

Joint Inspection Report of the Industries Discharging Effluent into River Kosi

As per order no. 10161/30 ARA (04 NGT)/2018 dated 21.03.2018 issued by District Magistrate, Udham Singh Nagar, a committee of the following officials was constituted for inspection of the industries discharging effluent into River Kosi: -

1. General Manager, District Industry Centre, U.S. Nagar: -
Chairman
2. Executive Engineer, Irrigation, Kashipur: -
Member
3. Deputy Divisional Forest Officer, Kashipur: -
Member
4. Regional Officer, UEPPCB, Kashipur: -
Member

In compliance of the aforementioned order **inspection** of the industries and water bodies of the area was carried out on **22.03.2018** by the following officials: -

1. Sh. C.S. Bohra, GM, DIC, U.S. Nagar
2. Sh. Bijendra Kumar, Executive Engineer, Irrigation, Kashipur
3. Sh. K.S. Bist, S.D.O. Tarai West Forest Division, Ramnagar
4. Sh. K.S. Khati, Range Officer, Tarai West Forest Division, Kashipur
5. Dr. Ankur Kansal, Regional Officer, UEPPCB, Kashipur
6. Sh Naresh Goswami, Asst. Env. Engineer, UEPPCB, Kashipur

Introduction: -

There are 06 major industrial unit categorized under Grossly Pollution Industries located at Bazpur Road, Kashipur, Ram Nagar Road, Kashipur and Village Kundeshwari which are discharging their treated effluent into River Bhella, which ultimately confluence with river Kosi. Apart from above 06 units there are two moresuch units which are located at Bazpur Road and discharge their effluent in to river Kosi. Name of the above total 08 industrial units and their location along with discharge point is mentioned in the table-1.

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Table-1: Showing the Details of Industries inspected on 22.03.2018

S. No.	Name of unit and location	Products	Volume of Waste water generated KLD	Mode of treatment	Final Discharge Point
1	M/s Kashi Vishwanath Textile Mill, Ram Nagar Road, Kashipur	Use of Dye on textile Products	474 KLD	Tertiary level treatment followed by Reverse Osmosis	No Discharge. 100% recycled back
2	M/s Vishwakarma Paper and Boards Mills Ltd, Ram Nagar Road Kashipur	Craft Paper by using Agro based and waste paper as a raw material	1220 KLD	Tertiary level treatment	Discharge at River Bhella (Allowed 1025 KLD) near Mahadev Canal through drain
3	M/s Banwari Papers Mills Ltd, Ram Nagar Road, Kashipur	Writing and Printing paper by using Waste Paper as raw material	1100 KLD	Tertiary level treatment	Discharge at River Bhella (Allowed 900 KLD) near Mahadev Canal through drain
4	M/s India Glycols Ltd (Ethanol Plat), Bazpur Road, Kashipur	Ethanol	Spent Wash generation nearly 1100 KLD	Spent Wash is evaporated at Multi Effect Evaporator and Concentrate is used as a fuel in Boiler	No Discharge
5	M/s India Glycols Ltd (MEG Plant), Bazpur Road, Kashipur	Methyl Ethyl Glycol	After recycling nearly 400 KLD enters into ETP	Tertiary level treatment	Discharge at River Bhella (Maximum Allowed 540 KLD)
6	M/s Multiwal Duplex Pvt Ltd, Kundeshwari Road, Kashipur	Duplex Board by using Waste Paper as a raw material	800 KLD	Tertiary level treatment	Discharge at River Bhella (Allowed 300 KLD)
7.	M/s Cheema Paper Ltd, Bazpur Road, Kashipur	Craft paper, Duplex Board by using Waste Paper as raw material	3500 LD	Tertiary level treatment	Discharge at River Kosi (Allowed 2250)
8.	M/s Multiwal Pulp and Board Mill Ltd, bazpur Road Kashipur	Craft paper, Duplex Board and Writing paper by using Waste Paper as raw material	During inspection unit was found not in operation	Tertiary level treatment	Discharge at River Kosi. (During inspection unit was found not in operation)

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Case-to-Case Observations: -

1. M/s Kashi Vishwanath Textile Mill, Ram Nagar Road, Kashipur

- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing of Synthetic Polyester Yarn.
- c. Main source of industrial effluent is from dyeing section where from colored effluent generated.
- d. Unit has provided Effluent Treatment Plant consists of Primary clarifier, Secondary aeration, secondary clarifier and tertiary treatment consisting of Activated Carbon Filter. Unit has also provided Reverse Osmosis process.
- e. Finally treated effluent is used/ recycled back. Residue or R.O. reject is being evaporated to achieve Zero Liquid Discharge.
- f. There is no discharge from the unit. During inspection, also, no such effluent found discharged out side the premises.
- g. Unit has also provided Real Time Effluent Monitoring System.
- h. As on day, unit has valid Consent to operate from Pollution Control Board.

2. M/s Vishwakarma Paper and Board Mills Ltd, Ram Nagar Road, Kashipur

- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing of craft paper by using **waste paper as well as agro-based raw material**.
- c. Main source of industrial effluent is from Paper Machine and from Cooking of the raw material.
- d. Unit has provided Chemical recovery plant, for treatment of colored effluent generated from use of Agro-based raw material, which was found in operation during the inspection. **Installation and operation of chemical**

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recovery plant is mandatory in such paper mills which are using agro based raw material.

- e. Unit has provided Effluent Treatment Plant consist of Primary clarifier, Secondary aeration, secondary clarifier and tertiary treatment consisting of Pressure Sand Filter.
- f. Finally treated effluent is partly recycled back to process and remaining is discharged in to a drain, which met at river Bhella near Mahadev Canal.
- g. Unit has also provided Real Time Effluent Monitoring System (RTMS), which results, during inspection, found within norms. However, sample of the effluent, entering in to water stream, has also been taken and send to Board laboratory for analysis to cross check the results of RTMS.
- h. Previously in the month of December 2017 Unit was served Show Cause Notice from Pollution Control Board as the unit was found discharging colored effluent in to water body. After compliance on the points of default this notice is further under consideration with competent authority of Board.
- i. Unit is required close vigilance for control of colored effluent.
- j. There are various small pockets in premises which are required to controlled where from the effluent during monsoon may be generated like from raw material storage area. Such areas to be sloped and drains to be channlised to ETP.
- k. Waste water arising from washing of hand etc (used by workers) is also to be checked and channelized to ETP.
- l. As on day, unit has valid Consent to operate from Pollution Control Board.

3. M/s Banwari Paper Mills Ltd. Ram Nagar Road. Kashipur

- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing of Writing Printing Paper by using waste paper as a raw material.
- c. Main source of industrial effluent is from Paper Machine and from Cooking of the raw material.

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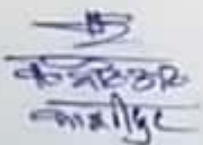
- d. Unit has provided Effluent treatment Plant consist of Primary clarifier, Secondary aeration, secondary clarifier and tertiary treatment consisting of Pressure Sand Filter.
- e. Finally treated effluent is partly recycled back to process and remaining is discharged in to a drain, which met at river Bhella near Mahadev Canal.
- f. Unit has also provided Real Time Effluent Monitoring System (RTMS), which results, during inspection, found within norms. However, sample of the effluent, entering in to water stream, has also been taken and send to Board laboratory for analysis to cross check the results of RTMS.
- g. Previously in the month of October 2017, unit was served Closure Notice from Central Pollution Control Board as the unit was found discharging untreated effluent in to water body. After compliance on the points of default the Central Pollution Control Board revoked closure notice on January 2018.
- h. There are various small pockets in premises which are required to controlled where from the effluent during monsoon may be generated like from raw material storage area. Such areas to be sloped and drains to be channlised to ETP.
- i. House Keeping to be maintained.
- j. As on day, unit has valid Consent to operate from Pollution Control Board.

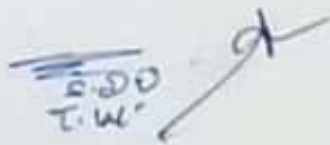
4. M/s India Glycols Ltd (Ethanol Plant) , Kashipur

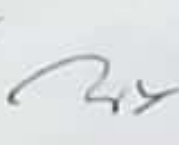
- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing Alcohol @ 7200 KL per month (240 KLD) by process of fermentation and use of molasses. **Pollution Control Board has restricted the production capacity which is earlier 425 KLD for reducing pollution load in river bodies.**
- c. **Board also has also stopped composting process adopted by the unit for utilization of spent wash and which leachate were always suspicious to discharge in to water bodies.**
- d. Main source of industrial effluent is from Fermentation process which is called spent wash.

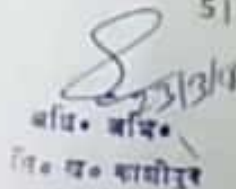
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- e. Unit has provided Multi-Effect Evaporator for concentrating the spent wash and the concentrate is being used in Boiler as a fuel.
- f. Condensate of the same is being used in cooling towers.
- g. Accordingly, unit is not discharging any effluent and it is Zero Liquid Discharge industry.
- h. As on day, unit has valid Consent to operate from Pollution Control Board.

5. **M/s India Glycols Ltd (MEG Plant), Kashipur**

- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing Methyl Ethyl Glycol by use of various chemicals and reactions.
- c. Main source of industrial effluent is from Reaction Vessels, Equipment washing.
- d. Unit has provided Tertiary level treatment for treating waste water generated from MEG plant.
- e. Treated Effluent is discharged in to River Bhella.
- f. Unit has also provided Real Time Effluent Monitoring System (RTMS), which results, during inspection, found within norms. However, sample of the effluent, entering in to water stream, has also been taken and send to Board laboratory for analysis to cross check the results of RTMS.
- g. Previously in the month of September 2017, unit was served Closure Notice from Central Pollution Control Board as the unit was found discharging untreated effluent in to water body. After compliance on the points of default the Central Pollution Control Board revoked closure notice on November 2017.
- h. As on day, unit has valid Consent to operate from Pollution Control Board.

6. **M/s Multiwal Duplex Pvt Ltd, Kundeshwari Road, Kashipur**

- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing of Duplex Board by using waste paper as a raw material.
- c. Main source of industrial effluent is from Paper Machine and from Cooking of the raw material.

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- d. Unit has provided Effluent treatment Plant consist of Primary clarifier, Secondary aeration, secondary clarifier and tertiary treatment consisting of Pressure Sand Filter.
- e. Finally treated effluent is partly recycled back to process and remaining is discharged in to a drain, which met at river Bhella at upstream of Bazpur Road Bridge.
- f. House Keeping of the plant is very poor.
- g. Unit has also provided Real Time Effluent Monitoring System (RTMS), which results, during inspection, can not be seen due to power failure at that time.
- h. Effluent found discharged along with the sludge of greyish color. Such sample of the effluent, entering in to water stream, has been taken and sent to Board laboratory for analysis.
- i. Consent to Operate of the unit was refused by the State Pollution Control Board due to default in operation of ETP and exceeding the pollution parameters from the prescribed norms. At present fresh application of consent to operate is under consideration with State Pollution Control Board.
- j. Sludge disposal system is not proper. Unit is required to provide Sludge drying beds or Filter press.

7. M/s Cheema Paper Ltd. Bazpur Road, Kashipur

- a. During inspection unit was found in operation.
- b. Unit is engaged in manufacturing of Duplex Board and Craft Paper by using waste paper as a raw material.
- c. Main source of industrial effluent is from Paper Machine and from Cooking of the raw material.
- d. Unit has provided Effluent treatment Plant consist of Primary clarifier, Secondary aeration, secondary clarifier and tertiary treatment consisting of Pressure Sand Filter.
- e. Finally treated effluent is partly recycled back to process and remaining is discharged in to a drain, which met at river Kosi.
- f. Unit has also provided Real Time Effluent Monitoring System (RTMS), which results, during inspection, found within norms. However, sample of the effluent, entering in to water stream, has also been taken and send to

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Board laboratory for analysis to cross check the results of RTMS.

- g. As on day, unit has valid Consent to operate from Pollution Control Board.
- h. Unit has to maintain sludge drying beds and may provide Filter press for such purpose.

8. M/s Multiwal Pulp and Boards Mills Pvt Ltd. bazpur Road, kashipur

- a. During inspection unit was found **not in operation**.
- b. Unit is engaged in manufacturing of Writing Printing Paper, Duplex Board and Craft Paper by using waste paper as a raw material.
- c. Main source of industrial effluent is from Paper Machine and from Cooking of the raw material.
- d. Unit has provided Effluent treatment Plant consist of Primary clarifier, Secondary aeration, secondary clarifier and tertiary treatment consisting of Pressure Sand Filter.
- e. Arrangements were found for use part of finally treated effluent for recycling in process.
- f. Unit has also provided Real Time Effluent Monitoring System (RTMS).
- g. Treated effluent carrying channel found dry. This channel ultimately discharge into river Kosi.
- h. **Previously in the month of January 2018 unit was issued closure notice by State Pollution Control Board. Electricity of the unit found disconnected and unit found not in operation during the visit.**
- i. Unit is to be operated only after revoke of closure order and consent to operate of UEPPCB.

River Monitoring and Inspection: -

1. Bhella River

- a. Effluent of M/s Banwari paper Mill and M/s Vishwakarma Pulp and Paper Mill are collectively discharge into river Bhella near Mahadev Canal. Although the treated waste water of these units is under

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prescribed norms (based on Real Time Monitoring System), yet the blackish water found discharged from the said collective drain. Sample of the same has been taken.

- b. Sample of the Bhella River also taken from Bazpur Road Bridge as well as from the Lohia Bridge which is considered as the last point of river Bhella in the state of Uttarakhand.
- c. Physical observation of the above three samples reveals that the blackish waste is not there at Bazpur Road Bridge as well as on Lohia Bridge. This is some what light grey in colour.
- d. This may be inference that the blackish water coming as mentioned at point 'a' above may carry the boiler ash of the companies disposed along the river and drains, which is steeled on the river bed as the river flown onward. If the waste water would be containing color then this will definitely flow along the length of the river which is not the case as observed at the point 'b' mentioned above.
- e. Further samples collected from above three locations and sent to laboratory for further analysis.
- f. Pollution Control Board has brought to notice that the Board is also conduction monitoring of the river Bhella at the Lohia Bridge on monthly basis. Summary of the results of last one year is enclosed as **Annexure-1**. Results shows that the Dissolved oxygen found at this point which is indicator appearance of life in the water body and indication that the river has started self-purification. However, BOD also observed on this point. This may be due to the fact that there is least natural water in the river for dilution, no self-water recharging in the river and domestic sewage from various scattered sources.

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2. Kosi River

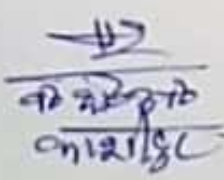
- a. Effluent of M/s Cheema paper Mill and M/s Multiwal Pulp and Paper Mill are collectively discharge into river Kosia on Bazpur Road.
- b. Sample of the river Kosi taken from the Tanda Road under the boundary of Uttarakhand.
- c. This water seems clear and sent to laboratory for further analysis.
- d. Pollution Control Board has brought to notice that the Board is also conduction monitoring of the river Kosi on monthly basis. Summary of the results of last one year is enclosed as **Annexure-2**. Results shows that the Dissolved oxygen is good enough in the river.
- e. At the location peoples are found grabbing fish from the river which is an indication of healthy aquatic life.

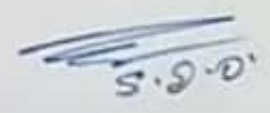
Remarks: - *As the sample analysis and report generation require time for analysis so, results of all the samples of Industry effluent as well as river water bodies (total 10 samples) will be compiled and sent to District Magistrate separately.*

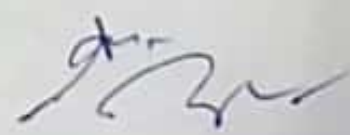
Recommendations: -

1. All the unit have installed Real Time Monitoring System which was found operational, except of M/s Multiwal Duplex Board Ltd. This unit is also found not treating its effluent properly as the sludge along with effluent is used to discharged at river which is in grey color. After getting sample report, Board may take action against this unit.
2. Effluent of M/s Banwari paper Mill and M/s Vishwakarma Pulp and Paper Mill are collectively discharge into river Bhella near Mahadev Canal. Although the treated waste water of these units is under prescribed norms (based on real Time Monitoring System), yet the blackish water found discharged from the said collective drain. This may be due to the disposal of black boiler ash in the waste water. Pollution Control Board has to make a

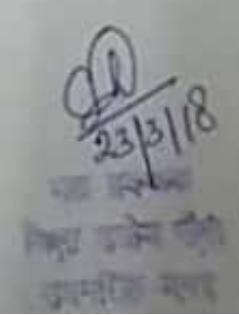
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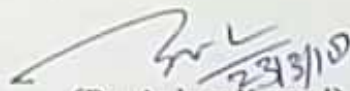
close vigilance on this drain and issue direction to such units not to dispose boiler ash in the drains.


3. Those units claim Zero Liquid Discharge, are to be regularly monitored.
4. As the river Bhella confluence with River Kosi in U.P. so joint sample may be taken with UP Pollution Control Board to ascertain what quality of effluent is flowing in the river Kosi at inter-state Boundary.
5. All the units has to take care of ETP sludge. It is properly de-watered preferably with Filter Press.



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West Forest
Division, Ramnagar


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S.D.O. Tarai West
Forest Division,
Ramnagar


(Dr. Ankur Kansal)
Regional Officer
UEPPCB, Kashipur


(Bijendra Kumar)
Executive Engineer,
Irrigation, Kashipur


(G.S. Bohra)
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Annexure - 1

River Bahella Analysis Report (Lohiya bridge)

Month	pH	TDS (mg/L)	DO (mg/L)	BOD (mg/L)
Feb-16	6.8	328	0	48
Mar-16	6.8	346	0	42
Apr-16	RIVER DRY			
May-16	RIVER DRY			
Jun-16	RIVER DRY			
Jul-16	7.3	287	0.6	42
Aug-16	7.4	481	0	48
Sep-16	7.16	326	0.8	38
Oct-16	7.25	396	0.6	40
Nov-16	7.4	392	0	48
Dec-16	7.2	577	0.2	36
Jan-17	7.7	436	0.2	52
Feb-17	6.9	542	0.4	30
Mar-17	6.9	480	0.2	36
Apr-17	River Dry			
May-17	River Dry			
Jun-17	6.8	408	0	52
Jul-17	6.8	182	0.8	12
Aug-17	6.8	518	0	64
Sep-17	7.1	163	1.2	34
Nov-17	7.6	330	0.2	30
Dec-17	7.2	187	0.8	24
Jan-18	7.4	291	1.2	18
Feb-18	7.4	301	2.2	44

* COMPILED FROM THE ORIGINAL REPORT

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River KOSI Analysis Report (BAZPUR ROAD BRIDGE)

Month	pH	TDS (mg/L)	DO (mg/L)	BOD (mg/L)
Feb-16	7.4	214	6.6	3
Mar-16	7.3	226	6.6	2.8
Apr-16	RIVER DRY			
May-16	RIVER DRY			
Jun-16	RIVER DRY			
Jul-16	7.2	162	6.5	6.4
Aug-16	7.3	170	6.2	4.6
Sep-16	7.2	194	6.4	4.6
Oct-16	7.2	190	6.8	6
Nov-16	7.2	182	6.6	5.2
Dec-16	8.1	302	5.2	2.4
Jan-17	7.2	172	6	3.2
Feb-17	7.3	244	6.4	3.2
Mar-17	7.3	246	6.5	8
Apr-17	Rive Dry			
May-17	Rive Dry			
Jun-17	7.25	198	6.2	6
Jul-17	7.4	186	6	2
Aug-17	7.4	224	6.4	4
Sep-17	7.5	193	7.2	2
Oct-17	7.3	188	7.2	3.2
Nov-17	7.1	231	7.6	4
Dec-17	7.8	181	7.8	2
Jan-18	7.1	198	7.2	4
Feb-18	7.3	220	7.8	2.2

* COMPILED FROM THE ORIGINAL REPORT

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Photographs during the inspections of Factories on 22.03.2018



Upstream of the drain at Vishwakarma Paper and Board Mills



ETP of Kashi Vishwanath Textile Mills



Sealing of Sample Vishwakarma Paper and Board Mills



Observing readings of RTMS Vishwakarma Paper and Board Mills



Sample Collection from Vishwakarma Paper and Board Mills

Photographs during the inspections of factories on 22.03.2018

Sample Collection from Barwari paper Mills



Fixing of Dissolved Oxygen in a sample of river



Disposal of Sludge at Multwal Duplex Board, which is discharging in to drain.



Industrial Discharge with probable mixing of Boiler Ash



Photographs during the inspections of factories on 22.03.2018



Sample Collection of River Bhella at
Bazpur Road



Observing reading of RTMs at
Chemta Paper Mills



Sample collection of river Kori also
showing the peopleds doing fishing.