

REPORT OF THE OVERSIGHT COMMITTEE, NGT,
U.P, LUCKNOW

IN THE MATTER OF:-

ORIGINAL APPLICATION NO. 985-986/2019

**In Re : Water Pollution by Tanneries at Jajmau, Kanpur,
Uttar Pradesh**

WITH

**In Re : Water Pollution at Rania, Kanpur Dehat & Rakhi
Mandi, Kanpur Nagar, Uttar Pradesh**

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REPORT OF THE OVERSIGHT COMMITTEE IN COMPLIANCE OF THE ORDER OF HON'BLE NATIONAL GREEN TRIBUNAL PASSED IN THE O.A. No. 985/2019 IN RE: WATER POLLUTION BY TANNERIES AT JAJMAU, KANPUR, UTTAR PRADESH WITH THE O.A. No. 986/2019 IN RE: WATER POLLUTION AT RANIA, KANPUR DEHAT & RAKHI MANDI, KANPUR NAGAR, UP

I. INTRODUCTION

- The Hon'ble NGT dealing with the matter of O.A. No. 985/2019 with O.A. No. 986/2019 vide order dated 15.11.2019 considered two issues. First issue relates to the scientific disposal of Chromium dumps at Rania, Kanpur Dehat and Rakhi Mandi, Kanpur Nagar which have been in existence since 1976 and have inter-alia resulted in contamination of groundwater, depriving the inhabitants of access to a proper quality drinking water. Second issue relates to the legality of the order dated 08.08.2019 passed by the Principal Secretary, Urban Development, Uttar Pradesh allowing Jal Nigam, Kanpur permitting discharge of untreated sewage containing toxic Chromium directly into the River Ganga. Further issue is water pollution by tanneries discharging untreated industrial effluents containing toxic Chromium into the irrigation canal through the inadequately functioning CETP at Jajmau.

Chromium: Background and Speciation

- Chromium lies in group VI-B of the periodic table and is an active 3d transition element existing in various oxidation states (0, 2+, 3+, 4+, 5+ and 6+). Out of these, Cr (0), Cr (III) and Cr (VI) are the utmost stable and commonly found in the natural ecosystem.
- As per the news article published in 'The Hindu' entitled "Nowhere to hide: how Kanpur's tanneries are struggling to afloat¹", Jajmau is the major cluster of tanneries in the north-eastern Kanpur, which are perceived to be the primary source of industrial pollution in the river Ganga.

Chromium: toxicity and health risks

- Chromium (VI) is a major ecological and public health concern due to its toxic and hazardous nature. Exposure to high levels of chromium via inhalation, ingestion,

1. ¹ [Nowhere to hide: how Kanpur's tanneries are struggling to stay afloat - The Hindu](#)

or dermal contact may cause adverse health effects in which ingestion has been reported as the main route of exposure to chromium.

- Occupational exposure to chromium is common to the tannery workers, and it is the leading cause of health problems which they experience. A study conducted by Rastogi et al. (2008) entitled, "Occupational health risks among the workers employed in leather tanneries at Kanpur", reported significant levels of chromium in urine and blood samples collected from the exposed groups which might be attributed to high concentration of environmental chromium at the workplace
- Non-occupational exposure to chromium occurs through ingestion, inhalation and dermal contact. Ingestion occurs mostly due to eating and drinking chromium-contaminated foods and water, respectively. Foods get contaminated with chromium, mainly due to bioaccumulation when irrigated with contaminated water. Subsequently, eating such contaminated food puts the consumers at a risk of chromium poisoning.

Chromium management technologies

- *Recycling of spent chromium:* This technique involves reutilisation of spent chrome salt. After the first tanning, spent chromium salt present in tanning liquor is not wasted. Instead, it is recycled in the subsequent tanning process either with the addition of a small quantity of fresh chromium salt to compensate the deficit or without. Spent chromium can be effectively reused for tanning without compromising the leather quality while bringing economic benefits to tanners.
- One such plant is installed in the premises of tanneries in Tamil Nadu, India. These tanneries segregate the chrome liquor and collect it in a tank for precipitation of the chrome by adding magnesium oxide solution. The precipitated chrome slurry is added with sulfuric acid to regenerate chrome and filled in carboys. Thus, the chrome is recovered and mixed with fresh basic chromium sulphate for re-use in the tanning process.
- *Total replacement of chromium salts (Chrome free tanning):* Tanning techniques such as aluminium tanning, vegetable tanning, zirconium tanning, iron tanning,

titanium tanning and aldehyde tanning have been known for many years as chrome-free tanning methods designed to replace the high polluting chrome tanning technique. Nowadays, combination tanning confers high properties comparable to the chrome tanning.

- Recently, a major step forward for environmentally friendly leather tanning is proposed in Europe. The project TILEATHER ('Ecofriendly Leather Tanned with Titanium') is aimed to develop a new chrome-free leather tanning method that would reduce the potential risk to humans and the environment. In this project, Titanium will be used as an alternative to chrome. Like chrome, titanium produces leather that is light and strong, but unlike chrome, it is biocompatible with human tissues - innocuous, hypoallergenic and biodegradable.
- *High chromium exhaustion tanning technologies:* Conventional chromium tanning suffers less efficiency chrome uptake that contributes significantly to water pollution and loss of tanning agent (chromium sulphate). Enhancing chromium uptake reduces chromium content in the effluent, serves chrome sulphate that would otherwise be wasted and cuts operational costs of treating wastewater. Use of auxiliary chemicals with chromium sulphate or other solvents (except water) in the tanning process might enhance the chromium uptake.
- *Organic tanning:* It has now been possible to avoid completely the use of mineral tanning salts in the manufacture of soft types of leather including suede garments. It is also possible to process richly dyed garment suedes based on vegetable and some organic tanning adjuncts. In these processes, the role and importance of surface charges assume much significance. The underlying process chemistry is becoming well understood. These technological options open up new avenues for eco-friendly tanning methodologies.

II. **ORDERS PASSED BY THE HON'BLE NGT**

1. **Vide order dated 27.09.2019**, the Hon'ble Tribunal considered the matter on receipt of two reports dated 25.09.2019 and 26.09.2019 of Justice Arun Tandon, former Judge of the Allahabad High Court, who has been appointed as the head of a Committee to oversee the compliance of the order of this Tribunal for

control of pollution in River Ganga vide order dated 06.08.2018 in O.A No. 200/2014, *M.C Mehta v. Union of India*.

2. As per the Justice Arun Tandon report, during the site visit, the Committee along with representatives from the NMCG, CPCB, UPPCB and UP Jal Nigam noticed that the water from hand pumps/borewells was coloured and unfit for drinking. It was also stated that there was no source of potable water and the residents were required to purchase drinking water. Consumption of water was leading to diseases to the inhabitants and the animals. The Committee suggested following measures:
 - a. *“All hand pumps along with tubewells/borewells installed in the area be sealed and there should be complete prohibition on extraction of underground water for drinking purposes both at village Khanchandpur, Kanpur Dehat and Rakhi Mandi, Kanpur Dehat.*
 - b. *State Government through its Chief Secretary must be directed to ensure supply of drinking water through tankers on day to day basis to the residents of the village Khanchandpur and also to surrounding areas till measures as below are not taken.*
 - c. *Drinking water Sintex tanks be installed in appropriate number at appropriate places in village Khanchandpur for providing potable water within a period of 15 days for the use of the residents of the area. These tanks must be connected to a supply pipeline from a source of potable water within another 7 days and till then the tanks be filled everyday with drinking water through tankers.*
 - d. *The materials which had been purchased for the purpose of Maha Kumbh Mela at Allahabad can be safely used for the above*
 - e. *Under the Addendum of DPR has to be made available for the purpose transshipment of the dump of the chromium by the State Government.”*
3. The Hon’ble Tribunal observed that remedial measures suggested by the Committee were required to be undertaken. Accordingly, the Hon’ble NGT directed the Chief Secretary, Uttar Pradesh to forthwith ensure steps for supply of drinking water to the residents in the affected area, apart from taking other remedial measures in the light of report of Justice Tandon in respect of Rania,

Kanpur Dehat and Rakhi Mandi, Kanpur Nagar, and around the area of Chromium dumps.

4. The Second report related to water pollution by the tanneries by discharging untreated industrial effluents containing toxic Chromium into the irrigation canal through the inadequately functioning CETP at Jajmau, Kanpur and the permission granted by the Principal Secretary, Urban Development, UP to Jal Nigam, Kanpur to discharge sewage containing toxic Chromium directly into the river Ganga.
5. Accordingly, the Tribunal directed the Chief Secretary, UP to ensure that untreated sewage is not discharged directly into the river Ganga and at least temporary arrangements for disinfection/water treatment was done and necessary action was initiated against the officer concerned for illegal action of permitting discharge of untreated sewage and effluents directly into the River Ganga.
6. **Vide order dated 15.11.2019**, the Hon'ble Tribunal noted that Chromium dumps containing toxic hexavalent Chromium has been in existence since 1976 and requisite steps have not been taken so far to dispose of the same as per mandate of law. The industries responsible for generating the said dumps were closed in the year 2005. The SPCB has assessed liability of EC of Rs. 280.01 crore only on 24.10.2019. There is no explanation why no such step was taken against the said industries earlier. The Hon'ble Tribunal also considered the report submitted by the CPCB dated 30.10.2019 which reported that the CPCB in coordination of the UPPCB carried out resampling of ground water in the affected areas.
7. In view of the above, the Hon'ble Tribunal directed as follows:
 - i. *The State of UP is held liable for failing to take any action for shifting of Chromium dumps at Rania and Rakhi Mandi which resulted in damage to the environment and the public health for the period from 1976 till date. The amount of compensation in this regard is held to be the amount assessed by the UPPCB to be recovered from the erring industries. Till such recovery, the State itself must pay the amount by way of transfer to an ESCROW account. The amount is to be utilized for restoration of the environment and the public health in the area in the manner mentioned earlier.*

- ii. *The State of UP must take further steps for disposal of the hazardous Chromium dumps as per directions of the Hon'ble Tribunal dated 22.08.2019, failing which it will be liable to pay compensation.*
 - iii. *State of UP is held liable to pay environmental compensation of Rs. 10 crores for damage to the environment for permitting discharge of untreated sewage containing toxic Chromium into river Ganga directly vide its order dated 08.08.2019.*
 - iv. *The State of UP may take steps for supply of potable water to the inhabitants of the area.*
 - v. *The Expert Committee comprising representatives from S.N. Medical College, Kanpur, PGI Lucknow, RML Lucknow and a nominee of Secretary, Health, Ministry of Health, Govt. of India may conduct the health survey within three months.*
 - vi. *The UPPCB is held liable to pay sum of Rs. 1 crore for ignoring illegal discharge of sewage and other effluent containing toxic Chromium directly into river Ganga and taking action after a long time. UP Jal Nigam is held liable to pay sum of Rs. 1 crore for releasing untreated large quantity sewage containing toxic Chromium in river Ganga.*
8. **Vide order dated 16.07.2020**, the Hon'ble National Green Tribunal reviewed the report filed by Chief Secretary, UP on 04.02.2020 and 11.06.2020, and the CPCB on 14.07.2020. The report of the Chief Secretary, UP stated that an action plan has been prepared for restoration of the environment and certain steps have been taken for supply of water to the inhabitants. Further, the report submitted on 11.06.2020 stated that the matter of remediation is at the tender stage. While, the report of the CPCB was of a general nature.
9. Further, the Hon'ble Tribunal noted that the chromium dump containing toxic chemicals has not been shifted to the TSDF as required under the law for which failure of the State of U.P is continuing in spite of repeated directions showing lack of sensitiveness on the part of the concerned officers. Hazard to public health and environment continues. The process of remediation can only start only after shifting of the waste to operational TSDF.

10. In view of the seriousness of the situation, the Hon'ble Tribunal directed the Chief Secretary, UP to ensure prompt action on priority basis in a time bound manner which may be personally monitored by the Chief Secretary, UP himself.

11. **Vide order dated 08.02.2021**, the Hon'ble Tribunal considered the report of the UPPCB mentioning that the Chief Secretary, Government of U.P. has also reviewed the status of compliance through review meetings of the officials of concerned Departments on 09.07.2020 and 02.12.2020. The Chief Secretary, Government of U.P. also reviewed the Status of compliance of observations/recommendations made by the Oversight Committee through its report dated 23.12.2020 on 28.01.2021.

12. In view of the above, the Hon'ble Tribunal directed as follows:

“Accordingly, in the light of above discussion, the State of UP may take further remedial action. Remediation of hazardous waste sites departmentally may be explored, as tender process has not succeeded in the last several years and the dump sites have been in existence for the last 45 years which continue to be hazard to the lives of the inhabitants. The additional sites pointed out above may also be remediated. This needs to be tackled on emergency basis at the highest level in the State and monitored at the level of the Chief Secretary and also the Oversight Committee. CPCB may be consulted in the process for the remedial action which should be as per rules. The action plan may also ensure provision for water supply to all affected areas. Further, it must be ensured that contamination does not affect the food chain. The stand of the State of UP with regard to compensation is not as per earlier order dated 15.11.2019, para 13. If the amount is not recovered from the companies for want of effective legal steps for recovery within reasonable time, liability of the State for its negligence and inaction will continue.”

III. MINUTES OF MEETING BY OVERSIGHT COMMITTEE, NGT

This Oversight committee constituted by Hon'ble NGT held a meeting with concerned administrative officers on 15.07.2021. Various issues as pointed out in the orders of

Hon'ble National Green Tribunal were discussed and status of the action taken by the concerned authorities was reviewed. The highlights of the meeting are as follows:

1. GM, UPSIDA informed that IIT-Kanpur has been appointed as the Project Management Consultant (PMC) for the purpose of chromium dump remediation in February 2021. The PMC was given 7 months to prepare the DPR but owing to the present covid situations, the labs of IIT-Kanpur was closed which has caused delay in the process. However, they are trying hard to ensure that the DPR is got prepared by September 2021. The remediation work will take place near the site and be completed by the successful bidder in 12 months from the date the work is started but before that quite a few formalities will have to be completed.
2. The Committee expressed its deep concern about the delay in executing the order of the Hon'ble NGT and directed the UPSIDA to submit a timeline for all the activities right from the on-going preparation of the project to its completion for facilitating a proper and productive monitoring by the Committee. The Committee also directed the UPSIDA to implement this project in Mission Mode as it has a direct adverse impact on the health of the local inhabitants and the environment.
3. With regard to the recovery of EC imposed on the erring industries, the UPPCB is holding fresh hearing in the light of the direction of the Hon'ble NGT and the next date of hearing in the UPPCB is 27.07.2021. After the hearing, appropriate orders will be passed by the UPPCB.

The Minutes of the Meeting is annexed as **Annexure-I**.

IV. UPDATED COMPLIANCE STATUS (Annexure II, Annexure III and Annexure IV)

1. **By the UPSIDA:** In reference to the remediation of chromium dump at Rania, Kanpur, the UPSIDA has informed that for shifting the chromium dump to the identified site and its processing tenders had been floated three times earlier, but bid could not be finalized. Now, the UPSIDA has appointed IIT Kanpur as the Project Management Consultant (PMC) on 02.02.2021 for the disposal of chromium dump. IIT-Kanpur has suggested that out of 5 reductants tested for stabilisation only Iron Sulphate (FeSO_4) has passed acceptable TCLP limit test and is also cost effective. Further, as per the report of the IIT-Kanpur, the actual volume of Chromium waste lying at the site is

much higher (1,22,800 m³) in comparison to the volume reported in the earlier DPR of the CPCB (37,712 m³). In this regard, the Secretary, Environment has ordered to finalize the correct quantity of chromium dump after joint discussion between the CPCB and IIT Kanpur, to fix the final cost accordingly, and to seek prior approval of the budget from the competent authority.

Further, the UPSIDA has also informed that adequate land area has been identified near the legacy dump for landfill site construction as the chromium waste has to be treated in the vicinity of the dump and a proposal has been sent to the DM, Kanpur Dehat for its resumption and allocation to the project free of cost. UPSIDA has made available a tentative timeline for various activities which requires certain clarification and fine tuning which is being done.

2. **By the UPPCB:** The UPPCB had imposed Environmental Compensation of Rs. 280.01 Crore against 06 defaulting industries on 19.11.2019 after giving due opportunity through show cause notice dated 24.10.2019. DM, Kanpur Dehat has issued RC for the recovery of the dues from the 06 defaulter units. Property of 03 industries have been attached and auction is under process. The industries responsible for illegal dumping of chromium waste have filed Appeal Nos. 14, 15, 16, 17 and 18 of 2020 before Hon'ble Tribunal challenging the excessive imposition of environmental compensation against them by the UPPCB. As per the order dated 04.01.2021 of the Hon'ble Tribunal the UPPCB has given a fresh opportunity to the appellants. The next date of hearing is 27.07.2021. After following the due process of law appropriate orders regarding the correct amount of EC will be passed by the UPPCB.
3. **By the UP Jal Nigam:** In regard to the progress in construction of the CETP in Jajmau, Kanpur, the UP Jal Nigam has informed that a total progress of 30.11% has been achieved including the civil construction progress of 11.38% at site. Owing to the ongoing covid situations, the extension of time has been suggested by the Project Engineer and the contractor has been instructed to complete the project before 02.02.2022.

V. SUMMARY OF THE COMPLIANCE STATUS

S. No.	Directions issued by Hon'ble the NGT	Concerned Department	Compliance status
1.	Status of lifting and remediation of Chromium dump at Rania, Kanpur Dehat by the TSDF operators	UPSIDA	Not complied The lifting of Chromium dump has not started yet. In February 2021 the IIT-Kanpur has been appointed the PMC, who is in the process of finalising the Technology of remediation.
2.	Status of ETPs/CETPs installation to prevent untreated discharge of industrial effluents in river Ganga and its tributary.	UP Jal Nigam	Partially complied The work has started, and the project is targeted to be completed by 02.02.2022.
3.	Status of recovery of EC: UP Jal Nigam is held liable to pay a sum of Rs. 1 crore for releasing untreated large quantity sewage containing toxic Chromium in river Ganga.	UP Jal Nigam	Not complied The UP Jal Nigam has filed an Appeal in the Hon'ble Supreme Court in this regard.
4.	Status of recovery of EC: The UPPCB is held liable to pay sum of Rs. 1 crore for ignoring illegal discharge of sewage and other effluent containing toxic Chromium directly into river Ganga and	UPPCB	Not complied No EC has been paid by the UPPCB.

	<p>taking action after a long time inspite of earlier proceedings before this Tribunal.</p> <p>The State of UP has to be pay compensation to the extent of Rs. 10 Crores for violation of law affecting the environment and public health for illegally permitting discharge of sewage and other effluent containing toxic Chromium directly into river Ganga.</p>		
7.	Status of recovery of EC on erring industries.	UPPCB	<p>Partially complied</p> <p>In compliance of the order dated 04.01.2021 passed by the Hon'ble Tribunal on the appeals of the industries and, the UPPCB has given fresh opportunity to the appellants. The next date of hearing is 27.07.2021.</p>
8.	Issuance of appropriate directions to ensure that no authority allows discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of law even	CPCB	<p>Complied</p> <p>The CPCB has issued instructions to the Chairman, SPCBs of five Ganga States including U.P. to issue appropriate directions to the concerned authorities including urban local bodies in their States for compliance of the following direction:</p>

	<p>in monsoon and also the standards for faecal coliform are duly maintained.</p>		<p>“No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.”</p> <p>In pursuance of the directions of the CPCB, the UPPCB has issued directions under section 33A of the Water (Prevention and Control of Pollution) Act, 1974 to the UP Jal Nigam, Meerut Development Authority, Agra Development Authority, Ghaziabad Development Authority, Greater Noida Development Authority, New Okhla Industrial Development Authority, UP Avas Vikas Parishad (Lucknow), Nagar Palika Parishad (Muzaffar Nagar), Nagar Palika Parishad (Mainpuri), Nagar Palika Parishad (Mathura), DLW (Varanasi) and Narora Atomic Power Station (Bulandshahr). The copy of the orders is annexed as Annexure V.</p>
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IV. RECOMMENDATIONS

In view of the above, we recommend as follows:

1. With regard to the safe disposal of chromium dump at Rania, Kanpur no significant progress has been made by the Department/Agencies concerned in spite of there being a proper monitoring mechanism at all levels to push the progress. As per the preliminary report of the IIT-Kanpur there is a huge difference in the volume of the chromium waste at the site in comparison to the DPR of the CPCB. The Chief Secretary may be directed to get the correct quantity of the chromium dump

ascertained through joint inspection by the IIT-Kanpur and the CPCB, to take all necessary measures to complete the remediation work in a time bound manner in the shortest possible time and to submit a quarterly progress report to the oversight committee.

2. The Chief Secretary Government of U.P. be directed to personally supervise the project and ensure that all the formalities are completed at the earliest so that the actual work of scientific disposal of chromium dump is started without any further delay and completed in the shortest possible time.
3. In regard to the EC imposed on the UP Jal Nigam and the UP PCB for failing in their responsibilities towards keeping the river Ganga clean by not discharging untreated sewage into it, so far, no amount has been deposited. They may be directed to deposit the said amount without any further delay. However, the said amount may be subjected to the final outcome of the Civil Appeal filed by the UP Jal Nigam in the Hon'ble Apex Court.
4. EC of Rs. 280.01 Cr has been imposed on the 6 erring industries which has not been recovered so far. The UP PCB may be directed to invoke Recovery Certificates (RCs) and follow up its recovery vigorously with the respective DM(s). The State Government has in the meanwhile sanctioned Rs 23.44 Crores from its budgetary resources. It may also be directed to take stringent measures for the recovery of the EC and use this amount for the remediation of the contaminated waste as well as mitigating the health hazards suffered by the people of that area.
5. In order to prevent pollution from industrial effluents, a 20 MLD CETP is under construction in Jajmau but the progress is far from satisfactory. The UP Jal Nigam and the State Government may be directed to expedite the construction of the CETP so that it gets completed by February 2022, the targeted completion date.
6. As several alternatives to chrome-based tanning is available, the Central and the State Governments may be directed to encourage the Industry to adopt the techniques of chrome-free tanning in partnership with the Council of Industrial and Scientific Research (CSIR) and other reputed research institutes of the country. Meanwhile, the tannery clusters/units may be directed to install chromium recovery plants based on Tamil Nadu model and implement the tested

recovery and reuse techniques. Also, norms should be very stringent for discharge of treated sewage into the drains/rivers.

7. There is a need for 24x7 monitoring of effluent treatment in such industrial clusters. The CETPs of such clusters need to be connected with the Central Control Room at Lucknow through the OCEMS for round the clock monitoring of environment parameters.

The Member Secretary, UPPCB is directed to send this report to the Registrar General, National Green Tribunal, Principal Bench, New Delhi for placing the same before the Hon'ble Tribunal with a copy to the Chief Secretary, Government of Uttar Pradesh for necessary action. The report also be uploaded on the website of the Committee.

26-07-2021

26-07-2021

X Anant Kumar Singh

Sri Anant Kumar Singh
Member, Oversight Committee
Signed by: ANANT KUMAR SINGH

X SVS Rathore

Justice SVS Rathore
Chairman, Oversight Committee
Signed by: SURENDRA VIKRAM SINGH RATHORE

July 26, 2021

Annexures: As above

Please visit our website: oscngt.upsdc.gov.in for more information.

Meeting No. 117

MINUTES OF MEETING OF THE OVERSIGHT COMMITTEE, NGT UP LUCKNOW, HELD ON 15.07.2021 AT 12:00 NOON IN OA NO. 985/2019 IN RE: WATER POLLUTION BY TANNERIES AT JAJMAU, KANPUR WITH OA NO. 986/2019 IN RE: WATER POLLUTION IN RANIA, KANPUR DEHAT & RAKHI MANDI, KANPUR NAGAR, THROUGH VIDEO-CONFERENCING

Present: **Hon'ble Mr. Justice S.V.S Rathore, Chairman**
 Hon'ble Mr. Anant Kumar Singh, Member

Other dignitaries present:

1. Shri Sandeep Chandra, UPSIDA
2. Shri. Rajeev Srivastava, UPPCB

The Oversight Committee reviewed the compliance of directions passed by Hon'ble NGT in the aforesaid cases i.e., **O.A. No. 985/2019** with **O.A. No. 986/2019**. The minutes of meeting are presented below:

S. No.	Directions issued by the Hon'ble NGT	Decision taken by the Committee
1.	Hon'ble NGT directed lifting and remediation of Chromium dump at Rania, Kanpur Dehat.	Mr. Sandeep Chandra, General Manager, UPSIDA informed that IIT Kanpur has been appointed as the Project Management Consultant (PMS) for this purpose on 02.02.21. As per the preliminary report it will take 12 months for the remediation of chromium waste from the date the work is started but before that some formalities have to be completed. This entire process will consist of digging the chromium legacy waste from dumping site, creation of sanitary landfill

		<p>in the nearby area, treatment and dumping of waste in landfill site and lastly plantation of saplings on the landfill site. However, the work will start only after the technology, volume and cost are finalised and the work is awarded through a competitive bidding process.</p> <p>He also informed that the PMC has suggested that land availability in the vicinity of the dump for creation of landfill sites is mandatory and precursor to the process. Accordingly, Gram Samaj land has been identified and proposal has been sent to the DM Kanpur Dehat for resumption of land and handing it over free of cost for this project.</p> <p>Further, as per the report of the IIT-Kanpur, the actual volume of Chromium waste lying at the site is much higher (1,22,800 m³) in comparison to the volume reported in the earlier DPR of the CPCB (37,712 m³). Moreover, as per CPCB, the area of dump at the site is 37,000 m² while as per IIT Kanpur the area is 50,312 m². A decision has been taken to ascertain the correct quantity of Chromium Dump after discussion between the CPCB and IIT-Kanpur as it has a direct bearing on the final cost of the project. Thereafter, the prior budgetary approval will</p>
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		<p>be obtained from the government.</p> <p>The Committee expressed its deep concern about the delay in executing the order of the Hon'ble NGT and directed the UPSIDA to submit a timeline for all the activities right from the on-going preparation of the project to its completion for facilitating a proper and productive monitoring by the Committee. The Committee also directed the UPSIDA to implement this project in Mission Mode as it has a direct adverse impact on the health of the local inhabitants and the environment.</p>
2.	EC imposed on the erring industries	<p>UP Pollution Control Board had imposed Environmental Compensation of Rs. 280.01 Crore against 06 defaulting industries on 19.11.2019 after giving due opportunity through show cause notice dated 24.10.2019. DM Kanpur Dehat has issued RC for the recovery the dues against the six defaulter units. Property of 03 industries have been attached and auction is under process.</p> <p>Meanwhile, the industries responsible for illegal dumping of the chromium waste have filed Appeal Nos. 14, 15, 16, 17 and 18 of 2020 before the Hon'ble Tribunal challenging the excessive imposition of environmental compensation against them by the Uttar Pradesh Pollution Control Board.</p>

		As per the order dated 04.01.2021 of the Hon'ble Tribunal the UPPCB has given a fresh opportunity to the appellants. The next date of hearing is 27.07.2021. After following the due process of law appropriate orders will be passed by the UPPCB.
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15-07-2021

15-07-2021

X Anant Kumar Singh

Sri Anant Kumar Singh
Member, Oversight Committee
Signed by: ANANT KUMAR SINGH

X SVS Rathore

Justice SVS Rathore
Chairman, Oversight Committee
Signed by: SURENDRA VIKRAM SINGH RATHORE

July 15, 2021

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Progress Report- O.A 200/2014

S.No.	Directions by Hon'ble NGT	Concerned Department	Compliance Status January,2021	Compliance Status July,2021
.	The State of UP may take steps for Remediating Chromium dump at Rania Kanpur, as directed earlier vide orders dated 22.08.2019 and 15.11.2019	UPSIDA	<p>Not Complied</p> <p>Tenders have been cancelled.</p> <p>A decision regarding easing the conditions of tender has been taken in the meeting held by Chief Secretary on 4.12.2020 . Suggestions are invited from experts from NEERI Nagpur and 4 IITs on the conditions for agencies/firms who will bid for the tender. A report from all the said institutions in this matter and accordingly tenders shall be floated afresh.</p> <p>EC of Rs.280 cr. imposed on 6 defaulter units</p> <p>DM, Kanpur has issued RC against the 6 defaulters. Chief Secretary, UP has directed him to transfer the RC to DM, Kanpur Nagar if the properties of defaulters are in Kanpur Nagar.</p>	<ul style="list-style-type: none"> IIT Kanpur that was duly appointed a project management consultancy (PMC) for the job of "chromium dump disposal" on 02.02.21. The faculty had visited the site & after collection of sample and working upon them they have given presentation on suitable technology & cost, to State level Technical Advisory Committee, constituted for "chromium remediation" under co-chairmanship Secretary Industry and Secretary Environment U.P. Govt. Given the present situation due to COVID-19 work was held up upto 1st week of June as all the labs at IIT Kanpur were closed.

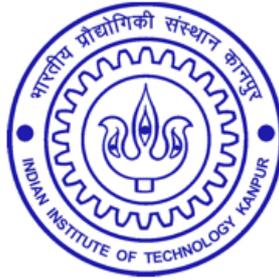
S.No.	Directions by Hon'ble NGT	Concerned Department	Compliance Status January,2021	Compliance Status July,2021
				<ul style="list-style-type: none"> • IIT Kanpur made a Presentation on 22/06/2021 before State Level Technical Advisory Committee. With regard to suitable technology and cost. • As suggested by IIT-Kanpur land availability in vicinity for creation of landfill sites is mandatory & precursor to the process. Accordingly Gram samaj land has been identified and proposal is being sent to D M Kanpur Dehat to do resumption of land & provide it free of cost for this project. • IIT-Kanpur has suggested that out of 5 reductants tested for stabilisation only Iron Sulphate (FeSO4) has passed acceptable TCLP limit test and is also cost effective.

S.No.	Directions by Hon'ble NGT	Concerned Department	Compliance Status January,2021	Compliance Status July,2021
				<ul style="list-style-type: none"> • As per presentation of IIT-Kanpur the actual volume of Chromium lying at site is much higher (1,22,800 m³) in comparison to the volume expressed in C.P.C.B. D.P.R. (37,712 m³). • As suggested by Secretary-Environment the quantity of Chromium Dump should be frozen after discussion between CPCB & IIT-Kanpur and accordingly final cost should be fixed because being a Govt. funded project, a prior budget approval has to be obtained from competent authority.

S.No.	Directions by Hon'ble NGT	Concerned Department	Compliance Status January,2021	Compliance Status July,2021
				<ul style="list-style-type: none"> • Technical feasibility report submitted by IIT Kanpur on Chromium Dump Remediation at Rania Kanpur Dehat is being attached for reference.

Suitable Technology for Chromium Ore Processing Residue (COPR) Remediation at Khanchandpur Dumpsite (AoC3)

A Technical and Financial Feasibility Report



22 June, 2021

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Department of Civil Engineering

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1. Introduction

On behalf of the Central Pollution Control Board (CPCB) and Technical Evaluation Committee (TEC), the detailed project report (from here on termed as DPR) prepared by ERM India Pvt. Ltd. from July 2014 to August 2016, itself reveals the crucial as well as significant human, plants and animal health threats that can be linked to the contamination of soil and groundwater reserves of the proposed project; there is nothing more to emphasize upon than to say that hexavalent chromium, Cr(VI), is a highly potent carcinogenic entity. The site spreads over an area of 50372 sq. m near Khanchandpur village at Rania, Kanpur Dehat. As per the DPR this site is named as area of contamination 3 (AoC3). The approximated height of the heaps of waste is varying between 1.5 to 2 meters. The contamination can be attributed back to the existence of various basic chrome sulphate (BCS) manufacturing industries in the area, namely Waris chemicals, Cerulean chemicals (now occupied by Goldee Masale), Chandini Chemicals (now occupied by Trident Engineering), and Ameliya Textiles (now occupied by Tata and Mazda Associates).



Figure 1. Google Earth image showing the dumpsite comprising an area of 50372 sq. m. Five boreholes (BH1 to BH5) and six trial pits (TP1 to TP6) were dug to carry out sampling and characterize the site.

2. Treatment of Solid Waste in AoC3

2.1. Physical and Chemical Characteristics of the Waste

The samples collected from AoC3 (26°24'13.51" N, 80°2'50.61" E) were of highly alkaline nature with pH ~11. The matrix typically comprises particles of size 2 mm to as high as 800 mm. The Cr(VI) concentration also varies widely between different locations within the waste storage area, as well as with depth. From initial Cr(VI) analysis of samples from 5 different points (Fig. 2) in the plot, it is evident that the level of contamination is not uniform and hotspots exist.

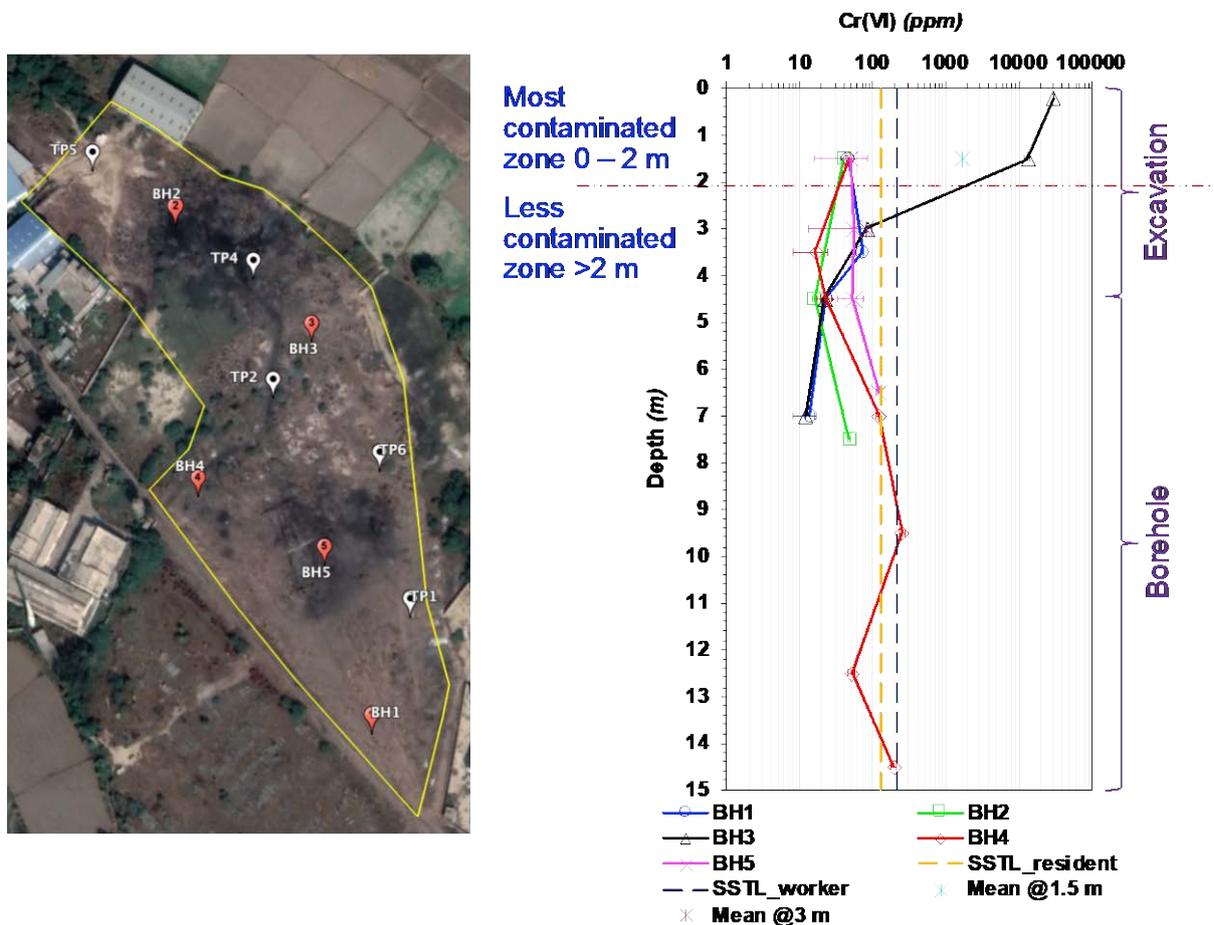


Figure 2. Depth-wise Cr(VI) variation in the five sampling points (BH 1 to BH5). Based on the results, the top 2 m of the waste pile was designated as the most contaminated region. The weighted mean of concentrations for samples collected from top 1.5 m produced a concentration of 0.164 wt%, which was more than the SSSLs prescribed by the DPR for site workers thus signifying the need for remediation.

2.2. Laboratory Studies

A rigorous bench-scale study to choose the correct stabilization method for COPR was performed. The COPR used in these experiments contained 1.13 ± 0.01 % (w/w, n=3) hexavalent chromium (measured using alkaline digestion). The highly heterogeneous waste was sieved and particles finer than 2 mm were used. Toxicity characteristic leaching procedure (TCLP) on these solids produced a leachate with 247.32 ± 16.5 mg L⁻¹ of chromium (limit 5 mg L⁻¹). As have been established by previous researchers, a large fraction of the Cr(VI) is associated with minerals which are often encapsulated inside nodules. Mineral solubility largely controls Cr(VI) leaching from COPR. Hence the stabilization method had to be devised in such a way that the reductants were accessible to Cr(VI).

Five reductants: iron (II) sulphate, calcium polysulfide, sodium dithionite, sodium metabisulphite and an organic solution were tested under similar conditions to gauge their comparative efficacies. Of these, only the first two of these reductants (iron (II) sulphate, calcium polysulfide) could control Cr concentrations below regulatory limits in the final stabilized product (cement encapsulated stabilized COPR). In this report, we shall confine ourselves to these two reductants only. The following sections will talk about the experiment in detail such that the remediation can be effected in the field.

The stabilization was done in a 3-step process: (a) acid treatment (b) reductant treatment and (c) cement encapsulation. A high purity iron (II) sulphate salt and 29% calcium polysulfide solution were used. Calcium polysulfide is a dense (specific gravity 1.26) orange liquid with pH of 11.5.

Acid treatment: 250 g of sieved COPR (< 2 mm) was put in HDPE reactors of 500 mL volume. Water and concentrated hydrochloric acid were added to the reactors to maintain a final liquid to solid ratio of 1. For reactors in which calcium polysulfide were to be added, the volume of water was decreased depending on the dosing to be done in the next step, to maintain a final L:S of 1. The volume of acid was chosen from a separate set of acid neutralizing capacity tests (which shall not be discussed here) to decrease COPR pH to 9. The reactors were agitated on an end-on-end shaker at 30 rpm for 24 h, after which the pH of the slurry was measured which lied between 8.74-9.03. The mixture was ready for the addition of reductants.

Reductant treatment: Three dosings were chosen for both iron (II) sulphate and calcium polysulfide, equivalent to the same ($\times 1$), twice ($\times 2$) and four times ($\times 4$) the

stoichiometric requirement. Duplicate experiments (a and b) were performed for each dosage. After adding the reductants, the reactors were agitated on the end-on-end shaker. After 4 h, the first set of samples were collected, involving aqueous and solid phases from the reactors. Following the sampling, the reactors were left for curing of the COPR. They were only disturbed during subsequent sampling on 1, 3, 5, 10, 20, and 30 d. TCLP was performed on every solid sample collected. Cr concentrations in TCLP leachates (Cr_{TCLP}) of iron (II) sulphate treated solids could eventually pass the regulatory limit of 5 mg L^{-1} (Fig. 3A). Although Cr_{TCLP} in calcium polysulfide-treated solids could not pass the limit, the concentrations were very close to 5 mg L^{-1} (Fig. 3B), and it was anticipated that post-cement encapsulation, these solids would finally pass the TCLP limit and be fit for landfilling.

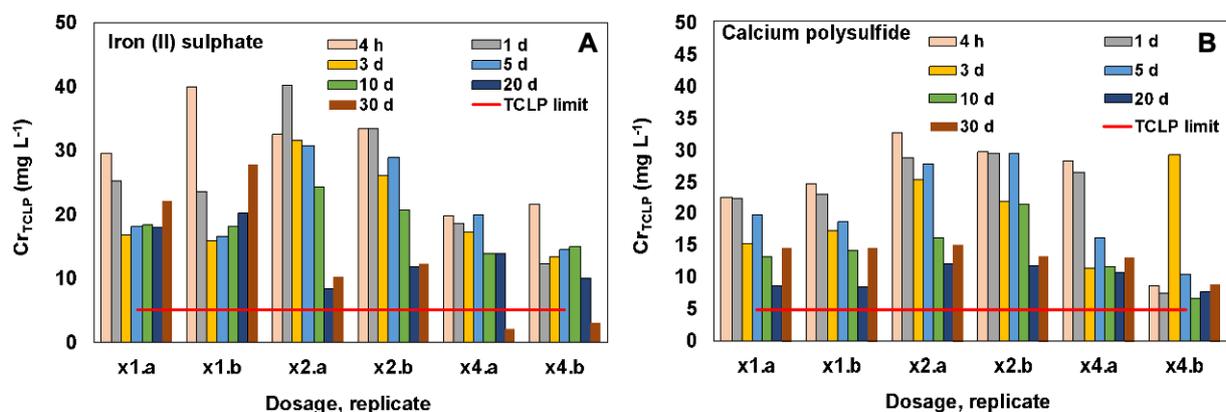


Figure 3. Chromium concentrations in TCLP leachate of (A) iron (II) sulphate and (B) calcium polysulfide treated solids during 4h to 30 d of curing. The dosages ($\times 1$, $\times 2$, $\times 4$) were done in duplicates denoted as a and b. The Cr concentrations decrease with increased dosage of reductants as well as with time, except in some cases. The $\times 4$ dosage of iron (II) sulphate could pass the regulatory limit of 5 mg L^{-1} in TCLP leachate. Although calcium polysulfide could not pass the limit, the Cr concentrations were very close to 5 mg L^{-1} .

Cement Encapsulation: After 30 d, the treated COPR solids were collected from the reactors, dried and homogenized into fine powders. The solids were mixed with 50 % (w/w) ordinary Portland cement (OPC) and 50 % (w/w) lime. A water to binder (treated COPR + OPC + lime) ratio of 0.55 was used. Cubes of $50 \text{ mm} \times 50 \text{ mm}$ dimension were casted and cured for 7 d (Fig. 4A). Each cube was casted in duplicate, one of which was disintegrated and used for TCLP and the other was preserved for determination of compressive strength. Cement encapsulated solids from all iron (II) sulphate and calcium polysulfide dosages ($\times 1$, $\times 2$, $\times 4$) passed the regulatory limit of 5 mg L^{-1} (Fig. 4B). From these results, it is evident that both iron (II) sulfide and calcium polysulfide can be used for COPR stabilization in Khanchandpur village (a dosage would be recommended based on estimated cost). For both these methods the Cr_{TCLP} concentration went down by 99% following the 3-step treatment.

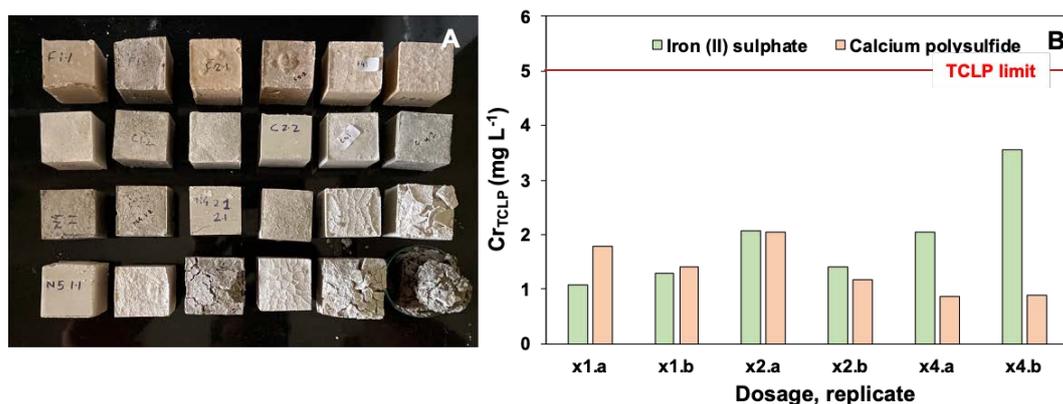


Figure 4. (A) Cement encapsulated stabilized COPR cubes post 7 d curing and (B) chromium concentrations in TCLP leachate of encapsulated cubes. Although only iron (II) sulphate treated COPR could pass the regulatory limit (5 mg L^{-1}) of TCLP at 30 d, after cement encapsulation both iron (II) sulphate and calcium polysulfide could pass the limit.

Comparative cost of treatment: Based on cost calculations from these lab experiments, treatment by iron (II) sulphate and calcium polysulfide will respectively incur INR ~10 and INR ~80 per kg of COPR. However, these costs will be modified to incorporate further expenses on unit operations that will be required to perform the remediation activity in the field. Nonetheless, it is anticipated that treatment by calcium polysulfide would be almost 10 times costlier than by iron (II) sulphate.

Shortlisted reductant: Due to the high cost of calcium polysulfide, it has been dropped and iron (II) sulphate has been shortlisted to be the reductant of choice for COPR stabilization in AoC3

Further tests on stabilized COPR: The following tests should be performed to conclusively determine which remediation method is best suited for COPR in Khanchandpur:

- Compressive strength determination of cement encapsulated cubes
- X-ray diffraction of the final treated solids to determine formation of any swell causing mineral
- Acid resistance tests

These tests could not be conducted due to sudden COVID-related lockdown.

2.3. Recommendations for Field Stabilization

- We propose that stabilization of COPR be performed at site at captive locations followed by transportation of the stabilized material to either a designated landfill or a dedicated landfill specifically for this waste.
- It is recommended that as the contamination level was observed to vary among different strata in the pile, the actual depth of waste remediation be selected during excavation by on-site measurement of Cr using hand-held X-ray fluorescence (XRF) machines. Since the area of the dumpsite is very large, even a small change in depth has a great bearing on the final volume which is to be landfilled.
- To prevent swelling due to presence of excess sulphate, it is strongly recommended that sulphate resistant cement be used.
- As field and laboratory conditions will vary greatly (e.g., agitation rates during acid and iron (II) sulphate treatment in field will differ from lab setup), it is highly recommended that **in the interest of the success of the project a pilot-scale test be done before full-scale waste stabilization work.** This can also be built into the tender specifications where a vendor would have to demonstrate it before being selected for the financial bid stage.
- In the interest of time, it is recommended that waste treatment and landfilling activities be carried out parallelly at AoC3. Based on Cr(VI) concentrations across the site (Fig. 2) it is proposed that treatment activities be performed starting from the most contaminated hotspot i.e., BH3. To accommodate for curing with iron (II) sulphate and later with cement and lime, it is proposed that the BH2 area is excavated and placed on BH4 area for the construction of temporary lined stabilization pits. Figure 5 presents the scheme of such an operation.
- Our calculations suggest that a landfill constructed at AoC3 cannot accommodate the whole volume of the treated waste. In this case, a secured landfill away from AoC3 and as close as possible to AoC3 (in order to minimize time and cost in transportation) must be created.

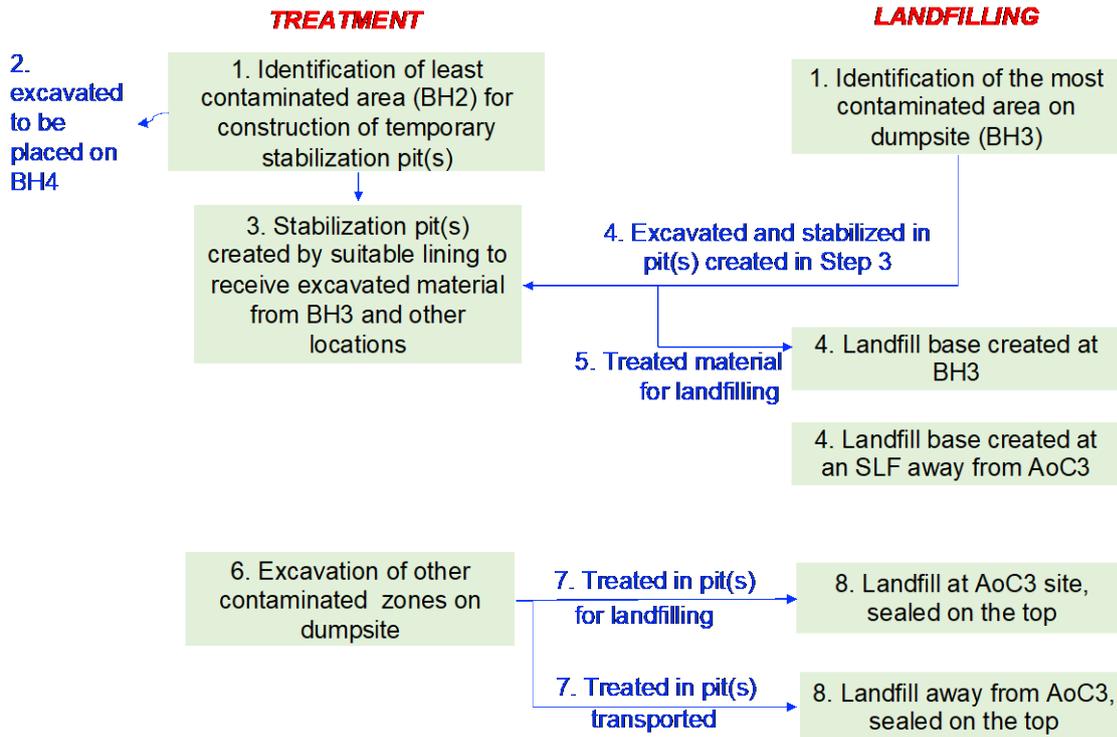


Figure 5. Flowchart to be followed for parallel operations of waste treatment and landfilling. The numbers indicate the sequence of tasks

3. Secured Landfill Construction

3.1. Excavation

Excavation is carried to a depth of 2 m from the RL of borehole number 3 (99.8 m) as shown in the topography (Fig. 1). The contour map for the contaminated site is developed which is shown in Fig. 6. Also, the area of cut and fill with respect to borehole level 3 was developed (Fig. 7). The total volume of contaminated soil to be excavated is 1,22,799 cu.m including cut volume and excluding fill volume. The cost of excavation with transporting and disposal at stabilization site is estimated to be Rs. 2,30,90,000.

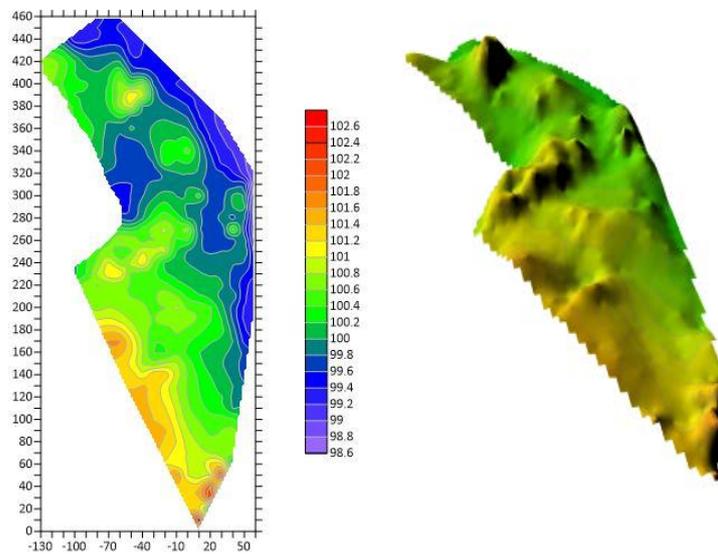


Figure 6. Contour map for topography

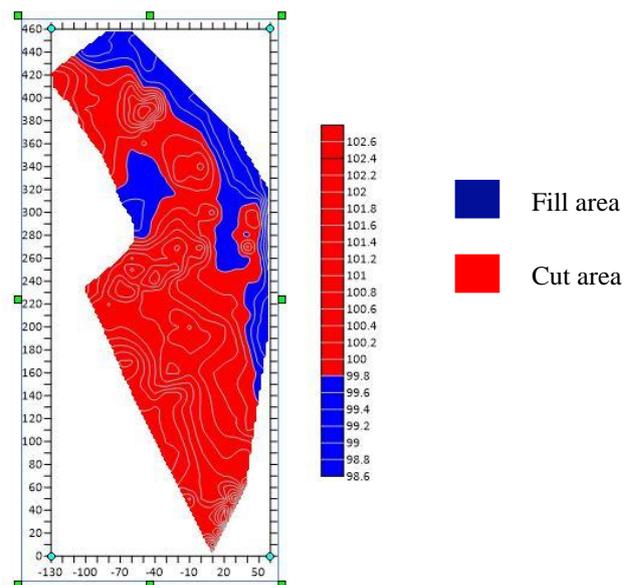


Figure 7. Cut and fill area with respect to Borehole level 3

3.2. Secured Landfill Layout

Landfill covering the entire area of 50,732.46 sq.m cannot be provided because of the presence of high-tension wires passing through the AoC3 site. Hence, two possible cases for Secured Landfill (SLF) construction are considered (Refer Chapter 5). In all the cases the following are kept constant considering the stability issues:

- Depth of excavation (H_B) = 2 m
- Height of boundary embankment (H_E) = 4 m
- Height above the boundary embankment (H_T) = 6.4 m
- Slope of boundary embankment = 1:2
- Top width of boundary embankment = 3 m
- Total height of landfill from the base of bottom lining system = 12 m
- Access road width around the landfill = 4 m
- RL of access road and bottom base of boundary embankment = 99.8

Within the layout of the landfill the following facilities are provided as per Central Pollution Control Board (CPCB) criteria:

- Leachate storage tank
- Security Cabin
- Access Road
- Green belt
- Restroom and Toilet

In addition to this, Leachate treatment plant, workshop, stockpile area, parking area, administration block can also be provided within the layout if required.

- A typical cross-section of the landfill is shown in Fig. 8.

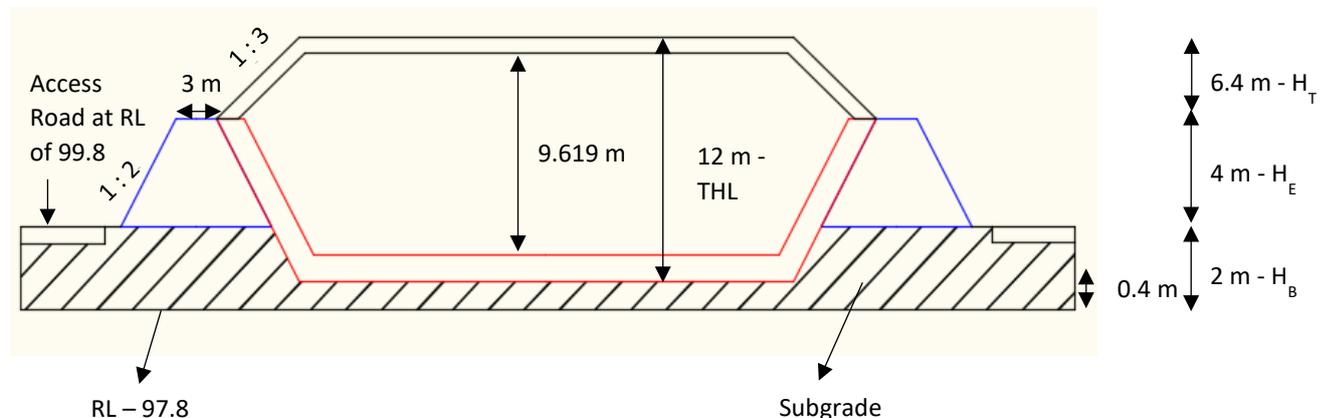


Figure 8. Typical cross-section of landfill

3.3. Lining System

- In order to prevent the migration of waste, leachate and gas to the adjacent soil surface, a double lining system (Fig. 9) is provided along the bottom and sides.
- Before laying the lining system, a well compacted subgrade soil of suitable material from nearby site is provided for a depth of 40 cm.
- A compacted clay layer of 450 mm thickness with addition of 12% bentonite is provided over the subgrade layer.
- Then, a HDPE Geomembrane of 1.5 mm thickness is provided followed by laying of non-woven geotextile of 200 GSM.
- Leachate collection system of 30 cm thick with co-efficient of permeability 10^{-5} m/s is provided over the geomembrane.
- A layer of 200 GSM Geosynthetic Clay Lining (GCL) is laid followed by a second layer of HDPE geomembrane, non-woven geotextile and leachate collection system.
- In addition to this, a system of perforated pipes is provided at the base of the landfill to ensure leachate collection.
- The stabilized waste is then filled into the required height in unit cells.
- A top lining system consisting of a single composite barrier of GCL, 1.5 mm HDPE geomembrane, non-woven geotextile followed by a 30cm thick drainage layer and a 60cm thick top vegetation soil is provided (Fig. 10).

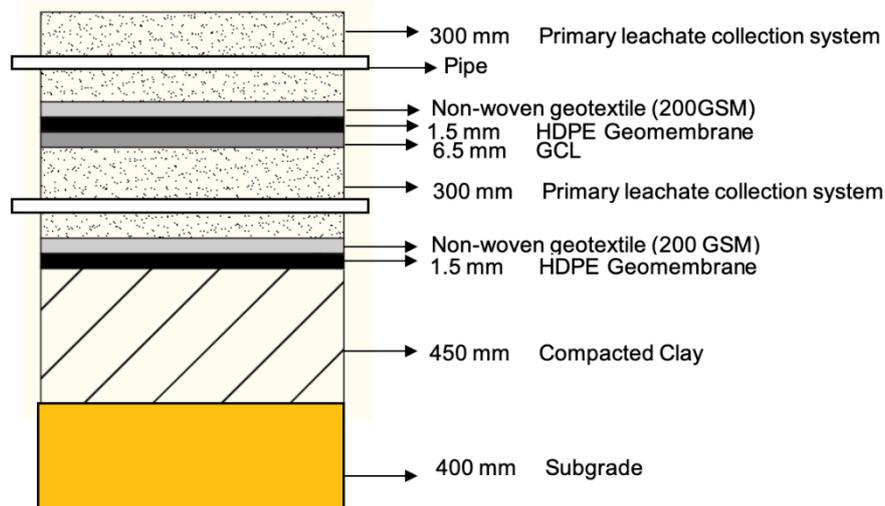


Figure 9. Bottom Lining System

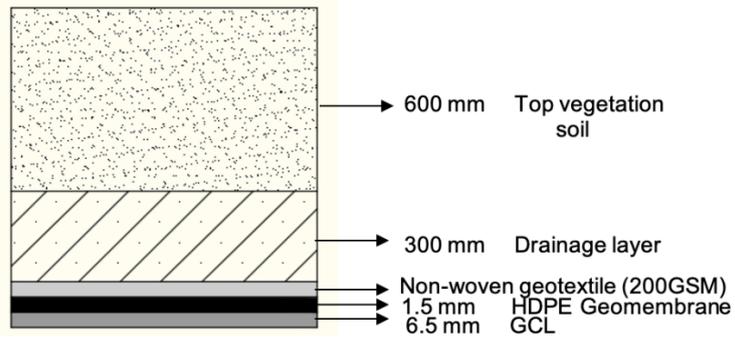


Figure 10. Top Lining System

4. Preservation of the local environment of the site during remediation work.

4.1. Surrounding atmosphere during excavation, transportation, and refilling

Various studies have been done till date to express the urgency to look at the ruining site condition, especially the air quality after the above said works. This becomes more essential to check it thoroughly in districts like Kanpur Nagar. As per the report of IQair, a Swiss air quality solution company, Kanpur stands at 8th position when it comes to ranking order of most polluted cities all over the globe. As per Washington State Department of Ecology, Publication No. 96-443, due to road maintenance works, real estate development and various other similar works create a lot of fugitive dust emissions involving not only non-respirable PM 10 but also the respirable PM 2.5 particles, which in turn causes:

- Human respiratory health problems like asthma, bronchitis etc.
- Increase the probability of contamination of nearby aquatic life, water quality, vegetation, agricultural crop due to dusting, turbidity, and sedimentation.
- Increases vehicular accidents and human injuries due to poor visibility and site conditions.

Nonetheless, Washington State Department for Ecology have also listed four major ways to control the above-mentioned menace, they are:

- Limit the very creation of dust sized particle, which cannot be attained in our case.
- Reducing speed of on-going wind at ground level, probably this is also not an idea which can be implemented at such a short tenure project as this involves planting bushes and series of dense trees along the periphery.
- Thirdly, they suggest binding the emitting dust particles together with help of some binding agent
- Removing after capturing the dust particles at the very introduction of these dust particles to the environment.

As per the requirement of our site and project guideline, we adhere ourselves to last two ideas and explore them further in this report, to make the best out result out of this.

4.2. Impact of Dust on Health

Various dust suppressants have been used to date in various parts of the planet and studied for their benefits and demerits. Here, in the current scenario, the site is dreadfully contaminated with the Cr+3 ore, which is liable to get converted to Hexavalent Chromium(Cr+6) which is not only carcinogenic to nasal tracts but also proved to damage the liver and kidneys of humans when exposed to it for a longer duration. Also, it can cause eye irritation and damages when remaining in affinity with high concentration. (US Department of Labor, 2006)

As per this literature, dust suppression does not only have biological effects like fewer chances of an asthma attack, bronchitis, emphysema, hay fever, and allergies but a few sociological effects too that involves a reduction in the number of vehicular or other mobilization related accidents due to poor visibility and site condition. The Ecology General Permit for Sand and Gravel Operation prohibits Lignin sulphonate at the excavation site as it is liable to contaminate the nearby groundwater reserves.

4.3. Impact of Dust on Vegetation and Aquatic Sources

The study also insists on the role of a few factors on the determination of dust suppressants at any site, including application rate and method, hydrological condition of the site, mainly the precipitation and drainage characteristics, and the site's mechanical stability surface. Calcium chloride, magnesium chloride, and sodium chloride affect the nearby vegetation and groundwater reserves more than the surface water bodies by increasing chloride ion concentration there, but this is not explicitly proved and specified in the literature source itself. (Technologies for dust prevention and suppression_Publication No_96_433_washington state department of ecology)

4.4. Method of Dust Suppression

As per an Advisory report published by Delhi PWD dated 12/11/2019, the EPRI dust suppressant is a hygroscopic liquid mixed with bio additive to hold dust with it for 5-6 hours compared to water, which holds the same only for 15-30 minutes. The EPRI dust suppressant is majorly efficient in reducing the particulate matters, especially the PM2.5 and PM 10 with the cost-effectiveness of 10-15 paise per sq. meter with an application rate somewhere about 2 liters per sq. meter. As per the PWD Delhi guidelines, it can be sprayed using sprinklers and moving tankers, or even as fogging in the concerned area, as the case may be. Water to be used

in this can be either fresh or reclaimed water. EPRI uses MgCl₂ Hexahydrate flakes stored in 50 kg bags to be mixed with water in an appropriate amount, and the dosing should be sprayed efficiently.

Amato et al. did studies in the Mediterranean city of Barcelona around 2013 and walked to the conclusion similar to what we had discussed earlier that the days when MgCl₂ was sprayed, PM₁₀ levels were recorded lower than the general days, there were also episodic reductions in Al, K, Mg, Cr, Li, Cu and Zn in the region when Calcium Magnesium Acetate was sprayed. The overall reduction was recorded as statistically insignificant. Thus, they postulated that the higher the dust loading on the site, the higher the dust suppressant's effectiveness would be. The spraying time was 1 hour, and also after the application, by the end of the day, they used a vacuum-assisted wet sweeping vehicle for cleaning the site, which used 150 liters of groundwater per kilometer. For sampling, they used High volume samplers fitted with quartz filter for 24 h samples of PM₁₀ and PM_{2.5}. After determining the weight of the total deposition on the filters, the filter paper was subjected to various wet chemical analyses like major and trace element analysis by ICP-OES, Ion Chromatography for sulfate, nitrate & phosphate. At last, they take a fraction of the filter for EC-OC analysis for getting an idea of Elemental and organic carbon fraction present in the air of the concerned site.

As per the literature published by CPCB dated 13/11/2019, it is recommended to spray 1 liter/sq.m area for reducing 2µg/m³ of dust from the site if the spraying is done twice a week. At some road site in Stockholm, this reduction in dust came near to 6% reduction after application this water for 8 days. As per CPWD, the most common dust-controlling materials include chlorides, asphalt, and lignin. Amato et al. in 2010, through his campaign of two weeks, concluded that using MgCl₂ dosing of 20 to 40 g/m² results in 56% and 70% reduction in PM₁₀ and PM_{2.5}, respectively. Apart from the general guidelines provided by CPCB, they also concluded that apart from MgCl₂, CaCl₂ Calcium Magnesium acetate(CMA), and potassium formate are other compounds that could be used to increasing the time after which the water evaporates. They tried it in the NCR Delhi region, and results showed that water treated with appropriate dosing of any of the compounds as mentioned above makes water last for 6-8 hours. They also confirmed that if the mechanical device used for spraying or atomization of the suppressant fluid is not very huge in dimension, rating, and running cost itself, it would cost even less than 50 paise/ sqm.

The cost effectiveness, dust reduction efficiency and similar other relevant parameters are quantified Table 1.

Table 1. Cost Effectiveness of various alternative chemical dust suppressants used across the world.

Reference	Name of spray	Cost effectiveness	Retentivity	Dust reduction efficiency
CPCB	EPRI Dust suppressant(MgCl ₂ Hexahydrate flakes)	50 paise per sqm for solution and 10-15 paise for the dust suppressant alone	6-8 hrs	50-60%
CPCB	Reclaimed Water	45 paise per sqm	0.25 hrs(15 mins)	25-30%
Amato et al, 2014	MgCl ₂	N/A	N/A	56% for PM10 and 70% for PM2.5
Dariusz Prostarski_2013(CZ P BRYZA)	Water & Air spray	N/A	N/A	80% for PM as a whole
Northern and western Canada(Adapted from Techman Engineering limited1982)	Liquid CaCl ₂	N/A	N/A	Generally ineffective in surface courses with lower fines' content(<10-15%)
Mulholand, 1972; Foley et al., 1996; U.S. Department of Transportation, 2001).	Liquid CaCl ₂	N/A	N/A	N/A
USEPA Laboratory, 1987	Liquid CaCl ₂	N/A	N/A	N/A

Role of Calcium chloride(CaCl₂) as a dust control agent

Henry Kirchner and James. A. Gall, through their research paper titled *Liquid Calcium Chloride for Dust Control and Base Stabilization of Unpaved Road Systems*, says that the two characteristics: hygroscopic (attracts moisture from the atmosphere and resists evaporation) and deliquescence (Solid can dissolve into liquid by absorbing moisture from the air) that makes it ideal for usage as a dust suppressant. Its other properties also support the cause as its moisture film is more robust than that of plain water, higher surface tension, lower vapor pressure than water and lower freezing point. Over time, CaCl₂ also penetrates down by several inches, and along with these characteristics, as mentioned earlier, along with its lower freezing point, it gives a stabilizing effect to the dust.

How CaCl₂ is better than other similar agents than its other alternatives

1. Asphalt

In the 1970s, several Harvard researchers gathered cost estimates data from various state highways and concluded treating road with asphalt or oil will be six times costlier to CaCl₂.

2. MgCl₂

MgCl₂ also has most of the characteristics similar to that of CaCl₂ but at temperatures above 71° F and RH < 31%, it starts losing its two most essential qualities of being hygroscopic deliquescent, whereas the CaCl₂ does not.

3. Lignin sulphonate

In 1983, the US Bureau of mines conducted an independent study on three mine hauls for achieving 50% percent dust control and found that Lignin sulphonate was between 1.41 to 1.45 times higher than CaCl₂. Lignin being a petroleum-based product offers a lesser degree of penetration to the soil as compared to CaCl₂.

Also, a primary concern with this suppressant is that being a petroleum waste product is highly soluble in water, and thus it leaches out during heavy rains, and thus, its reapplication is necessary (Jones, 1999; U.S. Department of Transportation, 2001).

Mulholland, 1972; Foley et al., 1996; U.S. Department of Transportation, 2001 also say that salts such as CaCl₂ and MgCl₂ perhaps provide the most satisfactory results compared to other alternatives in terms of their ease of application, dust control ability, durability, and cost-effectiveness the significant factors for a pandemic hit the country.

3.5. Anti-Smog Gun

The spray can be done using an anti-smog gun which is quite an obvious choice for the Municipalities when it comes to dust suppression thus can be availed very easily and would be a cost-effective alternative for us.

The specifications are being worked upon and are listed below, but the exact configurations can be decided only after its lab testing and dry run of the entire setup.

Table 2. Specifications of anti smog gun

Parameters	Values
------------	--------

Equipment type	Trolley/ Truck mounted
Canon (horizontal) rotation capabilities	Not less than 180 degrees
Tilting angle (vertical)	At least 60 degrees
Blower capacity	4000 m ³ /hr
Blower RPM	2000-3000
Water flow rate	1.5 lpm
Mist spray nozzles	18

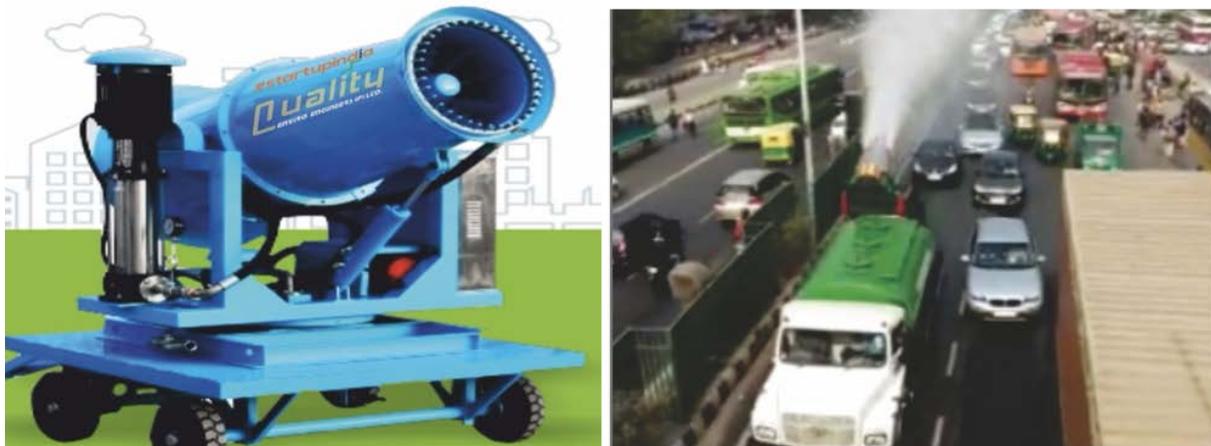


Figure 11. Sample pictures of mechanical cart mounted(left) and truck mounted(right).

4.6. Spray Condition on Site

- As the study that we are referring to, are primarily based on the suppression of the dust that gets re-suspended due to the vehicular movement over it and causing severe deduction in the visibility for the ongoing traffic on the bitumen or earthen roads and not on the sites similar to what we have.
- As per the literature available, the Suspended Particulate Matter (SPM) that gets suspended in the air has a major fraction of Respirable Particulate Matter (RPM) which

constitute PM10 and PM2.5 which in turn can trigger various chronic disease and pulmonary dysfunctional attacks on the passengers.

- As there is only a few studies have been conducted in Kanpur till date, we don't have ample amount of research back up to put forward a concrete model, but assuming that the condition of Kanpur and New Delhi are almost same, we narrow down our conclusion to a dosing of 5% CaCl₂ with application rate of 2 liter/cum of soil mass and its retentive effectiveness shall be taken as 6-8 hrs., where as we if we use reclaimed or even fresh water without any chemical dosing, it can also be sprayed but with lowered effectiveness period of 15 minutes.
- Before digging, the spray or smog application will go in a serpentine fashion across the panels of the work site and after the end of the waiting period of some stipulated time so that the suppressant can percolate up to the required level, the excavator or digging machine can be deployed at the site for its intended work.
- During digging, continuous spray will be done using a mobile trolley mounted smog gun from a distance about 50 meters.
- After digging, spray the same or higher dosing of the same suppressant will be done on the exposed surface to avoid any resuspension of dust due to movement of tractors or crawlers.

5. Cost Estimates

In this section we shall present the anticipated project cost. We have used our understanding of the project and its operational steps to come out with values that have been tabulated here.

5.1. Assumptions

- The estimate was prepared using rates of chemicals, equipment, etc. obtained from wholesalers listed on www.indiamart.com.
- Machineries like excavators, tipper trucks, cement mixers, conveyer belts, etc. shall have to be hired. Hiring charges of these have been obtained from *Schedule of Rate* documents for CPWD and, in some cases, from other state PWDs (when the CPWD rate could not be obtained).
- To supply clean water for stabilization, construction and dust control, a 100 m deep borewell must be constructed which can support two submersible pumps, this estimate has been included in Treatment costs.
- Treatment costs have been evaluated assuming an average Cr(VI) concentration of 0.164 wt% in the waste. This value was obtained from weighted average of the concentrations of the 5 samples (BH1 to BH5) obtained from 1.5 m depth.
- A bulk density of 1.65 g/cc has been assumed for the waste, which is consistent with the value listed in the DPR prepared by ERM and have been found in accordance with some sources (Soil Bulk Density/Moisture/Aeration - USDA). Therefore, 1,66,230 tonnes of waste is estimated to be lying in AoC3,
- Specific gravity of stabilized COPR was assumed to be 3.5 (Crysochoou et al 2010, and our preliminary measurements).
- Two scenarios have been developed to give a clear picture of how the project cost shall vary based on—(i) a full reduction plus cement, lime solidification process; and (ii) a very efficient reduction process where not cement, lime encapsulation is carried out. For (ii) stabilization is to be done with x4 dosage of iron (II) sulphate and, the bulk density of compacted media in the landfill has been assumed to be 1.6815 g/cc, based on dry density and optimum moisture content value obtained during standard proctor test on soil samples from AoC3.
- The material for subgrade layer, boundary embankment, compacted clay layer, soil for primary and secondary leachate collection layer, top vegetation soil, is assumed to be

transported from a nearby site within 5 km distance from the AoC3 site. If the distance of transportation increases, the cost also increases correspondingly.

- Capital cost for the land acquisition for the landfill construction is not considered in the cost estimate.
- A force of 100 workers is anticipated to work on the site during the first year of the project and 50 during the second year.

Volume of treated material: For cost estimations and calculating the capacity of the required landfill we consider that 2 m of the waste is treated, either by: (i) x2 dosage of iron (II) sulphate and cement, lime solidification for the whole 2 m depth or, (ii) x2 dosage of iron (II) sulphate and cement, lime solidification for the top 1 m depth, and x4 dosage of iron (II) sulphate only for the bottom 1 m. Table 3 lists the details of this scenario.

Table 3. Final treated volumes

Case	Total depth of excavation (m)	Final volume of treated material (cu.m)
i	2	3,00,224.09
ii	2	2,01,369.26

5.2. Secured Landfill Requirement

Landfill covering the entire area of 50,732.46 sq.m cannot be provided because of the presence of high-tension wires passing through the AoC3 site. In addition, volume of treated material as listed in Table 3 cannot be accommodated in the AoC3 site. Hence, two possible cases for Secured Landfill (SLF) are considered. Case 1 is to dispose the entire volume of treated waste to a new landfill site, while case 2 is to dispose part of the waste (high hazardous waste: stabilization and solidification) in the AoC3 landfill site and the remaining to a new landfill site.

5.2.1. Case 1

Case 1 (Fig. 12 and Fig.13) depicts the layout of SLF at a different site away from AoC3. Case 1a is proposed to have an actual landfill area of 50,000 sq.m and a height of 12 m. The total capacity of the landfill is calculated to be 3,23,000 cu.m for accommodating a treated volume of 3,00,224.09 cu.m. In case 1b, the actual landfill area is 40,000 sq.m and a height of 12m, which has a capacity of 2,47,376 cu.m for accommodating a treated volume of 2,01,369.26 cu.m. Additional capacity has been provided in both cases 1a and 1b in account of daily cover.

3.2.2. Case 2

We have considered cases of constructing SLF in AoC3 (Fig.14), along with a secondary SLF away from AoC3 to accommodate the extra volume of treated material. The AoC3 landfill is proposed to have an actual landfill area of 14,022.96 sq.m. The total capacity of the landfill is calculated to be 68,919.46 cu.m.

The secondary landfill that should be constructed in a different location for the remaining treated soil (Fig.13 and Fig.15) will have an actual landfill area of 40,000 sq.m and 20,000 sq.m, they are found to have a landfill capacity of 2,47,376 cu.m (case 2a, same as case 1b) and 1,50,178 cu.m (case 2b) which can be used to fill the treated waste generated from different scenarios. If the high-tension wires can be displaced from the study area, then a landfill for the entire area can be constructed. This scenario is discussed in Appendix 1.

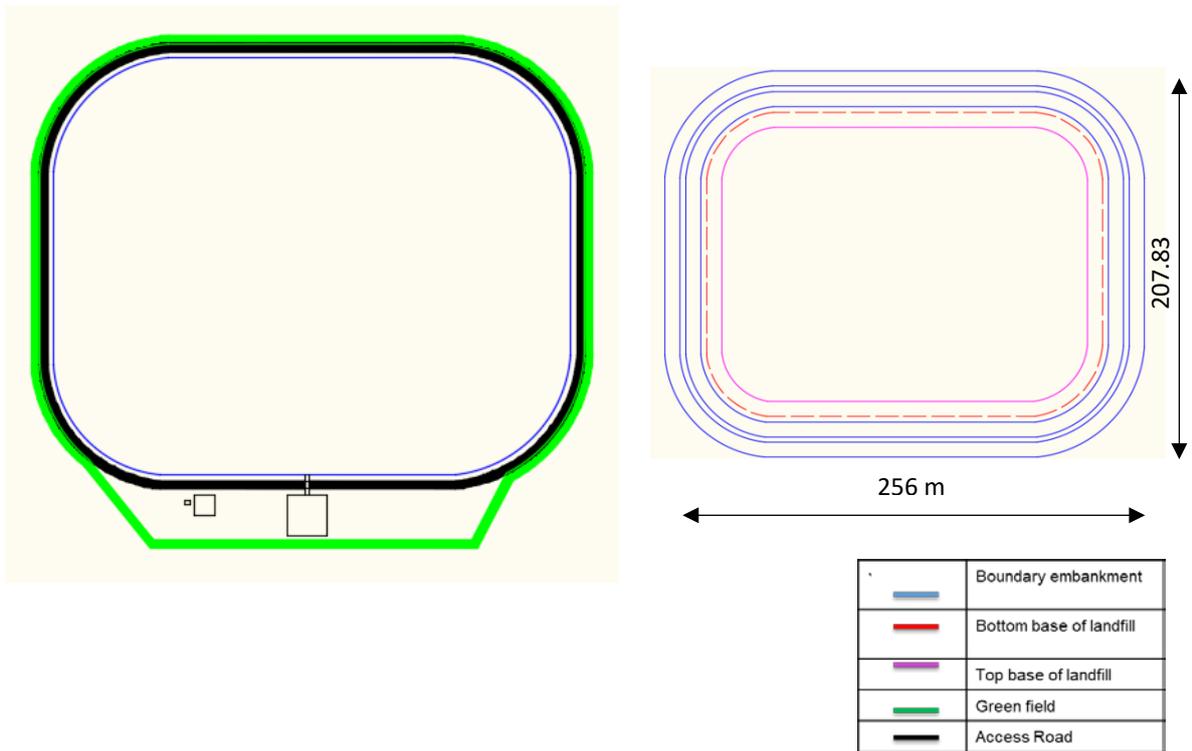


Figure 12. Layout and plan of Case 1a Landfill in a different site

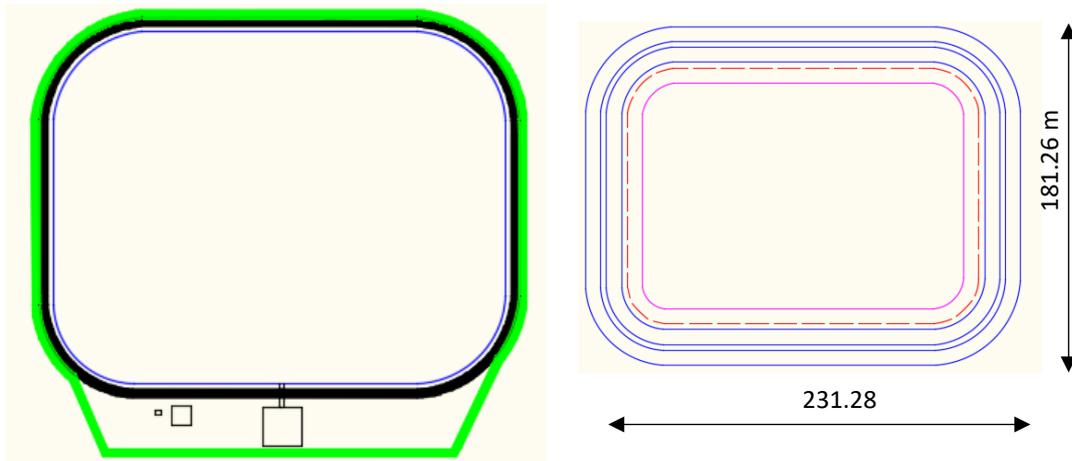


Figure 13. Layout and plan of Case 1b Landfill in a different site

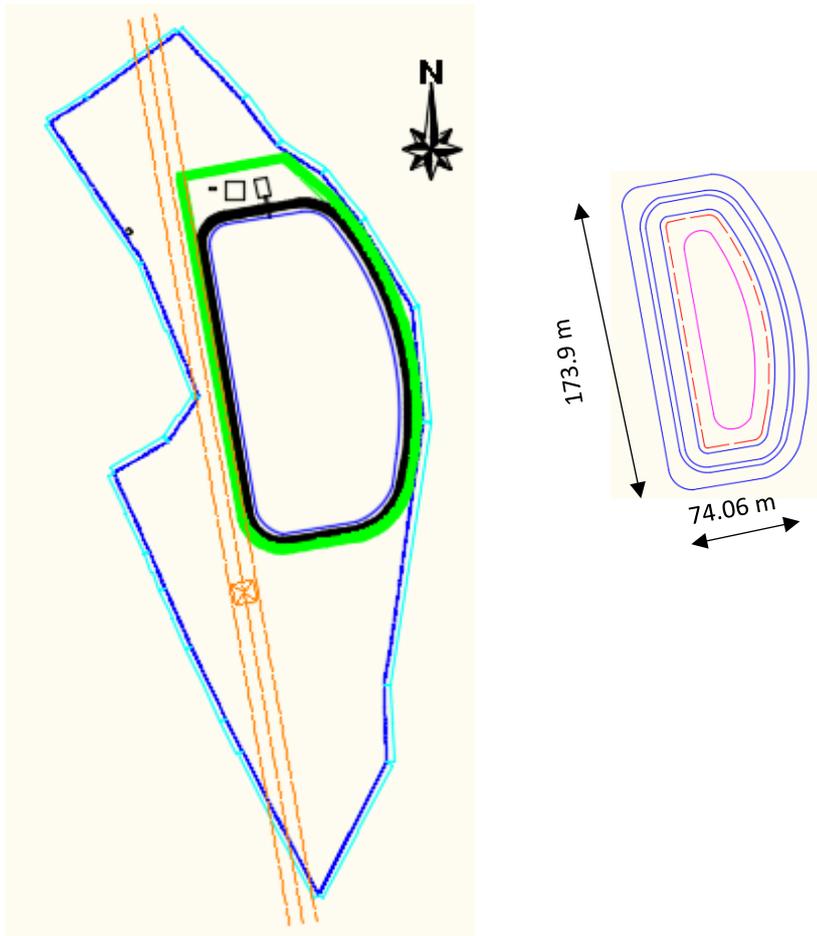


Figure 14. Layout and plan of Case 2a Landfill within AoC3

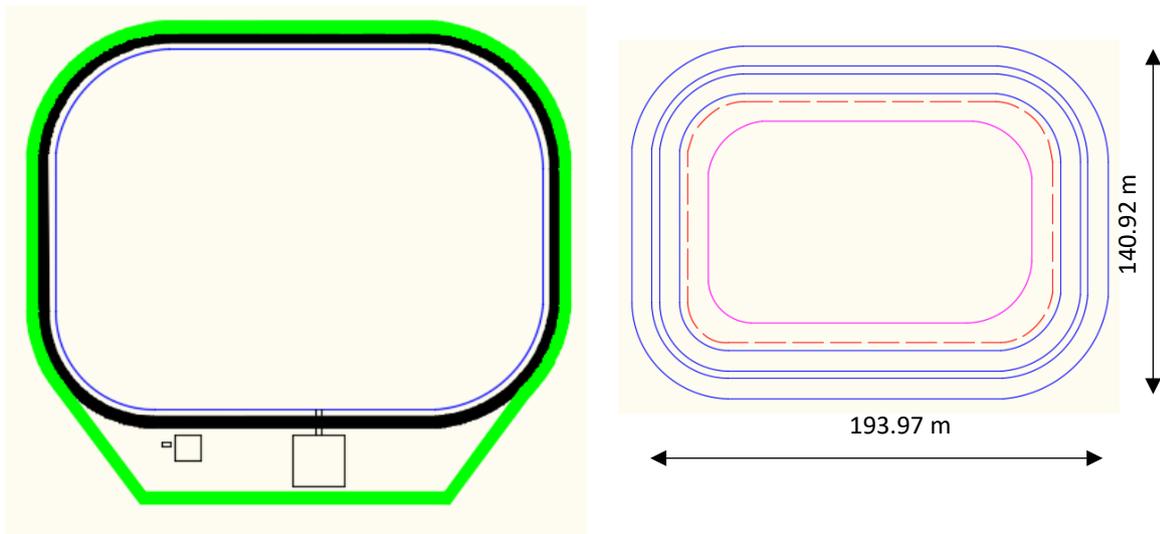


Figure 15. Layout and plan of Case 2b Landfill in a different site

Secured landfill capacities that can be constructed within the AoC3 site is given in Table 4. No landfill constructed within AoC3 can accommodate the huge volume of treated material and hence a separate area must be acquired. The waste after treatment can be wholly disposed in an SLF away from AoC3 (case 1a, 1b; Table 4) or, it can be disposed in parts- in SLF constructed at AoC3 and away from AoC3 (case 2a, 2b; Table 4). These scenarios are summarized in Figure 12.

Table 4. SLF construction

Case	Actual landfill area (sq.m)	Area of landfill with other structures (sq.m)	Landfill capacity (cu.m)
1a	50,000	64,161.058	3,23,000
1b	40,000	53,959.08	2,47,376
2a	14,022.96*	21,267.9	68,919.46
	40,000**	53,959.08	2,47,376
2b	14,022.96*	21,267.9	68,919.46
	25,000**	35,586.16	1,50,178

* SLF on AoC3

** SLF away from AoC3

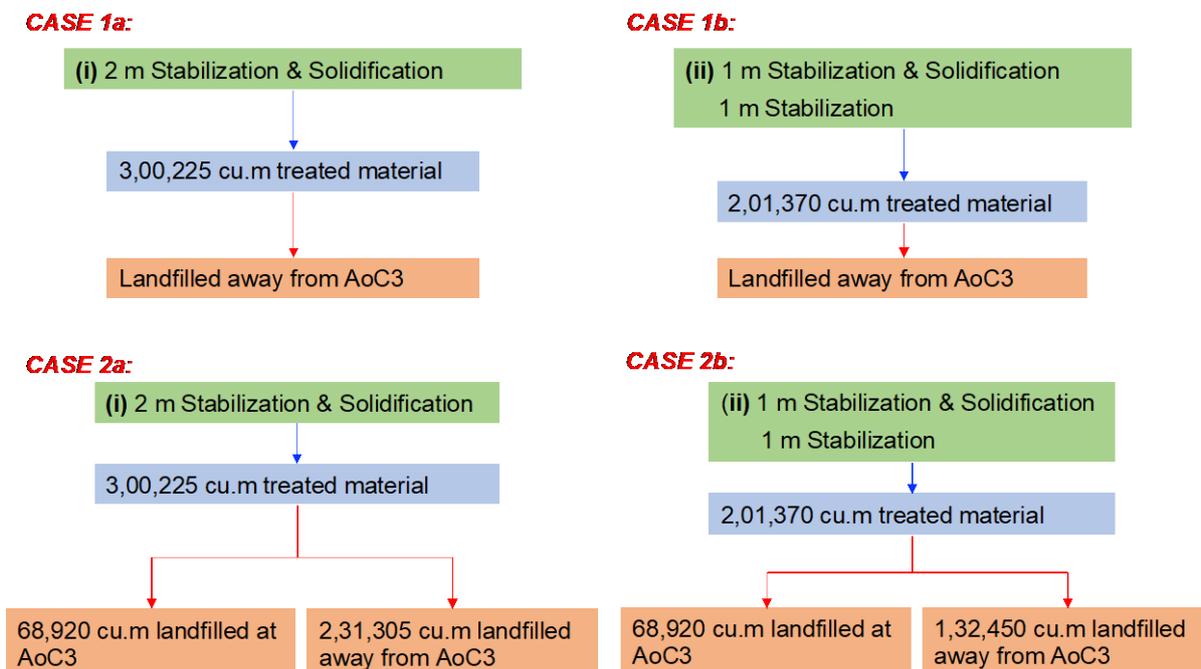


Figure 16. The different scenarios obtained

5.3 Anticipated Cost Estimates

5.3.1. Cost Estimate for Treatment of Contaminated Soil

Sl. No.	Activity	Type	Estimated Cost (₹)
1	Excavation to 2 m depth below RL of BH3	Lump	2,30,90,000
2	Dust control	Lump	5,76,589
3	Survey (as in DPR)	Lump	1,09,000
4	Health and Safety measures (as in DPR)	Lump	50,00,000
5	Temporary stabilization pit	Lump	13,22,200
6	Treatment	Lump	
	Case i		116,30,52,400
	Case ii		72,08,03,150
7	SLF construction		
	Case 1a	Lump	15,38,74,028
	Case 1b		12,38,44,717
	Case 2a		16,66,54,056
	Case 2b		12,45,56,516
8	Transportation		
	Case 1a	Lump	3,67,95,900
	Case 1b		2,49,32,400
	Case 2a		3,10,26,100
	Case 2b		1,91,62,600
9	TOTAL (Without Land Acquisition Cost)		
	Case 1a	Lump	138,38,20,117
	Case 1b		89,96,78,056
	Case 2a		1,39,08,30,345
	Case 2b		89,46,20,054

5.4. Comparison of Estimates with DPR

Case	Cost (₹ per kg) of COPR (this study)	Cost (₹ per kg) of COPR (DPR)
1a	8.32	14.35
1b	5.41	
2a	8.37	
2b	5.38	

Case	Cost per cu.m capacity of landfill (excluding other facilities) (₹)	Cost per cu.m including other facilities (₹)	Estimated Cost per cu.m capacity as in DPR (₹) (Excluding other facilities)
1a	440.42	476.39	643.92*
1b	455.62	500.63	
2a	484.21	560.89	
2b	485.9	573.9	

* For a landfill area of 10,000 sq.m and total height of 11 m estimated Capacity of landfill = 83,969.46 cu.m. Hence for a total cost of 5,40,70,000, cost for per cu.m capacity is found to be Rs. 643.92.

5.5. Anticipated time requirements

Assumptions:

- An excavator can work at a rate of 30-32 cu. m per hour and 2 excavators are employed
- Each working day is 8-10 h
- The treatment rate is same as the excavation rate, so that no time is wasted during operation

Considering that the tasks can go on parallelly the project may be completed in 12 months

Activity		Time required
Excavation		7 months
Treatment		7 months
Landfill construction	Subgrade, bottom lining, and embankment	2-3 months
	Filling of waste	7 months
	Top lining system	2 months

7. References

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7. Saha P, Ksaibati K. Effectiveness of the two chemical treatments (CaCl₂ and MgCl₂) as dust suppressants on gravel roads. *Int J Pavement Eng.* 2020;8436. doi:10.1080/10298436.2020.1745799
8. https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_053260.pdf

Hon'ble Sir,

Kindly refer to meeting held no 15.07.2021 with regards to N.G.T.'S -O.A. No. 985,986 of 2017 in which inter-alia other thing the issue of Chromium Waste Dumped near Village-Khanchandpur-Rania, Kanpur Dehat was also discussed. The Hon'ble Commission had desired that a PERT Chart be presented for entire job of 'Remediation of Chromium Waste'.

In compliance of Hon'ble Commissions directive its pertinent to mention that there are 02 activities which are precursor to actual job of "Chromium Waste Remediation"-

- i- A suitable land around 14 Acres is to be made available by D.M.-Kanpur Dehat for creation of landfill sites in vicinity of Chromium Dump. (Tentatively 03 Months)
- ii- Chromium Waste quantity finalisation, after an interaction between I.I.T.-Kanpur & C.P.C.B.-Lucknow. (Tentatively 03 Months)

Both the above activities shall run simultaneously. Once both the activities are completed, final cost of project shall be provided by I.I.T. This final cost shall be intimated to Govt. & requisite budget-approvals got done.

After budget allocation the timelines as provided by I.I.T.-Kanpur shall come into force-

Sl. No.	Scope of Work	Targeted Completion
1.	Suitable technology to be adopted for remediation of Hazardous Chromium Waste (Disposal of dumped Chromium Waste.)	45 d
2.	Estimation of the project as per chosen technology.	21 d
3.	Preparation of RFP/Bidding document as per the estimate above.	14 d
4.	Hand holding in bidding process.	100 d
5.	Third Party Quality & Quantity checking during execution of work.	1 y
6.	Any ancillary work required for successful completion of above Project.	6 m
Total estimated time for work completion		2 y

Once the job is broken up into sub-activities & B.O.Q. approved by competent authority a precise PERT chart could be developed & presented to Hon'ble Commission.

(SANDEEP CHANDRA)
General Manager (Engg.)
UPSIDA, Kanpur.



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं० G35763 / NGT-46/2021
Ref. No

दिनांक 15-7-21
Date

To,

Shri L.N.Soni
PPS to Hon'ble Chairman
Oversight Committee
NGT, UP, Lucknow.

Subject-Compliance status of the directions of Hon'ble NGT in OA 985 and 986 of 2019 in re: Water Pollution By Tanneries at Jajmau at Kanpur, U.P. with OA No. 986 of 2019 in re: Water Pollution at Rania, Kanpur Dehat and Rakhi Mandi, Kanpur Nagar, UP.

Sir

Please take the reference of meeting held on 15.07.2021 of Oversight Committee regarding compliance status of directions passed by Hon'ble NGT in OA 985 and 986 of 2019. In compliance of directions given by Oversight Committee during the meeting, the status on "action taken on erring industries and recovery of Environmental Compensation" is attach herewith for necessary action please. The same has already been sent to oversight committee through email dated 13-07-2021.

Encl.: As mentioned above.

Yours Sincerely

Chief Environmental Officer
Circle-2

English Letter head

टी.सी. - 12 वी, विभूति खण्ड, गोमती नगर,
लखनऊ - 226 010
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फैक्स : 0522-2720764, 2720676
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Website : www.uppcb.com

Remediation of Chromium dump at Rania and Khanchanpur Village, Kanpur Dehat

- a) UP Pollution Control Board had imposed Environmental Compensation of Rs. 280.01 Crore against 06 defaulting industries on 19-11-2019 after giving due opportunity through show cause notice dated 24.10.2019. D.M. Kanpur Dehat has issued RC for recovery the dues against the defaulter six units. Property of 03 industries have been attached and auction is under process.
- b) The industries responsible for illegal dumping of chromium waste filed Appeal Nos. 14, 15, 16, 17 and 18 of 2020 before Hon'ble Tribunal for getting relief in the matter of imposition of environmental compensation against them by Uttar Pradesh Pollution Control Board. That Hon'ble Tribunal has given following directions vide its order dated 04.01.2021 and has listed it for final hearing on 27.07.2021:-

" The persons responsible for dumping such hazardous waste, which has contaminated the ground water to the detriment of the inhabitants, cannot disown responsibility for liability for such damage on the ground of inaction of the authorities or closing of the companies. Corporate veil may not be a defence to absolute liability for damage to environment. Of course, the liability of appellants has to be limited to the violations clearly attributable to them. The State PCB must determine such liability specifically, after due opportunity to the appellants, preferably within a period of three months and till this is done, further coercive measures may not be taken. It is made clear that any further proceedings will be subject to further orders.

5. The above observations are for interim relief and are subject to final order after further consideration. Applications for interim relief will stand disposed of accordingly."

UPPCB has again given due opportunity to the appellants as per order of the Hon'ble Tribunal dated 04.01.2021 and will dispose of the appeals after due hearing as per law.

That the ESCROW account has been opened by District Magistrate Kanpur Dehat, for deposition of funds to be utilized for removing the dumped hazardous waste and restoration of the environment and the public health. State Government has transferred amount of Rs 23.44 Crore to the ESCROW account on 27.03.2020. The rest amount for remediation of chromium dump site Khanchandpur, Rania, Kanpur Dehat, could not be deposited in the ESCROW account due to non-recovery of Environmental Compensation imposed against the 06 industries, as they have obtained stay from the Hon'ble NGT on 28.01.2020 and 04.01.2021.

In compliance of Hon'ble NGT order the hearing was done on 16-03-2021. A letter has been sent to Regional Office, Kanpur Dehat for verification of the facts mentioned in the representation of units submitted during the hearing. The report from Regional Office, Kanpur Dehat is awaited. Industries have to submit some more information in this regard. The next date of hearing is 27-07-2021.



क्षेत्रीय कार्यालय : उ०प्र० प्रदूषण नियन्त्रण बोर्ड, कानपुर
REGIONAL OFFICE : U.P. POLLUTION CONTROL BOARD, KANPUR

संख्या 302/201-147/21

दिनांक 30-08-21

सेवा में,

मुख्य पर्यावरण अधिकारी (वृत्त-2),
उ०प्र० प्रदूषण नियंत्रण बोर्ड,
लखनऊ।

विषय:- OA NO. 985/2019 IN RE: WATER POLLUTION BY TANNERIES AT JAJMAU, KANPUR WITH OA NO. 986/2019 IN RE: WATER POLLUTION IN RANIA, KANPUR DEHAT & RAKHI MANDI, KANPUR NAGAR के सन्दर्भ में ओवर साइट कमेटी की आहूत बैठक दिनांक 14.12.2020 के कार्यवृत्त में बिन्दु संख्या-02 के सम्बन्ध में अद्यतन आख्या।

महोदय,

कृपया उपरोक्त विषयक के सम्बन्ध में श्रीमती प्रतीक्षा गुप्ता, ओवर साइट कमेटी से दूरभाष पर हुई वार्ता के अनुक्रम में दिनांक 14.12.2020 को ओवर साइट कमेटी की आहूत बैठक के कार्यवृत्त में उल्लिखित बिन्दुओं पर अद्यतन सूचना चाही गयी है, का सन्दर्भ ग्रहण करना चाहें। उक्त कार्यवृत्त के बिन्दु संख्या-02 से सम्बन्धित अद्यतन आख्या संलग्न कर अग्रिम आवश्यक कार्यवाही हेतु सादर प्रस्तुत है।

संलग्नक:- यथोपरि।

भवदीय


(डा० ए०के० माथुर)
क्षेत्रीय अधिकारी

प्रतिलिपि:- श्रीमती प्रतीक्षा गुप्ता, ओवर साइट कमेटी को दूरभाष पर हुई वार्ता के अनुक्रम में सूचनार्थ एवं अग्रिम कार्यवाही हेतु प्रेषित।

क्षेत्रीय अधिकारी

LATEST INFORMATION REGARDING MINUTES OF MEETING OF THE OVERSIGHT COMMITTEE, NGT UP LUCKNOW, HELD ON 14.12.2020 AT 11:00 A.M IN OA NO. 985/2019 IN RE: WATER POLLUTION BY TANNERIES AT JAJMAU, KANPUR WITH OA NO. 986/2019 IN RE: WATER POLLUTION IN RANIA, KANPUR DEHAT & RAKHI MANDI, KANPUR NAGAR.

S.no.	Directions issued by Hon'ble NGT	Latest Information Decision taken by the Committee
2.	Hon'ble NGT had directed the State to install ETPs/CETPs and ensure their proper function to prevent untreated discharge of industrial effluents in river Ganga and its tributary.	As on date, towards 20 MLD CETP, with reference to the PE's report, a total progress of 30.11% (Engineering, Procurement and Construction cumulatively) has been achieved, including the civil construction progress of 11.38% at site. Keeping in mind, the covid situations, the extension of time has been suggested by the Project engineer and the contractor has been instructed to complete the project before 02-February 2022. Work is under progress and rigorously being followed up. (As Reported by SPV, Jajmau Tannery Effluent Treatment Association, Kanpur.)

[Signature]
30/06/2021
R.O.



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

Annexure-V

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०

Ref. No.

To,

Managing Director,
U.P. Jal Nigam,
6, Rana Pratap Marg,
Uttar Pradesh-226001

दिनांक

Date07/08/2020

Sub: Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, (वृत्त-1,2,3,4,5,6,7) उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ, मथुरा, अयोध्या, आगरा, सुल्तानपुर, सहारनपुर, गोरखपुर, मिर्जापुर, वाराणसी, प्रयागराज, कानपुर नगर, कानपुर देहात, बुलन्दशहर, बिजनौर, मुरादाबाद, गाजियाबाद, सोनभद्र, फिरोजाबाद, को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
लखनऊ- 226010
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वेबसाइट www.uppcb.com

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Web Site : www.uppcb.com



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०

Ref. No.

To,

Vice Chairman,
Meerut Development Authority,
Vikas Bhawan, Civil Lines,
Meerut, Uttar Pradesh-250001

दिनांक

Date 07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, वृत्त-3 उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, मुजिफाबाद को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०

Ref. No.

To,

Vice Chairman,
Agra Development Authority,
Ratan Muni road, Jaipur House,
Jaipur house colony,
Agra.

दिनांक

Date07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, (वृत्त-4) उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, आगरा को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वीं, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं० H51737/STP/CL/235/2020
Ref. No.

दिनांक
Date 07/08/2020

To,

Vice Chairman,
Ghaziabad Development Authority,
Vikas Path, Near Old Bus Stand,
Ghaziabad.

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, वृत्त-1 उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, गाजियाबाद को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०
Ref. No.
To,

Chief Executive Officer,
Greater Noida Development Authority,
Greater Noida Authority, plot no.1,
Knowledge Park-4
Greater Noida

दिनांक
Date 07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, वृत्त-1 उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, ग्रेटर नोयडा को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०

Ref. No.

To,

Chief Executive Officer,
New Okhla Industrial Development Authority,
Jal kal Parisar, Sector-5,
Noida-201301

दिनांक

Date 07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, वृत्त-1 उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, नोयडा को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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Web Site : www.uppcb.com



उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०
Ref. No.
To,

Chief Engineer,
UP Avash & Vikas Parishad,
104 - Mahatma Gandhi Marg,
Lucknow.

दिनांक
Date 07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, (वृत्त-5) उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०
Ref. No.

To,

Executive Officer,
Nagar Palika Parishad,
SD Area, Muzaffar Nagar,
Uttar Pradesh.

दिनांक

Date 07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, (वृत्त-3) उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, मुजफ्फरनगर को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०
Ref. No.
To,

Executive Officer,
Nagar Palika Parishad,
Mainpuri,
Uttar Pradesh.

दिनांक

Date ...07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, (वृत्त-4) उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, फिरोजाबाद को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं०
Ref. No.
To,

Executive Officer,
Nagar Palika Parishad,
Mathura,
Uttar Pradesh.

दिनांक

Date07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, (वृत्त-4) उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, मथुरा को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

टी.सी.-12वी, विभूति खण्ड, गोमती नगर,
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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ क्र०
Ref. No.
To,

Deputy Chief Engineer,
DLW, Varanasi,
Uttar Pradesh

दिनांक
Date

07/08/2020

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ०प्र० प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर०के०त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, वृत्त-6 उ०प्र० प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ०प्र० प्रदूषण नियंत्रण बोर्ड, वाराणसी को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

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उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड

UTTAR PRADESH POLLUTION CONTROL BOARD

संदर्भ सं.
Ref. No.

15/1/20 1STP/2/235/2020

दिनांक

Date07/08/2020

To,

Station Director,
Narora Atomic Power Station,
Bulandshahr,
Uttar Pradesh

Subject:- Directions issued under Section 33A of the Water (Prevention & Control of Pollution) Act, 1974 regarding treatment and disposal of sewage and other effluents into a Water Channel or Stream.

महोदय,

कृपया उपरोक्त विषयक केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली के पत्रांक F.No.-B-19114/NGT/WQM-II/CPCB/2020-21/1734-1738 दिनांक 26.06.2020 का संदर्भ ग्रहण करने का कष्ट करें। (संलग्नक) जिसके द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत उ0प्र0 प्रदूषण नियंत्रण बोर्ड को निम्न निर्देश जारी किये गये हैं:-

No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

अतएव केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उपरोक्त निर्देश के अनुपालन में जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-33 (A) में राज्य बोर्ड को प्रदत्त शक्तियों का प्रयोग करते हुए आपको निम्न निर्देश दिये जाते हैं:-

You shall not allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and you shall ensure that the standards for faecal coliform are duly maintained.

अतः केन्द्रीय प्रदूषण नियंत्रण बोर्ड, द्वारा जल (प्रदूषण निवारण तथा नियंत्रण) अधिनियम, 1974 यथासंशोधित की धारा-18 (1) (b) के अंतर्गत दिये गये निर्देशों का अनुपालन सुनिश्चित किया जाये एवं कृत कार्यवाही से उत्तर प्रदेश प्रदूषण नियंत्रण बोर्ड को 15 दिन में अद्यतन स्थिति से अवगत कराने का कष्ट करें।

संलग्नक : उपरोक्तानुसार।

भवदीय,

(आर0के0त्यागी)

मुख्य पर्यावरण अधिकारी

प्रतिलिपि :-

1. प्रमुख सचिव नगर विकास, लखनऊ।
2. अध्यक्ष, केन्द्रीय प्रदूषण नियंत्रण बोर्ड, दिल्ली।
3. मुख्य पर्यावरण अधिकारी, वृत्त-4 उ0प्र0 प्रदूषण नियंत्रण बोर्ड, लखनऊ।
4. क्षेत्रीय अधिकारी, उ0प्र0 प्रदूषण नियंत्रण बोर्ड, बुलन्दशहर को अनुवृत्ती एवं आवश्यक कार्यवाही हेतु प्रेषित।

मुख्य पर्यावरण अधिकारी

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2307/3
8/11/20

Speed Post

F. No. B-19114/NGT/WQM-II/CPCB/2020- 21 न 35

To

पत्रांक 986/CPCB, एम एस केम्प/2020 26/06/2020

दिनांक 10/07/2020

The Chairman,
Uttar Pradesh Pollution Control Board
Building.No. TC-12V, Vibhuti Khand, Gomti Nagar
Lucknow-226 010 (U.P.)

डाक प्राप्ति रसीद
प्राप्ति दिनांक 08-7-2020
प्राप्तकर्ता के हस्ताक्षर
2020 प्रदूषण नियंत्रण बोर्ड

DIRECTIONS ISSUED UNDER SECTION 18 (1) (b) OF THE WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 REGARDING TREATMENT AND DISPOSAL OF SEWAGE AND OTHER EFFLUENTS INTO A WATER CHANNEL OR STREAM

WHEREAS, the Central Pollution Control Board has delegated powers vested under Section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 to the Chairman, Central Pollution Control Board vide its resolution made on 133rd Board meeting item no. 3.12 dated 24th March 2005 to issue directions under Section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 to the State Pollution Control Boards; and

WHEREAS, under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974, no person shall, without the previous consent of the State Pollution Control Board establish or take steps to establish any industry, operation, or process or any treatment or disposal system or any extension or addition thereto, which is likely to discharge sewage or trade effluent into a stream or well or sewer or on land; and

C.Lab/C-2/C-4

WHEREAS, the Central Government has notified the general discharge standards of environmental pollutants from various sources including municipal wastewater under the Environment (Protection) Act, 1986 and the rules framed there under; and

10/07/2020

WHEREAS, CPCB issued directions dated 21.04.2015 to SPCBs/PCCs under Section 18(1)(b) of the Water (Prevention And Control of Pollution) Act, 1974 and directed to ensure compliance of directions to following directions:

ASO
GAS

i. State Pollution Control Board shall make mandatory for local/urban bodies to set up STPs of adequate capacity and provide underground sewerage system to cover the entire local/urban areas and to bridge the treatment gap along with enforcement of consent management in line with the prescribed standards for sewage treatment.

ASO
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ii. SPCB/PCC shall issue directions to all municipalities and other concerned authorities in the State/UT responsible for treatment and disposal of sewage to the following effect:

a) The existing STPs which are being operated before issuance of these directions shall meet the prescribed standards within prescribed time frame.

- b) The new sewage treatment plants which will come in existence after the issuance of these directions shall be designed to treat and achieve standards as per the prescribed standards.

AND WHEREAS, CPCB issued directions dated 09.10.2015 under Section 5 of The Environment (Protection) Act, 1986 to the Commissioner/Mayor/Chief Executive Officer of the Nagar Nigam/Municipal Corporation/Local Bodies/Panchayat of the identified 118 Ganga front towns for compliance of the following directions:

- i. Untreated sewage shall not be disposed into the river or at any other recipient system.
- ii. In case of disposal of effluents on land or river or any water body including coastal water/creek or a drain, the treated effluents shall meet the prescribed standards.
- iii. Existing sewage treatment plants, if any, as applicable shall be properly maintained to comply with the prescribed standards.
- iv. The Municipal Authority shall properly manage the wastewater flowing in drains and take required actions to ensure that such wastewater is treated and disposed off in accordance with the prescribed standards.

AND WHEREAS, CPCB issued directions dated March 10, 2017 under Section 18 (1) (b) of the Water (Prevention and Control of Pollution) Act, 1974 to the SPCBs of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal for restoration of water quality of River Ganga to grant consent-to-operate to industries having requisite effluent treatment facilities and to ensure that no industry disposes coloured effluent into any drain / tributaries so that River Ganga and its tributaries do not receive any coloured effluent; and

WHEREAS, the Central Government has notified the discharge standard for sewage treatment plants under the Environment (Protection) Rules, 1986 vide notification dated 13.10.2017; and

WHEREAS, CPCB issued directions dated 12.03.2018 to the SPCBs of Uttarakhand, Uttar Pradesh, Bihar, Jharkhand and West Bengal under Section 18(1)(b) of the Water (Prevention And Control Of Pollution) Act, 1974 to identify industrial units and direct them to submit an action plan for reuse of treated sewage for industrial and other purpose (non-potable applications) wherever possible; and

WHEREAS, the Hon'ble NGT in the O.A. no. 1069/2018 vide order dated 21.12.2018 granted stay on discharge standard for sewage treatment plants notified vide notification dated 13.10.2017; and

WHEREAS, the Hon'ble NGT in the O.A. no. 1069/2018 vide order dated 30.04.2019 accepted the standards recommended by expert committee (constituted by Hon'ble NGT) with the modification that the standard recommended for Mega and Metropolitan Cities will also apply to the rest of the country, not only for new STPs but also for existing/under construction STPs without any delay. The link of order is as follows <https://greentribunal.gov.in/caseDetails/DELHI/0701102005292018>; and

DIRECTIONS UNDER SECTION 18 (1) (b) OF THE WATER (PREVENTION & CONTROL OF POLLUTION) ACT, 1974 REGARDING TREATMENT AND DISPOSAL OF SEWAGE AND OTHER EFFLUENTS INTO A WATER CHANNEL OR STREAM

WHEREAS, the Municipal Corporation of Greater Mumbai filed a civil appeal no. 5036/2019 dated 08.05.2019 in Hon'ble Supreme court against Hon'ble NGT order dated 30.04.2019 in matter of O.A. no. 1069/2018. The Hon'ble Supreme court in C.A. no. 5036/2019 issued order dated 17.05.2019. The verbatim of order is as under:

"the Municipal Corporation of Greater Mumbai shall follow the parameters laid down by the Expert Committee in its report/recommendations for the mega metropolitan cities in processing the tender as also the directions of the Ministry of Environment, Forest and Climate Change in this regard."

AND WHEREAS, the Hon'ble NGT in the O.A. no. 985/ 2019 with O.A. No. 986/ 2019 (With report dated 30.10.2019) In Re : Water Pollution by Tanneries at Jajmau, Kanpur, Uttar Pradesh with In Re: Water Pollution at Rania, Kanpur Dehat & Rakhi Mandi, Kanpur Nagar, Uttar Pradesh, has issued order dated 15.11.2019. The verbatim of order is as under:

"Point no. 17. The stand of the State of UP shows that it is being understood in certain quarters that during monsoon any pollution load, including sewage or any other polluting effluents can be discharged in the water bodies/rivers which is clearly against the mandate of Section 25 of the Water (Prevention and Control of Pollution) Act, 1974. The CPCB may need to issue an appropriate direction to ensure that such illegality does not take place anywhere in the country."

"Point no. 19 (vi). CPCB may issue appropriate directions to ensure that no authority allows the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even in monsoon and also the standards for faecal coliform are duly maintained."

AND NOW, THEREFORE, in view of above-mentioned observations and in exercise of the power conferred under Section 18 (1) (b) of the Water (Prevention & Control of Pollution) Act, 1974 you are hereby directed to issue appropriate directions to the concerned authorities including urban local bodies in your state for compliance of following direction:

1. No authority shall allow the discharge of polluted sewage or polluted effluents directly into a water channel or stream in violation of the law even during monsoon season and they shall ensure that the standards for faecal coliform are duly maintained.

SPCB shall acknowledge the receipt of these directions immediately and submit a pointwise action plan along with a roadmap to implement direction within 30 days from the date of receipt of these directions.


(SHIV DAS MEENA)
CHAIRMAN