passed the following directions:

> *"…….. This Tribunal vide order dated 22.03.2023 directed the Joint Committee including the members of the CPCB to form an action plan in light of the recommendation of the Committee and to ensure remedial action but the same has not been filed till date. The action will include compliances of norms and fixing accountability for the past failures. These 14 industries must follow the charter for reducing the water consumption and refrain from discharging into the drain. The report on the points have not been filed till date.*
> *The Committee is further directed to submit the report within four weeks…."*

Copies of the aforesaid orders dated 22.03.2023 and 25.07.2023 are annexed as **Annexure-I**.

2. Compliance of the aforesaid orders:

a) Central Pollution Control Board (CPCB) constituted a joint Committee comprising members from CPCB, UP Pollution Control Board (UPPCB) and District Magistrate, Muzaffarnagar as below:

(i) Sh. V. P. Yadav, Director (Scientist-F), CPCB, Delhi
(ii) Sh. Vikas Kashyap, City Magistrate, Muzaffarnagar
(iii) Sh. Ankit Singh, Regional Officer, Muzaffarnagar, UPPCB

A copy of Office order of constitution of above joint Committee is annexed as **Annexure-II**.

b) The joint Committee meeting was convened through hybrid mode at CPCB, Delhi on 03.10.2023 to discuss the issues pertaining to the case and finalization of work plan. During the meeting, Regional Officer, Muzaffarnagar, UPPCB briefed about the incidents, earlier orders passed by the Hon'ble NGT (PB) and action taken so far by UPPCB & the District Administration, Muzaffarnagar. After detailed discussions, UPPCB was requested to provide basic information about the industries and plan for site visit along with District Administration. A copy of the minutes of the meeting is annexed as **Annexure-III**.

2.1 Visit of Joint Committee:

The joint Committee visited the following 16 Pulp & Paper Industries located in Muzaffarnagar on 05.10.2023, 13.10.2023 & 01.12.2023 to ascertain the status of compliance of the industries with respect to stipulated effluent discharge standards.

S. No.	Name of the Industry
1.	M/s Silvertoan Papers Ltd. (Unit 1), Bhopa Road, Muzaffarnagar
2.	M/s Silvertoan Papers Ltd. (Unit 2), Bhopa Road, Muzaffarnagar
3.	M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-1), Bhopa Road, Muzaffarnagar
4.	M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-2), Bhopa Road, Muzaffarnagar
5.	M/s Garg Duplex and Paper Mills Pvt. Ltd., Bhopa Road, Muzaffarnagar
6.	M/s Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar
7.	M/s Meenu Paper Mills Pvt. Ltd., Bhopa Road, Muzaffarnagar
8.	M/s Tehri Pulp & Paper Ltd. (Unit-1), Bhopa Road, Muzaffarnagar
9.	M/s Tehri Pulp & Paper Ltd. (Unit-2), Bhopa Road, Muzaffarnagar
10.	M/s Tirupati Baalaji Fibres Pvt Ltd., Bhopa Road, Muzaffarnagar
11.	M/s Bindals Papers Mills Ltd., Bhopa Road, Muzaffarnagar
12.	M/s Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), Bhopa Road, Muzaffarnagar
13.	M/s Shree Bhageshwari Papers Pvt. Ltd. (Unit-2), Bhopa Road, Muzaffarnagar
14.	M/s Galaxy Papers Private Limited, Jolly Road, Muzaffarnagar
15.	M/s Bindlas Dupulx Ltd., (Unit-1), Bhopa Road, Muzaffarnagar
16.	M/s Bindlas Dupulx Ltd., (Unit-2), Bhopa Road, Muzaffarnagar

The Committee also assessed the implementation of Charter for Water Recycling and Pollution Prevention in Pulp & Paper Industries (Specific to Ganga River Basin States) and management of fly ash, plastic waste & hazardous waste. Details of industries are summarized and depicted in **Annexure-IV.**

Further, the Committee visited the site wherein casualty occurred due to illegal dumping of chemicals and fly ash and the location where an incident of over-flow of wastewater from the Dhandera drain occurred and flooded the surrounding agricultural fields. Schematic drainage map of area covering Dhandera drain, River Kali West is given at **Figure-1**.

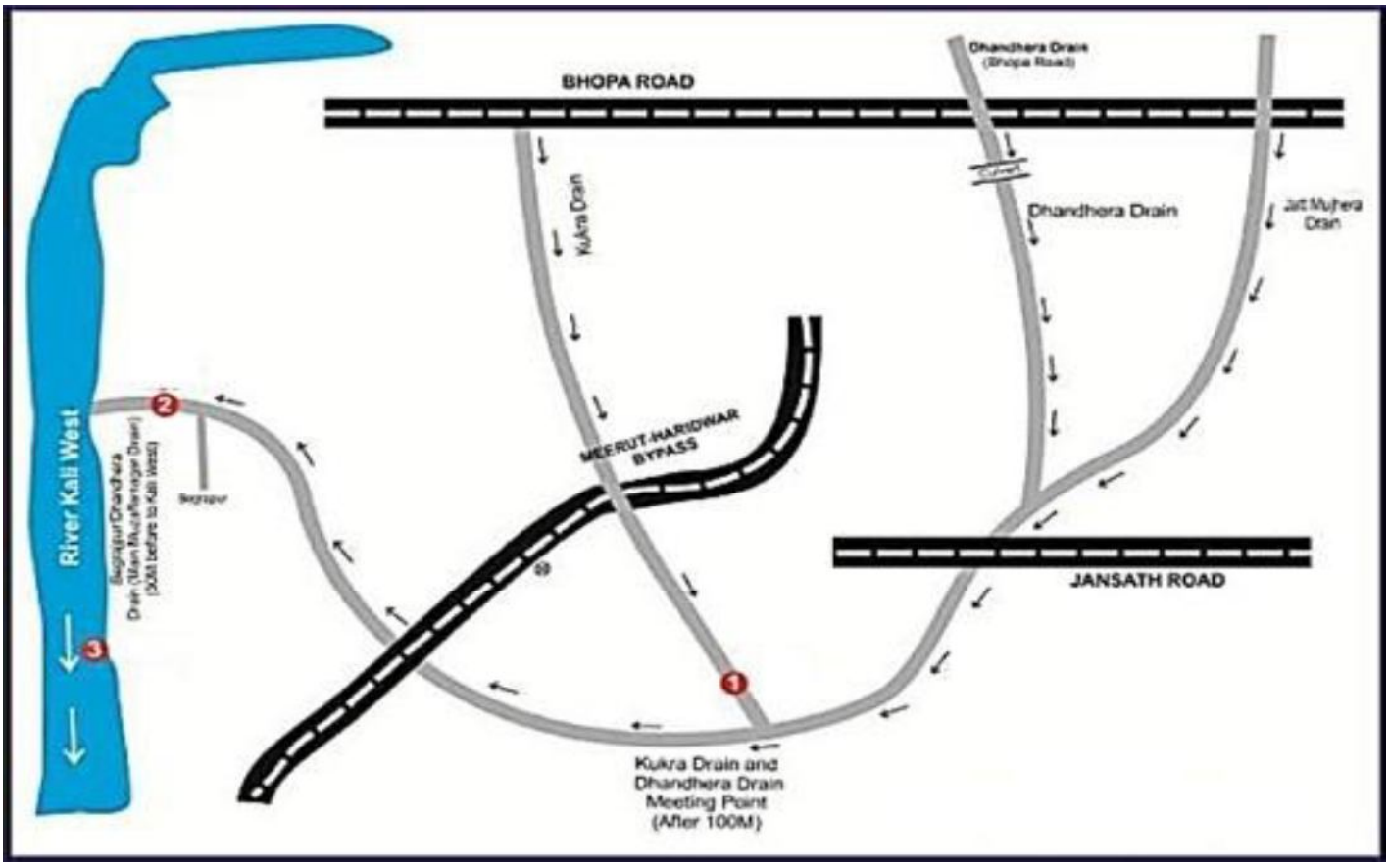

Figure-1: Schematic drainage map of area covering Dhandera drain, River Kali West

During the visit, inlet and outlet samples of ETP from said 16 industries and one (01) sample from downstream of Dhandera drain were collected for on-site assessment of effluent discharge norms and water quality at Dhandera drain. Collected samples were sent to UPPCB, Laboratory in Lucknow for the analysis of relevant parameters. Finding of the laboratory analysis results of the 16 Pulp & Paper Industries is as below:

i) Galaxy Papers Private Limited

The Unit was observed recycling the effluent within the process to achieve zero liquid discharge (ZLD). Effluent sample which was being used in the process shows pH (5.56), TSS (4618 mg/L), TDS (26220 mg/L), BOD (11346 mg/L) and COD (41056 mg/L). The excessive recycling of effluent may have built-up high concentration of BOD, COD and TDS in the recycled effluent.

The water consumption was observed 2.03 m^3/ton of paper production. The unit claims to be achieving zero liquid discharge (ZLD). As per the Consent condition, the unit has to maintain ZLD. During the visit, no discharge was found outside. However, large amount of sludge was found in the drain located outside the unit premises and the same requires to be removed and disposed of by the unit.

ii) Garg Duplex and Paper Mills Pvt Ltd. (Wastepaper based unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.71	142	2952	913	54
Outlet of ETP	7.14	46	1216	**216**	**26**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The BOD at the inlet of the ETP is very low (54 mg/L) which is not showing the actual characteristic of the raw effluent. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **COD and BOD**.

iii) Silverton Pulp and Papers Private Limited - Unit 1 (Wastepaper based unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.86	186	912	**8052**	720
Outlet of ETP	7.43	**42**	1372	100	**21.2**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The lab analysis result is showing reduction of 98.76 % for COD. Such high reduction of COD (from 8052 mg/L to 100 mg/L), indicates possibility of dilution of effluent without any specific treatment system by the industry. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS and BOD**.

iv) Silverton Pulp and Papers Private Limited - Unit 2 (Wastepaper based unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	6.47	208	**8775**	**2230**	510
Outlet of ETP	7.08	**40**	**1908**	94	18
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The lab analysis result is showing overall reduction of 78.26 % for TDS. Such high reduction of TDS (from 8775 mg/L to 1908 mg/L), indicates possibility of dilution of effluent, by the industry, so as to meet the prescribed discharge norms. The reduction in the TDS levels, without any specific treatment system for TDS indicates possibility of dilution of effluent. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS and TDS**.

v) Silvertoan Papers Limited - Unit 1 (Agro residue based unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.92	364	3678	4628	672
Outlet of ETP	7.19	**44**	1162	**226**	**28.8**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1800	200	20

As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and BOD**.

vi) Silvertoan Papers Limited Unit 2 (Wastepaper based unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.69	490	3068	5008	632
Outlet of ETP	7.42	**42**	1236	**192**	**24.6**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and BOD.**

vii) Meenu Paper Mills Private Limited (Wastepaper based unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.93	1275	10612	5768	1658
Outlet of ETP	7.36	**44**	**1922**	**177**	**22**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The lab analysis result is showing reduction of 81.88 % for TDS. Such high reduction of TDS (from 10612 mg/L to 1922 mg/L) without any specific treatment system for TDS, indicates possibility of dilution of effluent. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, TDS, COD and BOD**.

viii)Tehri Pulp and Paper Ltd - Unit 2 (Wastepaper based unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.77	418	3764	5252	712
Outlet of ETP	7.36	**42**	1024	**186**	**24**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The lab analysis result is showing reduction of 96.4 % for COD and 72.8 % for TDS. Such high reduction of TDS from 3764 mg/L to 1024 mg/L (without any specific treatment system for TDS) indicates possible dilution of effluent, which cannot not be ignored. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and BOD**.

ix) Tehri Pulp and Paper Ltd - Unit 1 (Agro residue based unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.42	1234	1870	7200	612
Outlet of ETP	7.46	**48**	865	92	**27.6**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1800	200	20

The lab analysis result is showing high reduction of 98.7 % for COD. Such high reduction of COD (from 7200 mg/L to 92 mg/L) in a conventional treatment system indicates possible dilution of effluent, which cannot not be ignored. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS and BOD**.

x) Shree Bhageshwari Papers Pvt Ltd Unit 2 (Wastepaper based Unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	7.43	102	1648	604	48
Outlet of ETP	7.04	**42**	1178	**160**	**24**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The BOD at the inlet of the ETP is very low (48 mg/L) which is not showing the actual characterises of the raw effluent. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and BOD**.

xi) Shree Bhageshwari Papers Pvt Ltd Unit 1 (Wastepaper based Unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.98	72	2470	1183.2	278
Outlet of ETP	7.44	**34**	1408	105.6	16.8
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS**.

xii) Tirupati Baalaji Fibres Pvt Ltd (Wastepaper based Unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.1	428	3254	5360	702
Outlet of ETP	7.34	28	**1678**	97.6	18.4
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The lab analysis is showing reduction of 98.1 % for COD. Such high reduction of COD (from 5360 mg/L to 97.6 mg/L) in a conventional treatment system indicates possible

dilution of effluent, which cannot not be ignored. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TDS**.

xiii)Bindals Papers Mills Ltd (Agro residue based unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	6.52	1212	14802	4316	968
Outlet of ETP	7.03	**42**	1247	**218**	**26**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1800	200	20

The lab analysis result is showing reduction of 91.5 % for TDS. Such high reduction of TDS (without any specific treatment system for TDS) indicates possible dilution of effluent, which cannot not be ignored. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and BOD.**

xiv)Shree Sidhbali Paper Mills Limited (Wastepaper based Unit):

Sample location	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.46	1824	17108	10208	836
Outlet of ETP	7.05	**45**	**1618**	**164**	12
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

The lab analysis result is showing high reduction of 98.4 % for COD and 90.5 % for TDS. Such high reduction of TDS (without any specific treatment system for TDS) indicates possible dilution of effluent, which cannot not be ignored. As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and TDS**.

xv) Bindlas Dupulx Limited, Unit-I (Wastepaper based Unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	5.99	1088	5348	3944	1440
Outlet of ETP	7.11	**34**	**2070**	**159**	**21**
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TDS, TSS, COD and BOD**.

xvi) Bindlas Dupulx Limited, Unit-II (Wastepaper based Unit):

Location of sample	**Parameters**, mg/L except pH				
	pH	**TSS**	**TDS**	**COD**	**BOD**
Inlet of ETP	6.5	375	3705	846	310
Outlet of ETP	7.06	**36**	**1995**	**197**	19
Discharge Standard prescribed under CTO issued by UPPCB for drain	6.5 - 8.5	30	1600	150	20

As per the lab result the Unit is not complying with discharge standard prescribed under CTO issued by UPPCB w.r.t **TSS, COD and TDS**.

2.2 Observations

Salient observations are as below:

(i) Wastewater Management

It is observed that all the industries have installed Effluent Treatment Plant (ETP) comprising of primary treatment, secondary treatment and tertiary treatment. Also industries have taken up various steps of water conservation through recycling of treated effluent in the process. Most of the industries observed meeting with Charter norms for water consumption and effluent generation.

Analysis results of the outlet samples collected from the ETP of the said 16 Pulp & Paper Industries were compared with the effluent discharge standard of Pulp & Paper Industries prescribed under Consent to Operate (CTO) issued by UPPCB. The samples were analyzed at UPPCB, Laboratory in Lucknow. Analysis result summarized below:

S. No.	**Name of the Industry**	**Parameters (mg/L except pH)**				
		pH	**TSS**	**TDS**	**COD**	**BOD**
Wastepaper based Unit						
1.	Garg Duplex and Paper Mills Pvt Ltd.	7.14	**46**	1216	**216**	**26**
2.	Silverton Pulp and Papers Pvt. Ltd. (Unit- 1)	7.43	**42**	1372	100	**21.2**
3.	Silverton Pulp and Papers Pvt. Ltd. (Unit-2)	7.08	**40**	**1908**	94	18
4.	Silvertoan Papers Ltd. (Unit-2)	7.42	**42**	1236	**192**	**24.6**

S. No.	Name of the Industry	Parameters (mg/L except pH)				
		pH	TSS	TDS	COD	BOD
Wastepaper based Unit						
5.	Meenu Paper Mills Pvt. Ltd.	7.36	**44**	**1922**	**177**	**22**
6.	Tehri Pulp & Paper Ltd. (Unit-2)	7.36	**42**	1024	**186**	**24**
7.	Shree Bhageshwari Papers Pvt. Ltd. (Unit-1)	7.44	**34**	1408	105.6	16.8
8.	Shree Bhageshwari Papers Pvt. Ltd. (Unit-2)	7.04	**42**	1178	**160**	**24**
9.	Tirupati Baalaji Fibres Pvt. Ltd.	7.34	28	**1678**	97.6	18.4
10.	Shree Sidhbali Paper Mills Ltd.	7.05	**45**	**1618**	**164**	12
11.	Bindlas Dupulx Ltd. (Unit-1)	7.11	**34**	**2070**	**159**	**21**
12.	Bindlas Dupulx Ltd. (Unit-2)	7.06	**36**	**1995**	**197**	19
Discharge Standard prescribed under CTO issued by UPPCB for drain		**6.5 - 8.5**	**30**	**1600**	**150**	**20**
Discharge Standards (Notified under the Environment (Protection) Rules, 1986		**7.0 - 8.5**	**50**	**-**	**350**	**30**
Agro/Agro residue based unit						
13.	Silvertoan Papers Ltd. (Unit-1)	7.19	**44**	1162	**226**	**28.8**
14.	Tehri Pulp & Paper Ltd. (Unit-1)	7.46	**48**	865	92	**27.6**
15.	Bindals Papers Mills Ltd.	7.03	**42**	1247	**218**	**26**
Discharge Standard prescribed under CTO issued by UPPCB for drain		**6.5 - 8.5**	**30**	**1800**	**200**	**20**
Discharge Standards (Notified under the Environment (Protection) Rules, 1986		**7.0 - 8.5**	**50**	**-**	**350**	**30**

Following is inferred:

a) The unit namely M/s Galaxy Papers Private Limited is operating and maintaining zero liquid discharge (ZLD) through recycling and reusing the back water into process, high level of TDS, COD, TSS & BOD is supported by parameter in process feed.

b) The analysis results reveal that all the remaining 15 units were found non-compliance particularly in respect of TSS, COD and BOD level as per consent conditions stipulated by UPPCB. However, all the industries were observed meeting discharge standards notified under the Environment (Protection) Rules, 1986.

Water Quality Status of Dhandera Drain

The analysis result of wastewater samples collected from the Dhandera drain at downstream of M/s Galaxy Papers Pvt. Ltd., Jolly Road, Muzaffarnagar shows high level of colour (500 Hazen), BOD (672 mg/L), COD (2620 mg/L) and TDS (4080 mg/L). The high level of these pollutants in drain indicates the industrial contribution due to partially treated/untreated effluent discharge in the Dhandera drain.

(ii) Charter Norms

a) CPCB has formulated the 'Charter for Water Recycling and Pollution Prevention in Pulp & Paper Industries' operating in the nine (09) Ganga River Basin States (hereinafter referred to as 'the Charter') in consultation with experts from Pulp & Paper industries, Central Pulp & Paper Research Institute (CPPRI), Saharanpur and Department of Paper Technology, IIT Roorkee, which envisages upgradation of the status of Pulp & Paper Industries in terms of process technology, practices and environmental performance, besides substantial reduction of fresh water consumption, wastewater generation and compliance with the prescribed environmental norms, to achieve desired level of environmental protection, zero effluent discharge to recipient river streams though interception, diversion & disposal of treated effluent for irrigation purposes and to meet objectives of the National Mission for Clean Ganga. The following norms for freshwater consumption & effluent discharge are prescribed to be complied under the Charter are:

Fresh Water Consumption and Effluent Discharge Standard (Volume in m^3/Ton of product)			
S. No.	**Category of Pulp & Paper Industry**	**Freshwater Consumption**	**Effluent Discharge**
(i)	Pulp & Paper Mills producing bleached grades of chemical pulp, papers and paperboards	50	40
(ii)	Pulp & Paper Mills producing unbleached grades of chemical pulp, papers and paperboards	25	20
(iii)	RCF & Market Pulp Based Paper Mills producing bleached grades of papers, paperboards and newsprint	15	10
(iv)	RCF & Market Pulp Based Paper Mills producing unbleached grades of papers, paperboards and newsprint	10	06
(v)	RCF & Market Pulp Based Specialty Paper Mills	50	40

b) The information collected from the said 16 industries in terms of production, freshwater consumption, wastewater generation, recycling and discharge norms including Charter norms has been summarized and given at **Annexure-V**.

Based on the water consumption data collected from industries, it has been observed that out of 16 Pulp & Paper Industries, following two (02) industries are found to be non-compliance w.r.t., charter norms of freshwater consumption and Effluent generation.

S. No.	Name of the Unit	Category of Pulp & Paper Industry	Specific freshwater consumption m^3/Ton of production	Specific wastewater discharge (m^3/Ton)
1.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	**Ref.: above (iii) i.e.** RCF & Market Pulp Based Paper Mills producing bleached grades of papers, paperboards and newsprint	**10.73**	3.73
2.	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar		**21.96**	**17.47**

c) Apart from effluent discharges of the above 16 Pulp & Paper Industries, it was observed Dhandera drain also receives wastewater from other sources. During visit, it was observed drain having silted. Regular vigil is necessary to maintain the flow and on water quality of Drain. During the visit, of oily sludge was also found dumped in the drain. Photographs during visit is attached as **Annexure-VI.**

(iii) Status of installation of Sewage Treatment Plants (STP) in Muzaffarnagar

As per the observations/recommendations of the earlier joint Committee i.e. UPPCB and District Magistrate, Muzaffarnagar it was observed that untreated domestic sewage is also a major contributor to the pollution in Begrajpur drain (Main Muzaffarnagar drain) before meeting River Kali (West) and report suggests that once the proposed 02 STPs of 32.5 MLD and 22 MLD capacity are commissioned, a significant reduction in BOD and COD levels may be seen in the main Muzaffarnagar drain. The UPPCB report revealed that a total 45 water polluting industries are operational in Muzaffarnagar and discharge treated effluents directly/indirectly into River Kali (West) mainly through Dhandera/Begrajpur drain.

Status of STP Installation

The aforesaid 02 STPs of U.P. Jal Nigam of capacity 22 MLD at village Sahawali and 32.5 MLD at Kidwai Nagar Muzaffarnagar being constructed by M/s Muzaffarnagar STP Pvt. Ltd., Muzaffarnagar under the Namami Gange Project.

S. No.	STP Capacity and Location	Concerned Drain	Status
1.	32.5 MLD Kidwai Nagar, Muzaffarnagar	- Khadarwala Drain, - Krishnapuri Drain, - Sujru Drain, - Nai Basti Drain	Final phase of construction
2.	22 MLD Vill. Sahawali, Muzaffarnagar	Sahawali/Kukra Drain	Under trail operation

(iv) Fly ash Management

The information related to the generation and disposal of fly ash was collected from the said 16 Pulp & Paper Industries during the visit of Committee. The fly-ash management by the said 16 industries are summarized and given at **Annexure-VII**.

As per the information collected, about 300 TPD of fly ash is being generated by the said industries. Out of which, about 280 TPD of fly-ash is being sent to cement industries/brick kilns through contractors and the remaining fly-ash is being dumped in nearby low lying areas. It was observed agreements/contracts has not been made between the industry and cement factory or brick manufacturer for its disposal.

(v) Plastic Waste Management

a) Out of the 16 Pulp & paper industries, 13 units are processing wastepaper as raw material while 03 units are Agro residue based mills involved in chemical pulping using digesters. No plastic waste is generated during the processing by the agro based units. In case of 13 units, it is reported during the inspections that the raw material (wastepaper with 1-3% plastic waste) is being procured either from the domestic market or being imported for meeting the production requirements.

   The plastic waste management of industries has been summarized and given at **Annexure-VIII**. It was estimated that about 60 TPD of plastic waste is being generated by said industries.

b) The plastic waste generated is being disposed off through Cement Industries (for co-processing), Waste to Energy (WtE) Plants installed at (i) M/s Silvertoan Papers Private Limited, & (ii) M/s K.K. Duplex & Paper Mills Private Limited (for power

generation) and Pyrolysis Plant installed at M/s Tirupati Baalaji Fibers Private Limited (waste to oil).

In the year 2023, 02 Waste to Energy Plants (WtE) have been commissioned in Muzaffranagar, one (01) each at M/s Silvertoan Paper Limited and M/s K K Duplex Ltd. Details of the WtE is as below:

S. No.	Name of the Waste to Energy Plant	*Installed capacity		*Utilization of fuel RDF/NRSW (in TPD)	Generation of steam (ton per ton of fuel)	Generation of Electricity (in MW)
		Boiler (in TPH)	Turbine (in MW)			
1.	M/s Silvertoan Papers Private Limited	40	4.44	300	1.6-2.0	2.8-3.0
2.	M/s K.K. Duplex & Paper Mills Private Limited	22	3	200	1.6-2.0	1.5-1.7

Note: **Consented, RDF-Refuse derived fuel, NRSW- Non-recyclable solid waste, TPH-Tons per hour, TPD-Tons per day & MW-Megawatt*

Further, it was observed that plastic waste generating units have no direct agreement with the cement plants/waste to energy plants/pyrolysis plant for disposal of their plastic waste. However, for management of plastic waste through cement plants, the waste is collected through the local contractors.

(vi) Hazardous and Other Wastes Management

a) Various types of hazardous waste generated from Pulp & Paper Industries. These industries are granted authorization under the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016 by UPPCB. It is observed that these industries generate following types of Hazardous waste:

i) Used/waste oil,
ii) ETP/Process Sludge,
iii) Barrels/containers,
iv) Cotton Waste/Greased Cloths,
v) Used Oil & Grease, and
vi) Oil Mixed Coolent

Details of the hazardous waste generated and disposed of through TSDFs/ registered recyclers are summarized and annexed as **Annexure-IX.**

b) It is observed that all the industries are having membership of Treatment, Storage and Disposal Facility (TSDF) for disposal of hazardous and other wastes.

c) It is also observed that all the industries have provided dedicated area for storage of Hazardous and other wastes except 2 units, namely M/s Bindals Papers Mills Ltd and M/s Bindlas Duplux Limited. Photographs in this regard is attached as **Annexure-X.**

(vii) Environmental Compensation

a) Incompliance with the previous orders passed by the Hon'ble NGT in the matter of OA No. 277 of 2022, UPPCB has imposed Environmental Compensation (EC) on following 11 non-compliant/defaulter industries for not having proper records of disposal of fly ash generated:

S. No.	Name of the Industry	EC imposed (in Rs.)
1.	M/s Silvertoan Papers Limited - Unit 1, Bhopa Road, Muzaffarnagar	2,10,000/-
2.	M/s Silvertoan Papers Limited - Unit 2, Bhopa Road, Muzaffarnagar	2,10,000/-
3.	M/s Silverton Pulp and Papers Private Limited - Unit 2, Bhopa Road, Muzaffarnagar	1,50,000/-
4.	M/s Garg Duplex and Paper Mills Pvt Ltd. , Bhopa Road, Muzaffarnagar	1,50,000/-
5.	M/s Shree Sidhbali Paper Mills Limited, Bhopa Road, Muzaffarnagar	2,10,000/-
6.	M/s Meenu Paper Mills Private Limited, Bhopa Road, Muzaffarnagar	2,10,000/-
7.	M/s Tehri Pulp and Paper Ltd - Unit 1, Bhopa Road, Muzaffarnagar	1,80,000/-
8.	M/s Tirupati Baalaji Fibres Pvt Ltd	2,10,000/-
9.	M/s Bindals Papers Mills Ltd., Bhopa Road, Muzaffarnagar	2,10,000/-
10.	M/s Shree Bhageshwari Papers Pvt Ltd Unit 1, Bhopa Road, Muzaffarnagar	1,80,000/-
11.	M/s Galaxy Papers Private Limited, Jolly Road, Muzaffarnagar	1,40,000/-
	Total	**20,60,000/-**

A total EC of Rs. 20.60 lakh has been collected from all the concerned industries.

b) Further, in compliance with the orders passed by Hon'ble NGT in the matter of OA No. 744 of 2022 and as per the guidelines prepared by CPCB, UPPCB has imposed an EC on following 04 industries for disposing of fly ash in an illegal and unscientific manner from the date of incident i.e. 09.07.2022 till the date when the fly ash and other waste was disposed through TSDF i.e. 29.09.2022:

S. No.	Name of the Industry	EC imposed (in Rs.)
1.	M/s Bindlas Duplex Ltd (Unit-1), Bhopa Road, Muzaffarnagar	8,08,125/-
2.	M/s Silverton Pulp & Papers Pvt Ltd (Unit-2), Bhopa Road, Muzaffarnagar.	7,78,125/-
3.	M/s Shri Bhageshwari Papers Pvt Ltd (Unit-1), Bhopa Road, Muzaffarnagar.	7,78,125/-
4.	M/s Bindals Papers Mills Ltd, Bhopa Road, Muzaffarnagar.	7,78,125/-

It is submitted that a total EC of Rs. 31,42,500/- has been collected from all the aforesaid 04 industries.

Thereafter, UPPCB has also issued Show Cause Notice against all the aforesaid 04 industries for imposing EC of Rs. 1,63,31,250/- each for last four (04) years and 282 days in the light of Hon'ble NGT (PB) order dated 29.04.2019 in OA No. 116 of 2014 in the matter of Meera Shukla Vs. Municipal Corporation Gorakhpur & Ors. However, the EC could not be recovered from the 03 industries mentioned at (S. No. ii to iv) by UPPCB as it was pending before the Hon'ble High Court, Allahabad. Recommendation against the unit mentioned at S. No. (i) namely M/s Bindlas Duplex Ltd (Unit-1), Bhopa Road, Muzaffarnagar for recovery of Environmental Compensation as Land Revenue has been sent by UPPCB.

c) UPPCB has also imposed Rs 4.15 lakh as EC to 02 responsible persons namely (i) Sh. Anjum S/o Latafat, and (ii) Sh. Irfan Urf Bhura S/o Yusuf, R/o Vill. Nagla Bujurg, P.S. Bhopa, District Muzaffarnagar, who were responsible for illegal dumping of hazardous chemicals fly ash on the bank of irrigation canal wherein casualty was occurred. So far EC has not been paid by the said persons to UPPCB.

2.3 Recommendations

a) Wastewater Management

(i) UPPCB should quarterly assess the water quality of the Drains and corrective measures and action should be taken in case of deterioration in water quality.

(ii) UP Jal Nigam may expedite the installation of the two (02) new STPs and ensure its operation.

(iii) UPPCB may ensure the compliance of Charter norms w.r.t., "Specific Fresh water consumption (KL/MT of paper production), Wastewater Generation (KL/MT of paper production) and Quality of effluent discharged" as well as the consented discharge norms of UPPCB.

(iv) The Agro based pulp & paper mills should submit an action plan for the complete treatment of wet washing effluent to UPPCB and UPPCB should assess the treatment facility provided for the wet washing wastewater (having high COD load) and issue appropriate direction in this regard as deemed fit.

(v) De-silting of Dhandhera drain should be carried out at regular intervals for avoiding overflow and maintaining continuous flow of water in the drain.

(vi) Treated effluent from industries are being disposed to Dhandera drain. It is suggested that a study may be carried out for use of treated effluent of industries in irrigation purpose in order to conserve the water and stopping the effluent discharge in Dhandera drain.

(vii) UPPCB may impose Environmental Compensation (EC) to non-complied industries w.r.t effluent discharge norms based on the guidelines prepared by CPCB.

(viii) Efforts may be done by industries to reuse/recycle its treated effluent to the maximum possible in the process and other purposes in order to minimize the effluent discharge and also to achieve ZLD in near future.

b) Fly-ash management:

i) The industries should make direct agreement/contract with the Cement plants or Brick-kiln to ensure the safe disposal and should maintain the proper logbook records along with bills/receipt for verification as and when required.

ii) The UPPCB should ensure regular compliance of the fly ash management and implement monitoring system to track the fly ash generated, recycled, or disposed in an environmentally sound manner.

UPPCB shall ensure compliance with the above recommendations.

c) Hazardous waste management:

i) The units should provide adequate storage area for storing the hazardous wastes inside the factory premises. Disposal of hazardous waste should be ensured through TSDFs or registered hazardous waste recyclers.

ii) The units should maintain the proper logbook for the Hazardous waste generation, storage and its disposal.

iii) CPCB has developed "National Hazardous Waste Tracking System i.e. GIS based hazardous waste management and tracking system integrated with online consent management and monitoring system in the country". All the hazardous waste generating industries shall require to register on the said tracking system.

UPPCB shall ensure compliance with the above recommendations.

d) Plastic waste management:

i) The plastic packaging waste generated in the pulp & paper industry should be disposed-off through plastic waste processors (PWPs) which are registered on the Centralized Extended Producer's Responsibility (EPR) Portal for plastic packaging, in compliance of the Plastic Waste Management (PWM) Rules, 2016.

ii) The waste paper-based units shall get themselves registered on the centralized EPR Portal for plastic packaging under the importer category, where the unit imports their waste paper containing plastic waste for use as raw material.

iii) The registered units should fulfill their EPR obligations as assigned on the centralized EPR Portal for plastic packaging, for compliance of the PWM Rules, 2016.

iv) Proper records should be kept for generation as well as disposal of plastic waste through logbooks, bills /receipt received from the authorized plastic waste processors and submit the quarterly report of the same to the UPPCB.

v) Proper covered storage areas should be made available for collection and storage of plastic waste, thus generated, by the waste paper based units.

UPPCB shall ensure compliance with the above recommendations.

2.4 Recommended Action Plans

S. No.	Acton Points	Responsible Agency for execution	Timelines for execution
a) Wastewater Management			
(i)	Assess the water quality of concerned Drains at relevant locations and in case of any industrial contribution /contamination found, corrective measures and action against the responsible industries shall be taken accordingly.	UPPCB	Quarterly
(ii)	De-silting of Dhandhera drain, Muzaffarnagar should be carried out at regular intervals so that there is continuous flow of water in the drain.	UPPCB and Irrigation Department	Half Yearly
(iii)	UP Jal Nigam should expedite the installation of two (02) new STPs (i.e. 32.5 MLD at Kidwai Nagar, Muzaffarnagar and 22 MLD at vill. Sahawali, Muzaffarnagar) and ensure its operation in a time bound manner.	UP Jal Nigam	6 months
(iv)	The Agro based pulp & paper mills should submit an action plan for the complete treatment of wet washing effluent to UPPCB and UPPCB should assess the treatment facility of the wet washing wastewater (having high COD load) and issue appropriate direction in this regard as deemed fit.	Pulp & Paper Industries and UPPCB	3 months
(v)	All industries are required to upgrade their ETPs to meet the prescribed standards as per CTO issued by UPPCB and Action Plan may be submitted to UPPCB.	Pulp & Paper Industries and UPPCB	1 month
b) Fly-ash Management			
(i)	Industries should enter into direct agreement/contract with cement plants or brick manufacturers and maintain proper	Pulp & Paper Industries	1 month

S. No.	Acton Points	Responsible Agency for execution	Timelines for execution
	logbook records along with bills/receipts to ensure safe disposal.		
(ii)	UPPCB should ensure regular compliance of fly ash management and implement a monitoring system to track the fly ash generated, recycled or disposed.	UPPCB	Regular
c) Hazardous Waste Management			
(i)	Proper records should be maintained for generation as well as disposal of hazardous waste through logbooks and manifests received from authorized recyclers/TSDF operators and quarterly reports of the same should be submitted to UPPCB.	Pulp & Paper Industries	Quarterly
(ii)	All the hazardous waste generating industries shall require to register on the National Hazardous Waste Tracking System developed by CPCB.	Pulp & Paper Industries	Immediate
d) Plastic Waste Management			
(i)	The industries should make direct agreement/contract with the plastic waste processor/Cement plant to ensure the safe disposal and should maintain logbook records along with bills/receipt.	Pulp & Paper Industries	1 month
(ii)	Units should maintain proper daily records for generation as well as disposal of plastic waste through logbooks, bills/receipt received from the authorized plastic waste processors and submit the quarterly report of the same to the UPPCB.	Pulp & Paper Industries	Quarterly
(iii)	Units should set up a dedicated and adequate space for collection, storage and disposal of plastic waste generated by the wastepaper based units.	Pulp & Paper Industries	2 months

S. No.	Acton Points	Responsible Agency for execution	Timelines for execution
(iv)	The plastic packaging waste generated in the pulp & paper industry should be disposed-off through plastic waste processors (PWPs) which are registered on the Centralized Extended Producer's Responsibility (EPR) Portal for plastic packaging, in compliance of the Plastic Waste Management (PWM) Rules, 2016.	Pulp & Paper Industries	3 months
(v)	The pulp & paper mills which are importing wastewater containing plastic waste as raw material should get themselves registered on the centralized EPR Portal for plastic packaging under the importer category.	Pulp & Paper Industries	3 months
e) Environmental Compensation related issues			
(i)	To recover pending Environmental Compensation (EC) imposed by UPPCB from the non-complied/defaulter industries and identified responsible persons for illegal dumping of hazardous chemicals fly ash on the bank of irrigation canal.	UPPCB	1 month
(ii)	UPPCB may impose EC for non-compliance as per the guidelines prepared by CPCB. EC collected may be utilized for remedial measures of the area.	UPPCB	As applicable

Ankit Singh
Regional Officer,
Muzaffarnagar, UPPCB

Vikas Kashyap,
City Magistrate,
Muzaffarnagar

V. P. Yadav
Director (Scientist-F),
CPCB, Delhi

Revised order
corrected on 24.03.2023

Item Nos. 04 & 05 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

Original Application No. 744/2022

Moharram Ali Applicant

Versus

State of Uttar Pradesh Respondent

WITH

Original Application No. 277/2022

Liyakat Ali & Ors. Applicant(s)

Versus

State of U.P. Respondent

Date of hearing: 22.03.2023

CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Rahul Khurana & Mr. Hasil Jain, Advocate for Applicant in OA 744/2022

Respondent: Mr. Ajay Sharma, Member Secretary, Mr. Ankit Singh, Regional Officer & Mr. Aravind Mallappa Bangari, DM, Muzaffarnagar with Mr. Pradeep Misra & Mr. Daleep Dhyani, Advocates
Mr. Pinaki Misra, Senior Advocate with Mr. Utkarsh Sharma, Advocate for 14 Industrial units

ORDER

1. This order will consider Original Application Nos. 744/2022 and 277/2022 as both the matters relate to common issue of scientifically handling of hazardous waste and coal ash by industries in and around Village Nangala Bujurg, Bhopa Thana, Muzaffarnagar, UP, at the bank of Ganga Canal.

2. O.A No. 744/2022 was first dealt with vide order dated 30.09.2022 and a joint Committee comprising State PCB and District Magistrate, Muzaffarnagar was constituted to furnish a factual report. The said report was considered on 10.01.2023 which was to the effect that large amount of fly ash was stored. One Md. Nadeem died on 09.07.2022 with burn injuries due to chemical laden black ash on the side of the canal and two were injured but survived. One Md. Irfan was arrested by Police. One Anjum was also found involved in transporting chemical filled drums from his go-down which were disposed of on the land. Erring industries identified are M/s. Bindlas Duplex Ltd. (Unit 1), Bhopa Road Muzaffarnagar; M/s. Bindlas Duplex Ltd. (Unit 2), Bhopa Road Muzaffarnagar; M/s. Silverton Pulp & Papers Ltd. (Unit-1), 9th KM. Bhopa Road, Muzaffarnagar; M/s. Silverton Pulp & Papers Ltd. (Unit-2), 9th KM. Bhopa Road, Muzaffarnagar; M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km. Bhopa Road Muzaffarnagar; M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road Muzaffarnagar, in respect of M/s. Bindlas Duplex Ltd. (Unit 1).

3. The Tribunal noted that illegal dumping of hazardous chemicals and fly ash stood established. Inspite of death of one person and injuries to others, adequate action had not been taken nor compensation paid to the injured and the dead. Accordingly, directions were issued for remedial action as follows:-

"

11. Let a further action taken report be submitted by State PCB and District Magistrate, Mujaffarnagar clearly stating about the person responsible for alleged dumping, including compliance of consent conditions with respect of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and authorizations granted under Hazardous & Other Wastes (Management and Transboundary Movement) Rules, 2016. The report needs to clarify on fly ash management plan with respect of each industry and management of hazardous waste as per authorizations granted. Further, report should state about action taken against such person/proponent for remediation and prevention

of further damage to environment and also with regard to payment of compensation to the victims/heirs of deceased persons. The report may be submitted 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.

12. Member Secretary, UP PCB, District Magistrate, Mujaffarnagar and Regional Officer, UP PCB, Mujaffarnagar shall remain present in person on the next date before Tribunal to explain as to what action has been taken by them and why delay has been caused in taking appropriate remedial and preventive action in the matter.

13. OA No. 277/2022, Liyakat Ali & Ors vs. State of U.P. may also be listed alongwith this matter on the next date."

4. O.A No. 277/2022 was earlier dealt with separately vide order dated 28.04.2022 and report sought from the joint Committee of State PCB and District Magistrate, Muzaffarnagar. The joint Committee gave its report on 18.07.2022 identifying 14 industries, 5 of which are common in OA 744/2022. The said industries were discharging effluent through Dhandeda drain which was required to be de-silted to maintain the flow. Nature of the waste included hazardous waste. The industries were not complying with the hazardous waste norms. The Tribunal directed issue of notice to 14 industries in question apart from notice to the Irrigation and Water Resources Department, U.P Operative part of the order is reproduced below:-

"4. It is evident from the Report of the Joint Committee that treated effluent from above mentioned paper industries is being discharged through Dhandhera drain. In its report, the Joint Committee has recommended that "Department of Irrigation shall ensure for de-silting of Dhandhera drain from time to time so that the flow of discharge may be passed smoothly through the entire stretch of the Dhandhera drain." However, there is no mention in the report where the discharge from the drain ultimately goes, whether it is utilized for irrigation or joins some river.

5. In the report, the Joint Committee has given the description of waste generated (solid/liquid) as (i.) used/waste oil, Cotton Rags etc; (ii.) Fly Ash generated from boiler operation and (iii.) Plastic Waste for pulping section but the Joint Committee has not mentioned the quantity of waste generated. The Joint Committee has reported that used/waste oil is being handed over to TSDF facility for safe disposal, generated fly ash is utilized for low lying land filling and generated plastic waste is sent to co-processing units but the Joint Committee has not taken any pains to inspect the relevant record

and verify the actual disposal of the waste by the units in question and there is no mention in the report to which TSDF used/waste oil is being handed over, where low lying land is being filled by fly ash and what is the mode of transportation of fly ash to the land fill site and what are the details of co-processing units to whom plastic waste is being sent. The Joint Committee has not referred to the consent documents and consent conditions and has not reported about compliance by the industries with consent conditions. The Joint Committee has reported that the industries have taken permission from UPGWD for drawing ground water but the Joint Committee has not mentioned about compliance by the industries with conditions regarding recharge of ground water and use of treated water and any restriction imposed on the industries.

6. The Joint Committee is directed to undertake further visits to the above said industries, look into all relevant aspects including aspects referred to above, obtain copies of the consent documents, verify the factual position including compliance with consent conditions and environmental norms and take remedial steps by following due process of law and submit report before this Tribunal within two months at judicialngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.

7. A perusal of the report of the Joint Committee shows that M/s Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), Shree Bhageshwari Papers Pvt. Ltd. (Unit-2), M/ Galaxy Papers Pvt. Ltd., and M/s Garg Duplex and Paper Mills Pvt. Ltd., have applied to UPGWD for NOC for drawing of ground water and M/s. Siverton Pulp & Papers Pvt. Ltd. (Unit-2) has applied for hazardous waste authorization which applications are pending. No industry can be allowed to carry on the activity for which consent is applied for before grant of such consent. The Authorities concerned are under statutory mandate to ensure that such renewal applications are disposed of before expiry of the period of the consent granted earlier and fresh applications are disposed of within reasonable period and where it is not possible to dispose of the application within such periods, the Authorities have to ensure that the activity is commenced/carried on only after grant of consent and is not commenced/continued merely on the basis of pendency of the applications. UPGWD and State PCB are directed to take remedial action/dispose off the applications submitted by the above mentioned industries pending before them within two months.

8. Notice alongwith the application and report of the Joint Committee be also issued to concerned industries namely Chairmen/Managing Directors of: (1) M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar, (2) M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar, (3) M/s. Silverton Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road, Muzaffarnagar, (4) M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar, (5) M/s. Garg Duplex & Paper Mills Pvt. Ltd., 8.5 Km. Bhopa Road, Muzaffarnagar, (6) M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar, (7) M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km. Stone, Bhopa Road, Muzaffarnagar, (8) M/s. Tehri Pulp & Papers Ltd. (Unit-1), 9th Km. Stone, Bhopa Road, Muzaffarnagar, (9) M/s. Tehri Pulp & Papers Ltd. (Unit-2), 9th Km. Stone, Bhopa Road, Muzaffarnagar, (10) M/s. Tirupati Balaji Fibers Ltd., 9th Km., Bhopa Road, Muzaffarnagar, (11) M/s. Bindals Papers Mills Ltd., 8th

Km., Bhopa Road, Muzaffarnagar, (12) M/s. Shree Bhageshwari Papers Pvt. Limited (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar, (13) M/s. Shree Bhageshwari Papers Pvt. Limited (Unit2), 9th Km., Bhopa Road, Muzaffarnagar, (14) M/s. Galaxy Papers Pvt. Ltd., Jolly Road, Muzaffarnagar, Director, U.P. Ground Water Department and District Magistrate, Muzaffarnagar requiring them to file their response/ reply to the allegations made in the application, observations made in the report of the Joint Committee and aspects referred to above within two months at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.

9. Notice be also issued to Principal Secretary, Department of Irrigation and Water Resources, Government of Uttar Pradesh, requiring him to file response regarding the functional status of Dhandhera drain and related aspects including its de-silting, use of its discharge for irrigation, quality of discharge going to any river etc., within two months at judicial-ngt@gov.in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDF.

10. In the facts and circumstances of the case, we also consider presence of the District Magistrate, Muzaffarnagar and Regional Officer, UPPCB, Muzaffarnagar before this Tribunal on the next date of hearing either through video conferencing or physically to be essential for evidence and effective and proper adjudication of questions involved in the case and accordingly direct them too."

5. An action taken report dated 13.02.2023 has been filed in O.A No. 277/2022. Relevant extracts of the report are as follows:-

"3.0 a) <u>Action Taken Report regarding person responsible for digging and dumping hazardous chemical on land causing casualty</u>

It has been already submitted in the earlier joint report stating that the hazardous chemical was dumped in the year 2018 by an unknown person on the same land in question. Due to reaction of the hazardous chemicals, exothermic reaction occurred after several years in July 2022. 03 persons while crossing the area were trapped in hazardous chemical and due to exothermic reaction were seriously burnt leading to death of 1 person and severe burns on bodies of 02 people.

In view of finding records/proof of person responsible for dumping of hazardous chemical and industries/ person responsible for dumping fly ash on the land in question, a letter was sent to SSP Muzaffarnagar by District Magistrate, Muzaffarnagar vide letter dated 16.01.2022 ***(Annexure No. 1****) for providing all records of police investigations which has been carried out in the above matter. In reference to the letter issued, Police department submitted case diaries of investigations which was carried out against 02 persons responsible for dumping hazardous chemicals*

and fly ash. (Case Diary investigation reports are annexed as ***Annexure No. 2****). According to the case diary no 179/2022 and 193/2022, it has been concluded that Shri Anjum S/o Latafat, Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar was found to be mainly responsible and guilty for dumping of hazardous chemicals. The report has statement of the guilty stating that he was carrying out trading of hazardous chemicals, storing it in drums in a premise in village Kasampura, Thana Bhopa, Muzaffarnagar. On 12th November, 2018, chemicals which were stored in drums, started leaking due to which villagers residing around the area started having severe burning sensations in eyes. On immediate complaints of the villagers, SDM Jansath, C.O. Bhopa and other police officials reached the site immediately. Shri Anjum called excavator, dug up a patch of land belonging to irrigation department and dumped all the chemical from the drums on the land. Drums were again taken back by him. No sign or protective boundary was made around the area by the guilty.*

Hence, Shri Anjum S/o Latafat, Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar was found to be mainly responsible and guilty for dumping of hazardous chemicals*. Further, he was carrying out the hazardous chemical storage and trading activities illegally without taking permissions from UPPCB under Hazardous Waste Management Rules.*

UPPCB has imposed environmental compensation against ***Shri Anjum S/o Latafat, Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar from the date of incident i.e. 09.07.2022 to the date when the fly ash and other waste was disposed of safely in TSDF on 29.09.2022. The environmental compensation of Rs. 4,15,000/-has been imposed on 08.02.2023 (Annexure No. 3), for the above said period but as the fly ash and other waste had been dumped at*** *Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar place since long (period unknown) therefore, UPPCB has issued show cause notice for imposing environmental compensation Rs. 87,10,000/- on 11.02.2023* ***(Annexure No. 4)*** *for last four years and 282 days in the light of Hon'ble NGT order, passed in O.A. No. 116 of 2014 Meera Shukla Versus Muncipal Corporation Gorakhpur and Others on 29.04.2019, which clearly status that;*

> *.....The UPSPCB may assess the amount of compensation applying the formula laid down by the CPCB not only for the days mentioned in the report of the CPCB but for the actual days of violation from the beginning but not beyond five years from the date of calculation....."*

b) <u>Action Taken Report regarding person responsible Shri Irfan alias Bhura S/o Shri Yusuf (Contractor), Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar for dumping industrial fly ash illegally on land</u>

On scrutiny of the case diaries no 179/2022 section 278, 285,338 and 193/2022 section 283, 278, 338 ***,*** *it has been made clear that Shri Irfan alias Bhura S/o Shri Yusuf, Nangla Bujurg, Thana Bhopa, Muzaffarnagar was carrying out work of contractor of 04 industries generating boiler fly ash under agreement for*

proper disposal of fly ash but had illegally and unscientifically dumped fly ash generated from industries on the land in question which falls under jurisdiction of Irrigation Department.

UPPCB has imposed environmental compensation against Shri Irfan alias Bhura S/o Shri Yusuf (Contractor), Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar ***from the date of incident i.e. 09.07.2022 to the date when the fly ash and other waste was disposed of safely in TSDF on 29.09.2022. The environmental compensation of Rs. 4,15,000/- has been imposed on 08.02.2023 (Annexure No. 5), for the above said period but as the fly ash and other waste had been dumped at*** *Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar place since long (period unknown) therefore, UPPCB has issued show cause notice for imposing environmental compensation Rs. 87,10,000/- on 11.02.2023* ***(Annexure No. 6)*** *for last four years and 282 days in the light of Hon'ble NGT order, passed in O.A. No. 116 of 2014 Meera Shukla Versus Muncipal Corporation Gorakhpur and Others on 29.04.2019.*

c) Action Taken Report against industries which generated boiler ash which was illegally and unscientifically disposed on the land in question

On scrutiny of the case diaries no 179/2022 section 278, 285,338 and 193/2022 section 283, 278, 338, it has been found that following industries generating the boiler fly ash had given the fly ash to the contractor (Irfan ilyas Bhura) for disposal of fly ash:-

1. *M/s Bindlas Duplex Ltd (Unit- 1), Bhopa Road, Muzaffarnagar*
2. *M/s Silverton Pulp and Papers Pvt Ltd (Unit- 2), Bhopa Road, Muzaffarnagar.*
3. *M/s Shri Bhageshwari Papers Pvt Ltd (Unit- 1), Bhopa Road, Muzaffarnagar*
4. *M/s Bindals Papers Mills Ltd, Bhopa Road, Muzaffarnagar*

Above industries were the generators of boiler fly ash, hence it was also the responsibility of the industries to ensure that the fly ash generated in their premises, was scientifically disposed off under the provisions of HWM Rules.

In view of the violation by the above defaulters, Regional Officer, UPPCB Muzaffarnagar has sent report to UPPCB Head Office to impose environmental compensation against above industries vide letter dated 31.01.2023.

In continuation, UPPCB, Lucknow imposed Environmental Compensation against the defaulter units as under :

1. *UPPCB has imposed environmental compensation against M/s Bindlas Duplex Ltd (Unit- 1), Bhopa Road, Muzaffarnagar* ***from the date of incident i.e. 09.07.2022 to the date when the fly ash and other waste was disposed of safely in TSDF on 29.09.2022. The environmental compensation of Rs. 8,08,125/- has been imposed on 09.02.2023 (Annexure No. 7), for***

the above said period but as the fly ash and other waste had been dumped at *Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar place since long (period unknown) therefore, UPPCB has issued show cause notice for imposing environmental compensation Rs. 1,63,31,250/- (Rs. One crore sixty three lac thirty one thousand two hundred fifty) on 11.02.2023* ***(Annexure No. 8)*** *for last four years and 282 days in the light of Hon'ble NGT order, passed in O.A. No. 116 of 2014 Meera Shukla Versus Muncipal Corporation Gorakhpur and Others on 29.04.2019.*

2. *UPPCB has imposed environmental compensation against M/s Silverton Pulp and Papers Pvt Ltd (Unit- 2), Bhopa Road, Muzaffarnagar* ***from the date of incident i.e. 09.07.2022 to the date when the fly ash and other waste was disposed of safely in TSDF on 29.09.2022. The environmental compensation of*** *Rs. 7,78,125/- (Seven Lac Seventy Eight Thousand One Hundred Twenty Five)* ***has been imposed on 08.02.2023 (Annexure No. 9), for the above said period but as the fly ash and other waste had been dumped at*** *Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar place since long (period unknown) therefore, UPPCB has issued show cause notice for imposing environmental compensation Rs. 1,63,31,250/- (Rs. One crore sixty three lac thirty one thousand two hundred fifty) on 11.02.2023* ***(Annexure No. 10)*** *for last four years and 282 days in the light of Hon'ble NGT order, passed in O.A. No. 116 of 2014 Meera Shukla Versus Muncipal Corporation Gorakhpur and Others on 29.04.2019,*

3. *UPPCB has imposed environmental compensation against against M/s Shri Bhageshwari Papers Pvt Ltd (Unit- 1), Bhopa Road, Muzaffarnagar* ***from the date of incident i.e. 09.07.2022 to the date when the fly ash and other waste was disposed of safely in TSDF on 29.09.2022. The environmental compensation of*** *Rs. 7,78,125/- (Seven Lac Seventy Eight Thousand One Hundred Twenty Five)* ***has been imposed on 08.02.2023 (Annexure No. 11), for the above said period but as the fly ash and other waste had been dumped at*** *Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar place since long (period unknown) therefore, UPPCB has issued show cause notice for imposing environmental compensation Rs. 1,63,31,250/- (Rs. One crore sixty three lac thirty one thousand two hundred fifty) on 11.02.2023* ***(Annexure No. 12)*** *for last four years and 282 days in the light of Hon'ble NGT order, passed in O.A. No. 116 of 2014 Meera Shukla Versus Muncipal Corporation Gorakhpur and Others on 29.04.2019,*

4. *UPPCB has imposed environmental compensation against M/s Bindals Papers Mills Ltd, Bhopa Road, Muzaffarnagar from the date of incident* ***i.e. 09.07.2022 to the date when the fly ash and other waste was disposed of safely in TSDF on 29.09.2022. The environmental compensation of*** *Rs. 7,78,125/- (Seven Lac Seventy Eight Thousand One Hundred Twenty Five)* ***has been imposed on 08.02.2023 (Annexure No. 13), for the above said***

period but as the fly ash and other waste had been dumped at *Village Nangla Bujurg, Thana Bhopa, Muzaffarnagar place since long (period unknown) therefore, UPPCB has issued show cause notice for imposing environmental compensation Rs. 1,63,31,250/- (Rs. One crore sixty three lac thirty one thousand two hundred fifty) on 11.02.2023* ***(Annexure No. 14)*** *for last four years and 282 days in the light of Hon'ble NGT order, passed in O.A. No. 116 of 2014 Meera Shukla Versus Municipal Corporation Gorakhpur and Others on 29.04.2019,*

4.0 <u>Fly ash management being carried out presently by 4 Pulp and Paper Industries in question</u>

Sl no	***Name of the Industry***	***Total fly ash generation/ Month***	***Transporta tion of fly ash***	***Storage/landfill sites***	***Fly ash Disposal Plan with Quantity /***	***Remarks***
1	*M/s Bindlas Duplex Ltd (Unit- 1), Bhopa Road, Muzaffarnagar*	*150-200 MT/Month*	*Through Closed Containers*	*1-Stored in Khasra No.01 of Vill. Sikhreda, Muzaffarnagar 2-Total area filled with fly ash approx 0.230 acre out of which total available area for landfill–0.471*	*1. Qty. Sent to Cement Plant : 140 MT/Month 2. Qty. used for land filling on own land : 60 MT/Month 3. Qty. temporarily stored on rented*	*Approx 0.241 Acre land available for further storage of fly ash. Unit has done agreement with Cement Plant also*
2	*M/s Silverton Pulp and Papers Pvt Ltd (Unit- 2), Bhopa Road, Muzaffarnagar.*	*1500-2000 MT/Month*	*Through Closed Containers*	*Fly ash stored in premises and Disposed through Cement Plant and Bulk Ash Supplier*	*1. Qty. Sent to Cement Plant : 1400 MT/Month 2. Qty. sent to Bulk Ash Supplier : 350 MT/Month 3. Quantity temporarily stored of fly ash*	*Agreement done with Cement plant and Bulk ash supplier*
3	*M/s Shri Bhageshwari Papers Pvt Ltd (Unit- 1), Bhopa Road, Muzaffarnagar*	*600-650 MT/Month*	*Through Closed Containers*	*1-Stored in Khasra No. 187, 228, 354 of Vill. Nagla Bujurg, Muzaffarnagar 2-Total area filled with fly ash approx 0.40 Ha. out of which total available area for landfill–3.253 Ha.*	*1. Qty. Sent to Cement Plant : 440 MT/Month 2. Qty. used for land filling on rented land : 175 MT/Month 3. Qty. temporarily stored on rented*	*Approx 2.853 Acre land available for further storage of fly ash. Unit has also done agreement with Cement Plant*
4	*M/s Bindals Paper Mills Ltd, Bhopa Road, Muzaffarnagar*	*1500- MT/Mont*	*Through Closed Vehicles*	*Fly ash stored in premises and Disposed through Cement Plant*	*1-All generated ash Sent to Cement Plant : 1800 MT/Month 2. Quantity temporarily stored of fly ash Approx. 450 MT*	*Agreement with Cement plant*

5.0 Hazardous waste management being carried out presently by concerned Pulp and Paper Industries

Sl no	***Name of the Industry***	***Status of Haz. Authorization***	***Qty. sent to TSDF for disposal***	***Qty. stored in premises temporarily***	***Remarks***
1	*M/s Bindlas Duplex Ltd (Unit-1), Bhopa Road, Muzaffarnagar*	***Issued and granted upto 16.11.2027*** *a) Contaminated Cotton Rags or Other Cleaning Material –**0.075 MT*** *b) Empty Barrels/ Containers/Liners contamination with Haz. Chem./Waste – **1.2 MT*** *c) Used or Spent Oil – **0.225 MT***	*Approx. 0.13 MT collected and disposed through TSDF in previous quarter (As per the manifest of the TSDF)*	*Total waste stored at present – **0.20 MT***	*Qty. sent to TSDF is verified from Manifest of TSDF*
2	*M/s Silverton Pulp and Papers Pvt Ltd (Unit- 2), Bhopa Road, Muzaffarnagar.*	***Issued and granted upto 02.08.2027*** *a) Contaminated Cotton Rags or Other Cleaning Material – **0.15 MT*** *b) Empty Barrels/ Containers/Liners contamination with Haz. Chem./Waste – **2.0 MT*** *c) Used or Spent Oil – **0.4 MT***	*Approx. 0.37 MT collected and disposed through TSDF in previous quarter (As per the manifest of the TSDF)*	*Total waste stored at present – **0.5 MT***	*Qty. sent to TSDF is verified from Manifest of TSDF*
3	*M/s Shri Bhageshwari Papers Pvt Ltd (Unit- 1), Bhopa Road, Muzaffarnagar*	***Issued and granted upto 13.09.2027*** *a) Contaminated Cotton Rags or Other Cleaning Material – **0.1 MT*** *b) Empty Barrels/ Containers/Liners contamination with Haz. Chem./Waste – **0.8 MT*** *c) Used or Spent Oil – **0.15 MT***	*Approx. 0.25 MT collected and disposed through TSDF in previous quarter (As per the manifest of the TSDF)*	*Total waste stored at present – **0.25 MT***	*Qty. sent to TSDF is verified from Manifest of TSDF*
4	*M/s Bindals Paper Mills Ltd, Bhopa Road, Muzaffarnagar*	***Issued and granted upto 26.04.2027*** *a) Contaminated Cotton Rags or Other Cleaning Material – **0.1 MT*** *b) Empty Barrels/ Containers/Liners contamination with Haz. Chem./Waste – **3.0 MT*** *c) Used or Spent Oil – **0.425 MT*** *d) Chemical containing residue arising from decontamination – **0.15 MT***	*Approx. 0.26 MT collected and disposed through TSDF in previous quarter (As per the manifest of the TSDF)*	*Total waste stored at present – **0.7 MT***	*Qty. sent to TSDF is verified from Manifest of TSDF*

Compliance regarding compensation to be provided to the victims

Hon'ble NGT in it's order dated 10.01.2023 has directed to provide payment of compensation to the victims/heirs of deceased persons. In compliance of the directions, District Magistrate Muzaffarnagar has initiated process to provide compensation to the victims as per the law.

5.0 Status of OA no 277/2022 Liyakat Ali & Ors Vs State of U.P

Hon'ble NGT in it's order dated 10.01.2023 has also directed that

> *"……."14. List for further consideration on 17.02.2023 alongwith OA No. 277/2022, Liyakat Ali & Ors vs. State of U.P……."*

6.0 Background:

In reference to the grievance arisen by Mohd. Liyakat Ali and other residents of Village Dhandhera, Muzaffarnagar, complaining pulp and paper mills discharging highly polluted chemical mixed water in the land abutting their land. It was further stated that the drain was blocked due to negligence of Mr. Dhoom Singh and Mr. Tanveer, Contractors of Public Works Department (PWD) during construction of culvert in the drain which resulted in diversion of industrial waste directly to the agricultural fields of the applicants. Complainant demanded the compensation against the loss of agriculture crop.

7.0 Brief note/compliance in reference to Hon'ble NGT first order dated 28.04.22 in OA No. 277/2022, Liyakat Ali & Ors vs. State of U.P

In the compliance of Hon'ble NGT order dated 21.07.2022, joint committee visited the concerned industries and submitted joint committee report before Hon'ble NGT on dated 20.10.2022 ***(Annexure No. 15****). Total 14 Pulp and Paper industries were identified concerning the above O.A. All the industries were inspected by the joint committee comprising of officials of UPPCB and District Administration. Out of 14 industries 11 industries were found not having proper records w.r.t scientific disposal of fly ash generated from the industries. Hence, all 11 industries were issued show cause notices along with environmental compensation under Air Act 1981. 02 industries were found in violation of PWM rules as it was found that the waste plastic generated from the paper industries were not having proper records for scientific disposal of plastic waste. Hence, show cause notices to 02 industries were issued under the EP Act 1986. Total of Rs. 20.60 Lac Environmental compensation was imposed to 11 Industries and compensation was recovered from all the concerned industries. Details of environmental compensation issued and recovered by individual industries is annexed as* ***Annexure No. 16****. The joint action taken report was submitted to Hon'ble NGT on 20.10.2022.*

8.0 Latest Order Passed by Hon'ble NGT on 21.10.2022 in OA No. 277/2022, Liyakat Ali & Ors vs. State of U.P

On consideration of joint report submitted to Hon'ble NGT, following directions were issued, effective part of which states that:

".....14. In view of its statutory obligations under the enactments specified in Schedule I of the National Green Tribunal Act, 2010, the UPPCB is directed to verify the factual position regarding discharge of drain water of Muzaffarnagar main drain into river, quality of discharged water going to river, status of installation of STP with conveyance system in Muzaffarnagar, disposal of plastic waste and fly ash and take further remedial action by following due process of law. ....."

Hon'ble NGT order dated 21.10.2022 sought the factual position regarding discharge of drain water of Muzaffarnagar main drain into river, quality of discharged water going to river, status of installation of STP with conveyance system in Muzaffarnagar, disposal of plastic waste and fly ash and take further remedial action by following due process of law.

9.0 Compliance of latest directions of Hon'ble NGT dated 21.10.2022

As per the directions issued by Hon'ble NGT dated 21.10.2022, Action taken report by UPPCB was submitted to Hon'ble NGT on 02.01.2023 vide letter no. 1310/OA-277/Liyakat Ali/M.Nagar/2023 dated 02.01.2023 which is annexed as ***Annexure-17.***

10.0 Brief report regarding latest report submitted by UPPCB to Hon'ble NGT

(a) Regarding drain water quality

In compliance to the said orders of the Hon'ble NGT dated 21.10.2022, officials of UPPCB Muzaffarnagar visited the drains into which the concerned pulp and paper industries are discharging treated effluent which in turn joins river Kali West on dated 21.12.2022. During visit, water samples from the drains and River Kali West were collected. Sampling locations are as follows :

1. *Kukra drain before confluence to Dhandhera Drain*
2. *Begrajpur drain / Dhandhera drain (Main Muzaffarnagar drain) near UPSIDC, Begrajpur*
3. *River Kali West after meeting Begrajpur/Dhandhera Drain (Main Muzaffarnagar Drain)*

11.0 Findings from the Analysis Reports :

- ***The reports showed that high COD levels are present in the Begrajpur drain (Main Muzaffarnagar drain). Major heavy metals (Lead, Chromium, Zinc) present in the***

drains are within the prescribed limits. However, parameters of Hardness, magnesium and calcium (majorly contributed by untreated sewage/domestic effluent) is above the prescribed limits.

- ***Chloride and Iron are found above prescribed norms, however, concerned industries majorly Pulp & Paper Industries) do not use raw material having chloride/ iron compound.***
- ***Kukra drain being majorly a domestic drain having around 16.0 MLD domestic untreated sewage and around 1.0 MLD treated Industrial effluent of 02 Nos. Pulp & Paper Industries. In this drain COD has been found 496 mg/l.*** *Analysis reports are annexed as* ***Annexure 18.***

12.0 Status of STP Installation

- *At present in City Muzaffarnagar, 01 STP of U.P. Jal Nigam capacity 32.5 MLD is operational at Kidwai Nagar on oxidation pond technology for the treatment of sewage generation for city Muzaffarnagar. There are 02 more STPs of U.P. Jal Nigam of capacity 22 MLD at village Sahawali and 32.5 MLD at Kidwai Nagar Muzaffarnagar being constructed by M/s Muzaffarnagar STP Pvt. Ltd. Muzaffarnagar under Namami Gange Project (Email : ashishlahoty@yahoo.com) Address : B-157-158, Scheme No. 10B Gopalpura Bye pass, Jaipur. Untreated sewage will be channelized through tapping of all domestic drains into the sewage treatment plant.*

S.No.	***STP Capacity and Location***	***Concerned Drain***	***Status***	***Remark***
1.	*32.5 MLD Kidwai Nagar, Muzaffarnagar*	*Khadarwala Drain, Krishnapuri Drain, Sujru*	*Under Construction*	*50% work completed.*
2.	*22 MLD Vill. Sahawali, Muzaffarnagar*	*Sahawali/Kukra Drain*	*Under Construction*	*75% work completed.*

As was observed from the analysis that untreated domestic sewage is also a major contributor of pollution in Begrajpur drain (Main Muzaffarnagar drain) before meeting River Kali West. Once proposed STPs are operational, significant decrease in BOD and COD levels may be observed in Main Muzaffarnagar drain also.

13.0 Compliance Status regarding scientific disposal of plastic waste generated from the concerned pulp and paper industries

S. N	***Name & Address of***	***Violation Found/Action Taken***	***Present Compliance Status – Disposal of Fly Ash & Plastic Waste***

1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.	Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 2,10,000/- which has been recovered and compliance done by the industry.	Plastic waste generated (Unit-1 & Unit-2) – 34 MT/Month Plastic Waste sent to Cement Plant – 32 MT/Month Rest Plastic waste is temporarily stored within the premises.
			Fly Ash generated (Unit-1 & Unit-2) – 972 MT/Month Disposal of Fly Ash – 955 MT/Month (Disposal through Cement Plant & Brick Kiln Manufacturer) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling facility.
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 2,10,000/-which has been recovered and compliance done by the	
3.	M/s. Silverton Pulp & Papers Pvt. Ltd.. 9th Km. Bhopa Road, Muzaffarnagar.	Boiler in sister concern unit and generated plastic waste is disposed in Gasifier installed in the unit.	Approx. 115 MT/Month Plastic waste generated from process (Unit-1 & Unit-2) and completely disposed in house through Gasifier.
			Steam supplied to the unit by the sister concern Unit-2. Hence, fly ash is not generated in this unit.
4.	M/s. Silverton Pulp & Papers Pvt. Ltd.. (Unit-2), 9th Km. Bhopa	Scientific disposal of fly ash and plastic waste not found during inspection. Env.	Approx. 115 MT/Month Plastic waste generated from process (Unit-1 & Unit-2) and completely disposed in house through Gasifier.
	Muzaffarnagar.	imposed of Rs. 1,50,000/- which has been recovered and compliance done by the industry.	Fly Ash generated–1500-2000 MT/Month Disposal of Fly Ash - 1750 MT/Month (Disposal through Cement Plant & Bulk Ash Supplier) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling
5.	M/s. Garg Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar	Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 1,50,000/- which has been recovered and compliance done by the	Plastic waste generated – 25 MT/Month Plastic Waste sent to Cement Plant – 23 MT/Month Rest Plastic waste is temporarily stored within the premises.
			Fly Ash generated – 350-400 MT/Month Disposal of Fly Ash – 380 MT/Month (Disposal through Land Filling by Contractor) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling facility.

6.	*M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar*	*Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 2,10,000/- which has been recovered and compliance done by the industry.*	*Plastic waste generated – 20 MT/Month Plastic Waste sent to Cement Plant – 18 MT/Month Rest Plastic waste is temporarily stored within the premises.*
			Fly Ash generated – 300-350 MT/Month Disposal of Fly Ash – 330 MT/Month (Disposal through Land Filling by Contractor) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling facility.
7.	*M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar*	*Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 2,10,000/- which has been recovered and compliance done by the industry.*	*Plastic waste generated – 40 MT/Month Plastic Waste sent to Cement Plant – 35 MT/Month Rest Plastic waste is temporarily stored within the premises.*
			Fly Ash generated – 280-300 MT/Month Disposal of Fly Ash – 270 MT/Month (Disposal through Land Filling by Contractor) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling facility.
8.	*M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar*	*Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 1,80,000/- which has been recovered and compliance done by the industry.*	*Plastic waste generated – 30 MT/Month Plastic Waste sent to Cement Plant – 26 MT/Month Rest Plastic waste is temporarily stored within the premises.*
			Fly Ash generated – 350-400 MT/Month Disposal of Fly Ash – 390 MT/Month (Disposal through Cement Plant) Rest fly ash is temporarily stored within the premises in covered area along with manual
			water sprinkling facility.

9.	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	Non-scientific disposal of plastic waste found during inspection. Show cause notice issued under E.P. Act. Compliance have been done.	Steam supplied to the unit by the sister concern of Unit-1. Hence no fly ash is generated in this unit.
			Plastic waste generated – 30 MT/Month Plastic Waste sent to Cement Plant– 27 MT/Month Rest Plastic waste is temporarily stored within the premises.
4.	M/s. Tirupati Baalaji Fiberrs Private Limited, Bhopa Road, Muzaffarnagar	Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 2,10,000/- which has been recovered and compliance done by the industry.	Plastic waste generated – 20 MT/Month Plastic Waste sent to Cement Plant – 17 MT/Month Rest Plastic waste is temporarily stored within the premises.
			Fly Ash generated – 350-400 MT/Month Disposal of Fly Ash – 370 MT/Month (Disposal through Land Filling by Contractor) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling facility.
5.	M/s. Bindals Papers Mills Ltd., Bhopa Road, Muzaffarnagar	Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 2,10,000/-which has been recovered and compliance done by the industry.	Unit is based upon Agro waste. Hence, No plastic waste generated from the process.
			Fly Ash generated–1500-2000 MT/Month Disposal of Fly Ash – 1800 MT/Month (Disposal through Cement Plant)
6.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 1,80,000/- which has been recovered and compliance done by the	Plastic waste generated – 25 MT/Month Plastic Waste sent to Cement Plant –23 MT/Month Rest Plastic waste is temporarily stored within the premises.

			Fly Ash generated – 600-650 MT/Month Disposal of Fly Ash – 615 MT/Month (Disposal through Cement Plant & Land Filling) Rest fly ash is temporarily stored on rented land along with manual water sprinkling facility.
7.	*M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar*	*Non-scientific disposal of plastic waste found during inspection. Show cause notice issued under E.P. Act. Compliance have been done.*	*Steam supplied to the unit by the sister concern of Unit-1. Hence, no fly ash generated in this unit.*
			Plastic waste generated – 15 MT /Month Plastic Waste sent to Cement Plant – 14 MT/Month Rest Plastic waste is temporarily stored within the premises.
14.	*M/s. Galaxy Papers Pvt. Ltd., Jolly Road, Muzaffarnagar*	*Scientific disposal of fly ash and plastic waste not found during inspection. Env. Compensation imposed of Rs. 1,40,000/- which has been recovered and compliance done by the industry.*	*Plastic waste generated – 20 MT/Month Plastic Waste sent to Cement Plant –19 MT/Month Rest Plastic waste is temporarily stored within the premises.*
			Fly Ash generated – 180-200 MT /Month Disposal of Fly Ash – 180 MT/Month (Disposal through Land Filling by Contractor) Rest fly ash is temporarily stored within the premises in covered area along with manual water sprinkling facility.

Pulp & Paper industries which were found not disposing fly ash in scientific manner have now submitted details regarding quantity of fly ash being generated along with details of disposal of fly ash either by proper land filling/brick making etc. Inspection of some fly ash land filling area was also conducted for verification, (Detailed report and relevant annexures are included in joint committee previous report dated 02.01.2023.

Observations/Recommendations

1. ***Kukra drain being majorly a domestic drain having around 16.0 MLD domestic untreated sewage and around 1.0 MLD treated Industrial effluent of 02 Nos. Pulp & Paper Industries. In this drain COD has been found 496 mg/l.***

Higher level of COD may be attributed due to the reasons that the drain passes through major commercial and residential areas of the city having various household activities.

2. The reports showed that high COD levels are present in the Begrajpur drain (Main Muzaffarnagar drain). Major heavy metals (Lead, Chromium, Zinc) present in the drains are within the prescribed limits. However, parameters of Hardness, magnesium and calcium (majorly contributed by untreated sewage/domestic effluent) is above the prescribed limits.

Total 45 water polluting industries are operational in Muzaffarnagar discharging treated effluent directly/ indirectly in River Kali (West) majorly through Dhandera/Begrajpur drain. Violating industries can contribute potential increase in higher COD levels, if partially treated/untreated effluent is discharged in the drain. In view of prevention and control of water pollution in River Kali (West), regular inspections of industries are carried out by UPPCB and District Administration Actions are being taken up against industries under violation w.r.t treated effluent discharge norms. 02 industries were found violating and discharging untreated effluent in Dhandera/Begrajpur drain. Both industries were issued closure order along with imposition of EC. Details are given below:-

Name of Industry	***Sector***	***Action Taken***	***EC details***
M/s Tehri Pulp & Paper Ltd. (Unit-2), Bhopa Road,	*Pulp & Paper*	*Closure order issued on dt. 10.01.2023*	*Rs. 1.20 Lac imposed*
M/s Magma Industries Ltd., Industrial Area Begrajpur,	*Pharmaceutic al s*	*Closure order issued on dt.10.01.2023*	*Rs. 0.60 Lac imposed*

3. *Joint team is also identifying illegal industries which have potential to polluting drain and River Kali (West). In continuation, joint committee found 01 board mill operating illegally without having ETP and discharging untreated effluent into Dhandhera drain was closed down till installation and operation of ETP and grant of Consent from Board."*

6. We have considered both the matters together and find that there are gross violations of environmental norms in handling hazardous waste. There is also patent inaction on the part of statutory and administrative authorities in the State of U.P in ensuring compliance

with the norms and compensating the victims. The issue of compensation for heirs of the deceased and injured has also not been duly dealt with in the report. **District Magistrate may provide compensation of Rs. 20 lakhs to the heirs of deceased (one) and Rs. 5 lakhs each to two injured with liberty to recover the same from the violator of norms including the concerned industries, following due process of law.**

7. It is established that plastic waste and fly ash are being unscientifically stored and disposed of in violation of Rules and to the detriment of environment. Such storage and use of landfill through contractor is not legally permissible. Stand that waste is being used for cement plants does not appear to be factually correct as no name of cement plant has been given and needs to be verified by manifest system. Compensation determined does not take into account financial capacity of the units to determine the deterrent element nor the value of the extent of damage and the cost of restoration.

8. Having regard to the above unsatisfactory state of affairs, we direct constitution of a joint Committee headed by Scientist 'F' (not below the rank of Director) in CPCB with other members being the State PCB and the District Magistrate, Muzaffarnagar. The Committee may formulate an action plan in the light of recommendations of earlier Committees referred to above and observations hereinabove and ensure remedial action in coordination with the stakeholders and other authorities. The action will include compliance of norms and fixing accountability for the past failures. The 14 industries must follow the charter for reducing the water consumption and refrain from discharging into the drain. The Committee may meet within two weeks and conduct proceedings online or offline, undertake visit to the site and verify the facts.

9. An action taken report in the matter may be filed within three 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.

List for further consideration on 25.07.2023.

A copy of this order be forwarded to the CPCB, State PCB and District Magistrate, Muzaffarnagar by email for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. A. Senthil Vel, EM

March 22, 2023
Original Application No. 744/2022
& Original Application No. 277/2022
AB

Item No. 06 & 07 Court No. 1

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

(THROUGH HYBRID MODE)

Original Application No. 744/2022
(I.A. No. 636/2023)

Moharram Ali Applicant

Versus

State of Uttar Pradesh Respondent(s)

WITH

Original Application No. 277/2022

Liyakat Ali & Ors. Applicant

Versus

State of U.P Respondent(s)

Date of hearing: 25.07.2023

CORAM: HON'BLE MR. JUSTICE SHEO KUMAR SINGH, CHAIRPERSON
HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER

Applicant: Mr. Rahul Khurana & Mr. Hasil Jain, Advs. for Applicant in OA 744/2022

Respondent: Mr. Daleep Dhyani, Adv. for UPPCB
Mr. Raj Kishor Choudhary & Mr. Shakeel Ahmed, Advs.
Mr. Pinaki Misra, Senior Advocate with Mr. Utkarsh Sharma, Adv. for Project Proponents in OA 277/2022

ORDER

I.A No. 636/2023

1. This IA has been moved by the applicant Sh. Irfan Bhura with the prayer to implead the applicant in this proceeding. The only ground as taken by the learned counsel for the applicant is the order dated 22.03.2023 passed in O.A No. 744/2022 in which in paragraph 2 it has been mentioned that the Joint

Committee has submitted the report in which it has been narrated that Md. Irfan was arrested by the police and FIR was filed for taking action. Based on that report State Pollution Control Board vide order dated 08.02.2023 has issued notice for realization of environmental compensation. The contention of the learned counsel for the applicant is that on the basis of the order passed by this Tribunal in O.A No. 744/2022 dated 22.03.2023, the environmental compensation has been assessed by the State Pollution Control Board without giving an opportunity of hearing.

2. The contention of the learned counsel for the State Pollution Control Board is that the civil liability is different from the criminal liability. The decision of the criminal case will not affect the liability in civil law.

3. The lines of the para-2 of the order passed in O.A No. 744/2022 dated 22.03.2023 contains the report submitted by the Joint Committee. It was neither view of the Tribunal nor any order passed by this Tribunal with regard to the person concerned. It was left to the State Pollution Control Board to take action according to law and in view of the above, State Pollution Control Board has taken action and proceedings, being statutory body. Anyone aggrieved by the order have an opportunity of filing appeal before the appropriate forum. However, we direct the State Pollution Control Board to dispose of the application of Mr. Irfan Bhura in view of the order dated 08.02.2023 (notice issued to the applicant for realization of EC) and after giving opportunity of hearing. The Statutory authority/ State Pollution Control Board has to pass appropriate order.

4. Anyone aggrieved by the order may have liberty and right to file appeal and to approach the appropriate forum. In view of the above, the applicant of I.A No. 636/2023 is neither necessary nor proper party and thus application

under section 151 of CPC is not maintainable. The application stands disposed of accordingly.

5. Contention of the respondents are that the amount of compensation passed by this Tribunal has been paid to the legal heirs through cheque which is issued and sent to bank just today. Clearance of the cheque has not been disclosed. Learned counsel for State Pollution Control Board has further sought a time to submit the report on the points noted above.

6. This Tribunal vide order dated 22.03.2023 directed the Joint Committee including the members of the CPCB to form an action plan in light of the recommendation of the Committee and to ensure remedial action but the same has not been filed till date. The action will include compliances of norms and fixing accountability for the past failures. These 14 industries must follow the charter for reducing the water consumption and refrain from discharging into the drain. The report on the points have not been filed till date.

7. The Committee is further directed to submit the report within four weeks.

List it on **18th October, 2023**

Sheo Kumar Singh, CP

Arun Kumar Tyagi, JM

Dr. A. Senthil Vel, EM

July 25, 2023
Original Application No. 744/2022
(I.A. No. 636/2023)
With
Original Application No. 277/2022
PU

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT FOREST & CLIMATE CHANGE GOVT OF INDIA

By Email

CM-13011/56/2023-LAW-HO-CPCB-HO

September 27, 2023

OFFICE ORDER

Sub: Constitution of Joint Committee in compliance of the Hon'ble NGT Orders dated 22.03.2023 and 25.07.2023 in OA No. 744/2022; Moharram Ali Vs State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of UP, reg

In compliance to the orders of Hon'ble NGT (PB) dated 22.03.2023 and 25.07.2023 in OA No. 744/2022, Moharram Ali Vs. State of Uttar Pradesh and OA No. 277/2022, Liaqat Ali and others Vs. State of UP, CPCB constituted a Joint Committee consisting of the following members:

I.	Sh. V. P. Yadav, Director & DH (WM-I), CPCB, Delhi	Chairman
II.	Sh. Ankit Singh, Regional Officer, Muzaffarnagar, UPPCB	Member
III.	Sh. Vikas Kashyap, City Magistrate, Muzaffarnagar	Member

This issues with the approval of Competent Authority, CPCB.

Yours faithfully,

22/09/23

(G. Rambabu)
Scientist-D,
Waste Management Division-I

To:

1. Sh. V. P. Yadav, Director & DH (WM-I), CPCB, Delhi
2. Sh. Ankit Singh, Regional Officer, Muzaffarnagar, UPPCB
3. Sh. Vikas Kashyap, City Magistrate, Muzaffarnagar

MOST URGENT
HON'BLE NGT MATTER

CM-13011/56/2023-LAW-HO-CPCB-HO 4740-47 October 06, 2023

Sub: Hon'ble NGT Order dated 22.03.2023 in OA No. 744/2022; Moharram Ali Vs State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of UP – reg

Sir,

This has reference to the Joint Committee meeting held on 03.10.2023 in compliance of the Hon'ble NGT Order dated 22.03.2023 in OA No. 744/2022; Moharram Ali Vs State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of UP. Minutes of meeting is enclosed herewith for further necessary action.

(V. P. Yadav)
Director & Head,
Waste Management Division-I

Encl.: As above

To,

1. The District Magistrate,
   District Magistrate Office
   Collectorate, Near Prakash Chowk,
   Muzaffarnagar, Uttar Pradesh - 251001

2. The Regional Officer
   Uttar Pradesh State Pollution Control Board,
   Regional Office, Muzaffarnagar
   H. No. 6-B, New Mandi, Muzaffarnagar-251001

Copy to:

1.	The Member Secretary Uttar Pradesh Pollution Control Board Building No. TC-12V Vibhuti Khand, Gomti Nagar, Lucknow – 226 010	:	For information and with request to follow-up the matter with concern RO, please
2.	DH, WQM-II		For kind information, please
3.	DH, UPC-II		For kind information, please
4.	DH, IPC-III		For kind information, please
5.	PS to MS	:	For kind information of MS, please

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
निर्गत..Narsingh
दिनांक..6/10/2023

O/C

(V. P. Yadav)

Minutes of the Meeting held on 03.10.2023 of the Joint Committee constituted by CPCB in compliance of the Hon'ble NGT Order dated 22.03.2023 in OA No. 744/2022; Moharram Ali Vs State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of U.P.

In compliance with the Hon'ble NGT (PB) order dated 22.03.2023 in OA No. 744/2022; Moharram Ali Vs. State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of U.P., a meeting was organised on 03.10.2023 (Hybrid mode) at CPCB, Delhi to discuss the issues pertaining to the case and finalisation of work plan for preparing the report for filing in the court. The meeting was chaired by Sh. V. P. Yadav, Director & Head, Waste Management Division-I, CPCB, Delhi. The meeting was attended by officials of Uttar Pradesh PCB (HO & RO, Muzaffarnagar), the City District Magistrate, Muzaffarnagar and officials of CPCB (Divisions of IPC-III, WQM-II, UPC-II and WM-I). List of the participants is given at **Annexure-I**.

At the outset, Sh. V. P. Yadav, welcomed all the participants and briefed about agenda of meeting and highlighted the various directions passed by Hon'ble NGT (PB) orders dated 22.03.2023 and 25.07.2023 in OA No. 744/2022; Moharram Ali Vs. State of Uttar Pradesh with OA No. 277/2022; Liyakat Ali & Ors Vs. State of U.P. The relevant portion of the order is given below:

> *".....direct constitution of a joint Committee headed by Scientist 'F' (not below the rank of Director) in CPCB with other members being the State PCB and the District Magistrate, Muzaffarnagar. The Committee may formulate an action plan in the light of recommendations of earlier Committees referred to above and observations hereinabove and ensure remedial action in coordination with the stakeholders and other authorities. The action will include compliance of norms and fixing accountability for the past failures. The 14 industries must follow the charter for reducing the water consumption and refrain from discharging into the drain. The Committee may meet within two weeks and conduct proceedings online or offline, undertake visit to the site and verify the facts....."*

While discussing the issues it was decided that following needs to be included in the report.

i. Charter of Pulp & Paper Industries;
ii. Status of implementation of Charter in the 14 industries;
iii. Information pertaining to discharge of effluent or implementation of ZLD;
iv. Complete and specific details about the compliance of the 14 industries regarding verification of documents for generation, transportation and disposal of hazardous waste/fly ash, plastic waste etc., and compliances of conditions specified in the Consents issued to the 14 industries;
v. Latest inspection reports of the 14 industries, if available;
vi. Compliance of norms and fixing accountability for the past failures of the 14 industries;

After detailed discussions, it was decided that following information will be provided by UPPCB to CPCB team.

1. Information/ details regarding the 14 industries listed in the said NGT Order shall be provided by UPPCB as per the format prescribed in Annexure – II.
2. The compliance status of the Charter for Water Recycling and Pollution Prevention in Pulp & Paper Industries shall be submitted by UPPCB.
3. Details of the generation as well as disposal of Hazardous waste, Plastic waste, fly ash & other waste by the 14 industries since its commencement of operations as available with UPPCB shall be submitted.
4. Details of the cement companies, TSDFs and low lying areas (along with location and quantity) to whom the 14 industries had disposed of their hazardous waste, fly ash and plastic waste along with supportive documents (such as: invoices/bills, logbook) shall be submitted by UPPCB.
5. Drainage Map of the Dhandera drain along with the location of the aforesaid 14 industries (GPS coordinates), their disposal points and the point at which the overflow of drain occurred as per the complaint, shall be submitted by WQM-II Division. Details of other industries lying in the vicinity of the Dhandera drain may also be provided by UPPCB.
6. Method for calculation of Environmental Compensation adopted by UPPCB to the 14 industries for unscientific disposal of fly ash and plastic waste may be provided.

Further, it was decided that a joint site visit by the officials of CPCB, UPPCB and District Magistrate will be conducted during 5th - 6th October, 2023 to assess the ground situation.

Meeting ended with thanks to Chair.

***

Annexure-I

CPCB

1. Sh. V. P. Yadav, Director & Head, Waste Management Division-I : *Chaired the meeting*
2. Sh. Kamlesh Singh, Scientist-E, IPC-III & Head, Law
3. Sh. G. Rambabu, Scientist-D, WM-I
4. Dr. Raj Kishore Singh, Project Scientist, WQM-II
5. Sh. Mayank Raj Purbe, Scientist-B, UPC-II
6. Dr. Gargi Biswas, Research Associate-III, WM-I

UPPCB

7. Sh. Ghanshyam, Chief Environmental Officer, Circle-3
8. Sh. Ankit Singh, Regional Officer, Muzaffarnagar

City District Magistrate, Muzaffarnagar

9. Sh. Vikas Kashyap, City Magistrate

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Check-List for Joint Inspection:

1. Logbook for Bore-wells: 3years
2. CGWA permission
3. Production Details
4. Chemical Consumption
5. ETP flow diagram
6. Effluent disposal: Drain/ZLD, Any other
7. disposal
    i. Form 6 & 10
    ii. TSDF membership
    iii. Manifest & logbook as per Rules
8. Boiler: Number, Capacity, Fuel & APCD
9. OCEMS data

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S. No.	Unit	Latitude	Longitude	Year of Commission	Type of Product being Manufactured	Boiler		CTO		HW Authorization			Status of Compliance of Charter Conditions	Source of Water		Waste Water Generation (KLD)	
						Boiler Capacity	Fuel Type and Quanity (TPD)	Validity	Compliance Status	Validity	Compliance Status	Category and Quantity (TPD)		CGWA NOC	Other	As per Charter	As per Valid Consent
1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.																
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.																
3.	M/s. Silverton industry Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.																
4.	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.																
5.	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar																
6.	M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar																

S. No.	Unit	Latitude	Longitude	Year of Commission	Type of Product being Manufactured	Boiler		CTO		HW Authorization			Status of Compliance of Charter Conditions	Source of Water		Waste Water Generation (KLD)	
						Boiler Capacity	Fuel Type and Quanity (TPD)	Validity	Compliance Status	Validity	Compliance Status	Category and Quantity (TPD)		CGWA NOC	Other	As per Charter	As per Valid Consent
7.	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar																
8.	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar																
9.	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar																
10.	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar																
11.	M/s. BindalsPapers Mills Ltd., Bhopa Road, Muzaffarnagar																
12.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar																

S. No.	Unit	Latitude	Longitude	Year of Commission	Type of Product being Manufactured	Boiler		CTO		HW Authorization			Status of Compliance of Charter Conditions	Source of Water		Waste Water Generation (KLD)	
						Boiler Capacity	Fuel Type and Quanity (TPD)	Validity	Compliance Status	Validity	Compliance Status	Category and Quantity (TPD)		CGWA NOC	Other	As per Charter	As per Valid Consent
13.	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar																
14.	M/s. Galaxy Papers Pvt. Ltd., Jolly Road,Muzaffarnagar																

Plastic waste disposal				
S. No.	**Unit**	**Type of plastic Waste**	**Waste generated quantity (TPD)**	**Disposal Method**
1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.			
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.			
3.	M/s. Silverton industry Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.			
4.	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.			
5.	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar			
6.	M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar			
7.	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar			
8.	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar			
9.	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar			
10.	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar			
11.	M/s. BindalsPapers Mills Ltd., Bhopa Road, Muzaffarnagar			
12.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar			
13.	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar			
14.	M/s. Galaxy Papers Pvt. Ltd., Jolly Road,Muzaffarnagar			

Fly Ash disposal			
S. No.	**Unit**	**Waste generated quantity (TPD)**	**Disposal Method**
1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.		
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.		
3.	M/s. Silverton industry Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.		
4.	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.		
5.	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar		
6.	M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar		
7.	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar		
8.	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar		
9.	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar		
10.	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar		
11.	M/s. BindalsPapers Mills Ltd., Bhopa Road, Muzaffarnagar		
12.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar		
13.	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar		
14.	M/s. Galaxy Papers Pvt. Ltd., Jolly Road,Muzaffarnagar		

Details of the 16 Pulp & Paper Industries located in Muzaffarnagar, UP

S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
1	M/s Silvertoan Papers Ltd. (Unit-1), 9th km. Bhopa road, Muzaffarnagar.	29.468162	77.7852052	1994	Craft paper - 180 TPD (60 TPD waste paper based and 120 TPD agro waste base)	27 TPH	Coal 100 TPD, rice husk 160 TPD	31.12.2025	8.8 KLD per ton	Settling tank, equalization tank, primary clarifier, anerobic digester, aeration tank, secondary clarifier, megacell, ACF.	Drain	Send to Bharat oil waste management
2	M/s Silvertoan Papers ltd. (unit-2), 9th km. Bhopa road, muzaffarnagar.	29.468162	77.7852052	2016	Craft paper 220 TPD by waste paper	15 TPH	Coal/bio mass 60 TPD	31.12.2024	5 KLD per ton	Settling tank, equalization tank, primary clarifier, aeration tank, secondary clarifier, megacell, ACF.	Drain	Send to Bharat oil waste management
3	M/s. Silverton industry pulp & papers pvt. Ltd., 9th km. Bhopa	29.468 9041	77.788 4951	2004	Craft paper- 300 TPD	Steam supplied through co-unit m/s. Silverton pulp & papers pvt. Ltd. (unit-2)		31.12.2027	As per charter norms and consent	Equalization sedishell, primary clarifier, aeration, secondary	Drain	Sludge drying system & burning to boiler

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S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
	road muzaffarnagar.								2.5-3 m3/ton	clarifier and MGF & ACF		
4	M/s. Silverton pulp & papers pvt. Ltd. (unit-2), 9th km. Bhopa road, muzaffarnagar.	29.4689041	77.7884951	2018	Writing printing/craft/coated duplex/news print paper- 300 TPD by waste paper/imported waste paper/virgin pulp etc.	80 TPH	Coal/bio mass 400 TPD	31.12.2024	As per charter norms and consent 10-12 m3/ton	Equalization sedishell, primary clarifier, aeration, secondary clarifier and MGF & ACF	Drain	Sludge drying system & burning to boiler
5	M/s. Garg facility duplex & paper mills pvt. Ltd., 8.5 km., bhopa road, muzaffarnagar	29.467553	77.784254	1989	Craft paper/board/ cup stock/writing printing- 415 TPD (40 TPD based on agro waste and 375 TPD based on waste paper)	(1) 30 TPH(asp) (2) 12 TPH(wet scrubber)	Coal/bio mass quantity 150170 d (approx)	31.12.2025	2.5 to 4.5 TPD	Equalization sedishell, primary clarifier, aeration, secondary clarifier	Drain	Self
6	M/s shree sidhbali paper mills pvt.ltd.	29.4713823	77.783831	2001	Craft paper- 250 TPD by waste paper, rosin, alum etc.	25 TPH	Coal/fire wood/bio mass 200 TPD	31.12.2024	4.0 kl to 5.0 kl	equalization tank, sedi cell, primary clarifier tank, aeration	Surface drain in dhandra drain	Dispose through in own boiler as fuel

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S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
										tank, secondary clarifier tank, tubsettler tank, MGF & ACF		
7	M/s. Meenu paper mills pvt. Ltd., 9.5 km., bhopa road, muzaffarnagar	29.467175	77.791078	1994	Craft paper150 TPD by waste paper, rosin, alum etc.	11 TPH and 12 TPH	Coal 65 TPD, biomass 60 TPD	31.12.2024	2 to 3 m3/ton of paper	Hill sreen, equalization tank,, primary clarifier, aeration tank, secondary clarifier tank, SDC cap, Sludge Pit cap, MGF &Decanter	Drain	Self-recycle
8	M/s. Tehri pulp & paper ltd. (unit-1), 9th km., bhopa road, muzaffarnagar	29.4712208	77.794	1997	Craft paper 250 TPD (50 TPD on agro waste based and 200 TPD on waste paper based)	14 TPH and 52 TPH	Coal 240 TPD, biomass 180 TPD	31.12.2024	4	Flow meter &v-notch at ETP inlet, equalization tank cap. 270cum, hill screen, sedicell, primary clarifier 19m dia, spray filter,	Drain	Belt filter press & recycling in pulper

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S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
										aeration tank, secondary clarifier, tube settler, multi grade filter, ocems, final discharge, belt filter press		
9	M/s. Tehri pulp & paper ltd. (unit-2), 9th km., bhopa road, muzaffarnagar	29.4712208	77.794	2008	Craft paper 350 TPD by waste paper, rosin, alum etc.	Steam supplied through co-unit m/s. Tehri pulp & papers ltd. (unit-1), 9th km. Bhopa road, muzaffarnagar.		31.12.2026	2.9	Flow meter &v-notch at ETP inlet, equalization tank cap. 270cum, hill screen, sedicell, primary clarifier 19m dia, spray filter, aeration tank, secondary clarifier, multi grade filter, ocems, final discharge, belt filter press	Drain	Belt filter press & recycling in pulper

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S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
10	M/s. Tirupati baalaji fiberrs pvt ltd, bhopa road, muzaffarnagar	29.4714071	77.78892	1997	Writing printing/kraft paper	15 TPH	Agro fuel 65 TPD	31.12.2024	4-5 kl/MT	Flow meter &v-notch at ETP inlet, Stage Hill Screen, equalization tank, primary clarifier, aeration tank, secondary clarifier, ocems, final discharge, Sludge bed	Dhendera nala	Recycle
11	M/s. Bindalspapers mills ltd., bhopa road, muzaffarnagar	29.4709423	77.7852079	2009	Writing and printing paper using paper bleach	2 nos of boiler 1. 100 and 2. 40 TPH	Low sulphur coal 370 TPD, biomass 300 TPD & black liquir 350 TPD	31.12.2024	20 m3/day	Equalization tank, pre-treatment, aeration tank, surface aerator, jet aerator, secondary clarifier, physic--chemical treatment, mmf	Drain	Recycled in sister concern (board unit)

S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
12	M/s. Shree Bhageshwari Papers Pvt. Ltd. (unit-1), 9th km., Bhopa road, Muzaffarnagar	29.4695594	77.7903949	1997	Craft paper 100 TPD (waste paper based 100 TPD)	Steam supplied through 36 TPH boiler established in co-unit m/s. Shree bhageshwari papers ltd.	Coal and bio-mass fuel 180-200 TPD	31.12.2024	9.8 kl/ton of paper	Equalization tank, primary clarifier, aeration tank, secondary clarifier, tube settler, micro filter	Drain	Use in process
13	M/s. Shree Bhageshwari Papers Pvt. Ltd., (unit-2), 9th km., Bhopa road, Muzaffarnagar	29.4695594	77.7903949	2010	Writing printing paper 100 TPD by waste paper	Steam supplied through 36 TPHboiler established in co-unit m/s. Shree bhageshwari papers ltd. (furnace unit).		31.12.2024	28.7 kl/ton of paper	Equalization tank, primary clarifier, aeration tank, secondary clarifier, tube settler, micro filter	Drain	Use in process
14	M/s. Galaxy Papers Pvt. Ltd., Jolly Road,	29.4456685	77.7747036	1992	Grey board and craft paper 100 TPD by waste paper	12 TPH	Bagasse /fire wood/husk 40 TPD	31.12.2025	3 KL per Ton	Hill screen, Sedicell	ZLD	Recycle

S. No.	Name of the unit	Latitude	Longitude	Date of establishment/ commencement of operations	Type of product being manufactured	Boiler		CTO	Specific water consumption(per ton of paper production)	Effluent management system		
						Boiler capacity	Fuel type and quantity (TPD)	Validity		Detail of ETP system	Disposal method (drain/zld/ surface water or any)	ETP sludge disposal system
	Muzaffarnagar											
15	M/s Bindlas Duplux Ltd. (Unit-I)	29.470917	77.806852	1990	Kraft paper (installed capacity 200 TPD) waste paper based	30TPH & 12 TPH	Biomass/ coal 300/TPD	31.12.2027	2.1 KL per Ton	Equalization tank, primary clarifier, aeration tank, secondary clarifier	Drain	Dispose through TSDF
16	M/s Bindlas Duplux Ltd. (Unit-II)	29.471587	77.806061	1997	Duplex board (installed capacity 250 TPD) waste paper based	Common boilers for both units	Common boilers for both units	31.12.2027	5.37 KL per Ton	Equalization tank, primary clarifier, aeration tank, secondary clarifier	Drain	Dispose through TSDF

Charter compliance of 16 Pulp & paper Industries, Muzaffarnagar

S. No.	Name of the Unit	Production in TPD (Avg of last 3 months)	Freshwater Consumption KLD (Avg of last 3 months)	Specific freshwater consumption KL/Ton of production	Wastewater generation in KLD (Avg of last 3 months)	Wastewater recycling in KLD (Avg of last 3 months)	Wastewater discharge in KLD (Avg of last 3 months)	Specific wastewater discharge	Charter complaince w.r.t	
									Freshwater norms	Effluent discharge
1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.	165.05	1503.63	9.11	1099.17	Nil	1093.27	6.62	Complaince	Complaince
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	150.99	713.7	4.73	505.26	Nil	502.2	3.33	Complaince	Complaince
3.	M/s. Silverton industry Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.	175	490	2.80	360	150	210	1.20	Complaince	Complaince
4.	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	172	1890	10.99	1600	250	1350	7.85	Complaince	Complaince
5.	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar	162.4	836.1	5.15	300	100	200	1.23	Complaince	Complaince

Charter compliance of 16 Pulp & paper Industries, Muzaffarnagar

S. No.	Name of the Unit	Production in TPD (Avg of last 3 months)	Freshwater Consumption KLD (Avg of last 3 months)	Specific freshwater consumption KL/Ton of production	Wastewater generation in KLD (Avg of last 3 months)	Wastewater recycling in KLD (Avg of last 3 months)	Wastewater discharge in KLD (Avg of last 3 months)	Specific wastewater discharge	Charter complaince w.r.t	
									Freshwater norms	Effluent discharge
6.	M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar	165.15	700.15	4.24	381.93	115.16	266.77	1.62	Complaince	Complaince
7.	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar	150.92	387	2.56	1664.3	1362	99.49	0.66	Complaince	Complaince
8.	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	219.5	906.73	4.13	2640.1	679.1	952.63	4.34	Complaince	Complaince
9.	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	272.78	840.35	3.08	2397.49	679.1	510.33	1.87	Complaince	Complaince
10.	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar	31.77	370	11.65	267	117	150	4.72	Complaince	Complaince
11.	M/s. BindalsPapers Mills Ltd.,	265.24	4947.8	18.65	10204.25	5819.62	4384	16.53	Complaince	Complaince

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Charter compliance of 16 Pulp & paper Industries, Muzaffarnagar

S. No.	Name of the Unit	Production in TPD (Avg of last 3 months)	Freshwater Consumption KLD (Avg of last 3 months)	Specific freshwater consumption KL/Ton of production	Wastewater generation in KLD (Avg of last 3 months)	Wastewater recycling in KLD (Avg of last 3 months)	Wastewater discharge in KLD (Avg of last 3 months)	Specific wastewater discharge	Charter complaince w.r.t	
									Freshwater norms	Effluent discharge
	Bhopa Road, Muzaffarnagar									
12.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	97.72	1048.21	10.73	442.61	77.96	364.65	3.73	**Non-complaince (norms 10)**	Complaince
13.	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar- data for (aug and sept)	50.27	1103.85	21.96	996.57	118.47	878.09	17.47	**Non complaince**	**Non complaince**
14.	M/s. Galaxy Papers Pvt. Ltd., Jolly Road, Muzaffarnagar	45.6	92.79	2.03	473.16	204.15	ZLD	NA	Complaince	Complaince
15	M/s Bindlas Duplux Ltd. (Unit-I)	3521	7487	2.1	59224	54492	4732	1.34	Complaince	Complaince
16	M/s Bindlas Duplux Ltd. (Unit-II)	4145	22266	5.37	91192	73648	17544	4.23	Complaince	Complaince

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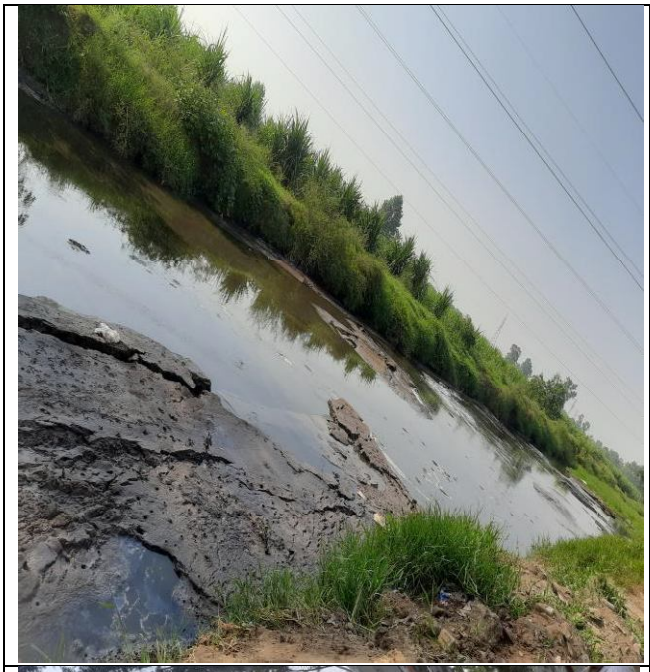
Central Pollution Control Board

Waste Management Division-I

Annexure-VI

Site photograph of Dhandera drain, at Mujaffarnagar, UP




Dhandhera drain, Muzaffarnagar

S. No.	Name of the Unit (1-16)	Fly ash Management during January, 2022 - November, 2023					
		Generation per day	Disposal Method	Whether any agreement/contract for disposal of fly ash	Ash disposal Location/site being dumped by contractor or dealers	Generation	Disposal
1	M/s. Silvertoan Papers Ltd. (Unit-1), 9th km. Bhopa Road, Muzaffarnagar.	17.56 TPD	Through Cement plants /Brick Manufactures	Yes, a copy of agreement is enclosed	NA	27.46	29.69
2	M/s. Silvertoan Papers Ltd. (Unit-2), 9th km. Bhopa Road, Muzaffarnagar.	9.9 TPD					
3	M/s. Silverton Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.	Steam is supplied through Co-unit M/s Silverton Pulp & Papers Pvt. Ltd. (Unit-2). Hence, no boiler and no fly ash is generated in unit					
4	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	60-90 TPD (approx.)	Through Cement plants and Brick kilns	Yes, a copy of agreement is enclosed	NA		
5	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar	30-35 TPD (approx.)	Brick kilns and Cement factory through contractors namely 1. M/s Mech Fin Infra 2. M/s Bulk Ash Suppliers	Yes, a copy of agreement is enclosed	NA		
6	M/s Shree Sidhbali Paper Mills Pvt. Ltd.	8.96 TPD	8.84 TPD disposed to Cement factory through contractors namely M/s Bulk Ash Suppliers	A copy of agreement is enclosed	NA	9.5	9.28

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S. No.	Name of the Unit (1-16)	Fly ash Management during January, 2022 - November, 2023					
		Generation per day	Disposal Method	Whether any agreement/contract for disposal of fly ash	Ash disposal Location/site being dumped by contractor or dealers	Generation	Disposal
7	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar	9.1 to 10 TPD (approx.)	Through Brick Manufacturing Unit	A copy of agreement is enclosed	NA		
8	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	16.68 TPD	Ash is being sent to different cement plant through M/s Bulk Ash Supplier, Muzaffarnagar through bulkers. Certficate of dispatched ash to Cement plant from 1st of Aug, 2023 to 12th Oct, 2023 by M/s Bulk Ash Supplier, Bhopa Road, Muzaffarnagar is attached herewith.	A copy of agreement is enclosed	NA		
9	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	Steam supplied through Co-unit M/s. Tehri Pulp & Papers Ltd. (Unit-1), 9th Km. Bhopa Road,					
10	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar	0.2-0.5 TPD (approx.)	Through Brick kiln i.e. M/s Shiva Brick Field, Village Nasirpur, Muzaffarnagar	Aggreement has been made for supply of Fly ash with Brick Field		0.668	0.668

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S. No.	Name of the Unit (1-16)	Fly ash Management during January, 2022 - November, 2023					
		Generation per day	Disposal Method	Whether any agreement/contract for disposal of fly ash	Ash disposal Location/site being dumped by contractor or dealers	Generation	Disposal
11	M/s. BindalsPapers Mills Ltd., Bhopa Road, Muzaffarnagar	100 TPD	Supplied to Cement Plants	Yes	NA	87.57	87.57
12	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	23.9 TPD Approx	1) To Bricks Kiln & Cement Plants through M/s G.M.R. Contractor during Jan-22 to Feb-23 2) To Cement Plants through M/s Bulk ash Suppliers Muzaffarnagar during Feb 22 to Nov 23 3) To cement Plant Nov -23 through M/s B.T.C. earth Movers Muzaffarnagar during Nov 23	Yes	NA	25	30
13	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	Steam is supplied through Co-unit M/s Shree Bhageshwari Papers Pvt. Ltd. (Unit-1). Hence, no boiler and no fly ash is generated in unit					
14	M/s. Galaxy Papers Pvt. Ltd., Jolly Road, Muzaffarnagar	0.58 TPD (Avg of April to Nov 2023)	Self Used	NA	NA	0.58	0.066

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S. No.	Name of the Unit (1-16)	Fly ash Management during January, 2022 - November, 2023					
		Generation per day	Disposal Method	Whether any agreement/contract for disposal of fly ash	Ash disposal Location/site being dumped by contractor or dealers	Generation	Disposal
15	M/s Bindlas Duplux Ltd. (Unit-I)	15-20 TPD (approx.)	Through Cement plants /Brick Manufactures	A copy of agreement is enclosed	Regarding the disposal of Fly ash, industry provided affidavit of local Bhupnder Singh Brick Suppliy at Sesona, Muzaffarnagar, & Shiv Brick Filed, Deoband fly ash used for brick making.		
16	M/s Bindlas Duplux Ltd. (Unit-II)	Steam is supplied through Co-unit M/s Bindlas Duplux Ltd. (Unit-1). Hence, no boiler and no fly ash is generated in unit.					

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Plastic waste disposal				
S. No.	**Unit**	**Type of plastic Waste**	**Waste generated quantity (TPD)**	**Disposal Method**
1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.	Plastic waste recovered from waste paper	Unit 1 - 1.12 TPD and Unit 2 - 2.17 TPD	3.29 TPD (approx.) In the Financial Year 2021-22 the company has disposed the same to Ultratech Cement Limited. In the Financial Year 2022-23 the company has disposed the same to Ultratech Cement Limited & Dew Resources Management, Hari Om Enterprises. In the Year 2023-24 the Company has installed Waste to Energy Boiler and its operational from 01.07.2023
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.			
3.	M/s. Silverton industry Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.	Recycle plastic waste	3.71 TPD (approx.)	3.71 TPD (approx.) Silvertoan Papers Private Limited Bhopa Road Muzaffranagar
4.	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	Recycle plastic waste	3.68 TPD (approx.)	3.68 TPD (approx.) KK Duplex Private Limited Jansath Road Muzaffranagar
5.	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar	Non-Recyclable Solid Waste	2 to 2.5 TPD	2 TPD (approx.) Plastic waste disposed through M/s K. K. Duplex paper Mills Pvt. Ltd for power generation
6.	M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar	LDPE process waste	~1 TPD	0.86 TPD (approx.) Through Authorized Vender & Supply to High Bride Boiler & Cement Plant
7	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar	Mix Plastic Waste	3 to 4 TPD	3.5 TPD (approx.) Through Co-Processing Unit (MOU copy attached)
8	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	Non-Recyclable Solid Waste	2.61 TPD (approx.)	2.61 TPD (approx.) M/s Novoco Cement, Chittorgarh, M/s KK Duplex Paper Mills, M/s harshit Trading Co., M/s Ultratech Cement
9	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	Non-Recyclable Solid Waste		

Plastic waste disposal				
S. No.	**Unit**	**Type of plastic Waste**	**Waste generated quantity (TPD)**	**Disposal Method**
10	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar	Plastic waste recoved from waste paper	0.746 TPD (approx.)	0.746 TPD (approx.) Self-Oil Plant / Pyrolysis Plant
11	M/s. Bindals Papers Mills Ltd., Bhopa Road, Muzaffarnagar	Not Applicable		
12	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	Process waste generate	1.046 TPD (approx.)	1.046 TPD (approx.) 1) Plastic waste disposed of through M/s Aditya Cement Works chittorgarh, upto Nov-22 2) Plastic waste disposed of through M/s Shri Balaji Polypacks Mzn. Dec-22 to Oct-23 3) Plastic waste disposed of through M/s K.K.Duples & Paper Mill (P) Ltd Mzn Oct-23 to till date
13	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	Process waste generate	0.449 TPD (approx.)	0.449 TPD (approx.) 1) Plastic waste disposed of through M/s Aditya Cement Works chittorgarh, upto Nov-22 2) Plastic waste disposed of through M/s Shri Balaji Polypacks Mzn. Dec-22 to Oct-23 3) Plastic waste disposed of through M/s K.K.Duples & Paper Mill (P) Ltd Mzn Oct-23 to till date
14	M/s. Galaxy Papers Pvt. Ltd., Jolly Road, Muzaffarnagar	Mix Plastic Waste	35.47 TPD	Nuvoco Vistas Corporation Ltd, (Cemnet industry) village-Bhawaliya, Chittorgarh, Rajasthan
15	M/s Bindlas Duplux Ltd. (Unit-I)	Mix Plastic Waste	2.15 TPD (approx.) (for both units)	1.63 TPD (approx.) Disposal of plastic waste (for co-processing/for recycling) to Tirupait Baalaji Fiberrs Private Limited Pyrolysis plant.
16	M/s Bindlas Duplux Ltd. (Unit-II)	Mix Plastic Waste		

Hazardous Waste Management			
S. No.	**Name of the Units**	**As per the Authorization issued by UPPCB under HOWM Rules, 2016**	**Disposal of HW as submitted by Industries**
1.	M/s. Silvertoan Papers Ltd. (Unit-1), 9th Km. Bhopa Road, Muzaffarnagar.	- Cat. 5.1 Used or Spent Oil -225 kg/Annum, - Cat. 33.1 Empty barrels/containers/-160 Pcs/Annum, - Cat. 33.2 Contaminated cotton rags-75 kg/Annum, - Cat. 34.2 Sludge from treatment of waste water arising out of cleaning/disposal of barrels/ containers or other cleaning materials liners contaminated with hazardous chemicals/wastes -27 MT/Annum	- Used/waste oil - 120 kg and - ETP Sludge and barrels/ containers - 790 kg
2.	M/s. Silvertoan Papers Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	- Cat. 5.1 Used or Spent Oil Industrial operations using mineral or synthetic oil as lubricant in hydraulic systems or other applications -0.225 KL/Annum - Schedule-I Wastes or residues containing oil Industrial operations using mineral or synthetic oil as lubricant in hydraulic systems or other applications -0.075 T/Annum - Schedule-I Sludge from treatment of wastes water arising out of cleaning/disposal of barrels/containers De-contamination of barrels/containers used for handling of hazardous wastes/chemicals-1.0 T/Annum	
3.	M/s. Silverton industry Pulp & Papers Pvt. Ltd., 9th Km. Bhopa Road Muzaffarnagar.	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials)-0.150 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes)-2.0 MT/Annum	- Cotton Waste, Waste Oil, Process Sludge 480 kg.

Hazardous Waste Management			
S. No.	**Name of the Units**	**As per the Authorization issued by UPPCB under HOWM Rules, 2016**	**Disposal of HW as submitted by Industries**
		- Category 5.1 As per Schedule I (Used or Spent Oil) -0.40 KL/Annum - Category 34.2 As per Schedule I (Sludge from treatment of waste water arising out of cleaning/disposal of barrels/containers)-40 MT/Annum	
4.	M/s. Silverton Pulp & Papers Pvt. Ltd. (Unit-2), 9th Km. Bhopa Road, Muzaffarnagar.	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) - 0.150 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes) - 2.0 MT/Annum - Category 5.1 As per Schedule I (Used or Spent Oil) 0.40 KL/Annum - Category 34.2 As per Schedule I (Sludge from treatment of wastewater arising out of cleaning/disposal of barrels/containers) 40 MT/Annum	- Used Oil & Grease, Process Sludge - 385 Kg, - Empty Containers - 42 Pcs
5.	M/s. Garg facility Duplex & Paper Mills Pvt. Ltd., 8.5 Km., Bhopa Road, Muzaffarnagar	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) 0.20 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes) 2.0 MT/Annum - Category 5.1 As per Schedule I (Used or Spent Oil) 0.40 KL/Annum - Category 32.3 As per Schedule I (Process Sludge) 60 MT/Annum	- ETP Sludge 600 kg, - Oil Mixed Coolant 100 kg - Plastic containers 100 kg

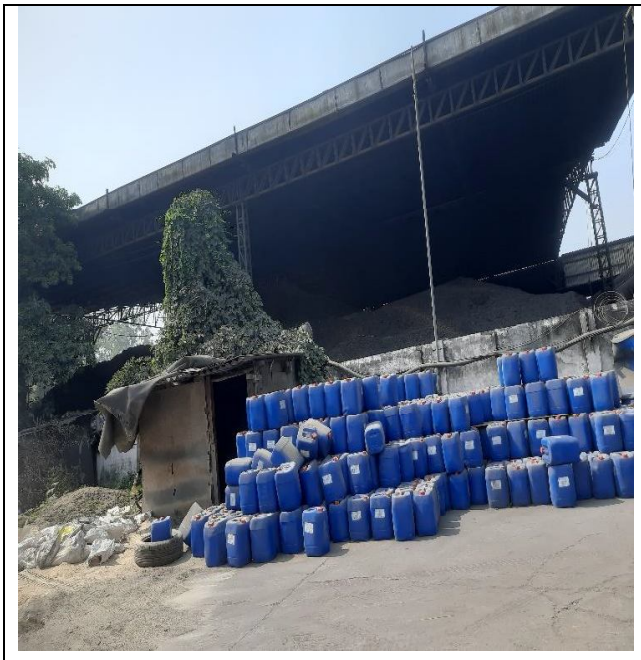
Hazardous Waste Management			
S. No.	**Name of the Units**	**As per the Authorization issued by UPPCB under HOWM Rules, 2016**	**Disposal of HW as submitted by Industries**
6.	M/s. Shree Sidhbali Paper Mills Ltd., Bhopa Road, Muzaffarnagar	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) 0.125 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ linerscontaminated with hazardous chemicals/wastes) 2.0 MT/Annum - Category 5.1 As per Schedule I (Used or Spent Oil) 0.30 MT/Annum - Category 34.2 As per Schedule I (Sludge from Treatment of WasteWater Arising Out of Cleaning/Disposal of Barrels/Containers) 10.0 MT/Annum & 30.0 MT/Annum	- ETP Sludge 1910 kg, - Plastic Waste 68.30 kg, - Tube lights 5.30 kg, - Plastic Containers 718 kg, - Old Oil 76 kg, - Old Grease 179 kg, - Sludge 569 Kg, - Greased Cloths 82 Kg
7.	M/s. Meenu Paper Mills Pvt. Ltd., 9.5 Km., Bhopa Road, Muzaffarnagar	- Schedule-I, Serial No. 5.1 Used or Spent Oil 225 Kg/Annum - Schedule-I, Serial No. 33.2 Contaminated Cotton Rags or other cleaning materials 75 Kg/Annum - Schedule-I, Serial No. 33.1 Empty Barrels/containers/liners contaminated with hazardous chemicals 150 kg/Annum	- ETP Sludge 820 kg, - Used Oil 50 Ltr, - Plastic Waste 120 kg, - Cotton Waste 20 Kg
8.	M/s. Tehri Pulp & Paper Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) 0.125 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes) 1.5 MT/Annum - Category 5.1 As per Schedule I (Used or Spent Oil) - 0.375 MT/Annum - Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) 3.0 MT/Annum	- Used Oil 475 kg - Empty Plastic Drums 485 kg, - - Used Oil 60 Kg

Hazardous Waste Management			
S. No.	**Name of the Units**	**As per the Authorization issued by UPPCB under HOWM Rules, 2016**	**Disposal of HW as submitted by Industries**
9.	M/s. Tehri Pulp & Paper Ltd. (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) Through TSDF 0.125 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes) Through TSDF 1.5 MT/Annum - Category 5.1 As per Schedule I (Used or Spent Oil) Through TSDF 0.375 MT/Annum - Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) Through TSDF 3.0 MT/Annum	
10.	M/s. Tirupati Baalaji Fiberrs Pvt Ltd, Bhopa Road, Muzaffarnagar	- Schedule-I Cat. 5.1 Used or spent oil Reject Grease Disposal through TSDF 0.225 MT/Annum 0.075MT/Annum - Cat. 33.2 Contaminated Cotton Rags or other cleaning materials Through Authorised TSDF 0.20 MT/Annum	- Waste Oil 175 Ltr., - Waste Cloths 12 Kg. - Waste Grease 3 Kg.
11.	M/s. BindalsPapers Mills Ltd., Bhopa Road, Muzaffarnagar	- Category 33.2 As per Schedule I (Contaminated Cotton Rags or Other Cleaning Materials) Through TSDF 0.1 MT/Annum - Category 33.1 As per Schedule I (Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes) Through TSDF 3.0 MT/Annum - Category 5.1 As per Schedule I (Used or Spent Oil) Through TSDF 0.425 MT/Annum - Category 34.1 As per Schedule I (Chemical containing residue arising from decontamination) Through TSDF 0.150 MT/Annum - Category 34.2 As per Schedule I (Sludge from Treatment of Waste Water Arising Out of Cleaning/Disposal of Barrels/Containers) Through TSDF 45.0 MT/Annum	- ETP Sludge 5430 Kg, - Used Oil 170 Ltr. - Empty Drums 4 Pcs.

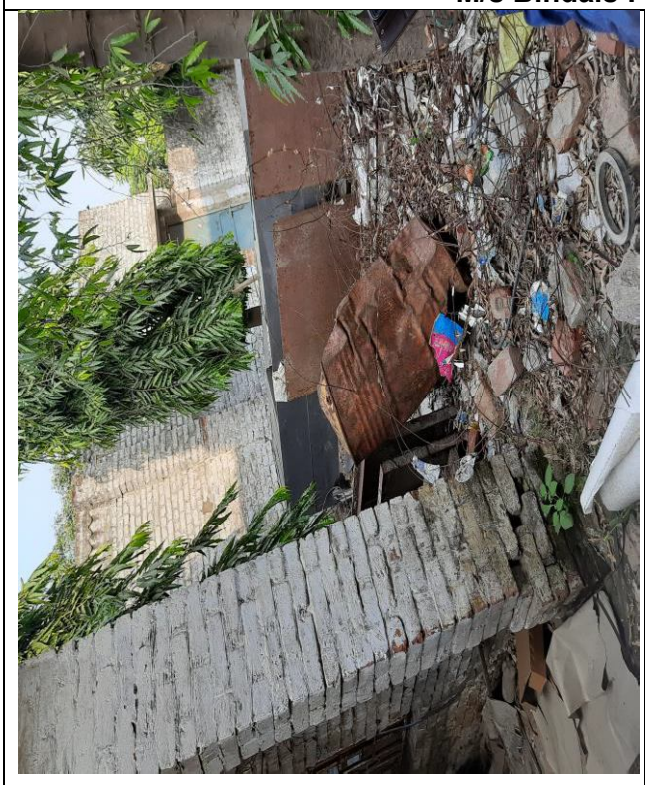
Hazardous Waste Management			
S. No.	**Name of the Units**	**As per the Authorization issued by UPPCB under HOWM Rules, 2016**	**Disposal of HW as submitted by Industries**
12.	M/s. Shree Bhageshwari Papers Pvt. Ltd. (Unit-1), 9th Km., Bhopa Road, Muzaffarnagar	- Category 5.1 As per Schedule-I Used or Spent Oil Through TSDF 0.150 MT/Annum - Category 33.1 As per Schedule-I Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes Through TSDF 0.80 MT/Annum - Category 33.2 As per Schedule-I Contaminated cotton rags or other cleaning materials Through TSDF 0.10 MT/Annum	- Used/waste oil Waste Oil, - Grease 565 kg - Process Sludge 32 MT.
13.	M/s. Shree Bhageshwari Papers Pvt. Ltd., (Unit-2), 9th Km., Bhopa Road, Muzaffarnagar	- Category 5.1 As per Schedule-I Used or Spent Oil Through TSDF 0.150 MT/Annum - Category 33.1 As per Schedule-I Empty barrels/containers/ liners contaminated with hazardous chemicals/wastes Through TSDF 0.80 MT/Annum - Category 33.2 As per Schedule-I Contaminated cotton rags or other cleaning materials Through TSDF 0.10 MT/Annum	
14.	M/s. Galaxy Papers Pvt. Ltd., Jolly Road,Muzaffarnagar	- Schedule-I Cat. 5.1 Used or Spent oil Through TSDF 0.15 KL/Annum - Schedule-I Cat. 33.1 Empty barrels/ containers/liners contaminated with hazardous chemicals/wastes Through TSDF 100 Pcs/Annum - Schedule-I Cat. 33.2 Contaminated cotton rags or cleaning materials Through TSDF 0.05 MT/Annum	- Oily Cotton 35 kg - Plastic Waste 140 Kg.
15	M/s Bindlas Duplux Ltd. (Unit-I)	- Schedule-I Cat. 5.1 Used or spent oil Reject Grease Disposal through TSDF 0.225 MT/Annum, - Cat. 33.1 Empty Barrel, Containers, liners Contaminated with hazardous chemical/waste 1.2 MT per annum, - Cat 33.2 Contaminated cotton rags or other cleaning materials 0.075 MT per annum.	- Empty Drum-15-20 piece

Hazardous Waste Management			
S. No.	**Name of the Units**	**As per the Authorization issued by UPPCB under HOWM Rules, 2016**	**Disposal of HW as submitted by Industries**
16	M/s Bindlas Duplux Ltd. (Unit-II)	- Schedule-I Cat. 5.1 Used or spent oil Reject Grease Disposal through TSDF 0.225 MT/Annum, - Cat. 33.1 Empty Barrel, Containers, liners Contaminated with hazardous chemical/waste 1.2 MT per annum, - Cat 33.2 Contaminated cotton rags or other cleaning materials 0.075 MT per annum.	- Empty Drum-20-22 piece

Site photograph of HW storage area of Paper industries at Mujaffarnagar, UP



M/s Bindals Papers Mills Ltd



M/s Bindlas Duplux Limited

INDUSTRY INSPECTION REPORT (PULP & PAPER)

Date of inspection: 17.10.2024

A. General section

1.	Name of the unit with complete postal address:	M/s Tirupati Balaji Fibres Ltd. 09th Km, Bhopa road, Muzaffarnagar - 251001
2.	Spatial Co-ordinates (Latitude & longitude)	29.470074, 77.787767
3.	Industry Operational status	Operational
4.	Consent status	Consent to Operate (CTO) dated 27.01.2020 having validity upto 31.12.2024, issued by UPPCB

B. Production process and infrastructure

5.	**Process**	Production of Writing, Printing and Kraft paper using Waste paper as raw material
6.	**Raw material**	
	a. Consented value	Quantity not mentioned in Consent
	b. Actual Avg. daily consumption of waste paper (as per logbook)	Total – 6946.913 MT (01.08.2024 – 16.10.2024) No. of operational days – 66 Avg. daily consumption – 105.26 MT/day
7.	**Production**	
	a. Consented value	Writing, Printing and Kraft paper @ 150 MT/day
	b. Actual Avg. daily production (as per logbook)	Production of only Kraft paper Total – 5908.281 MT (01.08.2024 – 16.10.2024) Avg. daily production – 89.52 MT/day
	c. Yield (%)	85.05 %
8.	**Plastic waste management**	
	a. Actual Avg. daily plastic waste generation (as per logbook)	Total – 69.771 MT (01.08.2024 – 16.10.2024) Avg. plastic waste generation – 1.057 MT/day
	b. Mode of disposal of plastic waste	A Pyrolysis plant of capacity 10 TPD is installed within unit's premises. Plastic waste generated from production process is used as raw material in pyrolysis plant for generation of pyro oil (fuel oil).
	c. Actual Avg. daily plastic waste disposed (as per logbook)	Total – 69.406 MT (01.08.2024 – 16.10.2024) Avg. plastic waste disposed – 1.051 MT/day
	d. Potential plastic waste generation @ 3% of raw material (waste paper)	3.16 MT/day
	e. **Remarks**	*Actual plastic waste disposal (1.051 MT/day) is much lower than the estimated plastic waste generation value (3.16 MT/day) which indicates poor record keeping*
9.	**Details of Boiler, Air Pollution Control Device & Ash management**	
	a. Boiler capacity	15 TPH
	b. Boiler operational status	Operational
	c. Stack details	Stack height – 30 m
	d. Type of APCD installed	Multi – cyclone & Wet scrubber
	e. Estimated steam requirement @2Ton/T of paper produced	179.04 MT/day
	f. Name of the Fuel used	Bagasse, wood chips, Briquettes, Husk
	g. Fuel consumption as per consent	Coal & Agro residues (Quantity not mentioned)

h. Actual Avg. Daily fuel consumption (as per logbook)

Type of fuel	Bagasse	wood chips	Briquettes	Husk	Total
Total (MT)	2432.68	222.18	124.79	117.08	2896.73
Avg. daily (MT/day)	36.86	3.36	1.89	1.77	43.88

i. Estimated steam generation from actual fuel consumption data @ 3 T/T of Coal; 2.5 T/T of Bagasse & 3 T/T of husk:

	Steam @ 2.5 T/T of bagasse	Steam @ 3 T/T of wood	Steam @ 3 T/T of briquettes	Steam @ 3 T/T of husk	Total estimated steam generation from actual fuel consumption

	chippings				
Avg. daily (MT/day)	92.15	10.10	5.67	5.32	113.24

j. **Remarks:** *Estimated steam generation value (113.24 MT/day) is significantly less than estimated steam requirement (179.04 MT/day), therefore actual fuel consumption data submitted by unit is not accepted and same is estimated as below:*

Estimated fuel consumption:

Type of fuel	Bagasse	wood chips	Briquettes	Husk	Total (MT/day)
Avg. daily (MT/day)	58.27	5.32	2.99	2.80	69.38

k. Actual Avg. Daily ash generation (as per logbook)

	Aug	Sep	Oct	Total
MT	21.11	17.395	13.79	52.295
Days	25	27	14	66
MT/day	0.84	0.64	0.98	0.792

Total actual ash generation (as per logbook) – 52.295 MT (01.08.2024 – 16.10.2024)
Avg. actual ash generation – 0.792 MT/day

l. Ash generation w.r.t of fuel consumed (%)

= 0.792*100/43.88
=1.8 %

m. Estimated ash generation from actual fuel consumption:

	ash @ 2.5 % from bagasse	ash @ 3% from wood chippings	ash @ 3 % from briquettes	ash @ 17% from husk	Total estimated ash generation from actual fuel consumption
Avg. daily (MT/day)	0.92	0.100	0.05	0.30	1.38

n. Estimated ash generation from estimated fuel consumption data:

	ash @ 2.5 % from bagasse	ash @ 3% from wood chippings	ash @ 3 % from briquettes	ash @ 17% from husk	Total estimated ash generation from estimated fuel consumption
Avg. daily (MT/day)	1.45	0.16	0.09	0.47	2.17

o. Mode of disposal of ash generated

Unit has made agreement (effective from 23.12.2023) with Sh. Nitin Kumar s/o Sh. Jagmohan, owner of Brick Kiln namely M/s Shiva Brick Field, Vill-Naseerpur, Muzaffarnagar for disposal of boiler ash (for manufacturing of bricks)

p. Actual avg. daily boiler ash disposal (as per logbook)

	Aug	Sep	Oct	Total
MT	21.11	17.395	13.65	52.155
Days	25	27	14	66
MT/day	0.84	0.64	0.97	0.790

Total actual ash disposal (as per logbook) – 52.155 MT (01.08.2024 – 16.10.2024)
Avg. actual ash disposal – 0.790 MT/day

q. Remarks

Estimated Ash generation value calculated from estimated fuel consumption data (2.17 MT/day) is greater than actual ash (0.79 MT/day), which indicates poor record keeping

r. Stack Monitoring report

Particulate Matter (PM) - 42.6 mg/Nm^3 against the norm of 80 mg/Nm^3
Stack emission samples were analyzed in laboratory of Regional Office, Muzaffarnagar, UPPCB

Parameter	Monitoring value (mg/Nm^3)	Standard (mg/Nm^3)	Compliance status
Particulate Matter (PM)	48.4	80	Complying
Oxide of	36	300	Complying

		Nitrogen (NO_x)			
		Sulphur Dioxide (SO_2)	22	600	Complying
10.	**Online Continuous Emission Monitoring System (OCEMS):** Installed and connected with CPCB/UPPCB server				
11.	**Compliance Status: Complying w.r.t. stack emission norms**				

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INDUSTRY INSPECTION REPORT (PULP & PAPER)

Date of inspection: 17.10.2024

A. General section

1.	Name of the unit with complete postal address:	M/s Meenu Paper Mills Pvt. Ltd. 9.5 Km, Bhopa road, Muzaffarnagar - 251001
2.	Spatial Co-ordinates (Latitude & longitude)	29.468162, 77.791574
3.	Industry Operational status	Operational
4.	Consent status	Consolidated Consent & Authorization (CCA) dated 16.05.2023 having validity upto 31.12.2024, issued by UPPCB

B. Production process and infrastructure

5.	**Process**	Production of unbleached grade paper (i.e. Kraft paper) using Waste paper as raw material
6.	**Raw material**	
	a. Consented value	230 MT/day
	b. Actual Avg. daily consumption (as per logbook)	Total – 14920 MT (01.07.2024 – 16.10.2024) No. of operational days – 92 Avg. daily consumption – 162.17 MT/day
7.	**Production**	
	a. Consented value	Kraft Paper @ 190 MT/day
	b. Actual Avg. daily production (as per logbook)	Total – 14174.4 MT (01.07.2024 – 16.10.2024) Avg. daily production – 154.07 MT/day
	c. Yield (%)	95 %
8.	**Plastic waste management**	
	a. Actual Avg. daily plastic waste generation (as per logbook)	Total – 373 MT (01.07.2024 – 16.10.2024) Avg. plastic waste generation – 4.05 MT/day
	b. Mode of disposal of plastic waste	Unit has made agreement dated 01.08.2023 with M/s KK Duplex & Paper Mills Pvt. Ltd., Muzaffarnagar
	c. Actual Avg. daily plastic waste disposed (as per logbook)	Total – 367.55 MT (01.07.2024 – 16.10.2024) Avg. plastic waste disposed – 3.99 MT/day
	d. Potential plastic waste generation @ 3% of raw material (waste paper)	4.86 MT/day
	e. **Remarks**	
9.	**Details of Boiler, Air Pollution Control Device & Ash management**	
	a. Boiler capacity	11 TPH & 12 TPH
	b. Boiler operational status	Operational
	c. Stack details	Common stack 105 ft
	d. Type of APCD installed	Dust collector + Wet scrubber
	e. Estimated steam requirement @2Ton/MT of kraft paper produced	308.14 MT/day
	f. Name of the Fuel used	Rice husk, Coal, Wooden Chips, bagasse
	g. Fuel consumption as per consent	Biomass/Coal @100 MT/day

h. Actual Avg. Daily fuel consumption (as per logbook)

Type of fuel	Straw/husk	Coal	Wooden chips	Total
Total (MT)	5089.7	7072.31	2105	14267.01
Avg. daily (MT/day)	55.32	76.87	22.88	155.07

i. Estimated steam generation from actual fuel consumption data @ 3 T/T of husk; 3 T/T of Coal & 3 T/T of wooden chips:

	Steam from Straw/husk	Steam from Coal	Steam from Wooden chips	Total estimated steam generation from actual fuel consumption
Avg. daily (MT/day)	165.97	230.62	68.64	465.23

j. Actual Avg. Daily ash generation (as per logbook)	Total – 2351.4 MT (01.07.2024 – 16.10.2024) Avg. ash generation – 25.56 MT/day
k. Ash generation w.r.t of fuel consumed (%)	=25.56*100/155.07 =16.48 %
l. Estimated ash generation from actual fuel consumption @ 17% of husk; 30% of Coal & 3% of wooden chips	

	Ash from Straw/husk	Ash from Coal	Ash from Wooden chips	Total estimated ash generation	
Avg. daily (MT/day)	9.40	23.06	0.69	33.15	

m. Mode of disposal of ash generated	Unit has made agreement (effective from 06.01.2023) with Sh. Rahul Batra s/o Dinesh Mohan Batra owner of Brick Kiln namely M/s Shiva Bricks Supply, Vill-Sandhawli, Muzaffarnagar
n. Actual avg. daily boiler ash disposal (as per logbook)	Total – 2058.85 MT (01.07.2024 – 16.10.2024) Avg. ash disposal – 22.38 MT/day
o. Remarks	a. Steam generation value calculated from actual fuel consumption data (465.23 MT/day) is greater than estimated steam requirement (308.14 MT/day), hence actual fuel consumption data is acceptable, and also the excess steam generated is being used in turbine (capacity – 1.5 MW) section for power generation b. Ash generation value calculated from actual fuel consumption data (33.015 MT/day) is greater than actual ash generation (25.56 MT/day) & disposal value (22.38 MT/day), which indicates gap of 7.59 MT/day
p. Stack Monitoring report	Stack emission samples were analyzed in laboratory of Regional Office, Muzaffarnagar, UPPCB

Parameter	Monitoring value (mg/Nm^3)	Standard (mg/Nm^3)	Compliance status
Particulate Matter (PM)	46.2	80	Complying
Oxide of Nitrogen (NO_x)	46	300	Complying
Sulphur Dioxide (SO_2)	26	600	Complying

10.	**Online Continuous Emission Monitoring System (OCEMS):** Installed and connected with CPCB/UPPCB server
11.	**Compliance Status: Complying w.r.t. stack emission norms**

INDUSTRY INSPECTION REPORT (PULP & PAPER)

Date of inspection: 17.10.2024

A. General section

1.	Name of the unit with complete postal address:	M/s Shree Bhageshwari Papers Pvt. Ltd. Unit - 1 9th Km stone, Bhopa road, Muzaffarnagar – 251001 & M/s Shree Bhageshwari Papers Pvt. Ltd. Unit - 2 9th Km stone, Bhopa road, Muzaffarnagar – 251001
2.	Spatial Co-ordinates (Latitude & longitude)	29.471250, 77.794264
3.	Industry Operational status	Operational
4.	Consent status	For Unit – 1: Consent to Operate (CTO) dated 30.12.2019 having validity upto 31.12.2024, issued by UPPCB For Unit – 2: Consent to Operate (CTO) dated 30.12.2019 having validity upto 31.12.2024, issued by UPPCB

B. Production process and infrastructure

5.	**Process**	Unit – 1: Production of unbleached grade paper (i.e. Kraft paper) using Waste paper as raw material Unit – 2: Production of bleached grade paper (i.e. Writing & Printing) using Waste paper as raw material

6. **Raw material**

a. Consented value: Not mentioned in consent

b. Actual Avg. daily consumption (as per logbook for duration 01.08.2024 – 16.10.2024)

	Total Waste paper consumption (MT)	No. of operational days	Avg. daily waste paper consumption (MT/day)
Unit – 1	8719	69	126.36
Unit – 2	4452.44		64.53
Total	13171.44		190.89

Total Avg. daily waste paper consumption in Unit – 1 & Unit – 2 is 190.89 MT/day

7. **Production**

a. Consented value: Unit – 1: Kraft paper @ 100 MT/day, and
Unit – 2: Writing & Printing paper @ 100 MT/day

b. Actual Avg. daily production (as per logbook)

	Total Production (MT)	No. of operational days	Avg. daily production (MT/day)
Unit – 1	7596.95	69	110.10
Unit – 2	3523.08		51.06
Total	11120.03		161.16

c. Yield (%): Unit – 1: 87.13 % & Unit – 2: 79.13% **(Overall yield – 84.42 %)**

8. **Plastic waste management**

a. Actual Avg. daily plastic waste generation (as per logbook)

Plastic waste generation from Unit-1 & Unit-2 during 01.08.2024 – 16.10.2024

From Unit -1 (MT)	From Unit -2 (MT)	Total Quantity (MT)
98.759	31.709	130.468
Avg. daily plastic waste generation – 1.89 MT/day (combined for Unit-1 & Unit-2)		

b. Mode of disposal of plastic waste: Unit has made agreement dated 01.10.2023 with M/s KK Duplex & Paper Mills Pvt. Ltd., Mumbai for disposal of plastic waste i.e. Combustion in waste to energy boiler

c. Actual Avg. daily plastic waste disposed (as per logbook)

Plastic waste disposal from Unit-1 & Unit-2 during 01.08.2024 – 16.10.2024

Provided to	From Unit -1 (MT)	From Unit -2 (MT)	Total Quantity (MT)	Agreement (Yes/No)	Methodology of disposal at disposal site
M/s KK Duplex and Paper Mills Pvt. Ltd.	89.915	29.81	119.725	Yes	Combustion in waste to energy boiler
Avg. daily plastic waste disposal – 1.73 MT/day (combined for Unit-1 & Unit-2)					

d. Potential plastic waste generation @ 3% of waste paper

From Unit -1 (MT)	From Unit -2 (MT)	Total Quantity (MT)
2.70	0.90	3.6
Estimated Avg. daily plastic waste generation – 5.73 MT/day (combined for Unit-1 & Unit-2)		

e. **Remarks** — *Actual plastic waste disposal (1.73 MT/day) is much lower than the estimated plastic waste generation value (5.73 MT/day) which indicates poor record keeping*

9. **Details of Boiler, Air Pollution Control Device & Ash management**

a. Boiler capacity — 36 TPH (operational, common for Unit – 1 & Unit – 2)

b. Stack details — Stack height – 52 m

c. Type of APCD installed — Electro Static Precipitator (ESP)

d. Estimated steam requirement in process @2Ton/MT of paper produced

	Estimated steam requirement (MT/day)
Unit – 1	220.20
Unit – 2	102.12
Total	322.32 MT/day

e. Name of the Fuel — Coal, Bagasse, Rice husk, RDF

f. Fuel consumption as per consent — RDF @ 220 MT/day, Coal @ 175 MT/day, Biomass @ 170 MT/day

g. Actual Avg. Daily fuel consumption (as per logbook)

Type of fuel	Coal	Bagasse	Rice husk	RDF	Total
Total (MT)	10720	0	2435	2914	16069
Avg. daily (MT/day)	155.36	0	35.29	42.23	232.88

h. Estimated steam generation from actual fuel consumption data @ 3 T/T of Coal, 2.5 T/T of bagasse, 3 T/T of husk; & 3 T/T of RDF:

	Steam from Coal	Steam from Bagasse	Steam from Husk	Steam from RDF	Total estimated steam generation from actual fuel consumption
Avg. daily (MT/day)	466.08	0	105.87	126.69	698.64

i. Actual Avg. Daily ash generation (as per logbook) — Total – 3276.89 MT (01.08.2024 – 16.10.2024)
Avg. ash generation – 47.49 MT/day

j. Ash generation w.r.t of fuel consumed (%) — =47.49*100/232.88
=20.39 %

k. Estimated ash generation from actual fuel consumption @ 30% of Coal, 2.5% of Bagasse, 17% of husk; & 17% of RDF

	Ash from Coal	Ash from Bagasse	Ash from Husk	Ash from RDF	Total estimated ash generation from actual fuel consumption
Avg. daily (MT/day)	46.61	0	5.99	7.17	59.77

l. Mode of disposal of ash generated — Unit has made agreement with M/s Malwa trading Company, Bhopa road, Muzaffarnagar & M/s Ganpati Engineering & Construction Utility for supply of ash to cement plants

m. Actual avg. daily boiler ash disposal (as per logbook) — Total – 3243.131 MT (01.08.2024 – 16.10.2024)
Avg. ash disposal – 47.00 MT/day

n. Remarks

a. *Steam generation value calculated from actual fuel consumption data (698.65 MT/day) is greater than estimated steam requirement*

<table>
<tr><td></td><td></td><td>(322.32 MT/day), hence actual fuel consumption data is acceptable, and also the excess steam generated is being used in turbine (capacity – 06 MW) section for power generation
b. Estimated Ash generation value calculated from actual fuel consumption data (59.77 MT/day) is higher than actual ash disposal value (47 MT/day) calculated from logbook data, which indicates poor record keeping</td></tr>
<tr><td></td><td>o. Stack Monitoring report</td><td>Stack emission samples were analyzed in laboratory of Regional Office, Muzaffarnagar, UPPCB
<table>
<tr><td>Parameter</td><td>Monitoring value (mg/Nm^3)</td><td>Standard (mg/Nm^3)</td><td>Compliance status</td></tr>
<tr><td>Particulate Matter (PM)</td><td>44.6</td><td>80</td><td>Complying</td></tr>
<tr><td>Oxide of Nitrogen (NO_x)</td><td>40</td><td>300</td><td>Complying</td></tr>
<tr><td>Sulphur Dioxide (SO_2)</td><td>22</td><td>600</td><td>Complying</td></tr>
</table></td></tr>
<tr><td>10.</td><td colspan="2">Online Continuous Emission Monitoring System (OCEMS): Installed and connected with CPCB/UPPCB server</td></tr>
<tr><td>11.</td><td colspan="2">Compliance Status: Complying w.r.t. stack emission norms</td></tr>
</table>

INDUSTRY INSPECTION REPORT (PULP & PAPER)

Date of inspection: 18.10.2024

A. General section

1.	Name of the unit with complete postal address:	M/s Agarwal Duplex Board Mills Ltd. 04th Km, Bhopa road, Muzaffarnagar - 251001
2.	Spatial Co-ordinates (Latitude & longitude)	29.472067, 77.739072
3.	Industry Operational status	Operational
4.	Consent status	Consolidated Consent & Authorization (CCA) dated 27.02.2024 having validity upto 31.12.2025, issued by UPPCB

B. Production process and infrastructure

5.	**Process**	Production of Duplex board/MG Poster paper/Kraft paper using Waste paper as raw material
6.	**Raw material**	
	a. Consented value	Waste paper @190 MT/day
	b. Actual Avg. daily consumption (as per logbook)	Total – 13693 MT (01.08.2024 – 17.10.2024) No. of operational days – 78 Avg. daily consumption – 175.55 MT/day
7.	**Production**	
	a. Consented value	Kraft Paper @ 160 MT/day
	b. Actual Avg. daily production (as per logbook)	Total – 12714.22 MT (01.08.2024 – 17.10.2024) Avg. daily production – 163 MT/day
	c. Yield (%)	92.85 %
8.	**Plastic waste management**	
	a. Actual Avg. daily plastic waste generation (as per logbook)	Total – 104.215 MT (01.08.2024 – 17.10.2024) Avg. plastic waste generation – 1.34 MT/day
	b. Mode of disposal of plastic waste	Unit has made agreement dated 01.05.2023 with M/s Silvertoan Papers Limited, Muzaffarnagar for disposal of plastic waste as fuel in waste to energy boiler
	c. Actual Avg. daily plastic waste disposed (as per logbook)	Total – 111.72 MT (01.08.2024 – 17.10.2024) Avg. plastic waste disposed – 1.43 MT/day
	d. Potential plastic waste generation @ 3% of waste paper	5.26 MT/day
	e. **Remarks**	*Actual plastic waste disposal (1.43 MT/day) is much lower than the estimated plastic waste generation value (5.26 MT/day) which indicates poor record keeping*
9.	**Details of Boiler, Air Pollution Control Device & Ash management**	
	a. Boiler capacity	23 TPH
	b. Boiler operational status	Operational
	c. Stack details	Stack height – 45 m
	d. Type of APCD installed	Electrostatic Precipitator (ESP)
	e. Estimated steam requirement @2Ton/MT of paper produced	326 MT/day
	f. Name of the Fuel used	Coal, Bagasse, Rice husk
	g. Fuel consumption as per consent	Biomass @ 150 MT/day and Coal @100 MT/day
	h. Actual Avg. Daily fuel consumption (as per logbook)	

Type of fuel	Total (MT)	Avg. daily (MT/day)
Rice husk	9924	127.23

	i. Estimated avg. steam generation from actual fuel consumption data @ 3 T/T of rice husk: 381.69 MT/day	
	j. Actual Avg. Daily ash generation (as per logbook)	Total – 103.82 MT (01.08.2024 – 17.10.2024) Avg. ash generation – 1.33 MT/day
	k. Ash generation w.r.t of fuel consumed (%)	= 1.33*100/127.23 = 1.04%
	l. Estimated ash generation from actual fuel consumption 30% of rice husk: 21.63 MT/day	
	m. Mode of disposal of ash generated	Unit is disposing boiler ash for landfilling in low lying land area at Barla baseda road near DJ Hotel Muzaffarnagar
	n. Actual avg. daily boiler ash	Total – 102.64 MT (01.08.2024 – 17.10.2024)

<table>
<tr><td></td><td>disposal (as per logbook)</td><td>Avg. ash disposal – 1.31 MT/day</td></tr>
<tr><td></td><td>o. Remarks</td><td>a. Steam generation value calculated from actual fuel consumption data (381.69 MT/day) is greater than estimated steam requirement (326 MT/day), hence actual fuel consumption data is acceptable, and also the excess steam generated is being used in turbine (capacity – 3 MW) section for power generation
b. Estimated Ash generation value calculated from actual fuel consumption data (21.63 MT/day) is significantly higher than actual ash disposal value (1.31 MT/day), which indicates poor record keeping.</td></tr>
<tr><td></td><td>p. Stack Monitoring report</td><td>Particulate Matter (PM) - 42.6 mg/Nm^3 against the norm of 80 mg/Nm^3
Stack emission samples were analyzed in laboratory of Regional Office, Muzaffarnagar, UPPCB
<table>
<tr><td>Parameter</td><td>Monitoring value (mg/Nm^3)</td><td>Standard (mg/Nm^3)</td><td>Compliance status</td></tr>
<tr><td>Particulate Matter (PM)</td><td>42.6</td><td>80</td><td>Complying</td></tr>
<tr><td>Oxide of Nitrogen (NO_x)</td><td>44</td><td>300</td><td>Complying</td></tr>
<tr><td>Sulphur Dioxide (SO_2)</td><td>28</td><td>600</td><td>Complying</td></tr>
</table></td></tr>
<tr><td>10.</td><td colspan="2">Online Continuous Emission Monitoring System (OCEMS): Installed and connected with CPCB/UPPCB server</td></tr>
<tr><td>11.</td><td colspan="2">Compliance Status: Complying w.r.t. stipulated stack emission norms</td></tr>
</table>

INDUSTRY INSPECTION REPORT (PULP & PAPER)

Date of inspection: 18.10.2024

A. General section

1.	Name of the unit with complete postal address:	M/s Tehri Pulp and Paper Ltd. Unit - 1 9th Km stone, Bhopa road, Muzaffarnagar – 251001 & M/s Tehri Pulp and Paper Ltd. Unit - 2 9th Km stone, Bhopa road, Muzaffarnagar – 251001
2.	Spatial Co-ordinates (Latitude & longitude)	29.471250, 77.794264
3.	Industry Operational status	Operational
4.	Consent status	For Unit – 1: Consolidated Consent & Authorization (CCA) dated 07.08.2024 having validity upto 31.12.2028, issued by UPPCB For Unit – 2: Consolidated Consent & Authorization (CCA) dated 15.03.2022 having validity upto 31.12.2026, issued by UPPCB

B. Production process and infrastructure

5. **Process**: Same process for Unit – 1 & Unit – 2
Production of unbleached grade paper (i.e. Kraft paper) using Waste paper as raw material

6. **Raw material**

a. Consented value: Unit – 1: 250 MT/day & Unit – 2: Not mentioned in consent

b. Actual Avg. daily consumption (as per logbook for duration 01.08.2024 – 16.10.2024)

	Indigenous waste paper (MT/day)	Imported waste paper (MT/day)	Total waste paper (MT/day)	Starch (MT/day)	Soap Stone (MT/day)	Total raw material (MT/day)
Unit – 1	182.37	18.60	200.97	6.56	9.80	217.33
Unit – 2	222.58	8.27	230.85	8.27	12.37	251.49
Total	404.95	26.87	**431.82**	14.83	22.17	468.82

Total waste paper consumption in Unit – 1 & Unit – 2 is 14068.21 MT & 16160.06 MT, respectively
No. of operational days in both units: 70 days
Total Avg. daily waste paper consumption in Unit – 1 & Unit – 2: 431.82 MT/day

7. **Production**

a. Consented value: Unit – 1: 250 MT/day & Unit – 2: 350 MT/day

b. Actual Avg. daily production (as per logbook)

	Total Production (MT/day)	No. of operational days	Avg. daily production (MT/day)
Unit – 1	13293.92	70	189.91
Unit – 2	17104.10		244.34
Total	30398.02		434.25

c. Yield (%): Unit – 1: 87.38 % & Unit – 2: 97.15 % **(Overall yield – 92.62 %)**

8. **Plastic waste management**

a. Actual Avg. daily plastic waste generation (as per logbook)

Plastic waste combined disposal from Unit-1 & Unit-2 during 01.08.2024 – 16.10.2024

Provided to	From Unit -1 (MT)	From Unit -2 (MT)	Total Quantity (MT)	Agreement (Yes/No)	Methodology of disposal at disposal site
M/s KK Duplex and Paper Mills Pvt. Ltd.	260.21	245.46	505.67	Yes	Combustion in waste to energy boiler
Total: 505.67 MT **Avg. daily plastic waste disposal – 7.22 MT/day (combined for Unit-1 & Unit-2)**					

	b. Mode of disposal of plastic waste	a. Unit has made agreement dated 01.10.2023 with M/s KK Duplex & Paper Mills Pvt. Ltd., Mumbai for disposal of plastic waste i.e. Combustion in waste to energy boiler b. Unit has also made agreement dated 01.10.2023 with M/s Nuvoco Vistas Corporation Limited, Muzaffarnagar for disposal of plastic waste in Cement kilns
	c. Actual Avg. daily plastic waste disposed (as per logbook)	As per data provided by the unit, the generation & disposal values are same (Mentioned at Section 8a.)
	d. Potential plastic waste generation @ 3% of indigenous waste paper & 4 % of imported waste paper	

	From Indigenous waste paper (MT/day)	From Imported waste paper (MT/day)	Total estimated plastic waste generation (MT/day)
Unit – 1	5.47	0.56	6.03
Unit – 2	6.68	0.25	6.93
Total	12.15	0.81	**12.96**

	e. **Remarks**	*Actual plastic waste disposal (7.22 MT/day) is much lower than the estimated plastic waste generation value (12.96 MT/day) which indicates improper maintenance of logbook*
9.	**Details of Boiler, Air Pollution Control Device & Ash management**	
	a. Boiler capacity	52 TPH (operational, common for Unit – 1 & Unit – 2) & 14 TPH (non – functional, old boiler as part of Chemical recovery plant when unit was using agro residue as raw material)
	b. Stack details	Stack height – 62 m
	c. Type of APCD installed	Electro Static Precipitator (ESP)
	d. Estimated steam requirement in process @2Ton/MT of kraft paper produced	

	Estimated steam requirement (MT/day)
Unit – 1	379.83
Unit – 2	488.69
Total	868.52

	e. Name of the Fuel used	Coal, Bagasse, Rice husk, RDF
	f. Fuel consumption as per consent	RDF/Biomass/Coal (quantity not mentioned in consent)
	g. Actual Avg. Daily fuel consumption (as per logbook)	

Type of fuel	Coal	Bagasse	Rice husk	RDF
Total (MT)	8055	16794.15	360.975	10080
Avg. daily (MT/day)	115.07	239.92	5.16	144

h. Estimated steam generation from actual fuel consumption data @ 3 T/T of Coal, 2.5 T/T of bagasse, 3 T/T of husk; & 3 T/T of RDF:

	Steam from Coal	Steam from Bagasse	Steam from Husk	Steam from RDF	Total estimated steam generation from actual fuel consumption
Avg. daily (MT/day)	345.21	599.79	15.47	432.00	1392.47

i. Actual steam generation (as per logbook):

Month	Steam generation (MT)	Operational days
August	32037	28
September	31120	27
Upto 16th October-2024	15675	15
Total	78832	70
Avg. daily steam generation as per logbook: 1126.17 MT/day		

	j. Actual Avg. Daily ash generation (as per logbook)	Total – 4505.9 MT (01.08.2024 – 16.10.2024) Avg. ash generation – 64.37 MT/day
	k. Ash generation w.r.t of fuel consumed (%)	=64.37*100/504.14 =12.77 %
	l. Estimated ash generation from actual fuel consumption @ 30% of Coal, 2.05% of Bagasse, 17% of husk; & 17% of RDF	

	Ash from Coal	Ash from Bagasse	Ash from Husk	Ash from RDF	Total estimated ash generation from actual fuel consumption
Avg. daily (MT/day)	34.52	6.00	0.88	24.48	65.88

m. Mode of disposal of ash generated	Unit has made agreement (effective from 01.08.2023) with M/s Bulk Ash Supplier, Bhopa road, Muzaffarnagar for supply of ash to cement plants (Annexure - …..)
n. Actual avg. daily boiler ash disposal (as per logbook)	As per data provided by the unit, the generation & disposal values are same (Mentioned at Section 9j.)
o. Remarks	*a. Steam generation value calculated from actual fuel consumption data (1392.47 MT/day) is greater than estimated steam requirement (868.52 MT/day), hence actual fuel consumption data is acceptable, and also the excess steam generated is being used in turbine (capacity – 08 MW) section for power generation* *b. Estimated Ash generation value calculated from actual fuel consumption data (65.88 MT/day) is approximately similar to actual ash generation & disposal value (64.37 MT/day) calculated from logbook data, which indicates that unit is properly disposing generated boiler ash*
p. Stack Monitoring report	Stack emission samples were analyzed in laboratory of Regional Office, Muzaffarnagar, UPPCB

Parameter	Monitoring value (mg/Nm^3)	Standard (mg/Nm^3)	Compliance status
Particulate Matter (PM)	42.8	80	Complying
Oxide of Nitrogen (NO_x)	36	300	Complying
Sulphur Dioxide (SO_2)	18	600	Complying

10.	**Online Continuous Emission Monitoring System (OCEMS):** Installed and connected with CPCB/UPPCB server
11.	**Compliance Status: Complying w.r.t. stipulated stack emission norms**