

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,
Principal Bench, New Delhi
Original Application No. 64/2016 (WZ)

In The Matter of: -

Akhil Bhartiya Mangela Samaj & Ors.

Applicants

Vs.

**Maharashtra Pollution
Control Board & Ors.**

Respondents

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(BHARAT K SHARMA)

Regional Director
Central Pollution Control Board,
Regional Directorate, Pune

Date: 18.06.2020
Place: Delhi

REPORT OF THE COMMITTEE
ON
EXTENT OF DAMAGE IN & AROUND MIDC
TARAPUR;
RESTORATION MEASURES;
ENVIRONMENTAL DAMAGE COST & COST OF
RESTORATION, AND;
INDIVIDUAL ACCOUNTABILITY OF CETP AND
POLLUTING UNITS

(in the matter of Original Application No. 64/2016 (WZ);
Akhil Bhartiya Mangela Samaj & Ors. Versus Maharashtra
Pollution Control Board & Ors.)

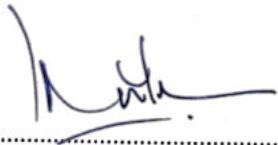


FOR SUBMISSION TO
HON'BLE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

MARCH 2020

**REPORT OF THE COMMITTEE
ON
EXTENT OF DAMAGE IN & AROUND MIDC TARAPUR;
RESTORATION MEASURES;
ENVIRONMENTAL DAMAGE COST & COST OF RESTORATION, AND;
INDIVIDUAL ACCOUNTABILITY OF CETP AND POLLUTING UNITS**

We, the members of the Committee constituted by the Hon'ble National Green Tribunal, Principal Bench, New Delhi, by its order dated 26.09.2019 read with order dated 22.10.2019 do hereby submit the Report of this Committee. We are all greatly honoured by the confidence placed in us by the Hon'ble National Green Tribunal and have made every effort to fulfil the task assigned to us.



.....
Prof Anish Sugathan



.....
Prof Chinmay Ghoroi



.....
Hemant Bherwani



.....
D B Patil



.....
Bharat K Sharma

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND:

Akhil Bhartiya Mangela Samaj, in its application vide Original Application No. 64/2016 (WZ); Akhil Bhartiya Mangela Samaj & Ors. Versus Maharashtra Pollution Control Board & Ors. before the Hon'ble National Green Tribunal, Western Zone Bench, Pune; expressed grievances that there is severe environmental and ecological degradation of the water bodies situated in the vicinity of the Tarapur MIDC caused by the discharge of effluent in MIDC and the release of unauthorised volume of effluent in excess of the permitted limit by the Maharashtra Pollution Control Board (MPCB) in the Arabian Sea at Navapur as well as in the water bodies in the vicinity of Tarapur MIDC from the Common Effluent Treatment Plant. This has impacted the livelihood of the fisher folk and the health of the people who are habiting in this area and caused degradation of the aquatic ecology.

The Tarapur Environment Protection Society Common Effluent Treatment Plant (TEPS- CETP), located in the Tarapur MIDC and was commissioned as a primary treatment plant with a capacity of 20 MLD in 2006 which was subsequently enhanced to 25 MLD in 2009. A 59 kilometre effluent carrying pipeline runs throughout the industrial area to convey the industrial effluent of its member industries of Tarapur MIDC to the CETP. The outlet from CETP is discharged into a shallow depth of Arabian Sea at Navapur which is about 5.66 Km away from the CETP.

It is stated by the applicant that the Tarapur MIDC has a long history of being one of the most polluted industrial areas in the country ever since it began functioning in 1972, showing flagrant violations of prescribed norms for industries. TEPS CETP does not meet standards and there have been frequent leakages from the CETP which have been recorded in several reports, resulting in high pollution levels in the water bodies that lie in its vicinity.

The Hon'ble Tribunal passed the directions, vide order dated 26/9/2019 read with order dated 22/10/2019, and the same are reproduced as below:

“ ...

7. In Original Application No. 95/2018 in the matter of “Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.” in a similar situation prevailing in the Vapi Industrial Cluster, the Tribunal had passed certain directions. Considering the identical nature of the issues involved, we pass the following directions as in that case:

- (i) We direct constitution of following Committee to assess the extent of damage and cost of restoration of the environment and individual accountability of CETP and polluting industrial units:
 - a) Representative of CPCB.
 - b) Representative of IIM, Ahmadabad.
 - c) Nominee of IIT, Ahmadabad.
 - d) Scientist nominated by NEERI.
 - e) Representative of MPCB.
- (ii) The Committee may give its report within three months. The Committee will be entitled to take any factual or technical inputs in the manner found necessary. CPCB will be the nodal agency for the purpose. The Committee may also suggest steps for restoration of the environment.
- (iii) The Committee may give hearing to the CETP operator and the units identified as polluting by the MPCB for which list will be furnished by the MPCB to the Committee indicating the period and nature of default within one month.
- (iv) The MPCB may inform the defaulting units for compliance of this order.
- (v) The MPCB may also consider exercise of its statutory powers of prosecution which power is coupled with duty.
- (vi) Having regard to the entirety of the fact situation in the present case, we direct that, except for the green and white categories of industries, other category of defaulting industries connected to the CETP, shall deposit with the CPCB the following amounts towards interim compensation within one month:
 - a) Large Industries – Rs. 1 Crore each.
 - b) Medium Industries – Rs. 50 Lakhs each.
 - c) Small Industries – Rs. 25 Lakhs each.

- (vii) *The CETP on its part shall deposit a sum of Rs. 10 Crores with the CPCB towards interim compensation within one month.*
- (viii) *The amount may be utilized by the CPCB for restoration of the environment.*
- (ix) *The CPCB shall undertake jointly with MPCB extensive surveillance and monitoring of the CETP at regular intervals of three months and submit its report to this Tribunal.*
- (x) *Copy of the order may be sent to CPCB by email and all reports in pursuance of the above directions be sent to this Tribunal at judicial-ngt@gov.in*
8. *In order to ensure uniformity in the proceedings, it is felt appropriate that the matter should be heard in Court No. 1 where similar cases including Original Application No. 95/2018: Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors. is under consideration.*
9. *We accordingly direct that this case be listed in Court No. 1 on 07.01.2020.”*

This report of the Committee constituted vide the aforesaid orders, outlines various tasks assigned to the Committee viz. extent of damage in and around Tarapur MIDC; environmental damage cost and cost of restoration, and; individual accountability of CETP and polluting industrial units in meeting the said costs after giving hearing to the polluting units identified by MPCB. The report also suggests steps for restoration of the environment as directed by the Hon'ble Tribunal.

1.2 THE COMMITTEE:

In accordance to order of Hon'ble NGT, the committee constituted with the following members:

Sl. No.	Member of the Committee
1	Prof. Anish Sugathan Indian Institute of Management Vastrapur, Ahmedabad
2	Prof. Chinmay Ghoroi Indian Institute of Technology, Gandhinagar Palaj, Gandhinagar
3	Er. Hemant Bherwani Scientist, Director's Research Cell National Environmental Engineering Research Institute (NEERI) Nehru Marg, Vasant Nagar, Nagpur
4	Shri D. B. Patil, Regional Officer Maharashtra Pollution Control Board, Plot No P-30, 5th floor Office Complex Building Mulund Checknaka, Thane, Maharashtra
5	Bharat K Sharma, Regional Director Regional Directorate Central Pollution Control Board Row House No. 1, Sanjivani Nisarg Balewadi, Pune <i>.....Member Convener</i>

1.3 TASKS ASSIGNED TO THE COMMITTEE:

The Committee was assigned the following tasks as per the aforesaid orders of the Hon'ble NGT:

- (i) Assessment of extent of damage;
- (ii) Restoration measures;
- (iii) environmental damage cost and cost of restoration;
- (iv) Individual accountability of CETP and polluting industrial units to meet the aforesaid costs after giving hearing to the polluting units identified by MPCB;
- (v) Steps for restoration of the environment.

1.4 APPROACH.

The approach adopted by the committee in accomplishing the aforesaid tasks is as below:

- (a) Visit to the CETP and in and around MIDC Tarapur area.
- (b) Data/information collection from CETP operator, MIDC and MPCB.
- (c) Assimilation of information on water bodies in and around MIDC, Tarapur.
- (d) Sampling of effluents from various components of CETP Tarapur.
- (e) Sampling & Analysis of sediments and water samples at various drains, creek and sea shore in and around MIDC Tarapur.
- (f) Sampling & Analysis of ground water at various locations in and around MIDC, Tarapur.
- (g) Hearing to the polluting units as per list provided by MPCB for the purpose of estimating their individual accountability.
- (h) Analysis of various data/information and discussions through meetings/video conferences.
- (i) Report preparation.

CHAPTER 2

MIDC TARAPUR AND WATER BODIES

2.1 BACKGROUND

MIDC Tarapur is an industrial estate set up by Maharashtra Industrial Development Corporation, Government of Maharashtra, in the year 1972. Tarapur is geographically located at 17°42'N 75°28'E 17.7°N 75.47°E and at an elevation of average 10 m above the MSL. The nearest highway is NH-8 connecting Mumbai to Ahmedabad. Tarapur MIDC is approximately 130 km from Mumbai and 17 km off the national highway NH-8. It is one of the largest chemical industrial estate in the State of Maharashtra. It is spread into 1028 hectares and accommodates chemical (Pharmaceuticals, Dye & Dye Intermediate, specialty chemicals), textile, steel, engineering, etc. industries. The location of MIDC Tarapur is shown in following Figure-1:

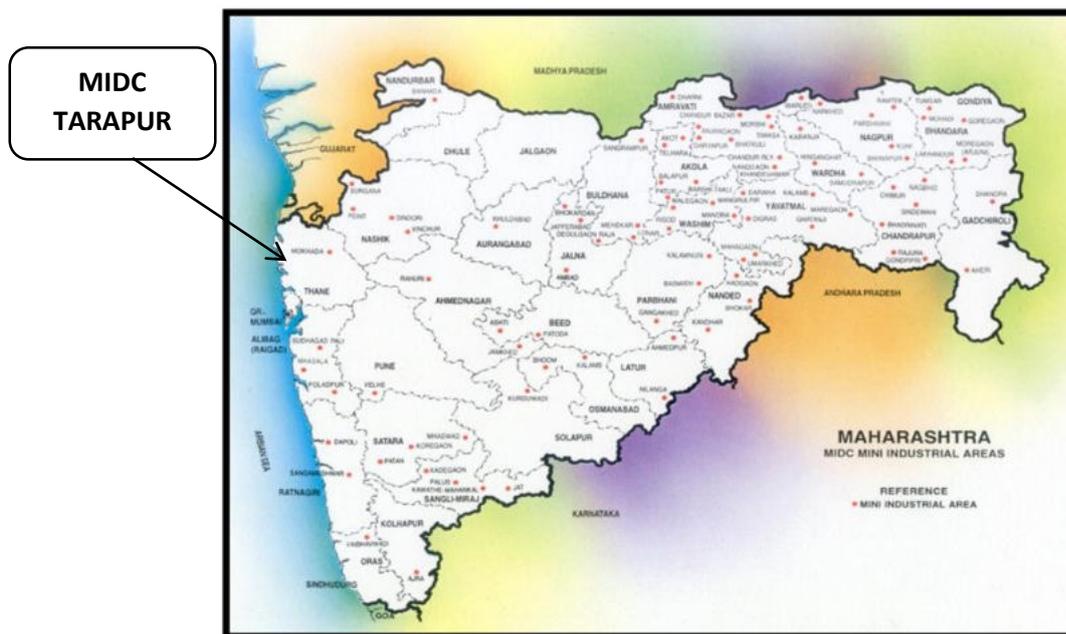


Figure-2.1 : Location map of MIDC Tarapur Industrial Area (Not to the scale)

2.2 INDUSTRY STATISTICS OF MIDC TARAPUR

There are 512 (42%) red category industries, 90 (7.5%) orange category industries and 614 (50.5 %) are green category industries in MIDC Tarapur. The category and scale wise breakup of industries are depicted in the Table 2.1.

Table 2.1: Category and scale wise breakup of industries in MIDC Tarapur

Scale→ Category↓	Large Scale	Medium Scale	Small Scale	Total
Red	69	20	423	512
Orange	6	13	71	90
Green	32	26	556	614
Total	107	59	1050	1216

Major types of industrial units are bulk drugs manufacturing units, specialty chemical manufacturing units, steel plants and textile plants. Scale wise distribution of industries as Small Scale Industries (SSI), Medium Scale Industries (MSI) and Large Scale Industries (LSI) and sector wise distribution of industries are given in Figure 2.2 and Table 2.2 respectively.

Fig. 2.2: Scale wise distribution of industries in MIDC Tarapur

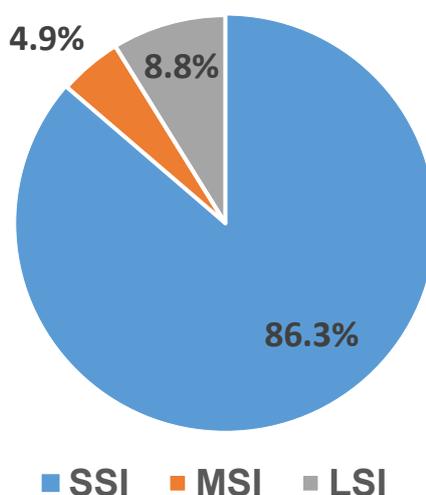


Table 2.2: Sector Wise distribution of Industries in MIDC Tarapur

Sl. No.	Industry Sector	Number
1.	Textile Processors	40
2.	Steel Processors	2
3.	Chemical	298
4.	Dyes & Dyes Intermediates	25
5.	Pharmaceuticals	120
6.	Pesticides	4
7.	Others	727
	Total	1216

2.3 WASTEWATER MANAGEMENT

MIDC provides water to entire industrial area and residential area inside MIDC as well as to adjoining villages. The source of water is Surya River approx. 12 km from MIDC Tarapur. Water supply to industries in the MIDC Tarpaur is about 38 MLD by MIDC.

There is a Common Effluent Treatment Plant (CETP) of 25 MLD capacity for industries in Tarapur MIDC and another 50 MLD capacity CETP is under commissioning stage. It has effluent collection drainage network of about 59 km and the outlet of CETP is released to coastal waters of Arabian Sea at a location with shallow depth. The submarine outfall of the CETP outlet is at shallow location which is 500 meters from High Tide Line.

Responsibility for the collection and disposal of treated effluent rest with MIDC whereas responsibility for treatment is with Tarapur Environment Protection Society i.e. CETP.

Leakages from drainage network of CETP, overflow from CETP, illegal discharges have been noticed. Indiscriminate discharge of partially treated wastewater or untreated/illegal effluent discharge into creeks, coastal sea may have an impact on surface water bodies, soil, sediment and groundwater in and around MIDC Tarapur. MIDC Tarapur, Tal Palghar Dist. Palghar, was declared by CPCB in 2009 among 88 critically polluting stretches in India.

2.4 WATER BODIES IN AND AROUND MIDC, TARAPUR

MIDC Tarapur is surrounded by Navapur Dandi Creek in north and Kharekuran Murbe Creek in south direction. Their confluence points into the Arabian Sea are separated by about 6.5 Km.

Various natural and storm drains are also flowing through the MIDC area which meets the aforesaid Navapur Dandi Creek in north and Kharekuran Murbe Creek in south due to natural topography of MIDC, Tarapur. There are 14 natural drains flowing through the MIDC. List of all the said drains, their direction of flow and place of convergence to Creeks is given in Table 2.3. Google earth map showing water bodies (drains, creeks and sea) in and around MIDC, Tarapur is given in Fig: 2.3.

Table 2.3: List of drains flowing through MIDC, Tarapur

Drain Name	Drain Origin location	Name of the village through which drain meet Creeks	Direction towards which Drain flow from the MIDC	Creek to which drain meet
Drain 1	Starting from Plot No. RB-38	Pasthal Village	North West	Navapur-Dandi Creek
Drain 2	Starting from Plot No. C-4/2/2			
Drain 3	Starting from Plot No. E-24/2			
Drain 4	Starting from Plot No. E-13	Salwad Village	Paam Village	
Drain 5	Starting from Plot No. T-3			
Drain 6	Starting from Plot No. T-52			
Drain 7	Starting from Plot No. N-48	Kumbhavli Village	South	Kharekuran Murbe Creek
Drain 8	Starting from Plot No. N-27			
Drain 9	Starting from Plot No. M-7 (Meets with Drain No. 8 near Plot No. N-26)			
Drain 10	Starting from Plot No. OS-13	Kolavade Village		
Drain 11	Starting from Plot No. C-2			
Drain 12	Starting from Plot No. C-7			
Drain 13	Starting from Plot No. J-72/2			
Drain 14	Starting from Plot No. J-138			

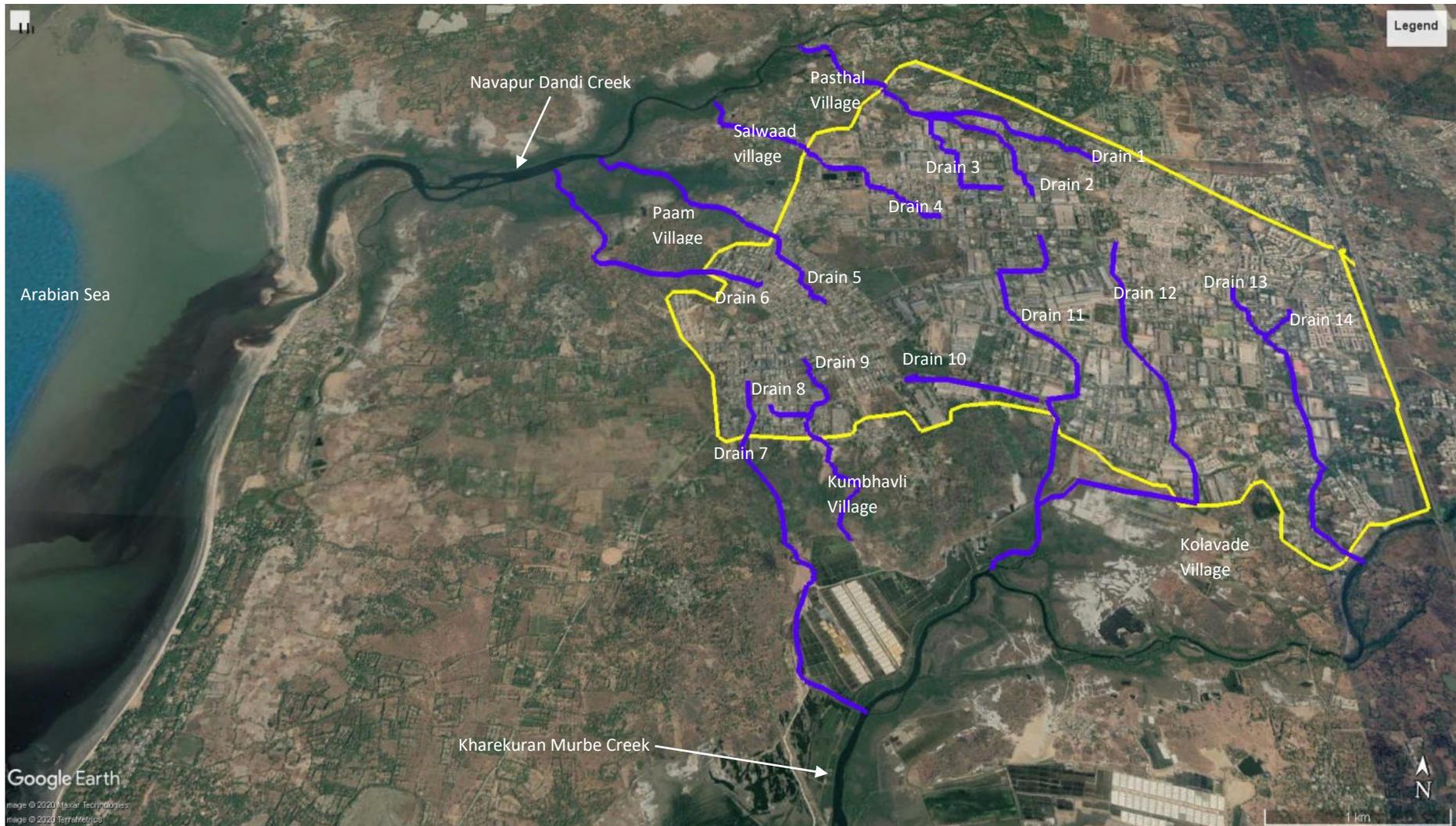


Fig 2.3: Water Bodies in and around MIDC, Tarapur (Blue colour represents various drains)

CHAPTER 3

CETP AND ITS PERFORMANCE

3.1 BACKGROUND

The Common Effluent Treatment Plant (CETP) in Tarapur MIDC has been set up by Tarapur Industries Manufacturers' Association (TIMA). Initially, it started with 2 MLD capacity in 1994 being the first CETP in Maharashtra serving particularly for the small-scale industries.

TIMA formed a separate society in the year 2004 named as "Tarapur Environment Protection Society (TEPS)" for looking after the matters relating to wastewater treatment in Tarapur Industrial Area. TEPS took over implementation of the CETP project of 25 MLD capacity which was completed in November, 2009, in phase wise manner.

The 25 MLD CETP is a single-stage activated sludge process. The wastewater treatment consists of primary treatment, secondary biological treatment and tertiary treatment process based on the activated sludge process. The outlet of CETP is released to coastal waters of Arabian Sea at a location with shallow depth.

3.2 MEMBER INDUSTRIES TO CETP

The main criteria for any member is that the approaching industry must have their own or sublet plot in MIDC industrial area and possesses Consent to Establish or Operate issued by MPCB or acknowledged application for CTE or CTO. The CETP has 1161 industries as its members.

3.3 DRAINAGE NETWORK FOR CETP

The Tarapur MIDC areas have been divided into sixteen (16) Zones namely A, B, C, D, E, F, G, H, J, K, L, M, N, S, T and W.

The effluent from industries in these zones are channelized by gravity to sumps namely Sump 1, Sump 3, Sump 4 and Gravity Main. From these, effluent are pumped to CETP except Gravity Main from where effluent is conveyed to the

CETP by gravity. The total drainage collection network is of 59.00 Km which are underground. Most of the drainage network has been converted with HDPE lines.

The treated effluent from CETP is conveyed to Sump-2 from where it is pumped for 1.8 km to Break Pressure Tank-2 (BPT-2). The effluent from BPT-2 is conveyed to the On-shore drop chamber which is at 3.36 Km through two pipelines i.e. Line-1 and Line-2. and is finally released to coastal waters of Arabian Sea at a location with shallow depth. The submarine outfall of the CETP outlet is at shallow location which is 500 meters from the On-shore drop chamber. Work of converting the existing Pre-stressed Concrete (PSC) with HDPE lines is in progress.

Schematic diagram showing zone wise collection, sumps, CETP and discharge into Navapur seashore is shown in Fig 3.1. Locations of sumps, CETP and discharge into seashore have also been shown in google earth map in Fig 3.2.

Fig 3.1: Schematic diagram showing zone wise collection, sumps, CETP and discharge into Navapur Sea Shore

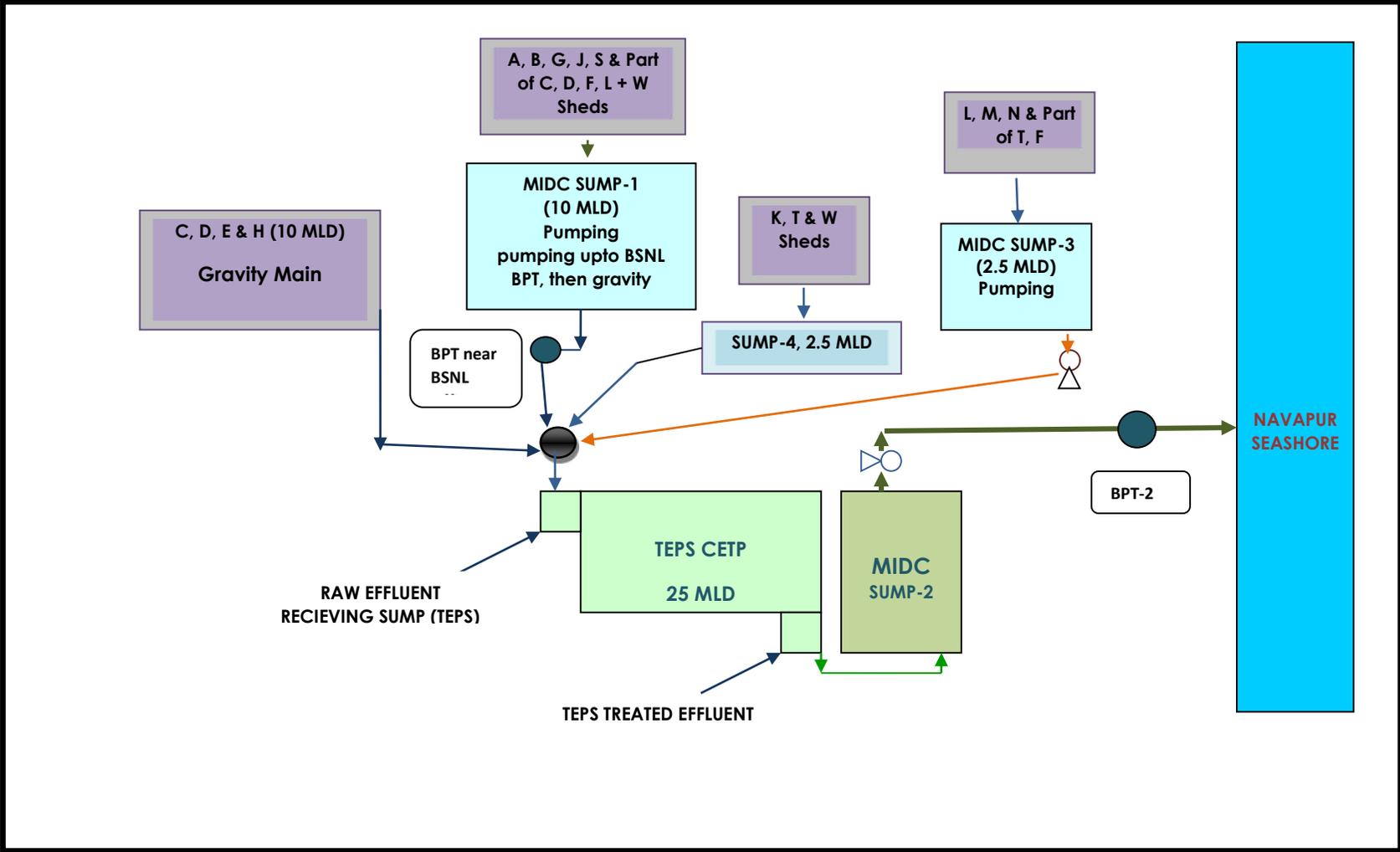
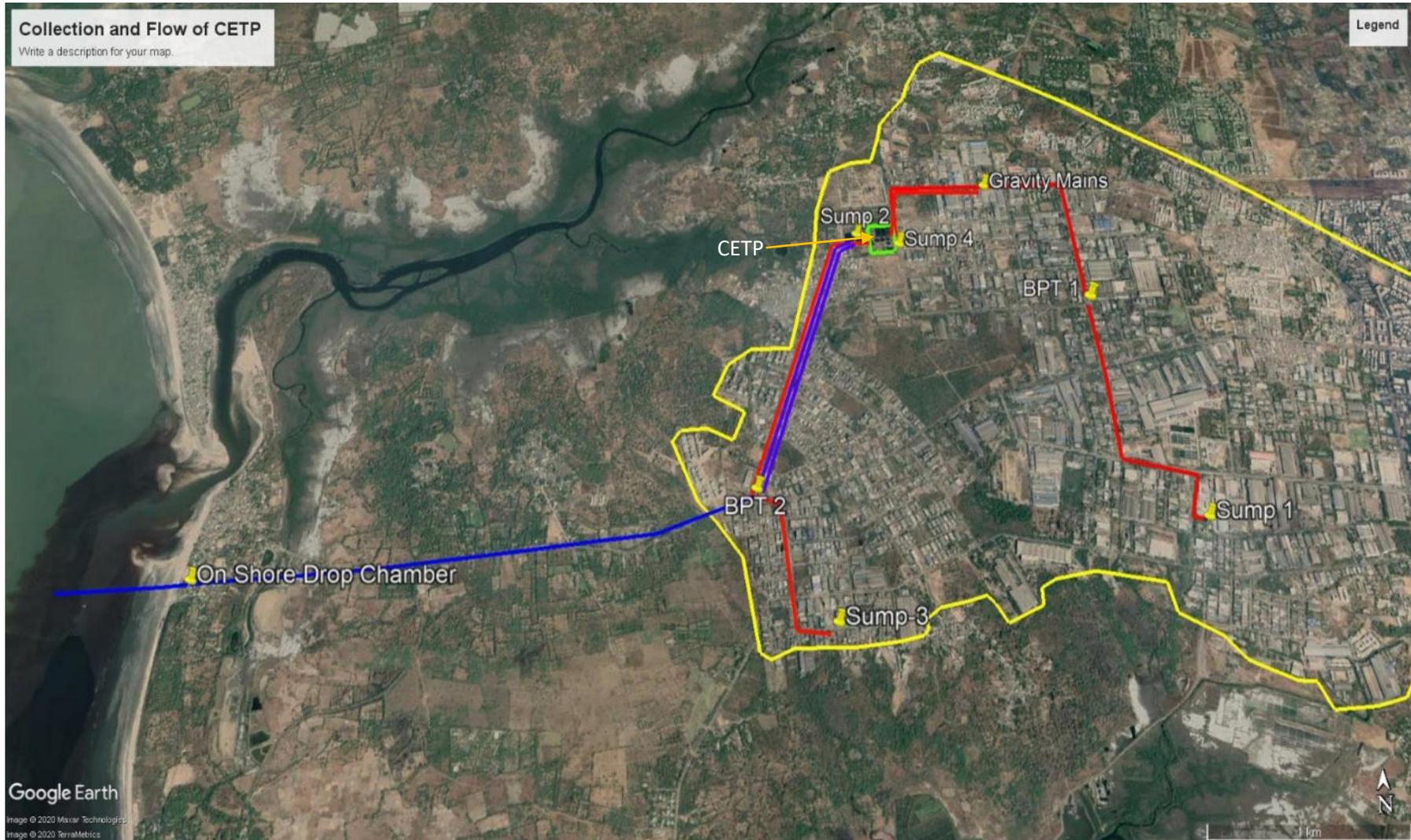


Fig. 3.2: Google earth map showing locations of sumps, CETP and discharge into Navapur Beach (Not to the scale)



Infrastructures available for collection and pumping at various Sumps/Gravity Main and corresponding Zones being catered are given in Table 3.1.

Table 3.1: Infrastructures available for collection and pumping at various sumps and corresponding Zones

Sr. No.	NAME of SUMP	PURPOSE	ZONE PROVIDING EFFLUENT TO SUMP BY GRAVITY	INFRASTRUCTURE FOR COLLECTION & DISPOSAL
1	SUMP-1	Used for the pumping to BPT-1 then discharge of effluent to CETP by gravity having number of Textile and Engineering industries	A, B, G, J, S & Part of C, D, F, L + W Sheds	<ul style="list-style-type: none"> Collection Tank = 02 Nos Capacity -1,500 Cum & 3,000 Cum Installed Pumps -02 Nos (75 HP each), Submersible Individual Pumping Capacity = 500 Cum/Hr.
2	SUMP-3	Used for the collection of effluent generated from L, M, N & T zone having numbers of chemical industries.	L, M, N & Part of T, F	<ul style="list-style-type: none"> Collection Tank = 01 No Capacity -1,500 Cum Installed Pumps -02 Nos (50 HP each), Coupled Vertical Pumps Individual Pumping Capacity = 200 Cum/Hr.
3	SUMP-4	Used for the collection of effluent from K, T & Part W zone by gravity then pumping to CETP having numbers of chemical industries	K, T & W Sheds	<ul style="list-style-type: none"> Collection Tank = 01 No Capacity -500 Cum Installed Pumps -02 Nos (20 HP each), Coupled Submersible Pumps Individual Pumping Capacity = 200 Cum/Hr.
4	GRAVITY MAIN	Used for the transferring effluent from Zone C, D, E, & H	C, D, E & H	<ul style="list-style-type: none"> No Machinery installed
5	SUMP-2	Used for collection of treated effluent for pumping to BPT-2 then discharge of effluent to Sea by gravity	TREATED EFFLUENT FROM CETP	<ul style="list-style-type: none"> Collection Tank = 01 No Capacity -10,000 Cum Installed Pumps - 04 Nos (100 HP each), Coupled Vertical Pumps Individual Pumping Capacity = 450 Cum/Hr

3.4 DESIGN/CONSENT NORMS OF CETP, TARAPUR

CETP inlet and outlet design parameters, as informed by M/s TEPS, and prescribed standards under the Consent to Operate vide dated Consent No. MPC/WPAE/EIC/TN-0261-05/Thane-107 dated 22/03/2005 and vide Consent No. BO/JD(WPC)/UANNo-0000062174/R/HOD/1911001395 dated 29/11/2019, granted by MPCB under Water (Prevention & Control of Pollution) Act, 1974 are given in Table 3.2:

Table-3.2 : CETP Design Parameters and prescribed limits as per Consent

S. No.	Parameter s	Inlet Limit		Outlet Limit	
		As per Design ^{\$}	As per Consent [#]	As per Design ^{\$}	As per Consent [#]
1.	pH	5.5-7	6.0-9.0	5.5-7	6.0-9.0
2.	TSS	300-400	<i>Refer Note below</i>	100	100
3.	BOD	1500		100	30*
4.	COD	3500		250	250
5.	Oil & Grease	50	20	10	10

Note:

- Parameters are expressed in mg/l except pH.
- CETP Inlet norms for SSI industries (discharge up to 25 m³/day) i.e. Industries' Outlet norms- BOD: 1500 mg/l, COD: 3500 mg/l. The SSI (more than 25 m³/day), MSI and LSI units, are required to discharge effluent to CETP within stipulated standards in their individual consent (i.e. COD: 250mg/l; BOD 100 mg/l and other parameters & limits specified therein).

*The limit of BOD = 30 mg/l has been stipulated as per direction of MPCB dated 02.04.2016 and incorporated in Consent to Operate dated 13.04.2016 issued to CETP. Prior to that, the Limit was stipulated as 100 mg/l.

Besides the above 05 parameters, the Consent to Operate also specify other parameters and their limits

^{\$} As informed by M/s TEPS-CETP

Copy of Consent to Operate dated 29/11/2019 issued to the CETP by MPCB is given at **Annexure – I**.

3.5 PRESENT TREATMENT SCHEME OF CETP

The treatment methodology comprises of primary, secondary and tertiary treatment. CETP receives effluent for treatment from MIDC.

- Pre-primary & Primary treatment System:
Course bar Screen, oil and grease trap, receiving sump with floating aerators, equalization cum Neutralization tank, Flash Mixture followed by Clariflocculator (2 Nos.)
- Secondary treatment System:
Activated Sludge process (4 Nos. of aeration tanks), Clarifiers (2 Nos.), oxidation with hypo chloride dosing arrangement.
- Tertiary treatment system:
Pressure sand filter and Activated carbon filter (4 sets)

CETP Flow Diagram showing various units operations/processes is given at **Figure-3.3**. Few photographs of CETP are given in **Annexure-II**.

Flow Diagram/Schematic of CETP (25MLD)

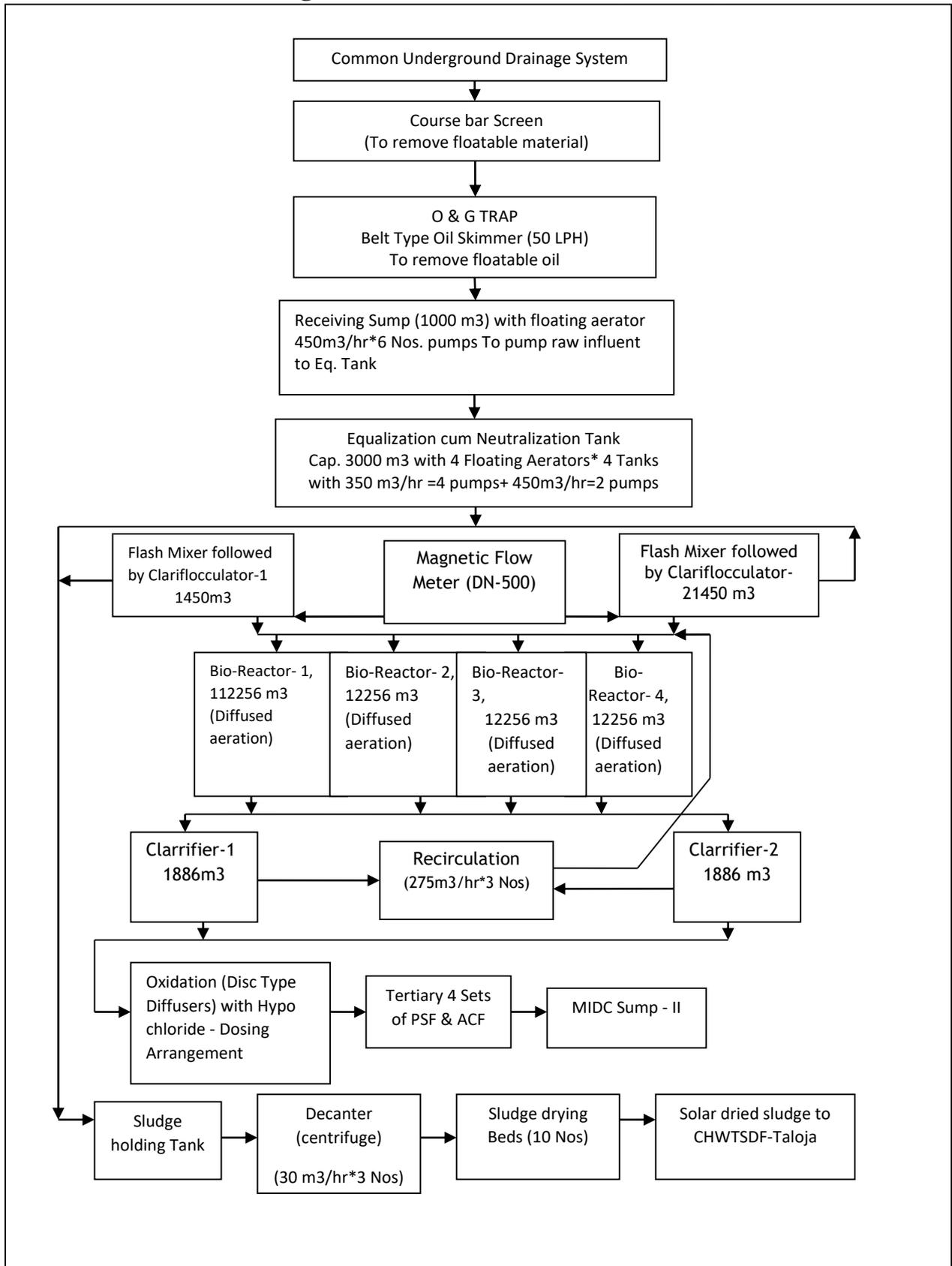


Figure-3.3 : Flow Diagram/Schematic of CETP (25 MLD) Tarapur

3.6 DISPOSAL OF TREATED EFFLUENT

The treated effluent from CETP is conveyed to Sump-2 from where it is released to coastal waters of Arabian Sea at a location with shallow depth. The submarine outfall of the CETP outlet is at shallow location which is 500 meters from the On-shore drop chamber. The pipeline from Sump-2 to the said On-shore drop chamber is 5.16 km.

3.7 SLUDGE MANAGEMENT

CETP has 03 decanter centrifuges each having capacity of 30 cum/hour. There are 10 nos. solar drying pits having RCC surface and leachate collection arrangement.

The sludge generated from the treatment process is collected in a sludge holding tank. The sludge after decanter (centrifuge) and sludge drying beds is sent to Common Hazardous Waste Treatment Storage and Disposal Facility (CHWTSDF), Taloja, Dist. Raigad for disposal.

Year wise CETP Sludge received at CHWTSDF, Taloja, by the CETP Tarapur operator since April 2011 to September 2019 is given at Table 3.3.

Table 3.3: Year wise CETP Sludge received at CHWTSDF, Taloja

Sl. No.	Financial Year	CETP Sludge received at CHWTSDF Taloja from CETP Tarapur
1.	2011-12	1789.32
2.	2012-13	2347.38
3.	2013-14	3795.96
4.	2014-15	2771.865
5.	2015-16	6318.375
6.	2016-17	5533.89
7.	2017-18	5643.93
8.	2018-19	3993.08
9.	2019-20 (Up To Sept. 2019)	1034

The above Table 3.3 reveals that **the CETP operator is either not generating consistent CETP sludge or the entire CETP sludge generated is not being sent to CHWTSDF.**

Further, as per authorisation dated 29/11/2019 granted by MPCB having validity from 31/12/2017 to 31/12/2020, the CETP has been **authorised for 7 Metric Tonne/Day as Chemical Sludge.** However, the unit is generating more than the authorised quantity as is evident from sludge sent to CHWTSDF, Talaja. **About 750 metric tons of sludge was stored as on 13.11. 2019 at CETP premises.**

3.8 PERFORMANCE OF CETP

3.8.1 As per Sampling & Monitoring by MPCB (April 2011-Nov.2019)

Sampling & analysis of inlet and outlet grab effluent of CETP are carried out by MPCB basis since Jan 2009. The same have been carried out for parameters pH, BOD, COD, SS and TDS.

The analysis results of grab samples (collected at 1 to 5 occasions in a month) since April 2011 to Nov. 2019 are given at **Annexure - III**

Following are the observations on the aforesaid analysis results of MPCB since April 2011 to Nov. 2019:

3.8.1.1 COD in Inlet and Outlet:

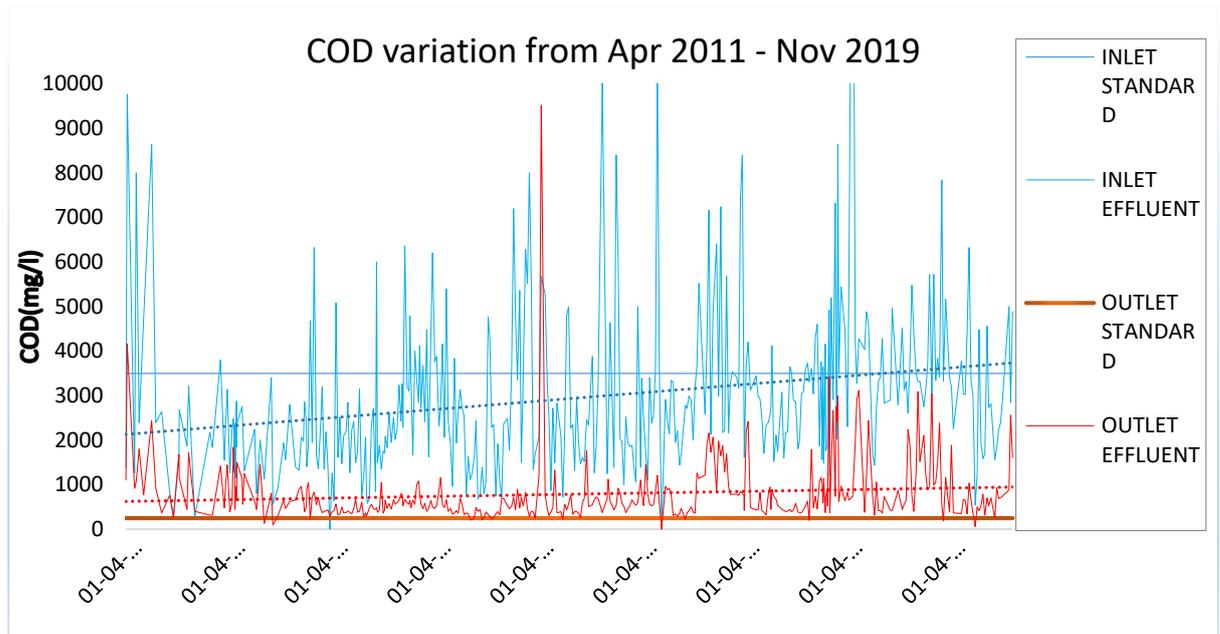


Fig 3.4: Monthly COD analysis result (MPCB Result)

The analysis result of COD of CETP inlet and outlet effluent is given in Figure 3.4. The data given at Annexure - III and the Figure 3.4 reveals that COD outlet has hardly complied with the standard of 250 mg/l stipulated under the Consent to Operate. **Among the 391 outlet samples collected during the said period of April 2011 to Nov. 2019, 379 samples have exceeded the said outlet standard and average COD concentration in CETP outlet has been observed as 813.64 mg/l.**

The CETP inlet effluent has also not complied continuously to the prescribed standard limit of 3500 mg/l. **Among 391 inlet samples collected during the said period of April 2011 to Nov. 2019, 100 samples have exceeded the said inlet standard and average COD concentration in CETP inlet has been observed as 5323.76 mg/l.**

3.8.1.2 BOD in Inlet and Outlet:

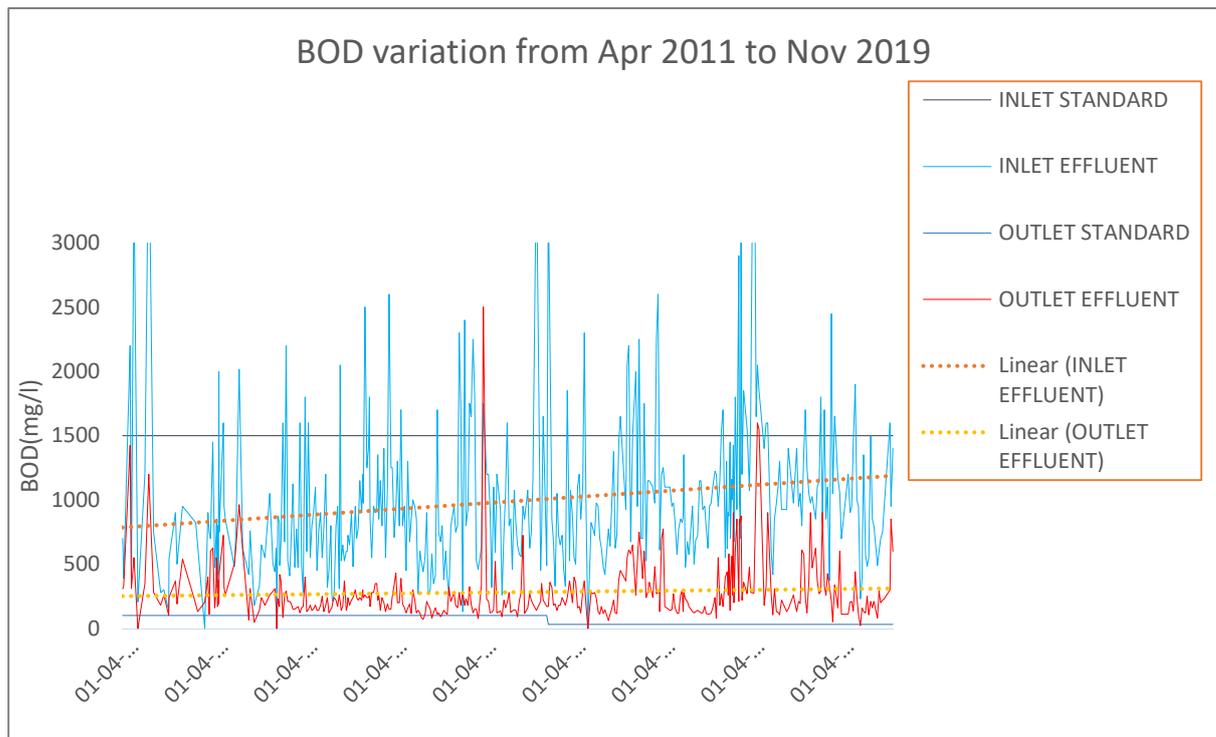


Fig 3.5: Monthly BOD analysis result (MPCB Result)

The analysis result of BOD of CETP inlet and outlet effluent is given in Figure 3.5. The data given at Annexure - III and the Figure 3.5 reveals that **BOD outlet has hardly complied with the standard of 100 mg/l or 30 mg/l stipulated under Consent to Operate. Among the 391 outlet samples collected during the said period of April 2011 to Nov. 2019, BOD concentration of 390 samples have exceeded the said outlet standard of 100 mg/l or 30 mg/l and having average concentration as 315.6 mg/l.** The CETP inlet effluent has intermittently not complied to the prescribed standard limit of 1500 mg/l. **Among 391 samples collected during the said period of April 2011 to Nov. 2019, 61 samples have exceeded the said inlet standard and average BOD concentration in CETP inlet has been observed as 2098.6 mg/l.**

3.8.1.3 Suspended Solids (SS) in Inlet and Outlet:

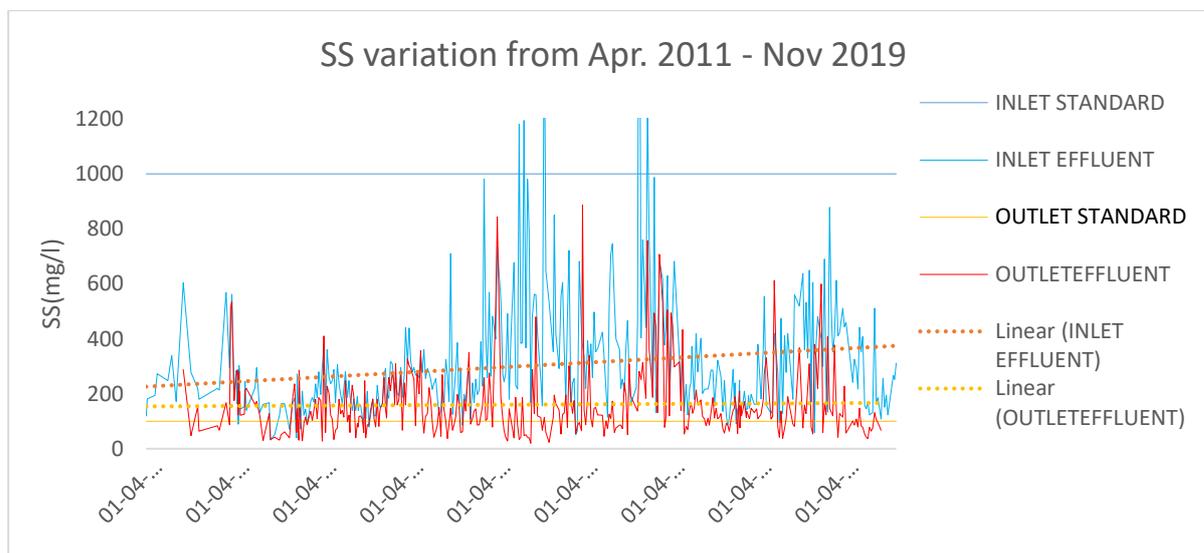


Fig 3.6: Monthly SS analysis result (MPCB Result)

The analysis result of SS of CETP inlet and outlet effluent is given in Figure 3.6. The data given at Annexure - III and the Figure 3.6 reveals that SS outlet has not continuously complied with the standard of 100 mg/l stipulated under the Consent to Operate. Among the 389 outlet samples collected during the said period of April 2011 to Nov. 2019 and analysed for SS, 269 samples have exceeded the said outlet standard having average concentration as 206.53 mg/l.

The CETP inlet effluent has shown compliance to the prescribed standard limit of 1000 mg/l. However, among 389 samples collected during the said period of April 2011 to Nov. 2019 and analysed for SS, 5 samples have exceeded the said inlet standard having average concentration as 1536.4 mg/l.

Among the above monitored outlet parameters, **COD and BOD has hardly complied with the CETP outlet standards prescribed under the Consent to Operate** while SS has not continuously complied. The average exceedances are more than 3, 10 and 2 times of prescribed COD, BOD and TSS respectively to the said standards respectively since January 2011. pH and O&G shows consistence compliance to the stipulated CETP outlet standards.

COD concentration in CETP inlet is not complying continuously to the design norms while BOD is also intermittently not complying since January 2011. The average exceedances of COD and BOD are more than 2 times to

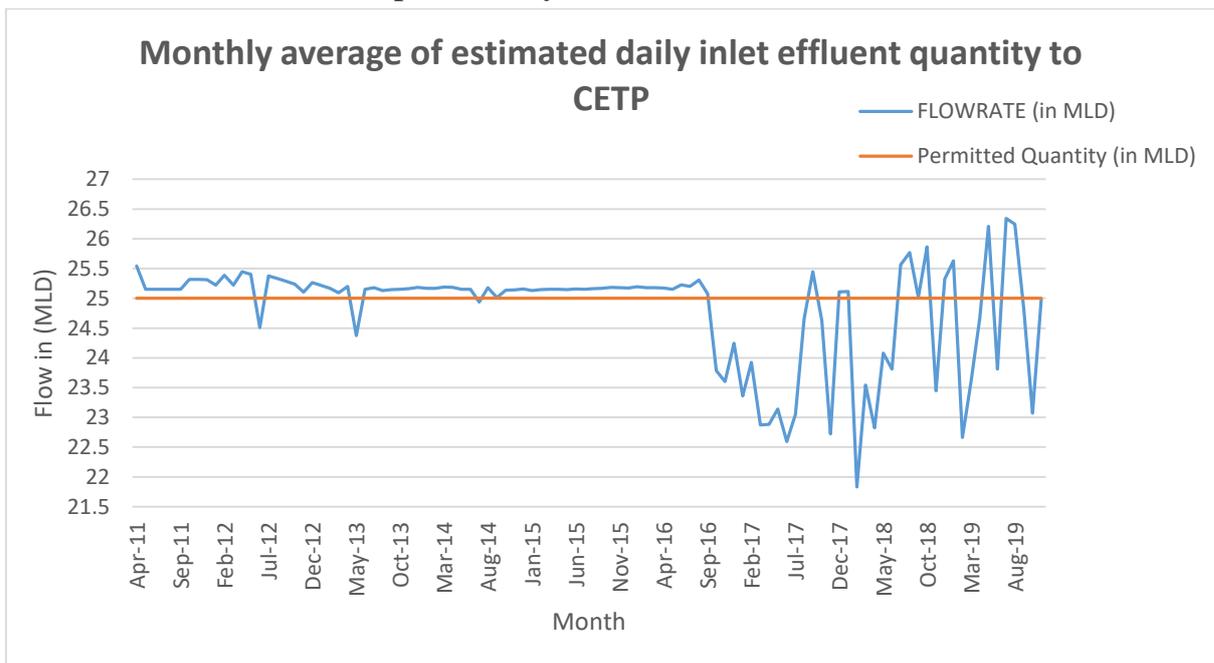
the said design norms. SS, pH and O&G are complying with the CETP inlet design norms/standards.

3.8.2 CETP Inlet effluent quantity

There is no arrangement to measure effluent coming to CETP from various sumps (i.e. Sump 1; Sump 3, Sump 4 and Gravity Line) nor at collection tank at CETP. However, effluent flow meter is provided at post equalization tanks which may not measure the overflow from equalization tanks or before.

However, the monthly average of the estimated daily inlet effluent quantity to CETP, as provided by M/s TEPS, since April 2011 to November 2019 is given at Annexure - IV and the same has been shown in the graphical form in Fig. 3.7.

Fig 3.7: Monthly average of estimated daily inlet effluent quantity to CETP (as provided by M/s TEPS)



The data at Annexure - IV and the above figure reveal that **of the 104 months since April 2011 to Nov 2019, the CETP inlet effluent quantity has exceeded for 75 months than the designed capacity of 25 MLD. During such 75 months, the said average inlet to the CETP has been reported as 25.27 MLD having maximum monthly average of daily inlet effluent quantity as 26.343**

MLD against the said design of 25 MLD. The excess hydraulic load may have resulted into drains as overflow.

3.8.3 CETP MONITORING JOINTLY BY CPCB AND MPCB

Central Pollution Control Board (CPCB) has also monitored the CETP jointly with MPCB on various occasions during 2007 to 2013 and in January 2018. The analysis result are given in Table 3.4.

Table 3.4: Analysis result of waste water samples from inlet and outlet.

Sampling Locations	Date of monitoring	Parameter(s)									
		pH	TSS	TDS	BOD	COD	O&G	Phenols	CN	NH ₃ -N	S-2
Design/Inlet Norms		5.5-9.0	--	--	1500*	3500^{\$}	20	5	0.2	50	--
Inlet to CETP	02.03.2007	5.3	224	2463	696	3780	--	--	--	70	--
	24.01.2008	2.41	329	2324	883	1877	--	0.54	--	28	--
	12.01.2011	7.1	1021	4122	1263	3147	--	5.76	0.26	123	--
	29.09.2011	6.27	562	4458	1239	2718	--	17.33	--	281	--
	28.12.2011	2.37	310	5997	974	2323	62.1	18.6	0.28	136	--
	28.12.2011	2.76	452	5781	959	2709	--	9.02	0.26	225	--
	04.05.2012	4.98	915	3597	956	2914	--	4.64	--	102	--
	25.09.2012	6.51	436	3972	1000	2082	50.9	10.33	--	40.3	--
	17.04.2013	6.52	604	3551	1052	2460	--	11.8	--	156	--
	17.01.2018	5.38	600	9259	2000	5388	--	63.1	--	354.5	--
Design/Outlet Norms		5.5 - 9	100	100	30 (100 ^{\$})	250	10	5	0.2	50	--
Outlet of CETP	02.03.2007	6.9	176	4419	550	1554	2.3	0.59	0.04	151	--
	24.01.2008	8.15	610	5434	585	2229	--	2.9	1.08	168	--
	12.01.2011	7.4	128	4031	513	1036	11	7.02	0.09	90	--

	17.01.2018	6.8	2073	10080	1410	3960		100.3	0.065	402.7	52.54
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Note: Except pH, all other results are expressed in mg/L.

* *The Consent stipulates CETP Inlet norms for SSI industries (discharge up to 25 m³/day) i.e. Industries' Outlet norms- BOD: 1500 mg/l, COD: 3500 mg/l. The SSI (more than 25 m³/day), MSI and LSI units, are required to discharge effluent to CETP within stipulated standards in their individual consent (i.e. COD: 250mg/l; BOD 100 mg/l and other parameters & limits specified therein).*

The analysis results reveal that the CETP did not meet discharge standards. Concentration of COD, BOD, Ammonical Nitrogen, TSS and TDS in CETP outlet exceed the outlet standard prescribed under the Consent to Operate in all the 04 samples. **The same exceed more than 4 to 15 times, 5 to 47 times, 1 to 8 times, 1 to 20 times and 40 to 100 times respectively to the said standards. Phenols also exceeded 1.4 to 20 times the outlet standard in two of the samples and Cyanide exceed 5.4 times in one of the samples.** In the inlet effluent also, Ammonical Nitrogen exceeded the inlet standard prescribed under the Consent to Operate in all the inlet samples except in two samples. The same exceed to more than 1.4 to 7 times the inlet standard. COD also exceeded (1.08 to 1.5 times) in two of the samples and BOD (1.3 times) in one of the samples.

3.8.4 CETP MONITORING DURING COMMITTEE VISIT:

Stage wise grab sampling from the current operational CETP and inlet & outlet sumps were carried out during the visit of the committee on 13.11.2019. The samples were analyzed at Central Laboratory, MPCB, Navi Mumbai. The sampling locations are given in **Table-3.5** and the analysis results are given in the **Table- 3.6, 3.7 & 3.8.**

Table-3.5: Sampling locations of CETP and Sumps

S.N.	Location Description(s)
1	Inlet to CETP (from MIDC Sump-1+ Gravity)
2	Inlet to CETP (from MIDC Sump-3)
3	Inlet to CETP (from MIDC Sump-4)
4	CETP Inlet (mixed influent) (collection tank after O & G trap,)
5	Outlet of Equalization Tanks
6	Outlet of Primary clarifier
7	Outlet of Secondary Clarifier
8	Outlet of Oxidation with Hypo-chlorite treatment (Before Tertiary Treatment)
9	Outlet of CETP (from MIDC Sump-2) (premises near CETP)
10	Outlet of CETP (MIDC BPT) near Navapur seashore

**Table-3.6: Analysis Results of Monitoring carried-out at CETP Tarapur
Inlet Sumps & Inlet of CETP (13.11.2019)**

Sampling Locations→ Parameters ↓	Inlet to CETP (from MIDC Sump 1+ Gravity)	Inlet to CETP (from MIDC Sump-3)	Inlet to CETP (from) MIDC Sump-4	CETP Inlet (mixed influent)	Outlet of Equalization	Inlet Design Norm [#]	Inlet Standard as per the Consent
pH	5.9	8.6	8.4	7	8.5	5.5-7	6-9
TSS(mg/l)	188	112	128	316	352	300-400	Refer Note below
Total Fixed Soild (TFS)	15025	11402	15598	10207	12088	-	
TDS(mg/l)	17260	13787	18187	12350	14769	-	NS
BOD(mg/l)	1450	1950	3800	3150	2200	1500	Refer Note below
COD(mg/l)	2624	4120	8880	5680	4960	3500	
Phenols(mg/l)	0.92	2.09	1.63	9.28	4.83	--	5
Total Ammonical Nitrogen (TAN) (mg/l)	2.4	6.2	6.5	14.7	28.7	--	50

All values are in mg/l except pH; Mode of sampling – Grab; NS – Not Specified

[#] *As informed by M/s TEPS-CETP*

Note: The Consent stipulates CETP Inlet norms for SSI industries (discharge up to 25 m³/day) i.e. Industries' Outlet norms- BOD: 1500 mg/l, COD: 3500 mg/l. The SSI (more than 25 m³/day), MSI and LSI units, are required to discharge effluent to CETP within stipulated standards in their individual consent (i.e. COD: 250mg/l; BOD 100 mg/l and other parameters & limits specified therein).

Table-3.7: Analysis Results of Stage Wise Sampling from Inlet to Outlet of CETP

S. No.	Sampling Locations→ Parameters ↓	CETP Inlet	Outlet of Equalization	Outlet of Primary clarifier	Outlet of Secondary Clarifier	Outlet of Hypo treatment	Outlet of CETP (MIDC Sump 2)	Outlet of CETP (MIDC BPT) near Navapur beach	Outlet Standards MPCB
1	pH	7	8.5	8.5	7.2	7.1	7.2	6.9	6.0 -9.0
2	TSS(mg/l)	316	352	1162	548	464	484	412	100
3	Total Fixed Solid (TFS)	10207	12088	15693	7809	17296	9232	8536	NS
4	TDS(mg/l)	12350	14769	18694	9233	21489	11320	9974	NS
5	BOD(mg/l)	3150	2200	1800	950	950	1350	1175	30*
6	COD(mg/l)	5680	4960	5680	2720	2528	4880	2928	250
7	Phenols(mg/l)	9.28	4.83	7.2	10.59	2.12	5.84	11.42	5
8	Total Ammonical Nitrogen (TAN)	14.7	28.7	15.4	12.8	4.5	13.4	9.8	50

Mode of sampling – Grab; NS – Not Specified; All values are in mg/L, except pH

** The limit of 30 mg/l has been stipulated since Consent to Operate dated 13/4/2016. Prior to that, the Limit was stipulated as 100 mg/l.*

Table-3.8: Analysis Results- Heavy Metals

S. No.	Sampling Locations→ Parameters ↓	Inlet standards (as per Consent)	CETP Inlet	Equalization outlet	Outlet of CETP (MIDC Sump-2)	Outlet of CETP (MIDC BPT) near Navapur seashore	Outlet standards (as per Consent)	
1	Metals	Iron(mg/l)	NS	303.92	153.78	133.04	85.04	3
2		Lead(mg/l)	1	0.05	0.08	0	0.01	0.1
3		Nickel(mg/l)	3	1.47	1.05	0.61	0.56	3
4		Cobalt(mg/l)	NS	0.12	0.07	0.02	0.03	NS
5		Copper (mg/l)	3	0.76	0.49	0.02	0.14	3
6		Total Chromium (mg/l)	2	0.71	0.65	0.86	0.24	NS
7		Zinc(mg/l)	15	4.53	5.18	2.20	1.4	15
8		Arsenic(mg/l)	0.2	10.40	19.70	12.9	3.55	0.2
9		Barium(mg/l)	NS	0.08	0.11	0.13	0.1	NS
10		Vanadium (mg/l)	NS	0.09	0.17	0.17	0.07	0.2

Mode of sampling – Grab; NS – Not Specified

The above analysis results reveal that:

- (a) Gross non-compliance of the inlet design norms as well as outlet norms of the CETP.

BOD is 3150 mg/l at inlet of CETP which is more than 1500 mg/l- inlet design norms whereas COD is 5680 mg/l at Inlet of CETP, which is more than 3500 mg/l i.e. inlet design norms. BOD of influent is over double the inlet design norm whereas COD is 1.6 times of inlet design norm.

Phenols too is exceeding the CETP inlet standard prescribed under the Consent to Operate which was observed as 9.28 mg/l (1.8 times) against the said standard of 5 mg/l.

- (b) The samples of treated effluent of CETP were collected from two locations namely from MIDC Sump-2 near the CETP and from MIDC BPT near

Navapur Beach/shore from where it is being discharged to the Arabian Sea. Analysis results of the said samples reveal that concentration of TSS, BOD, COD, Phenols, Iron and Arsenic grossly exceed among the analysed parameters of the Outlet Standards prescribed by MPCB.

The concentration of TSS, BOD, COD, Phenols, Iron and Arsenic and their exceedance are shown in the following Table-3.9:

Table-3.9: Exceedance of Pollutants in CETP outlet

Pollutants	Outlet of CETP (MIDC Sump-2)	Outlet of CETP (MIDC BPT) near Navapur seashore	Standards prescribed by MPCB	Exceedance
TSS	484	412	100	More than 4 times the standards
BOD	1350	1175	30	More than 39 and 45 times the standards
COD	4880	2928	250	More than 9 and 11 times the standards
Phenols	5.84	11.42	5	More than 1 and 2 times the standards
Iron	133.04	85.04	3	More than 28 and 44 times the standards
Arsenic	12.9	3.55	0.2	More than 17 and 64 times the standard.

(All the values are expressed in mg/l)

3.8.4.1 Other observations made during the said visit of the committee on 13/11/2019:

- (i) All the treatment units of CETP were found operational except tertiary treatment system (comprising Pressure Sand and Activated Carbon Filter). The tertiary treatment was observed to be defunct since long time.
- (ii) During the visit, CETP was operational without valid consent. The earlier consent expired on 31.12.2017. MPCB issued consent on 29.11.2019 for the period from 31.12.2017 to 31.12.2020. This shows

the CETP was operational without consent from 31.12.2017 to 29.11.2019 i.e. almost for 23 months. MPCB granted consent even though CETP is grossly polluting consistently. MPCB has taken various actions against CETP as detailed in Point 3.11.

- (iii) There were leakages from pipes & pumps, overflow of effluent from some units (equalization tanks/aeration tanks) and overall housekeeping was found to be poor. There was heavy smell of SVOCs/VOCs (solvents/chemicals) near the inlet sumps. Inlet of CETP (with BOD: 3150 mg/l & COD: 5680 mg/l) indicating that member industries discharging their untreated/partially treated effluent to CETP without confirming the inlet design norms of CETP. CETP is not designed for such high strength effluent. There is an urgent need of separate arrangement for High COD and High TDS effluent such as Common MEE and Common Spray Dryer. Such effluent streams are required to be separately collected and transferred to common facilities with identification of such industries.

CETP has no proper mechanism in place for routine monitoring of individual defaulter member units.

- (iv) The inlet effluent is exceeding the 25 MLD design hydraulic load of CETP. The inlet flow meter and Online Continuously Monitoring System is not functioning consistently. The CETP operator also informed that inlet effluent quantity exceeds the design hydraulic load of CETP of 25 MLD that too with higher concentration at inlet. MPCB estimates that CETP inlet effluent quantity may be about 28 MLD against the design/consented capacity of 25 MLD.
- (v) Inlet Quality Standards are yet to be prescribed by MPCB for BOD & COD in the Consent of CETP as per MoEF&CC Notification dated 01.01.2016. The Consent stipulates that “Only for SSI units (having less than 25 CMD discharge effluent) BOD: 1500 mg/l and COD: 3500 mg/l is allowed and for rest of the industries, treated effluent as per their respective consents standards i.e. COD: 250 mg/l are allowed”.

- (vi) Significant quantity of sludge is deposited (approx.-2400 MT) in the MIDC Sump-2 (10.56 Million Liters- capacity) where treated effluent is collected and further transferred to the sea shore through BPTs. There is also overflowing/leakages from pumps etc. from this sump to nearby natural drain which meets with Navapur Creek and further to the Arabian Sea. It is informed that the operation of this Sump is under MIDC and responsibility lies with MIDC for proper maintenance and removal all the sludge from sump. MIDC needs to be directed to take immediate action for the same.
- (vii) MPCB has authorized 07 Metric Ton/Day as CETP Sludge in the Authorization under Hazardous Waste (M, H & TM) Rules, 2008 for treatment and disposal of Hazardous Waste. The quantum of sludge generation in the CETP may be more than such specified quantity. MPCB may review the same. Further dry weight or wet weight should be specified
- (viii) The stock of sludge about 750 MT stored in the premises needs to be disposed immediately to the CHWTSDF.
- (ix) CETP needs thorough up-gradation/revamping of its units/processes in terms of capacity, retention time, automatic chemicals dosing, scraping mechanism, aeration tanks, aeration capacity, de-sludging, transfer pumps & pipelines, removal of corrosion affected equipment/materials, decanters and its capacity, sludge drying beds, etc.

3.9 ACTIONS TAKEN BY MPCB:

The following actions have been initiated against the TEPS-CETP by MPCB.

- (i) The Board has issued directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 to MIDC vide letter dated 06/03/2017 and directed to take over non-conforming CETPs including TEPS-CETP.
- (ii) The Board has refused consent to Tarapur CETP vide letter dated 28/2/2018. The Respondent Board thereafter has filed Criminal cases bearing No. 196/2018 against the Tarapur CETP before Hon'ble Judicial Magistrate First Class-Palghar. Being aggrieved by the Refusal Order of MPCB issued vide latter dated 28.02.2018, the TEPS-CETP vide dated 28.03.2018 has preferred an Appeal before the Principal Secretary, Environment

Department Government of Maharashtra, to review the refusal order and to grant permission to operate and maintain CETP at Tarapur to the TEPS-CETP and they will undertake the up gradation work of 25 MLD CETP. The Respondent Board in respect of resubmission of application for grant of consent by TEPS-CETP dated 07.11.2018, had once again issued Refusal Order dated 28.02.2019. Being aggrieved by the said Refusal Order dtd.28.02.2019, the TEPS-CETP has preferred an Appeal dated 15.04.2019 before the Principal Secretary, Environment Department Government of Maharashtra, to review the Refusal Order and to grant permission to operate and maintain CETP at Tarapur to the TEPS-CETP and they will undertake the up gradation work of 25 MLD CETP. Further as per fresh application submitted by TEPS CETP Consent to operate is issued on 29.11.2019 for period up to 31.12.2020.

- (iii) Directions u/s 5 of the Environment (Protection) Act, 1986 issued by the Central Pollution Control Board vide letter dated 23/07/2018 to Tarapur CETP and directed to take corrective action and operate properly to meet the stipulated norms, to identify the industries to keep a check on effluent quality of CETP, to install CEMS and provide data connectivity to MPCB and CPCB, to stop mixing and discharging of untreated waste water / effluent etc.
- (iv) Prosecution Notice issued u/s 15 of the (Environment) Act, 1986 vide letter dated 21/01/2019 by the Board for non-performing existing 25 MLD CETP within stipulated period. In response to the said prosecution notice, Tarapur CETP has submitted its reply dated 08.02.2019.
- (v) Proposed directions issued u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 vide letter dated 24/1/2019 by the Board and directed Tarapur CETP as to why it shall not be directed to deposit an amount of Rs.5,00,000/- per day (i.e. 2 paise per ltr./per day) towards the remediation cost to the environment as per 'Polluters Pay Principle'. The TEPS-CETP vide letter dated 10.02.2019 made submission that they submitted the action plan and the execution on action plan is already started.
- (vi) Directions issued u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 vide letter dated 14/02/2019 and directed Tarapur CETP to deposit an amount of Rs.5,00,000/- per day (i.e.2 paise per ltr./per day) towards the remediation cost to the environment as per 'Polluters Pay Principle'.

- (vii) Show cause notices for closure were issued in the month of May, 2019 to 113 industries and directed to submit the details about high COD stream with quantity of effluent generated from their processes and its treatment
- (viii) Bank Guarantees of the 23 non-complying industries to the tune of Rs.67 Lakhs have been forfeited.
- (ix) Directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 was issued to Tarapur Environment Protection Society CETP by the Board vide letter dated 28/6/2019 and directed to get the strainers installed on the discharge point of all the member industries along with the provision of positive discharge of effluent to collection system finally reaching to CETP.
- (x) Directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 174 was issued to Maharashtra Industrial Development Corporation, Mumbai by the Board vide letter dated 28/6/2019 and directed to get the strainers installed on the discharge point of all the member industries along with the provision of positive discharge of effluent to collection system finally reaching to CETP. Other details of directions issued are given at Table 103 of Annexure V.
- (xi) The Board has filed Criminal cases bearing Nos.338/2010, 261/2017 and 196/2018 against the Tarapur CETP before the Hon'ble Chief Judicial Magistrate, Thane and Hon'ble Judicial Magistrate First Class-Palghar.

3.10 ACTION TAKEN BY CPCB:

Recently, as compliance of the order of Hon'ble NGT OA. No. 593 of 2017 (arising from W.P. (Civil) No. 375/2012 on the file of the Hon'ble Supreme Court) Paryavaran Suraksha Samiti & Anr. Versus Union of India & Ors, CPCB, RD, Vadodara carried out visits & monitoring of CETP in Maharashtra including CETP Tarapur. Based on the monitoring reports, CPCB issued directions on 13.08.2019 under Section-18 (1) (b) of the Water (prevention and control of Pollution) Act, 1974 regarding non-compliance status of CETPs.

3.11 NEW CETP (50 MLD) UNDER INSTALLATION:

New CETP of 50MLD (12.5 MLD x 4) is proposed in two phases at plot no. OS-30 in MIDC and its first phase (two modules of 12.5 MLD with total 25 MLD) was expected to start by December 2019, as informed by M/s TEPS.

Consent to establish has been granted for 50 MLD and TEPS has applied for consent to operate but the same has not yet been granted for the Phase-I (i.e. 12.5 MLD x 2) which is expected to start by Dec. 2019 and may take about 3 months for its stabilization.

For Phase-I (25 MLD), the treatment units provided are: Primary, Secondary, tertiary units. The CETP reportedly consists of Screen Chamber, Collection tank, Equalization Tank, Primary Treatment (diffused air floatation (DAF) for solid liquid separation), First Stage Bio-Degradation (silicon diffusers, compressed air provided by turbo blowers), Anoxic treatment for removal of TKN, First stage clarifier, Second stage bio-degradation (silicon diffusers, compressed air provided by turbo blowers), Second stage clarifier, Pressure Sand filter and Ozonization. Final treated effluent to be currently disposed in to the exiting disposal point near Navapur seashore.

Chapter-4

DAMAGE TO THE ENVIRONMENT

4.1 MONITORING OF WATER BODIES AND SAMPLING LOCATION DETAILS

The grievance expressed by the applicant of OA No. 64/2006 is severe environmental and ecological degradation of the water bodies situated in the vicinity of the Tarapur MIDC caused by the discharge of untreated effluent in MIDC. Details of water bodies in and around MIDC Tarapur has been given under section 2.3 of Chapter 2 of this report.

In order to assess damage caused to the environment, the following sampling were carried out in various waterbodies during November-December 2019:

- (i) water samples in 09 drains passing through MIDC Tarapur along with sediments at few locations;
- (ii) water and sediment samples from 03 locations of the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek flowing North and South of Tarapur MIDC respectively) in which the above drains confluence and 01 location of each of the two streams before meeting the said two creeks;
- (iii) sea water and sand near to Navapur CETP outfall, Nandgaon beach and the other at Edvan beach about 85 kms from the said Navapur CETP outfall, and;
- (iv) ground water samples from 06 different bore-wells in and around MIDC area.

Location of sampling points of surface water viz. drains, creeks, streams and seashore with their latitude and longitude are given in Table 4.1. Similarly location of sampling points of ground water from bore-wells are given in Table 4.2.

Table 4.1: Latitude and longitude of sampling locations of surface water bodies

Drains passing through MIDC Tarapur			
Sl. No.	Sampling location	Latitude	Longitude
1.	Near Pasthan Village of the drain after confluence of Drains at Sl. No. 1,2 & 3 of Table 2.4	19.817857	72.725809
2.	Near Shivaji Nagar Village of the drain after confluence of Drains at Sl. No. 5 of Table 2.4	19.801498	72.717366
3.	Near Sump 1 of the drain at Sl. No. 11 of Table 2.4	19.787121	72.740833
4.	Near Yashwant Shrushti of the drain at Sl. No. 14 of Table 2.4	19.793819	72.756147
5.	Near Sump no 3 of the drain at Sl. No. 7 of Table 2.4	19.780953	72.720936
6.	Near opposite Everest kento of drains at Sl. No. 5 of Table 2.4	19.785353	72.722793
7.	Near Auro lab of the drain at Sl. No. 5 of Table 2.4	19.797272	72.721192
8.	Near k18 (Aarti) of the drain at Sl. No. 5 of Table 2.4	19.798687	72.721577
9.	Near Viraj of the drain after confluence of Drains at Sl. No. 12 of Table 2.4	19.780806	72.747490
Creeks/Stream around MIDC Tarapur			
S.No.	Sampling location	Latitude	Longitude
10.	Stream near Pasthan	19.823275	72.729953
11.	Near dumping ground at upstream of Navapur Dandi Creek	19.820384	72.723379
12.	Downstream of Navapur Dandi Creek	19.800780	72.689154

13.	Downstream of Murbe Creek	19.744413	72.710654
14.	Stream near Betegaon	19.786119	72.767728
Seashore near MIDC Tarapur			
S. No.	Sampling location	Latitude	Longitude
15.	Beach near Navapur Sea	19.785334	72.686667
16.	Edvan Sea Beach	19.536675	72.719858
17.	Beach near Nandgaon	19.768737	72.685932

Table 4.2: Sampling locations of the ground water

SI. No.	Sampling location of Ground Water	Latitude	Longitude
1	Pasthal Village	19.818777	72.726988
2	Shivaji Nagar	19.801864	72.717545
3	Lalabajpai	19.785792	72.738748
4	Dhodipuja	19.797369	72.750608
5.	Tex year Industrial Adhesive	19.795158	72.724411
6.	Ramji Nagar	19.782335	72.723899

Google earth maps showing sampling locations of the above Drains and Creeks, /Seashore are given in Fig. 4.1 and Fig.4.2 respectively. Google earth maps showing the above sampling locations of ground water is given in Fig.4.3.

Figure 4.1: Google earth map showing sampling locations of Drains in and around Tarapur MIDC (Not to the scale)

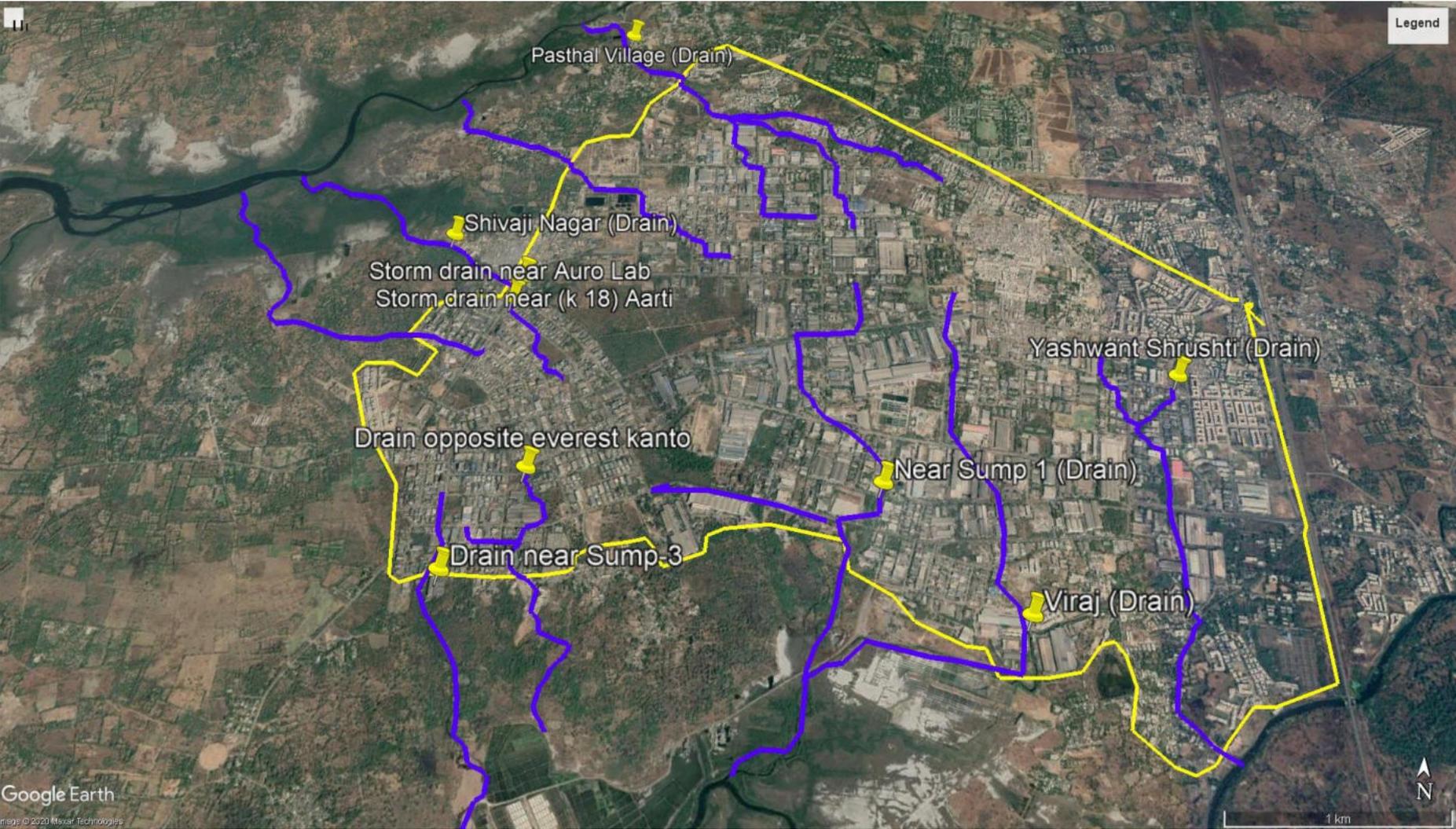


Figure 4.2: Google earth map showing sampling locations of Creeks, Stream and Sea shore around Tarapur MIDC (Not to the scale)

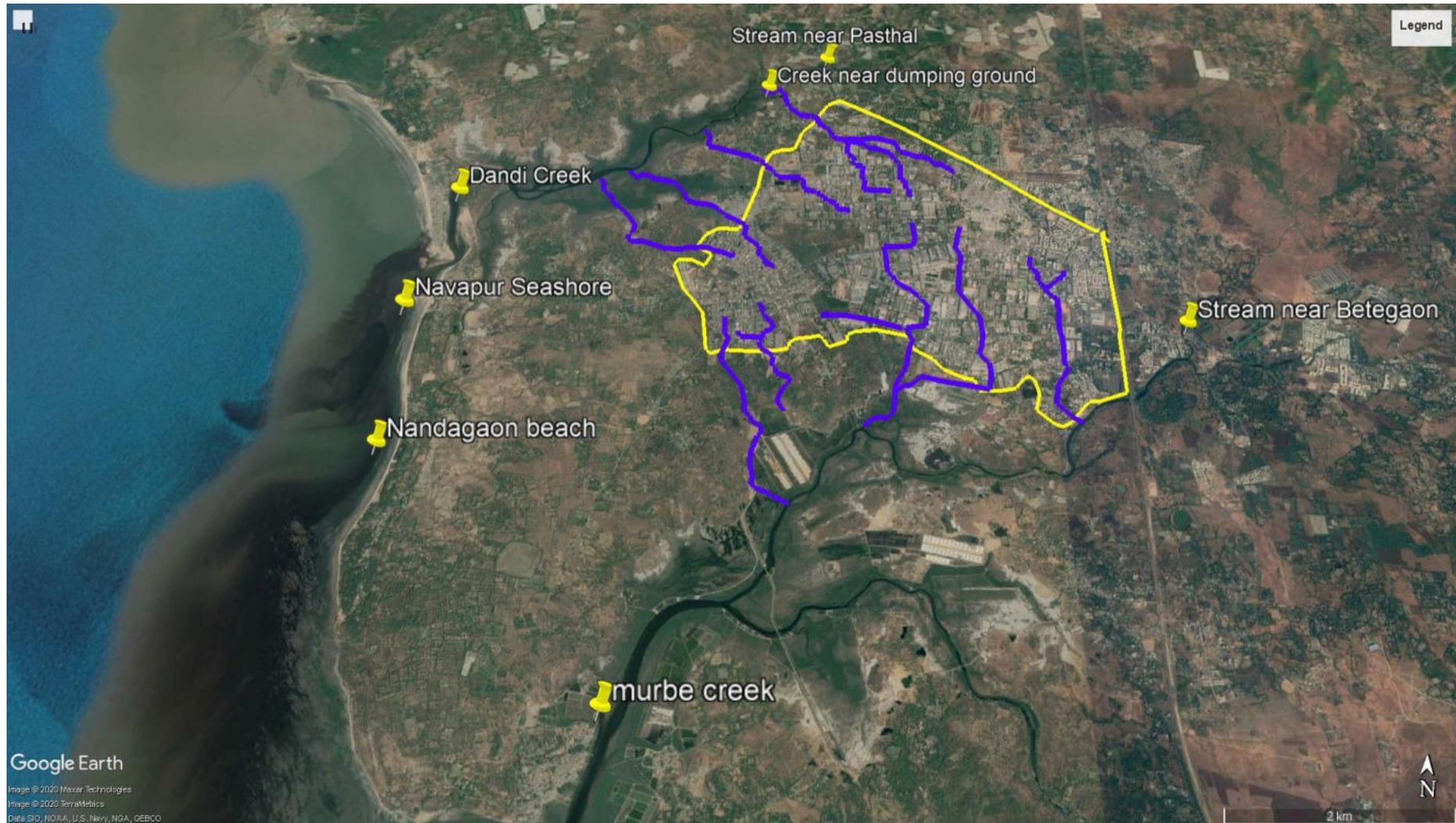
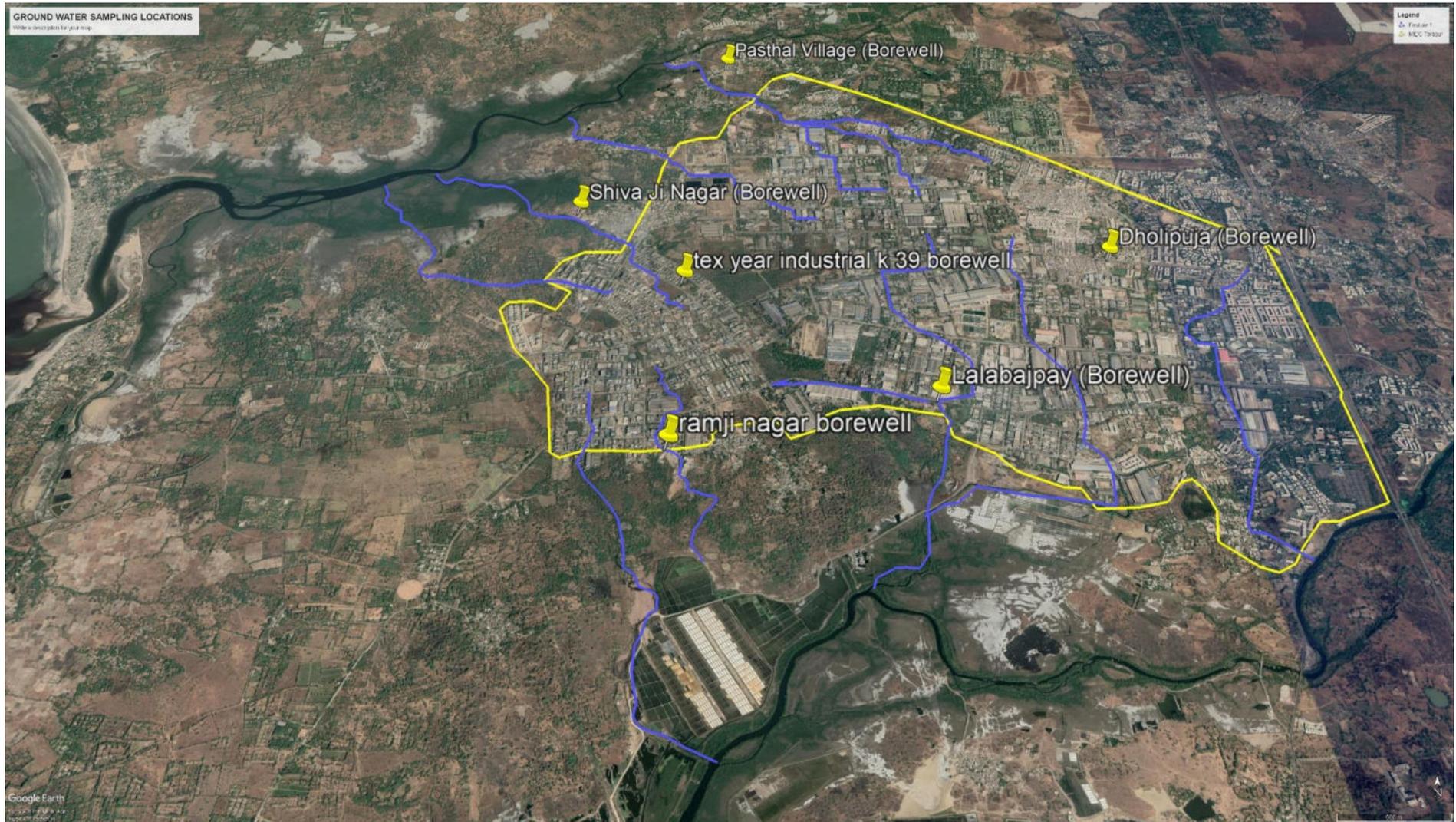


Figure 4.3: Google earth map showing sampling locations of ground water (Not to the scale)



The surface water samples and ground water samples have been carried for the parameters as given in Table 4.3 in Central Lab of MPCB in Navi Mumbai.

Table 4.3: Parameters under analysis for surface water and ground water

Sl. No.	Parameters	Sl. No.	Parameters
1	pH	13	Iron
2	TSS	14	Lead
3	TDS	15	Nitrate Nitrogen
4	BOD	16	Copper
5	DO	17	Manganese
6	COD	18	Zinc
7	Phenols	19	Chromium
8	Free Ammonia	20	Barium
9	Chlorides	21	Vanadium
10	Sulphate	22	Arsenic
11	Fluorides	23	Cadmium
12	TAN		

Analysis of sediments from water bodies and sand samples from sea shores for the parameters as given in Table 2 have been carried out by M/s Bhagavathi Ana Labs Pvt. Ltd., (Bureau Vertias Group Company), Hyderabad, and CPCB Delhi.

Table 4.4 : Parameters analysed for sediment samples

Sl. No.	Parameters	Sl. No.	Parameters
1	pH*	12	Water Soluble Chloride
2	Electrical conductivity*	13	Water Soluble Nitrite
3	Arsenic*	14	Ammonical Nitrogen
4	Cadmium*	15	Total Soluble Sulphates
5	Chromium*	16	Available Phosphorous
6	Manganese*	17	Total Petroleum Hydrocarbon (TPH)
7	Copper*	18	Total Organic Carbon
8	Vanadium*	19	Phenolic Compounds
9	Zinc*	20	PAH*
10	Iron*	21	TVOCs
11	Water Soluble Fluoride		

*These parameters have been carried out at CPCB Laboratory, Delhi, for sand collected from Navapur CETP outfall beach and Edvan Beach. Metals have been analysed for leachable concentrations as Toxicity Characteristic Leaching Procedure (TCLP) or Soluble Threshold Limit Concentration (STLC).

4.2 ANALYSIS RESULTS OF WATER SAMPLES AND SEDIMENTS OF DRAINS PASSING THROUGH MIDC TARAPUR

4.2.1 Drain water samples

The analysis results of water samples of various monitored drains passing through Tarapur MIDC (as shown in Figure 4.1) are given in Table 4.5. In the said Table 4.5, the analysis results have also been represented with standards prescribed under the Canadian water quality guidelines for discharge of environmental pollutants in inland surface water. Such standard has also been recommended in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India. The analysis results when compared with the said standards reveal that:

- (a) Very low pH of water in drain opposite Everest Kanto i.e. 1.8 indicate discharge of highly acidic untreated effluent in the drain from industries.
- (b) Elevated concentration of TDS, BOD and COD in all the monitored drains (except COD in drains near Yashwant Shrushti; near Viraj, and; near Sump1) indicate that industries are discharging untreated/partially treated effluent to drains.
- (c) No DO value in the monitored drains (Strom Drain near Aarti; Drain near Auro Lab; Drain opposite Everest kento and Drain Near Sump 3) also indicate discharge of untreated/partially treated effluent to such drains and unhealthy condition for aquatic life.
- (d) Elevated level of Phenols observed in drain near sump 3 and storm drain near Aarti industries (Plot No-K8) indicates industries are discharging untreated solvent/chemicals to the drains.
- (e) Values of analysed heavy metals (Lead, Copper, Zinc, Chromium, Barium, Vanadium, Arsenic, Cadmium) are within the aforesaid standards though elevated level of Iron and Manganese have been observed in storm drains near Auro Lab and Aarti industries (Plot No-K8).

Further, color of water samples were noticed as black, Grey, brown, pink and light yellow in different drains. Odour in water samples of drains indicate the presence of solvent/Chemical.

4.2.2 Sediments samples from Drains

The analysis results of sediments samples of various monitored drains passing through Tarapur MIDC (as shown in Figure 4.1) are given in Table 4.6. In the said Table 4.6, the analysis results have also been represented with screening levels recommended under the CCME Canadian Environmental Quality Guidelines. The said screening levels represent a level of negligible risk and provide a level that is regarded to enable a healthy functioning system for industrial land use. The same have also been recommended in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India. The analysis results when compared with the said screening levels reveal that:

- (a) pH of sediment sample of drain near M/s Everest Kanto is found highly acidic having pH of 2.34 at surface and 2.52 at depth of 30 cm from surface bed. pH of storm drain near Auro lab has slightly basic having pH of 8.48 indicate the discharge of basic effluent in the storm drain from nearby industries.
- (b) The concentration of heavy metals in sediments of all the sampling locations do not show exceedance to the said screening values.
- (c) The other measured parameters were found below the screening values.

The above findings indicate that the drains in and around Tarapur MIDC area is contaminated with elevated levels of TDS, BOD, COD, TSS, Fluorides and Phenols besides being highly acidic in one or more drains when compared with standards recommended under the Canadian water quality guidelines for discharge of environmental pollutants in inland surface water which has also been recommended in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of

Environment, Forest & Climate Change, Govt. of India. Further, odour and colour was also observed in drain waters. DO measured in four of the drains were also observed to be absent. These indicate that industries are discharging untreated effluent/solvent/chemicals to the drains.

However, sediments were not found to be exceeding the screening levels prescribed under the CCME Canadian Environmental Quality Guidelines which has also been recommended in the aforesaid guidance document of the Ministry of Environment, Forest & Climate Change, Govt. of India, except pH near M/s Everest Kanto which is highly acidic (having pH of 2.34 at surface and 2.52 at depth of 30 cm from surface bed) indicating discharge of acidic effluent and pH of storm drain near Auro lab which is slightly basic having pH of 8.48 indicating discharge of basic effluent in the storm drain from industries.

Table 4.5 Analysis results of surface water samples collected from drains

Sl. No.	Sampling Locations Parameters	Drain near Pasthal Village	Drain near Shivaji Nagar	Storm Drain near Aarti K8	Storm Drain near Auro Lab	Drain near Yashwant Shrushti	Drain near Viraj	Drain near Sump 1	Drain opposite Everest kento	Drain Near Sump 3	Standards *
North Flowing Drains						South Flowing Drains					
1.	Colour	Brown	Grey	Brownish	Pale yellow	Slight colour	Black	Slight colour	Pink	Brownish	
2.	Odour	Odourless	Sewage	Strong organic	Organic	Sewage/ Organic	Sewage/ Organic	Slight odour	Organic	Organic	
3.	pH	7 ^s	7	7.2	7.3	7.3	7.5	7.3	1.8	7.5	5.5-9.0
4.	TSS(mg/l)	-	82	268	72	42	80	46	32	156	100
5.	TDS(mg/l)	4105	3613	7920	2845	701	747	1153	6637	13419	100
6.	DO(mg/l)	-	-	0	0	-	-	-	0	0	NS
7.	BOD(mg/l)	11	440	430	130	80	66	10	120	1450	30(BIS)
8.	COD(mg/l)	212	912	1440	524	156	140	20	1288	4680	250(BIS)
9.	Phenols(mg/l)	0.06	0.41	1.46	0.43	0.22	0.11	0	0.39	5.49	1
10.	Free Ammonia	-	-	0.02%	0.03%	-	-	-	0%	0.08%	NS
11.	Chlorides(mg/l)	919.7	-	2789.1	922.2	-	-	-	842.2	5073.4	NS
12.	Sulphate(mg/l)	856.7	-	1305.9	763.5	-	-	-	2708.9	2601.7	NS
13.	Fluorides(mg/l)	-	-	3.6	0.8	-	-	-	0.9	5.6	2
14.	TAN	0.7	2.2	3.8	5.6	6.5	2.4	3	4.5	4.9	NS
15.	Iron (Fe) (mg/l)	0	0	4.48	3.44	0	0	0	2.15	1.88	3
16.	Nitrate Nitrogen	8.4	-	0	0	-	-	-	0	0	10
17.	Lead(mg/l)	0.02	0.03	0	0.01	0.03	0.03	0.02	0.1	0.01	0.1
18.	Copper(mg/l)	0.08	0	0.07	0.2	0	0	0	0.48	7.69	3
19.	Manganese	-	-	1.88	3.61	-	-	-	2.86	1.11	3
20.	Zinc	0	0	0.45	1.21	0	0	0	0.37	0.61	5
21.	Chromium	0	0	0	0	0	0	0	0.10	0.07	0.1
22.	Barium	0	0.09	0.08	0.08	0.04	0.05	0.05	0.03	0.06	NS
23.	Vanadium	0.02	0.01	0.04	0.02	0.01	0	0.03	0.64	0.40	0.2
24.	Arsenic	0	0	0	0	0	0	0	0	0	0.2
25.	Cadmium	0	0	0	0	0	0	0	0	0	NS

All values are in mg/l except pH, Odour and Colour; Mode of sampling-Grab; NS- Not Specified;(BIS) General Standards for discharge of effluents BIS,(IS:2296)

*Canadian water quality guidelines for discharge of environmental pollutants in inland surface water; ^sAnalysis result based on sampling on 06/2/2020

Table 4.6: Analysis results of sediment samples collected from drains

Sl. No.	Sampling Locations Parameters	Screening Levels*	Drain opposite Everest Kanto		Storm Drain near k18 (Aarti)	Drain near Sump 3		Storm Drain near Auro lab
			0 Cm	30 Cm	0 Cm	0 Cm	30 Cm	0 Cm
		Depth→	0 Cm	30 Cm	0 Cm	0 Cm	30 Cm	0 Cm
1	pH	6-8	2.34	2.52	7.52	7.7	7.82	8.48
2	Electrical conductivity (µs/cm)	NS	2310	1920	2860	2080	2180	2580
3	Arsenic(mg/l)	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4	Cadmium(mg/kg)	22	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
5	Chromium (mg/kg)	87	0.5	0.5	<0.05	0.7	0.4	<0.05
6	Manganese (mg/kg)	NS	5.5	8.8	117	111	151.5	137
7	Copper(mg/kg)	91	<0.05	<0.05	<0.05	0.6	0.2	<0.05
8	Vanadium (mg/kg)	130	<0.05	0.3	0.2	0.5	0.3	1
9	Zinc(mg/kg)	360	0.2	0.2	6	7	2	14.5
10	Iron(mg/kg)	NS	3	3	<0.05	31	27	1
11	Water Soluble Fluoride (mg/kg)	2000	0.07	0.02	0.2	0.3	0.07	0.4
12	Water Soluble Chloride(mg/kg)	NS	489	783	264	1468	1370	1663
13	Water Soluble Nitrite (mg/kg)	NS	0.01	0.01	0.03	0.05	0.3	0.2
14	Ammonical Nitrogen(mg/kg)	NS	10	14	19	26	26	25
15	Total Soluble Sulphates (%)	NS	0.34	0.56	0.4	0.2	0.3	0.55
16	Available Phosphorous (kg/hect)	NS	223	118	373	89	51	353
17	Total Petroleum Hydrocarbon (TPH)(%)	NS	0.031	0.016	0.022	0.027	0.027	0.017
18	Total Organic Carbon (%)	NS	4.1	2.9	5.9	4.3	4.1	4.9
19	Phenolic Compounds (mg/kg)	10	<1	<1	<1	<1	<1	<1
20	PAH(µg/kg)	NS	BDL	BDL	BDL	BDL	BDL	BDL
21	TVOCs	NS	BDL	BDL	BDL	BDL	BDL	BDL

*CCME Canadian Environmental Quality Guidelines. These levels represent a level of negligible risk and provide a level that is regarded to enable a healthy functioning system for industrial land use. The same have also been referred in the "Guidance document for assessment and remediation of contaminated sites in India" prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India Dutch intervention level and screening value for industrial;
BDL: Below Detection Limit

4.3 ANALYSIS RESULTS OF WATER SAMPLES AND SEDIMENTS OF CREEKS PASSING ACROSS MIDC TARAPUR

4.3.1 Creek water samples

Analysis results of water samples collected from 03 locations of the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek flowing North and South of Tarapur MIDC respectively in which various drains confluence) and 01 location of each of the two streams before meeting the said two creeks are given in Table 4.7. In the said Table 4.7, the analysis results have also been represented with standards prescribed under the Canadian water quality guidelines for discharge of environmental pollutants in inland surface water. Such standard has also been recommended in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India. The analysis results when compared with the said standards reveal that:

- (a) Concentration of TDS, COD and BOD show increasing trend in both the creeks as they receive effluent from Tarapur MIDC and flow towards the sea. Further, pH value is also decreasing. However, all the said values are within the aforesaid standard of COD at Dandi Creek (downstream of Navapur Dandi Creek) and BOD at Creek near Dumping ground (upstream of Navapur Dandi Creek) and Dandi Creek (downstream of Navapur Dandi Creek).
- (b) There is no DO in Creek near Dumping ground (upstream of Navapur Dandi Creek) and Dandi Creek (downstream of Navapur Dandi Creek).
- (c) Phenols at Dandi Creek (downstream of Navapur Dandi Creek) and Murbe Creek have been observed higher than other sampling locations of the Creek. However, the same is within the aforesaid standards.

Further, colour of water samples were noticed as pale yellow in Dandi Creek (downstream of Navapur Dandi Creek), slight color in Creek near Dumping Ground (upstream of Navapur Dandi Creek) and Murbe Creek and colourless at stream near Pasthan and stream near Betegaon. Odour in water samples were organic in Creek near dumping ground (upstream of Navapur Dandi Creek) and Dandi Creek (downstream of Navapur Dandi Creek) indicating the presence of solvent/Chemical.

4.3.2 Sediments samples from Creeks

The analysis results of sediments samples at various locations (as shown in Figure 4.2) of the Creeks passing across Tarapur MIDC and streams meeting the Creeks are given in Table 4.8. In the said Table 4.8, the analysis results have also been represented with screening levels prescribed under the CCME Canadian Environmental Quality Guidelines. The said screening levels represent a level of negligible risk and provide a level that is regarded to enable a healthy functioning system for industrial land use. The said screening levels have also been recommended in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India. The analysis results when compared with the said screening levels reveal that:

- (a) pH of sediment sample near the Dandi Creek (downstream of Navapur Dandi Creek) and Murbe Creek were found slightly basic having pH of 8.15 and 8.06 at surface and 8.31 and 8.43 at depth of 30 cm from the surface bed respectively indicating basic effluent discharge to both the creeks passing across Tapaur MIDC.
- (b) The other measured parameters were found below the screening values.

Odour of chemical/solvent in sediment sample of creek near dumping (upstream of Navapur Dandi Creek) ground was also observed.

The above findings indicate that the two creeks have elevated levels of COD and TDS at different stretches (where interference of water from Tarapur MIDC area begins). There was no DO in Creeks near Dumping ground (upstream of Navapur Dandi Creek) and Dandi Creek (downstream of Navapur Dandi Creek). Colour and odour were observed at different locations of the both the Creeks. Further, Phenols at downstream location of both the Creeks viz. Dandi Creek (downstream of Navapur Dandi Creek) and Murbe Creek (downstream of Kharekuran Murbe Creek) have been observed higher than other sampling locations of the Creeks and streams though the same are within the aforesaid standards.

In sediments of the monitored locations of the Creeks, pH of sediment sample near the Dandi Creek (downstream of Navapur Dandi Creek) and Murbe Creek were found slightly basic.

Thus, it indicates that the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek flowing North and South of Tarapur MIDC respectively) receiving polluted effluent from the drains of MIDC Tapaur were found having impact of discharges from such drains. Presence of odour & colour indicate requirement of further analysis which may be carried out during detailed investigation and remediation requirement as suggested under Chapter 8 “Measures for restoration of Environment in and around MIDC Tarapur” of this report.

Table 4.7: Analysis results of surface water samples collected from creek

SI. No.	Sampling Locations Parameters	Stream near Pasthal	Creek near dumping ground	Dandi Creek	Stream near Betegaon	Murbe Creek	Standards*
1	Colour	Colourless	Slight colour	Pale yellow	Colourless	Slight colour	
2	Odour	Odourless	Organic	Organic	Organic	Slight odour	
3	pH	7.6	7.2	6.8	7.8	7.5	5.5-9.0
4	TSS	16	22	48	30	20	100
5	TDS	376	5969	29346	509	32453	100
6	DO	6	0	0	4.6	3.9	NS
7	BOD	3	70	80	8	16	30(BIS)
8	COD	16	180	276	40	220	250(BIS)
9	Phenols	0	0	0.19	0	0.2	1
10	Free Ammonia	0.02%	0.04%	0.01%	0.17%	0.06%	NS
11	Chlorides	45	2969.1	16195	83.5	16944.7	NS
12	Sulphate	41.7	563.6	2061	24.9	2095.3	NS
13	Fluorides	0.5	0.5	1.1	0.2	2.9	2
14	TAN	1.1	6.7	7.6	4	9.4	NS
15	Iron (Fe)	0.59	3.91	1.17	0.44	0.35	3
16	Nitrate Nitrogen	0.3	0.1	0	0	0	10
17	Lead	0	0	0	0	0	0.1
18	Copper	0	0.05	0	0	0.02	3
19	Manganese	0.25	0.43	0.28	0.62	0.43	3
20	Zinc	0	0.13	0	0	0	5
21	Chromium	0	0	0	0	0	0.1
22	Barium	0.04	0.04	0.02	0.08	0.04	NS
23	Vanadium	0.05	0.04	0.01	0.02	0	0.2
24	Arsenic	0	0.05	0.05	0	0	0.2
25	Cadmium	0	0	0	0	0	NS

All values are in mg/l except pH; Mode of sampling-Grab; NS- Not Specified;
(BIS) General Standards for discharge of effluents BIS,(IS:2296)

*Canadian water quality guidelines for discharge of environmental pollutants in inland surface water

Table 4.8: Analysis result of sediments samples collected from Creeks.

Sl. No.	Sampling Locations Parameters	Screening value*	Stream near Pasthal		Creek near dumping ground	Dandi Creek		Stream near Betegaon		Murbe Creek	
			0 Cm	30 Cm	0 Cm	0 Cm	30 Cm	0 Cm	30 Cm	0 Cm	30 Cm
1	pH	6-8	7.33	7.44	7.67	8.15	8.31	7.63	7.23	8.06	8.43
2	Electrical conductivity(µs/cm)	NS	763	2850	6670	3740	3630	265	290	5470	615
3	Arsenic(mg/l)	12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
4	Cadmium(mg/kg)	22	0.4	<0.05	0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
5	Chromium(mg/kg)	87	0.6	<0.05	0.5	<0.05	<0.05	0.45	0.6	0.6	0.4
6	Manganese (mg/kg)	NS	138	98	169	7.5	7	215	151	45	23
7	Copper(mg/kg)	91	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
8	Vanadium(mg/kg)	130	0.02	0.5	0.2	0.6	0.4	0.7	0.08	0.2	0.2
9	Zinc(mg/kg)	360	8	6	11.5	<0.05	<0.05	4	2	<0.05	<0.05
10	Iron(mg/kg)	NS	18	8	21	<0.05	<0.05	17	5.4	<0.05	<0.05
11	Water Soluble Fluoride (mg/kg)	2000	0.06	0.05	0.4	0.2	0.2	0.08	0.1	0.2	0.1
12	Water Soluble Chloride(mg/kg)	NS	391	3229	8904	4990	4696	196	98	6947	2515
13	Water Soluble Nitrite (mg/kg)	NS	0.04	0.04	0.01	0.04	0.01	0.03	0.02	0.01	0.02
14	Ammonical Nitrogen(mg/kg)	NS	4.5	12	23	5	5	7	20	2	2
15	Total Soluble Sulphates (%)	NS	0.24	0.4	0.3	0.34	0.24	0.25	0.3	0.2	0.26
16	Available Phosphorous(kg/hect)	NS	180	87.5	177	83	84.5	21	31	42	75
17	Total Petroleum Hydrocarbon(%)	NS	0.066	0.021	0.054	0.032	0.018	0.024	0.018	0.019	0.018
18	Total Organic Carbon(%)	NS	5.1	4.8	3.7	5.2	4.1	3.8	3.6	4.7	3.8
19	Phenolic Compounds(mg/kg)	10	<1	<1	<1	<1	<1	<1	<1	<1	<1
20	PAH(µg/kg)	NS	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
21	TVOCs	NS	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

*CCME Canadian Environmental Quality Guidelines. These levels represent a level of negligible risk and provide a level that is regarded to enable a healthy functioning system for industrial land use. The same have also been referred in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India Dutch intervention level and screening value for industrial;
BDL: Below Detection Limit

4.4 ANALYSIS RESULTS OF SEA WATER AND SAND SAMPLES IN SEASHORES

Analysis results of samples of sea water and sand from sea beach (as shown in Figure 4.2) near to Navapur CETP outfall, Nandgaon beach and the other at

Edvan beach about 85 kms from the said Navapur CETP outfall are given in Table 4.9 and Table 4.10.

The results though do not reveal trend of elevated concentration of measured parameters near to Navapur CETP outfall beach and Nandgaon beach where the two creeks confluence into the sea. However, presence of Phenols in both the beaches indicate impact of discharge from Tarapur MIDC area and requirement of further analysis which may be carried out during detailed investigation and remediation requirement as suggested under Chapter 8 “Measures for restoration of Environment in and around MIDC Tarapur” of this report.

Table 4.9: Analysis result of water samples collected from sea beach

SI. No.	Sampling Locations Parameters	Navapur sea beach	Nandgaon sea beach	Edvan Sea beach
1.	Colour	Slight colour	Slight colour	Slight colour
2.	Odour	Foam smell	Slight odour	Slight odour
3.	pH	7.5	8.6	7.9
4.	TSS	92	78	168
5.	TDS	42981	39904	37698
6.	DO	4	4	4.4
7.	BOD	14	14	12
8.	COD	236	276	228
9.	Phenols	0.02	0.11	0
10.	Free Ammonia	-	0.19%	-
11.	Chlorides	-	20043.8	-
12.	Sulphate	-	2416.2	-
13.	Fluorides	-	0.8	-
14.	TAN	1.2	5.3	0.2
15.	Iron (Fe)	-	0.7	0
16.	Nitrate Nitrogen	-	0.1	-
17.	Lead	0	0	0
18.	Copper	0.01	0.01	0.01
19.	Manganese	-	0.03	-
20.	Zinc	0	0	0
21.	Chromium	0	0	0
22.	Barium	0.02	0	0.2
23.	Vanadium	0.11	0	0.2
24.	Arsenic	0	0	0
25.	Cadmium	-	0	-

Table 4.10: Analysis result of sand samples collected from Seashores

Sl. No	Sampling Locations Parameters	Screening value*	Navapur Seashore		Nandgaon Seashore		Edvan Seashore	
			15 cm	30 cm	0 Cm	30 Cm	15 cm	30 cm
1	pH	6-8	9.03	9.01	8.39	8.39	9.18	9.03
2	Electrical conductivity($\mu\text{s}/\text{cm}$)	NS	2880	6620	3880	3080	2700	6530
3	Arsenic(mg/l)	12	0.01	BDL	<0.05	<0.05	0.02	BDL
4	Cadmium(mg/kg)	22	BDL	BDL	<0.05	<0.05	BDL	BDL
5	Chromium(mg/kg)	87	BDL	0.01	0.3	0.45	BDL	0.01
6	Manganese (mg/kg)	NS	2.18	11.20	5	4	2.10	11.29
7	Copper(mg/kg)	91	BDL	BDL	<0.05	<0.05	BDL	BDL
8	Vanadium(mg/kg)	130	BDL	0.06	0.4	<0.05	BDL	0.05
9	Zinc(mg/kg)	360	0.08	0.02	<0.05	<0.05	BDL	0.02
10	Iron(mg/kg)	NS	0.88	9.32	<0.05	<0.05	0.84	9.75
11	Water Soluble Fluoride (mg/kg)	2000	0.14	0.05	0.06	0.06	0.14	0.03
12	Water Soluble Chloride(mg/kg)	NS	1468	1321	5186	4109	4501	3865
13	Water Soluble Nitrite (mg/kg)	NS	0.02	0.01	0.08	0.01	0.03	0.04
14	Ammonical Nitrogen(mg/kg)	NS	0.5	0.3	3	3	0.4	0.2
15	Total Soluble Sulphates (%)	NS	0.14	0.15	0.3	0.2	0.17	0.08
16	Available Phosphorous(kg/hect)	NS	16.6	<5	81.5	3	<5	86
17	Total Petroleum Hydrocarbon(%)	NS	0.042	0.028	0.041	0.24	0.036	0.025
18	Total Organic Carbon(%)	NS	3.6	3.3	4.4	3.9	4.5	3.9
19	Phenolic Compounds(mg/kg)	10	<1	<1	<1	<1	<1	<1
20	PAH($\mu\text{g}/\text{kg}$)	NS	BDL	BDL	BDL	BDL	BDL	BDL
21	TVOCs	NS	-	-	BDL	BDL	-	-

*CCME Canadian Environmental Quality Guidelines. These levels represent a level of negligible risk and provide a level that is regarded to enable a healthy functioning system for industrial land use. The same have also been referred in the "Guidance document for assessment and remediation of contaminated sites in India" prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India Dutch intervention level and screening value for industrial;
BDL: Below Detection Limit

4.5 ANALYSIS RESULTS OF GROUND WATER SAMPLES IN AND AROUND TARAPUR MIDC

Analysis results of ground water samples from 06 different bore-wells (as shown in Figure 4.3) in and around MIDC area are given in Table 4.11. The same have been represented with the BIS Drinking Water Quality Standards IS:10500. Such comparison has also been recommended in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India. The analysis results when compared with the said standards reveal that:

- (a) Concentration of TDS in all the sampled ground water sample analysed in MIDC Tarapur is more than 1.7 to 09 times the limit of the BIS standard.
- (b) COD and BOD were also observed in all the sampled ground water.
- (c) Concentration of Chlorides were observed higher than the limit of the BIS standard at 03 of the 05 locations. Fluoride was also found higher in bore-well near M/s Tex year industrial adhesive.
- (d) Concentration of Sulphates were observed higher than the limit of the BIS standard at 02 of the 05 locations.
- (e) Total Ammonical Nitrogen were observed higher than the limit of the BIS standard at 02 of the 06 locations.
- (f) Concentration of Phenols was found higher than the limit of the BIS standard in Shivaji Nagar bore-well.
- (g) Concentration of Lead was found higher than the limit of the BIS standard in all the sampled ground water except in Ramji Nagar bore-well. Copper, Iron and Manganese were also found higher than the limit of the BIS standard in one or more samples. However, concentration of Zinc, Chromium, Barium, Vanadium, Arsenic and Cadmium is within the limit specified.

Further, organic odour was observed in ground water near M/s Tex year industrial adhesive and Ramji Nagar village indicating presence of chemicals/solvents. Color of ground water sample was found brownish in

Pasthal village bore-well and slight color were observed in bore-well of Ramji Nagar village and near M/s Tex year industrial adhesive.

The above observations of high TDS and presence of BOD and COD in all the monitored ground water samples and presence of colour, odour, Chlorides, Fluorides, Sulphates, Total Ammonical Nitrogen, Metals (Lead, Copper, Iron and Manganese) in one or more samples of the sampled ground water indicate that the ground water in and around Tarapur MIDC has been contaminated due to the industrial activities.

Table 4.11: Analysis results of ground water samples collected in MIDC, Tarapur

SI. No	Sampling Locations Parameters	Standards*	Pasthal Village (Bore-well)	Dholi puja (Bore-well)	Shivaji Nagar (Bore-well)	LalaBajpai (Bore-well)	Ramji Nagar (Bore-well)	Tex year industrial adhesive (Bore-well)
1.	Colour		Brownish	Colourless	Colourless	Colourless	Slight colour	Slight colour
2.	Odour		Slight smell	Odourless	Odourless	Odourless	Organic	Organic
3.	pH	6.5-8.5	7.4	7	6.8	7.3	7.3	7.2
4.	TSS(mg/l)	NS	32	-	-	-	-	-
5.	TDS(mg/l)	500	1433	893	4106	1040	2283	4585
6.	BOD(mg/l)	NS	14	5	30	5	-	-
7.	COD(mg/l)	NS	56	28	132	16	40	104
8.	Phenols(mg/l)	0.001	0	0	0.09	0	0	0
9.	Free Ammonia	NS	-	-	-	-	0.03%	0
10.	Chlorides(mg/l)	250	-	111.5	1299.6	175.9	542.3	994.7
11.	Sulphate(mg/l)	200	-	100.6	193.6	127.4	259.9	1644.9
12.	Fluorides(mg/l)	1	-	-	-	-	0.3	2.9
13.	TAN	0.5	2.3	0.2	0.5	0.1	1	0.4
14.	Iron (Fe) (mg/l)	0.3	0	7.3	0	0	1.3	0.79
15.	Nitrate Nitrogen	NS	-	7.3	3.2	3.6	0.1	0
16.	Lead(mg/l)	0.01	0.02	0.02	0.04	0.06	0	0.03
17.	Copper(mg/l)	0.05	0	0	0	0	0	2.12
18.	Manganese	0.1	-	-	-	-	1.07	5.14
19.	Zinc	5	0	0	0	0	1.15	0.09
20.	Chromium	0.05	0	0	0	0	0	0
21.	Barium	0.7	0.06	0	0.04	0	0.01	0.02
22.	Vanadium	NS	0.01	0.08	0	0.1	0.03	0
23.	Arsenic	0.01	0	0	0	0	0	0
24.	Cadmium	NS	0	0	0	0	0	0

All values are in mg/l except pH; Mode of sampling-Grab; NS- Not Specified; '-' result not available

*BIS Drinking water quality standards IS:10500

Chapter 5

POLLUTING UNITS AND HEARING GIVEN TO THEM

In order to assess individual accountability of CETP and polluting industrial units for environmental damage cost and cost of restoration of the environment, the Hon'ble NGT also passed order that "The Committee may give hearing to the CETP operator and the units identified as polluting by the MPCB for which list will be furnished by the MPCB to the Committee indicating the period and nature of default within one month".

In compliance with aforesaid orders of the Hon'ble Tribunal, Maharashtra Pollution Control Board (MPCB) forwarded list of 225 defaulting units (identified as polluting units since 05 years from the date of filing original application in the Hon'ble Tribunal i.e. 28/4/2016 including the CETP) to the Committee vide email dated 27/11/2019 and hearing to the listed units were given by the Committee during Nov 30 – Dec 03, 2019 at Central Lab, M.P.C.B., Nirmal Bhavan, Mahape, Navi Mumbai.

MPCB informed that on the basis of pollution potential of industries i.e industry category (Red/Orange /Green) and scale of unit MPCB has followed specific surveillance protocol till March 2016. Subsequently in view of the Central and State Govt. initiative for Ease of Doing Business, MPCB has adopted Risk based Random Sampling Protocol w.e.f. April 2016. MPCB reviewed past records available and based on violation of discharge standards of individual units, discharge into storm water drain, drains passing through outside premises of the units, etc. and the actions taken i.e. Show-cause Notice, Closure Direction and other Interim/Proposed Directions issued under section 33 A of Water (Prevention & Control of Pollution) Act, 1974 since 28/4/2011. The said list of 225 units may be taken as the list of polluting units.

Along with the said list, a table outlining date of sample collection and analysis reports of ETP inlet, ETP outlet, Storm water drain, Drains passing through outside premises of the units, etc. of various samples collected and analysed at various occasions by MPCB since 28/4/2011, as part of surveillance by MPCB, was also provided by MPCB for each of the units. Directions or Show-cause notices have not been issued in all such cases but the sampling analysis results along with source & date of sample collection are communicated to respective units to improve upon the operation/pollution control devices.

However, the Committee observed that number of days of violation (i.e. day since the day of violation observed/ due date of compliance of directions and the day as on which the compliance was subsequently verified by MPCB) was not provided for every units of the list, more particularly where Show-cause Notice and Proposed/Interim Direction have been issued.

The committee gave hearing to representative (s) of each unit of the said list where MPCB presented nature and period of violations based on closure direction, show-cause notices, proposed/interim direction and subsequent revocation/conditional restart order, as well as the aforesaid table showing date & point of effluent sample collection and respective analysis results carried out at various occasions by MPCB informing them violation period for each of the units from records available with them. Representative of the respective unit was also given opportunity to submit records against such violations.

Due to repetition of 04 unit's name in the said list of 225 units, the effective list was of 221 units of which 05 units didn't attend the hearing. The committee, therefore, gave hearing to 216 units.

During the hearing, the committee observed that:

- (a) In cases where violations were informed about samples collected from their storm water drain, outlet of ETP having zero liquid discharge facility, etc., the unit denied citing the following arguments:
 - (i) Samples collected from their storm water drain are not being discharged but channelized to collection tank of their ETP;
 - (ii) Seepage/rainwater run-off from others premises actually enters into their premises due to undulating land terrain and find place in their storm water drain;
 - (iii) Effluent collection sump is at higher elevation than that of unit's ETP treated storage tank and as a result effluent from the collection sump enters into their ETP treated storage tank, and;
 - (iv) In cases of units having zero liquid discharge facility, outlet of ETP (prior to RO/MEE) exceeding the prescribed discharge limits may not be considered as violations since there is no discharge line and the outlet of ETP is further subjected to RO/MEE s;
 - (v) Communication informing the exceedance of prescribed norms in samples collected by Joint Vigilance Survey (JVS) or show-cause notice/interim direction have not been received by the units in some of the cases.

- (b) The SSI units represented that though in their Consent to Operate issued under the Water (Prevention & Control of Pollution) Act, 1974, MPCB has prescribed discharge effluent standard stringent to the design/standard of the CETP but incidences, where effluent from their unit have found within the inlet design/standard of the CETP should not be considered as violation for imposing environmental compensation/damage.

Accordingly, the committee made the following recommendations:

- (1) In view of (a) above and other similar cases, MPCB may furnish the list of only those polluting units for the purpose of environmental compensation/restoration cost for which due records are available for the violations noticed by MPCB.
- (2) Incidences of SSI units, where they have discharged into CETP exceeding their prescribed norms but within design/prescribed inlet standards of CETP, may not be included in the list of polluting units for the purpose of environmental compensation/restoration cost recovery. For if SSI units are required to meet its outlet effluent standard to that of outlet effluent discharge standard of CETP then there remains no role of CETP which has primarily been facilitated for smaller units. However, MPCB may examine the matter and take appropriate decision in exempting such exceedance cases in case of SSI units.
- (3) The violations which are not directly related to effluent discharge in to CETP or not causing damage to soil/ surface water/ground water, may not be taken in the list of polluting units for the purpose of environmental compensation in this matter under reference. However, MPCB may take appropriate actions for such defaults.

(4) Limiting period of violations

Taking reference from section 15(3) of the National Green Tribunal Act, 2010, and to limit a period since when default is to be considered for assessing environmental damage cost and cost of restoration, the period of default has been taken into account since five years prior to the day Original Application No. 64/2016 (WZ) was made before the Hon'ble Tribunal (i.e. 28/4/2016) and till the date of order of the Hon'ble Tribunal (i.e. 26/09/2019) viz. 28/4/2011 to 26/9/2019.

(5) Number of days (N) of violations:

- (i) In cases where closure direction has been issued, the period of default (N in days) may be taken as date of inspection till the effective date of closure of the unit.
- (ii) For other cases including where conditional restart order or show-cause notice/proposed direction/interim direction issued under the Water (Prevention & Control of Pollution) Act, 1974/ Environment(Protection) Act, 1986, have been issued, the period of default may be taken as number of days(N) for which violation took place. It may be the period between the day of violation observed/ due date of compliance of directions and the day as on which the compliance was verified by MPCB.

MPCB was requested by the committee to re-examine considering the above and provide revised list of polluting units along with nature and period of defaults to the Committee.

MPCB re-examined and identified 83 of the said 221 units as polluting units and another 20 units considering observations and recommendations of the committee for the purpose of imposing environmental damage cost/damage restoration cost. The following recommendations of the committee were considered by MPCB for arriving at 103 polluting units based on issuance of Closure Directions for environmental damage cost/damage restoration cost thereof:

MPCB re-examined and identified 83 of the said 221 units as polluting units and another 20 units considering observations and recommendations of the committee for the purpose of imposing environmental damage cost/damage restoration cost. MPCB informed that the following recommendations of the committee were considered by MPCB in arriving 103 units as the polluting units:

- (i) Inclusion of only those units for which due records are available for establishing the violations;
- (ii) Exempting SSI units (having effluent discharge less than 25 KLD) who were found discharging effluent to CETP meeting CETP inlet consent norms of COD-3500 mg/l and BOD 1500 mg/l;
- (iii) Non-inclusion of violations which are not directly related to effluent discharge in to CETP or not causing damage to soil/ surface water/ground water;
- (iv) Considering the period of default of five years since the date of making Original Application No. 64/2016 (WZ) i.e. 28/4/2011 to 26/9/2019 taking reference from section 15(3) of the National Green Tribunal Act,

2010, with regard to consideration of default for assessing environmental compensation and cost of restoration;

Period of violations for the aforesaid 103 identified polluting units for the purpose of imposing environmental damage cost/damage restoration cost were also revised as per recommendations of the committee that in cases where closure direction have been issued, the period of default (N in days) has been taken as date of inspection till the effective date of closure of the unit. For other cases including where conditional restart issued under W (P&CP) Act, 1974/ EP Act, 1986, the period of default has been taken as no of days (N) for which violation took place. Such N has been taken as the period between the day of violation observed/ due date of compliance of directions and the day as on which the compliance was verified. The period between effective closure of the unit till the date of restart order issued by MPCB has not been considered as violation period.

However, in case of the CETP, though closure direction was not issued being the common facility but has been prosecuted under the Water (Prevention & Control of Pollution) Act, 1974 in 2010, 2017 and 2018, directions under Water (Prevention & Control of Pollution) Act, 1974/ Air (Prevention & Control of Pollution) Act, 1981 have also been issued time to time for improving the performance of the CETP and the same have not complied yet. The periodical sampling & monitoring of CETP by MPCB reveals violations prior to the limiting period recommended by the committee i.e. 28/4/2011, therefore, period of violations for CETP has been considered since 28/4/2011.

The additional 20 units were called for hearing by the committee on 27/1/2020 at Central Lab, M.P.C.B., Nirmal Bhavan, Mahape, Navi Mumbai, where MPCB presented nature and period of violations to each of the units giving them opportunity to submit records against the said violations. All the 05 units, who did not attend the earlier hearing during Nov.30 - Dec. 04, 2019, and falling under the said list of 103 units were also called to attend the hearing giving them another opportunity. However, only 01 of the said 05 units attended the hearing on 27/1/2020 besides 03 of the said 20 units also did not attend the said hearing.

As per recommendations of the committee, notices were also served by MPCB to the 83 units (who were called/given the hearing earlier during Nov.30 - Dec. 04, 2019) on 28/1/2020 to submit their additional details, if any, by 31/1/2020. Replies received from 27 units of the said 83 units were examined by MPCB from the records available with them.

Details of each of the 103 units (including CETP) identified as polluting units for the purpose of environmental damage cost/damage restoration cost along with

nature and period of violation, prepared based on hearing given to them by the committee; recommendations of the committee; details submitted by the units to MPCB in support of compliance against the proposed violation details; vis-à-vis examination of records available at MPCB, as above, along with other details, as forwarded by MPCB, are given at Annexure V.

Chapter 6

ENVIRONMENTAL DAMAGE COST AND RESTORATION COST

6.1. Introduction

Industrialization growth is improving the economy of the country but to this quality of life and ecosystem, human health is damaging. In India, most of the industries are located along the banks of the rivers and the nearby coastal areas for the availability of water and easy for disposal of waste water.

The chapter 3 of this report outlines that the 25 MLD capacity CETP is discharging higher concentrated effluent (not meeting the prescribed standards under the Consent to Operate issued by MPCB) into coastal water of the Arabian sea besides discharge of partially treated/untreated effluent as overflow from it beyond its hydraulic load of 25 MLD. Such high concentrated effluent as overflow is discharged into natural drain and has impact on creeks and coastal water. The environment damage assessment, as given in chapter 4 of this report, also reveals discharge of high concentration quality effluent from industries into drains and that drains and ground water in and around MIDC Tarapur are contaminated and have impact on creeks and sea water. These precarious actions tend to disrupt the assimilative capacity of the bio-sphere, hindering the ecological balance of the water environment (both water stream and ocean). Discharge of high concentrated pollutants into the ocean can endanger marine life and put aquatic life at risk affecting the livelihood of fisherfolks and other dependent community. In addition to perils to aquatic life, high concentrated pollutants in water sources can adversely impact health of people residing in the surrounding areas through direct and indirect consumption.

Hundreds of fishes were found dead in the shores of Navapur bay, which was reportedly due to a low level of dissolved oxygen¹. Local dwellers have reported that Navapur creek has developed foul odour and reddish tinge ² that is clear evidence for toxic loadings.

¹ URL 01: <https://www.lokmat.com/vasai-virar/thousands-fish-pollution-navapur-creek/>

² URL 02: <https://www.freepressjournal.in/cmcm/boisar-residents-stop-work-on-midc-toxic-pipeline-project>

Surface water pollution has several adverse effects mainly affecting aquatic life and human health. Toxic chemicals released from industries beyond the safety limit can result in both carcinogenic and non-carcinogenic health effects on humans when entered into the food chain.

Low-income population residing in close proximity to the polluting source and depended on the eco-system services for livelihood, food, and water, are particularly as high risk. The damages to local population includes increased likelihood of mortality, higher treatment cost due to morbidity, and loss of economic productivity.

Fishes are the aquatic species directly affected due to the presence of high concentrated industrial effluents. Further, toxic and trace metals from industrial effluent is often observed in fishes which is more likely to enter the human food chain. Low-level dissolved oxygen (DO) is another primary reason for aquatic loss. This mainly is due to the higher amount of DO consuming pollutants which consume the available DO. This results in depletion of DO making the survival of aquatic life difficult

Loading of water environment with pollutants result in aesthetic loss. The commonly observed nuisance includes foul odour, mosquitoes and insects, change in colour, etc. Eutrophication is common in slow-flowing water bodies that are loaded with nutrient content. This is the state where the water body is completely covered with aquatic plants consuming the nutrients present. The eutrophication process hinders the passage of sunlight endangering the indigenously present aquatic species and biodiversity.

The valuation of environmental damages thus values the direct loss to life and wellbeing of humans, and other dependent species in the affected ecosystem. Additionally, the valuation of damages also imputes economic value to a wide range of eco-system services derived by the humans from the affected area. These eco-system services includes depreciation in land value situated near the polluted water bodies, reduction in income from fisheries and tourism, biodiversity loss, gene-pool loss, and change in nutrient cycle. The indirect value of the affected eco-system should also include non-use and indirect value of the eco-system like existence value, bequest value, and future option value. In addition there is

damages to reputation, goodwill and trust between the community, industries, and the government. This chapter focuses on assessing environmental damage cost due to the release of breached physio-chemical pollutants into water environment such as Sea and Wetlands .

In this chapter environmental damage cost has been assessed for the water environment.

6.2 Environmental Damages Cost Assessment

Environmental damage cost assessment (EDCA) is the tool that scrutinizes the potential loss in monetary terms due to anticipated impacts on the environment due to the release of pollutants beyond safety. EDCA is part of economics mainly emphasizing sustainability around the globe. The main purpose of the assessment is not to hinder any type of development in the country, but to retain the ecosystem in its pristine condition to avail the maximum benefits to human. EDCA is generally carried out using the following steps as shown in Figure 6.1.

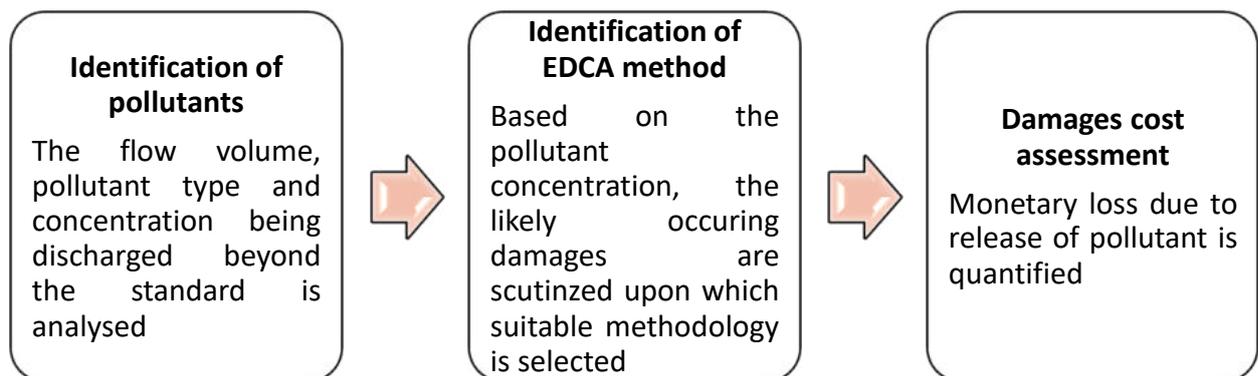


Figure 6.1: Generic pathway towards Environmental damages cost assessment

Considering the factors of damages, damage cost assessment has been done for discharge from Tarapur CETP into Navapur creek, coastal waters and local nullahs/drains exceeding the prescribed standards. Due to the lack of availability of detailed baseline data related to identified damage parameters, various studies have been referred to arrive at the damage costs. Approach of direct value transfer is referred for assessment. Direct value transfer estimates the economic value of one location using the study carried out another location. The value benefit transfer method is widely used as a technique to calculate the economic value of benefits for the environment when an original study for valuation is not feasible.

This method calculates the value of damages by transferring the information, which is available from the studies already from the study site (completed) to the policy site (another location). The values estimated by Hernandez- Sancho et.al. paper of 2010³ have been used.

$$\text{EDCA (INR)} = \text{Damage cost} * \text{loading rate} * \text{exchange rate} * \text{inflation} * 365 \text{ ----- (1)}$$

The damage cost per kg of the load has been used for the study for each pollutants (which are exceeding the standards^{4,5} as per regular monitoring data of MPCB) individually which is discharged in to the sea and is represented in Table 1. In order to estimate the damages done due to the discharge of pollutants to the Sea the effluent discharge standards in the consent to operate issued by MPCB have been taken into consideration.

Table 6.1: Damage Cost for Each Pollutant in Euro per Kg for Sea

Pollutant	Damage in Euro per Kg (2010)
Suspended Solids	0.001
Biological Oxygen Demand	0.005
Chemical Oxygen Demand	0.010

While the discharge of effluent is being made in the sea/creek area of Navapur from the CETP, there are wetlands in the nearby areas of the discharge point. Wetlands are the transition areas between the shallow water overlying water logged soils as well as interspersed submerged or emergent vegetation. It has its own characteristics ecosystem and diverse habitat. Preservation of wetlands is important to save our inland diverse endangered habitat, especially in the light of climate changes. The discharge of pollutants more than the permissible limits leads to the damage of wetland ecosystems⁶. The wetlands and Mangroves for the region

³ Hernández-Sancho.F., Molinos-Senante, M., Sala-Garrido, R. (2010). Economic valuation of environmental benefits from wastewater treatment processes: an empirical approach for Spain. *Sci Total Environ.* 408(4), 953-7

⁴ <http://www.mpcb.gov.in/sites/default/files/common-effluent-treatment-plant/guidelines/CETP%20Standards.pdf>

⁵ The limit of BOD = 30 mg/l has been stipulated as per direction of MPCB dated 02.04.2016 and incorporated in Consent to Operate dated 13.04.2016 issued to CETP. Prior to that, the Limit was stipulated as 100 mg/l

⁶ Sourav Saha, Water Quality Assessment of Four Different Wetlands And Its Implication to Climate Change, *International Indexed & Refereed Research Journal.*

have been mapped using remote sensing and have been shown in Figure 6.2 and 6.3. Sentinel 2A satellite data has been used to generate the LULC map of the region with 5 KM (Figure 6.2) and 10 KM (Figure 6.3) as the radius. Band 12 of 17th February 2020 data has been processed using ArcGIS to get the area of wetlands and mangroves of the region. The results are shown in Table 2.

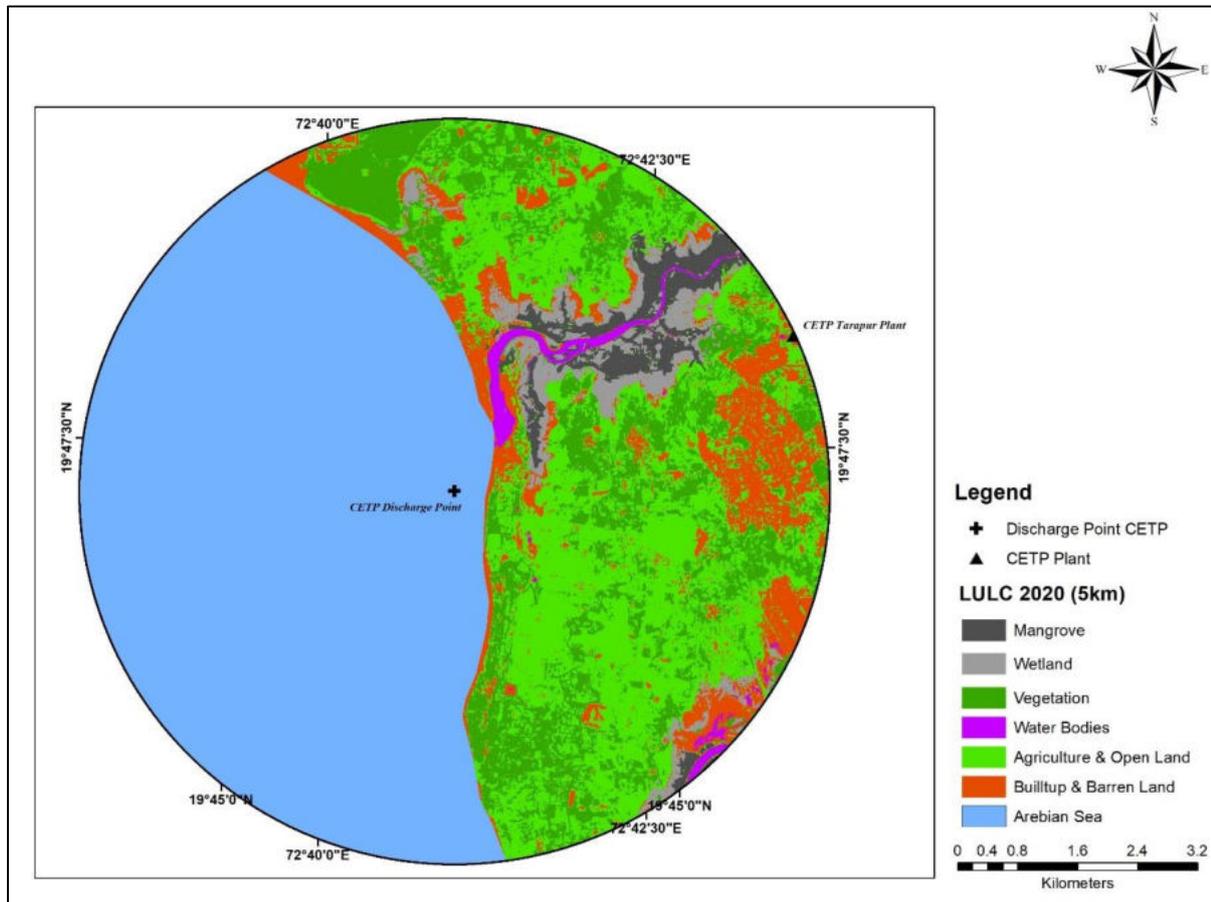


Figure 6.2: LULC Classification of region within 5 km radius of discharge from CETP

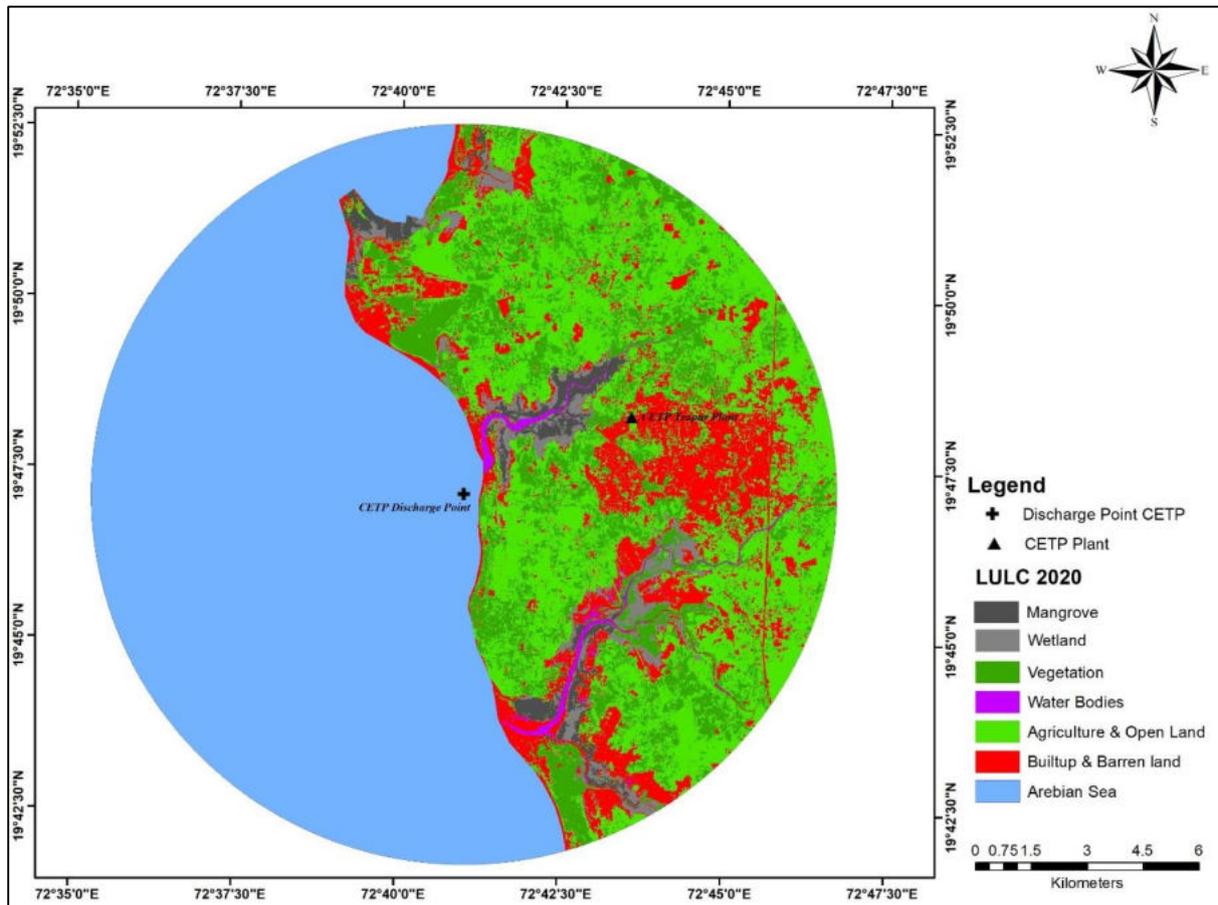


Figure 6.3: LULC Classification of region within 10 km radius of discharge from CETP

Table 6.2: LULC Areas of the Region In and Around CETP Discharge

Classes	Land Area with 5 km as Radius	Land Area with 10 km as Radius
Mangrove	2.04	5.3
Wetland	2.69	7.8
Waterbodies	0.44	1.29
Vegetations	10.88	37.17
Built up & Barren	6.84	34.42
Agriculture & Open Land	17.1	73.57
Total	39.99	159.55

It can be seen from Table 6.2, that in the vicinity of the discharge, there are wetlands and mangroves available which are affected due to the effluent discharge. It is necessary to evaluate the damages related to these as well. The damage cost per kg of the load on wetlands which is used for the study for each pollutant

individually is represented in Table 6.3. The valuation of damages have been carried out for both the scenarios i.e. for pure sea discharge and pure wetland discharge. However, both sea and wetlands are present in the region, hence combined damages are considered.

Table 6.3: Damage Cost for Each Pollutant in Euro per Kg for Wetlands

Pollutant	Damage in Euro per Kg (2010)
Suspended Solids	0.010
Biological Oxygen Demand	0.117
Chemical Oxygen Demand	0.122

The euro figure is converted into Indian Rupees using the inflation and exchange rate for 2010^{7 8}. The damage cost estimated is then inflated for the year 2019 by using Eq (1).

The Total damage cost and loading rate for pollutant of the effluent discharge exceeding the standard are given in the following tables respectively for COD, BOD, TSS.

6.2.1 Environmental Damages Cost Assessment due to excess loading pollutant into the Sea

Environmental damage cost is calculated from April 2011 to November 2019⁹.

⁷URL 05: <https://www.inflationtool.com/indian-rupee>

⁸ URL 06: <https://www.statista.com/statistics/412830/euro-to-indian-rupee-average-annual-exchange-rate/>

⁹ This reporting period has been considered by the committee for the purpose of its report only so as to limit the period taking reference from section 15(3) of the National Green Tribunal Act, 2010 as mentioned in Chapter 5 of this report.

Table 6.4: Cost of Damages for Excess COD Discharge into sea ₹ Crore (2019) and loading rate

Year	Discharge in MLD (million litres per day)	Breaching Standard, the value of COD in mg/l (above 250 mg/l)	Load exceeding the standard in Kg/day	Damage cost in Rs Crore (as per 2019)
2011	25.24833	919.708	23223.351	0.6926
2012	25.23225	486.987	12287.775	0.4878
2013	25.09558	325.643	8172.200	0.3235
2014	25.13208	298.059	7490.834	0.2965
2015	25.15908	596.535	15008.267	0.5941
2016	24.86041	577.072	14346.256	0.5695
2017	23.69925	509.722	12080.034	0.4782
2018	24.34892	916.472	22315.092	0.8834
2019	24.73018	685.079	16942.123	0.6137

Table 6.5: Cost of Damages for Excess BOD Discharge into sea in Rs Crore (2019) and loading rate

Year	Discharge in MLD	Breaching Standard value of BOD in mg/l (above 100 mg/l upto 2015, 30 mg/l from 2016)	Load exceeding the standard in Kg/day	Cost in Rs Crore (2019)
2011	25.25078	318.146	8033.430	0.1198
2012	25.23225	260.665	6577.158	0.1305
2013	25.09558	128.894	3234.673	0.0640
2014	25.13208	114.444	2876.214	0.0569

2015	25.15908	172.479	4339.418	0.0859
2016	24.86042	240.326	5974.614	0.1186
2017	23.69925	224.438	5319.000	0.1053
2018	24.34892	406.460	9896.871	0.1959
2019	24.73018	259.636	6420.854	0.1163

Table 6.6: Cost of Damages for Excess TSS Discharge in Sea in Rs Crore (2019) and loading rate due to SS

Year	Discharge in MLD	Breaching Standard, value of TSS in mg/l (above 100 mg/l)	Load exceeding the standard in Kg/day	Damage Cost in Rs Crore (2019)
2011	25.24833	101.917	2573.475	0.000765
2012	25.23225	46.138	1164.163	0.000462
2013	25.09558	35.555	892.279	0.000353
2014	25.13208	68.787	1728.753	0.000684
2015	25.15908	51.269	1289.892	0.000511
2016	24.86041	60.736	1509.925	0.000599
2017	23.69925	114.881	2722.583	0.001078
2018	24.34892	66.342	1615.355	0.000639
2019	24.73018	44.852	1109.186	0.000402

The following table shows the total environmental damage cost for each year by taking each pollutant from 2011 to 2019.

Table 6.7: The total damage for each combining the damages of all the pollutant for sea

Year	COD	BOD	TSS	Total Damages Cost in Cr INR
2011	0.6926	0.1198	0.000765	0.8132
2012	0.4878	0.1305	0.000462	0.6188
2013	0.3235	0.0640	0.000353	0.3879
2014	0.2965	0.0569	0.000684	0.3541
2015	0.5941	0.0859	0.000511	0.6805
2016	0.5695	0.1186	0.000599	0.6887
2017	0.4782	0.1053	0.001078	0.5846
2018	0.8834	0.1959	0.000639	1.0799
2019	0.6137	0.1163	0.000402	0.7304
Total (damage cost in Crore as per 2019)				5.9381

6.2.2 Environmental Damages Cost Assessment due to excess loading pollutant into the Wetland

Wetlands are the transition areas between the shallow water overlying water logged soils as well as interspersed submerged or emergent vegetation. It has its own characteristics ecosystem and diverse habitat. Preservation of wetlands, thus, is the sole requirement to save our inland diverse endangered habitat, especially in the light of climate changes. Due to the discharge of pollutants more than the permissible limits which leads to the damage of wetland ecosystem. The damage cost per kg of the load used for the study for the above pollutants individually is represented in Table 6.8 to 6.11.

Table 6.8: Cost of Damages for Excess COD Discharge into wetlands ₹ Crore (2019) and loading rate

Year	Discharge in MLD (million litres per day)	Breaching Standard, the value of COD in mg/l (above 250 mg/l)	Load exceeding the standard in Kg/day	Damage cost in Rs Crore (as per 2019)
2011	25.24833	919.708	23223.351	7.7576
2012	25.23225	486.987	12287.775	5.4629
2013	25.09558	325.643	8172.200	3.6233
2014	25.13208	298.059	7490.834	3.3212
2015	25.15908	596.535	15008.267	6.6542
2016	24.86041	577.072	14346.256	6.3781
2017	23.69925	509.722	12080.034	5.3559
2018	24.34892	916.472	22315.092	9.8938
2019	24.73018	685.079	16942.123	6.8736

Table 6.9: Cost of Damages for Excess BOD Discharge into wetlands ₹ Crore (2019) and loading rate

Year	Discharge in MLD	Breaching Standard value of BOD in mg/l (above 100 mg/l upto 2015, 30 mg/l from 2016)	Load exceeding the standard in Kg/day	Damage Cost in Rs Crore (2019)
2011	25.24833	318.146	8033.430	2.8033
2012	25.23225	260.665	6577.158	3.0546

2013	25.09558	128.894	3234.673	1.4982
2014	25.13208	114.444	2876.214	1.3322
2015	25.15908	172.479	4339.418	2.0098
2016	24.86041	240.326	5974.614	2.7672
2017	23.69925	224.438	5319.000	2.4636
2018	24.34892	406.460	9896.871	4.5839
2019	24.73018	259.636	6420.854	2.9739

Table 6.10: Cost of Damages for Excess suspended solids Discharge into wetlands ₹ Crore (2019) and loading rate

Year	Discharge in MLD	Breaching Standard, value of TSS in mg/l (above 100 mg/l)	Load exceeding the standard in Kg/day	Damage Cost in Rs Crore (2019)
2011	25.25078	101.917	2573.475	0.0768
2012	25.23225	46.138	1164.163	0.0462
2013	25.09558	35.555	892.279	0.0353
2014	25.13208	68.787	1728.753	0.0684
2015	25.15908	51.269	1289.892	0.05106
2016	24.86042	60.736	1509.925	0.0599
2017	23.69925	114.881	2722.583	0.1078
2018	24.34892	66.342	1615.355	0.0639
2019	24.73018	44.852	1109.186	0.0402

Table 6.11: The total damage for each combining the damages of all the pollutant for the wetlands

Year	COD	BOD	Suspended Solids	Total Environmental Damages Cost (EDC)
2011	7.7576	2.8033	0.0768	10.6377
2012	5.4629	3.0546	0.0462	8.5637
2013	3.6233	1.4982	0.0353	5.1568
2014	3.3212	1.3322	0.0684	4.7218
2015	6.6542	2.0098	0.05106	8.71506
2016	6.3781	2.7672	0.0599	9.2052
2017	5.3559	2.4636	0.1078	7.9273
2018	9.8938	4.5839	0.0639	14.5416
2019	6.8736	2.7213	0.0402	9.6351
Total (damage cost in Crore as per 2019)				79.10426

The above estimate is conservative as it only considers scope of damages due to effluent discharge beyond the standards on surface water wetlands. The impact on sea water pollution and wetlands is also very conservative due to lack of better information on other pollutants including nitrates/nitrogen and phosphates.

The chapter 4 reveals that groundwater is contaminated in the region due to illegal discharges of the effluent from the industries/CETP. These infractions are not recorded and there is lack of information on the sub-surface hydrology of the site to estimate the quantum of contaminates to ground water. Instead cost to be incurred in their detailed assessment (including other water bodies) and their remediation have been accounted as “Super Fund” and the initial amount for the super fund is being suggested as 75 Crores INR which may increase or decrease depending upon the selected remediation options based on outcome of the detailed assessment and application of other tools as suggested under Chapter 8. The total environmental damage cost has, therefore, been estimated as 85.042

Crore INR (79.014 + 5.938 Crore INR) and with creation of super fund having initial deposit of Rs. 75 Crore INR as environmental restoration cost.

Therefore, the total estimated environmental damage and restoration cost comes out to be 160.042 Crore INR.

Chapter 7

Accountability of CETP and defaulting units in meeting the environmental damage cost and cost of restoration

Distribution of the estimated environmental damage cost and restoration cost of 160.042 Crore INR (refer Chapter 6) has been done on the polluter pay principle and hence among the 103 polluting units identified after giving hearing to the units and following criteria as mentioned in Chapter 5 of this report.

7.1 Methodology of Distribution of Environmental Damage and Restoration Cost (EC)

The methodology recommended in “Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund” has been used adding some additional features to meet objective of distributing the cost of 160.042 Crore INR among the 103 polluting units. The adopted methodology takes into account the pollution index depending on pollution hazard, scale of operation, load factor based on the population located around the industrial unit and the number of days for which violation took place for respective polluting unit.

In order to include deterrent effect for repeated/habitual violators, exponential factor for first, second, third and fourth repeat violations has also been taken in to account. However, only upto fourth repeat violation has been considered.

The following recovery cost (RC) factor for environmental damage and restoration cost recovery has been used for each of the units and each of the violations viz. first violations, first repeat violation, second repeat violation, third repeat violation and fourth repeat violation:

$$RC \text{ Factor} = PI * N * S * LF * DF \text{ ----- (1)}$$

Where,

PI = Pollution Index of industrial unit

N = N, number of days for which violation took place is the period between the day of violation observed/due date of direction's compliance and the day of compliance verified by MPCB

S = Factor for the scale of operation

LF = Location factor, which is based on population of the city/town and location of the industrial unit.

DF = Deterrent Factor based on first and subsequent repeated violations

Average Pollution Index based category of the industrial unit, as per the aforesaid report, is shown in table 7.1 below.

Table 7.1: Average Pollution Index based on the category of industrial unit

Industrial unit Category	Average Pollution Index
Red	80
Orange	50
Green	30

N, the period of default in days, has been taken as date of inspection till the effective date of closure of the unit. For cases where unconditional restart order was not issued thereafter but conditional restart was permitted, additional number of days have been taken as date of issuance of such conditional restart till as on which the compliance was verified by MPCB. The period between effective closure of the unit till the date of such conditional restart order issued by MPCB has not been considered as period of default.

The LF is 1, as suggested in the aforesaid CPCB in-house report, for city/town having population less than one million and population in & around Industrial Area Tarapur MIDC is less than the same.

The factor for the scale of operation(S) is based on the type of industrial unit. The same has been taken as suggested in the aforesaid CPCB in-house report, and is given in Table 7.2 below.

Table 7.2: Factor of scale of operation (S) based on the type of industry

S. No.	Scale of operation	Factor for the scale of operation (S)
1	Small Scale Industry (SSI)	0.5
2	Medium Scale Industry (MSI)	1
3	Large scale industry (LSI)	1.5

The deterrent factor (DF) has been taken exponentially in line with recommendations given in the said CPCB in-house committee report. The same has been taken as given in Table 7.3 below.

Table 7.3: Deterrent Factor for first and repeat violation

S. No.	Violations	Deterrent factor (DF)
1	First Violation	1
2	First repeat violation	2
3	Second repeat violation	4
4	Third repeat violation	8
5	Fourth repeat violation	16

Adding all the RC Factors corresponding to each of the first violation, first repeat violation, second repeat violation, third repeat violation and fourth repeat violation gives Total RC (TRC) factor for each polluting unit.

$$Total\ RC\ (TRC)\ Factor = RC_{first\ violation} + RC_{first\ repeat\ violation} + RC_{second\ repeat\ violation} + RC_{third\ repeat\ violation} + RC_{fourth\ repeat\ violation} \quad \text{----- (2)}$$

In order to distribute the given cost of 160.042 Crore INR among the 103 polluting units, summation of all the TRC factor, as at equation (2) above, has been divided by the respective TRC factor so as to get the Distributed Recovery Cost (DRC) Factor for each of the said 103 units.

Distributed Recovery Cost (DRC) factor for a polluting unit =

$$\frac{\text{TRC of corresponding polluting unit}}{\sum \text{TRC of each of the 103 polluting units}} \text{ ----- (3)}$$

Multiplication of the aforesaid DRC of a unit to that of 160.042 Crore INR gives damage recovery cost corresponding to the said unit.

Damage Recovery cost for a polluting unit (in lakh INR) =

$$\text{DRC factor} * 160.042 \text{ Crore} * 100 \text{ ----- (4)}$$

Thus, the above methodology gives distributed accountability of each of the identified 103 polluting units in recovering the estimated environmental damage cost and restoration cost of 160.042 Crore INR in terms of their respective pollution index depending on pollution hazard, scale of operation, load factor based on the population located around the industrial unit, number of days for which violation took place and also considering deterrence for repeat/habitual violators.

7.2 Accountability of polluting units including CETP in meeting the environmental damage cost and restoration cost

Based on the above methodology and using equation (4) above and taking various the reported variable values for each polluting units as provided by MPCB (details given in Chapter 5) and given at Annexure V, distribution of accountability in terms of damage recovery cost in INR has been worked out for each of the 103 polluting units which includes the CETP also in meeting the estimated environmental damage cost and cost of restoration of Rs. 160.042 Crore INR.

The said damage recovery cost along with the corresponding Distributed Recovery Cost (DRC) Factor, derived as above, for each of the 103 polluting units including CETP is given at Sl. No. 16 of the respective tables given at Annexure V.

The range of such accountability as damage recovery cost for meeting the said environmental damage cost and cost of restoration comes out to be 0.887 Lakh INR (to a SSI unit who has reported violation period of 14 days with no repeat violation) to 1042.241 Lakh INR (to a LSI unit having first violation for a period of 482 days, first repeat violation of 1150 days, second repeat violation of 58 days and third repeat violation of 309 days).

The accountability of the CETP comes out to be 7231.470 Lakh INR as damage recovery cost for meeting the said environmental damage cost and cost of restoration.

As suggested in Chapter 6, of the 160.042 Crore INR, 75 Crore INR may be deposited in “Super Fund” and in case based on the detailed assessment and selection of remediation options, the assessment & remediation cost exceeds or comes out to be lower than the 75 Crore INR deposited in the super fund, the additional amount may be deposited or returned back to that of the damage recovery cost to each of the polluting units, as the case may be, proportionate to that as has been recovered. The amount to be deposited or returned back to each of the 103 polluting units may be arrived by multiplying their respective “Distributed Recovery Cost (DRC) Factor” (given for each of the polluting units at Sl. No. 14 in their respective table at Annexure V) and the said increased or decreased amount to that of 75 Crore INR, as the case may be, using the equation (4) above.

Chapter 8

CONCLUSIONS AND MEASURES FOR RESTORATION OF THE EENVIRONMENT

8.1 PERFORMANCE OF CETP AND MEASURES REQUIRED

The CETP Tarapur is violating effluent discharge standards as well as CETP inlet design/inlet standards during the reported period of 28/4/2011 to 30/11/2019¹. The CETP is not adequate to treat the effluent currently being received. Besides it is also operating at beyond its hydraulic load capacity of 25 MLD and resulting into the overflow from the CETP during such duration and such overflow effluent is being discharged into to drains leading to other water bodies (creeks, sea and ground water).

8.1.1 PERFORMANCE OF CETP (details given under chapter 3):

8.1.1.1 Exceedance of parameters in previous sampling & analysis

(a) The analysis results (samples collected at 1 to 5 occasions in a month) of MPCB of the past five years since the year of application filed in the Hon'ble NGT by the applicant during the said reporting period of 28/4/2011 to 30/11/2019¹ reveal that:

- (i) COD and BOD has hardly complied with the CETP outlet standards prescribed under the Consent to Operate while SS has not continuously complied. The average exceedances are more than 3, 10 and 2 times to the said standards respectively since 2011 (may refer Fig. 3.4 and Fig. 3.5 and Annexure III). pH and O&G show consistent compliance with the stipulated CETP outlet standards.
- (ii) COD concentration in CETP inlet is not complying continuously to the design norms while BOD is also intermittently not complying since 2011 (may refer Fig. 3.4 and Fig. 3.5 and Annexure III). The average exceedances of COD and BOD are more than 2 times to the said design norms. SS,

¹ This reporting period has been considered by the committee for the purpose of its report only so as to limit the period taking reference from section 15(3) of the National Green Tribunal Act, 2010 as mentioned in Chapter 5 of this report.

pH and O&G are complying with the CETP inlet design norms/standards.

- (b) The sampling & analysis carried out jointly by CPCB and MPCB at various occasions (refer Table 3.4) during the said reporting period also reveals that the CETP did not meet discharge standards.
- (i) The concentration of COD, BOD, Ammonical Nitrogen, Phenols, TSS and TDS in CETP outlet exceed the outlet standard prescribed under the Consent to Operate in all the 02 samples. The same exceed more than 4 to 15 times, 5 to 47 times, 1 to 8 times, 1.4 to 20 times, 1.28 to 20 times and 40.5 to 100.8 times respectively to the said standards.
 - (ii) In the inlet effluent also, Ammonical Nitrogen exceeded the inlet standard prescribed under the Consent to Operate in all the inlet samples except in one sample. The same exceed more than 2 to 7 times the inlet standard. COD and BOD also exceeded 1.5 times and 1.3 times respectively in one of the samples.

8.1.1.2 Overflow from the CETP

Though there is no proper arrangement to measure CETP inlet effluent as the flow meter installed at post equalization tanks which may not measure the overflow from equalization tanks or before. However, based on data provided by the CETP operator, the monthly daily average CETP inlet effluent quantity has exceeded for 75 months than the designed capacity of 25 MLD (refer Annexure IV). During such 75 months, the said average inlet to the CETP has been reported as 25.27 MLD having maximum monthly average daily inlet effluent quantity as 26.343 MLD against the said design of 25 MLD. This inlet overflow having high concentration of pollutants is discharged into the drains and leading to other waterbodies (creeks, sea and ground water).

8.1.1.3 Exceedance of parameters during Sampling & Analysis carried out during the visit of the committee to CETP on 13/11/2019

The analysis results of various samples collected during the visit of the committee and analysed in MPCB laboratory reveals that (refer Table 3.9):

- (a) among the analysed parameters, COD exceeds more than 9 to 11

times; BOD 39 to 45 times; TSS more than 4 times; Phenols more than 1 to 2 times to the CETP outlet standards prescribed under the Consent to Operate. Further, Iron and Arsenic also exceeded more than 28 to 44 and 17 to 64 times respectively to the said standards.

- (b) BOD, COD and Phenols of influent is also exceeding more than 02 times, 1.6 times and 1.8 times respectively of the inlet design norm/standard.

8.1.1.4 Other observations made by the Committee during the visit on 13/11/2019

- (a) The tertiary treatment (comprising Pressure Sand and Activated Carbon Filter) was observed to be defunct since long time.
- (b) The inlet design norms of CETP are BOD: 1500 mg/l & COD: 3500 mg/l. However, with the present way of functioning of CETP comprising primary, secondary and defunct tertiary treatment (Sand & carbon Filtration), meeting of outlet standards (BOD: 30 mg/l, COD: 250 mg/l) prescribed by MPCB is not possible.
- (c) There were leakages from pipes & pumps and overflow of effluent from some units (equalization tanks/aeration tanks).

There was heavy smell of SVOCs/VOCs (solvents/chemicals) near the inlet sumps. Inlet of CETP (with BOD: 3150 mg/l & COD: 5680 mg/l) indicating that member industries discharging their untreated/partially treated effluent to CETP without conforming the inlet design norms of CETP. There is no separate arrangement for high COD and high TDS effluent. Also, no arrangement for treating the refractory COD. Thus, the operation of CETP is not efficient to meet the prescribed norms.

CETP is not designed for such high strength effluent. CETP has no proper mechanism in place for routine monitoring of individual defaulter member units.

- (d) The flow meters and Online Continuously Monitoring System are not functioning consistently. The inlet flow meter has been provided after

equalization tanks which may not take into account of overflow from or before of the equalization tanks.

- (e) Significant quantity of sludge is deposited (approx.-2400 MT) in the MIDC Sump-2 (10.56 Million Liters- capacity) where treated effluent is collected and thereafter conveyed to the sea shore through BPTs. Overflow/leakages were also observed from this sump to nearby natural drain which meets with Navapur Dandi Creek and further to the Arabian Sea. CETP operator informed that the operation of this Sump is under MIDC and responsibility lies with MIDC for proper maintenance and removal of sludge from sump.
- (f) Inlet effluent quality standards are yet to be prescribed by MPCB for BOD & COD in the Consent of CETP as per MoEF&CC Notification dated 01.01.2016. The Consent stipulates that “Only for SSI units (having less than 25 CMD discharge effluent) BOD: 1500 mg/l and COD: 3500 mg/l is allowed and for rest of the industries, treated effluent as per their respective consents standards i.e. COD: 250 mg/l are allowed”.
- (g) MPCB has authorized 07 Metric Ton/Day as CETP Sludge in the Authorization dated 29/11/2019 under Hazardous Waste (M, H & TM) Rules, 2008 for treatment and disposal of Hazardous Waste. The quantum of sludge generation in the CETP is more than such specified quantity.
- (h) The stock of sludge about 750 MT stored in the premises shows storage of the same beyond the prescribed storage duration stipulated under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. The same require to be disposed immediately to the CHWTSDF.
- (i) CETP needs thorough up-gradation/revamping of its units/processes in terms of capacity, retention time, automatic chemicals dosing, scraping mechanism, aeration tanks, aeration capacity, de-sludging, transfer pumps & pipelines, removal of corrosion affected equipment/materials, decanters and its capacity, sludge drying beds,

etc. Moreover, persons at CETP need to be more sensitized through constant follow up and training.

8.1.2 MEASURES REQUIRED

In view of consistent gross violation of the CETP w.r.t. influent flow and quality both exceeding the inlet design parameters; outlet effluent quality grossly exceeding the prescribed outlet standards; overflows from CETP to surroundings, and; CETP not adequate to meet the prescribed outlet standards; the following measures, most of which have also been recommended in the joint inspection report of MPCB & CPCB submitted to the Hon'ble NGT by CPCB vide email dated Jan 02, 2020, are recommended:

1. Immediate measures:

- (a) In order to control further impact on water bodies (Drains, Creeks and Sea), the capability of CETP be immediately assessed in terms of hydraulic load and inlet effluent quality that the CETP is able to meet the outlet norms (stipulated under the Consent to Operate by MPCB) as per the existing infrastructures. The said assessment studies may be carried out by MPCB through the expert institute.
- (b) Based on the above assessment, the CETP shall receive only such limited hydraulic load and influent quality as prescribed in the said assessment. In order to ensure the same, the following may need to be enforced immediately after the said assessment and MPCB should constantly overview the activities of CETP:
 - (i) MIDC to:
 - a) remove deposited sludge (approx.-2400 MT) in the MIDC Sump-2 (10.56 Million Liters- capacity) where treated effluent is collected and also from other sumps/tanks, if any.
 - b) ensure that the supply of water to MIDC Tarapur is so reduced (as compared to the current supply) and distributed that inlet quantity to CETP does not exceed the above prescribed CETP hydraulic load. Ensure that no overflowing/leakages from sumps/tanks etc. takes place during conveying the effluent to CETP or from CETP to seashore.

c) ensure that no bore wells operate in MIDC Tarapur to ensure the CETP hydraulic load does not exceed.

(ii)MPCB in association with CETP shall identify units not having adequate facilities to meet the aforesaid assessed CETP inlet effluent quality and such units be directed to segregate their high concentrated effluent and be stored separately at existing CETP or new CETP in case such storage is available at the new CETP or dispose of in Common TSDF Talaja for incineration. Such storage should not be allowed beyond 06 months. Storage and disposal of the same should be closely monitored by MPCB at regular intervals.

(iii)CETP must also initiate actions to identify units who are discharging higher concentration effluent and/or higher effluent quantity to CETP and shall stop such units from discharging into CETP immediately. The same shall immediately be reported to MPCB who may take actions in addition to closure of such units. The CETP should also develop round the clock surveillance mechanism to identify the member units discharging more than higher concentration at inlet of CETP.

MPCB shall also monitor CETP inlet and outlet effluent preferably on the daily basis.

In case if the above measures are not implemented effectively and CETP (either existing or new) continues to perform non-compliance to the inlet/outlet norms for a month, and in case no alternate arrangement is in place for disposal of effluent, MPCB may close operation of CETP and its member units who discharge their effluent to the CETP till the compliance is achieved.

2. CETP shall take all necessary measures to control the influent quality & quantity besides improvement in overall scientific operation & maintenance of CETP with trained manpower and adequate analytical facility to keep watch on operational parameters at every stage of operation on a regular basis.

3. There should be proper surveillance of all units and the penalty mechanism for the defaulter units to be derived by M/s TEPS –CETP for member industries in addition to inspections of MPCB to ensure that all the member industries discharge the trade effluent meeting the norms as per their consent.

In case of non-compliance observed during M/s TEPS-CETP monitoring surveillance, the list of defaulting industries should be provided to MPCB from time to time for necessary action against such units. MPCB should take stringent action against industries as found in surveillance of MPCB & TEPS including the recovery of environmental Compensation and prosecution of industries as per environmental laws.

4. There is urgent need of common facilities such as Common MEE and Common Spray Dryer for High COD and High TDS effluent and such types of effluent should be separately collected and transferred to common MEE and Spray Dryer facilities with identification of such industries. Similarly, there should be some advanced method (such as advanced oxidation, Ozonation etc.) to reduce the significant COD.

CETP may ensure commissioning of the same at the earliest. Till the same is commissioned, high COD and high TDS effluent be stored at suitable place in case available at the new CETP under commissioning stage, for not more than 06 months, otherwise such effluent be disposed in Common TSDF Talaja by incineration. Storage and disposal of the same should be closely monitored by MPCB at regular interval and operation of such violators be closed besides other necessary actions by MPCB.

5. SCADA system for monitoring quality and quantity of individual member industry be commissioned by the CETP operator in association with industries and MIDC within 04 months. MPCB may ensure timely commissioning of the same.

6. CETP shall regularly send the CETP sludge to CHWTSDF for proper disposal.

7. The 55 units of 1216 industrial units in MIDC Tarapur, which are not member of the CETP, may be examined by MPCB w.r.t. waste water

generation from their processes. In case it is found that their processes generate wastewater, necessary action be taken by MPCB.

8. MPCB to review authorization of CETP in terms of sludge quantity.

9. CETP is also required to work upon housekeeping of entire premises with cleanliness, plantation, internal roads etc.

8.2 DAMAGE TO THE WATER BODIES AND RESTORATION STEPS

8.2.1 DAMAGE TO THE WATER BODIES (details given under chapter 4):

The samples collected from various water bodies (drains, creeks, sea beach and ground water) in and around water bodies during November-December 2019 and their analysis results reveal that ground water and drains are contaminated and there are impacts on creeks and seashores. Industries are discharging untreated effluent/solvent/chemicals to the drains of Tarapur MIDC. The polluted effluent from drains are received in creeks and finally to seashores. Seashore also receives effluent from the CETP not meeting to the discharge standards.

8.2.1.1 Drains passing through Tarapur MIDC

Water in drains in and around Tarapur MIDC area is contaminated with elevated levels of TDS, BOD, COD, TSS, Fluorides and Phenols besides acidic water in one or more drains - when compared with recommended screening standards for inland surface water in MoEF&CC's "Guidance document for assessment and remediation of contaminated sites in India". Further, odour and colour was also observed in drain waters. Dissolved oxygen was absent in four of the 09 monitored drains. These indicate that industries are discharging untreated effluent/solvent/chemicals to the drains.

Sediments were not exceeding screening levels prescribed in aforesaid guidance document, except for pH near M/s Everest Kanto which is highly acidic (where pH value was 2.34 at surface and 2.52 at depth of 30 cm from bed surface) indicating discharge of acidic effluent. pH of storm drain near Auro Lab was slightly basic having pH of 8.48 indicating discharge of basic effluent in the storm drain from industries.

8.2.1.2 Groundwater in and around Tarapur MIDC

High TDS and presence of BOD and COD in all the monitored ground water samples and presence of colour, odour, Chlorides, Fluorides, Sulphates, Total Ammonical Nitrogen, Metals (Lead, Copper, Iron and Manganese) in one or more samples of groundwater in and around Tarapur MIDC indicate that groundwater in and around Tarapur MIDC area has been contaminated due to the industrial activities.

8.2.1.3 Creeks around Tarapur MIDC

The two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek flowing North and South of Tarapur MIDC respectively) receiving polluted effluent from the drains of MIDC Tapaur were found having impact of discharges from such drains.

Elevated levels of COD and TDS at different stretches (where interference of water from Tarapur MIDC area begins). There was no DO in Creeks near Dumping ground (upstream of Navapur Dandi Creek) and Dandi Creek (downstream of Navapur Dandi Creek). Colour and odour were observed at different locations of the both the Creeks. Further, Phenols at downstream location of both the Creeks viz. Dandi Creek (downstream of Navapur Dandi Creek) and Murbe Creek (downstream of Kharekuran Murbe Creek) have been observed higher than other sampling locations of the Creeks and streams though the same are within the aforesaid standards.

8.2.1.4 Seashores around Tarapur MIDC

With regard to the seashores i.e. Navapur CETP outfall and Nandgaon, where the two creeks confluence into the sea, the results though do not reveal trend of elevated concentration of measured parameters near to Navapur CETP outfall beach and Nandgaon beach, however, presence of Phenols in both the beaches indicate impact of discharge from Tarapur MIDC.

8.2.2 RESTORATION/REMEDIAL STEPS

While measures for control of partially/untreated effluent from CETP has been outlined under para 7.1.2 above, there is need to remediate the contaminated

ground water and drains as well as control impact on the two creeks (Navapur Dandi Creek and Kharekuran Murbe Creek) receiving discharges from the drains/CETP outlet.

8.2.2.1 Remediation Plan and implementation

As outlined in the “Guidance document for assessment and remediation of contaminated sites in India” prepared by the Ministry of Environment, Forest & Climate Change, Govt. of India, a detailed project report (DPR) for contaminated sites in and around Tarapur MIDC area needs to be prepared as Phase-I work which shall include delineation of the contaminated areas and areas needing remediation, detailed site investigation & characterization, risk assessment studies & identification of remediation goals/objectives and preparation of remediation plans thereof, selection of remediation criteria, outlining remediation options, preparation of detailed technical document with specifications for the selected remediation option. Further, investigation of sediments in drains and creeks are also necessary to rule out the need for remediation in sediments.

The above selected remediation plan needs to be executed by an agency. Therefore, in Phase-II, there is need to monitor and assess the remediation works being implemented in the field so as to ensure that remediation works are implemented as per the technical specifications and standards finalized under the aforesaid Phase I work. Besides, it is also required to prepare bid documents (RFP / tender documents, etc.) to identify the executing agency who shall execute the selected remediation plan.

It is recommended that the aforesaid steps of remediation may be implemented by MPCB identifying a consultant who may prepare the Detailed Project Report (DPR) and provide consultancy services for remediation of contaminated sites in and around Tarapur MIDC for the aforesaid two phases. ToR for selecting the consultant outlining scope of work, time schedule, consultant qualification and team, etc. is given at Annexure VI which may be helpful to MPCB in selecting the consultant and implementing the remediation work.

Till the remediation plan is implemented, use of contaminated ground water in effected areas of in and around Tarapur MIDC may be prohibited for drinking purpose by Central Ground Water Authority, MIDC and District Administration.

8.2.2.2 Expenses to be met for implementing the above remediation plan

The cost to be incurred in the aforesaid activities of Phase-I and Phase-II in remediation may be met from the “Super Fund” for which initial amount of Rs. 75 Crore has been suggested to be met as damage and restoration cost from the 103 polluting units which is in addition to the damage cost to sea and wetland as has been described under the Chapter 6 and 7 of this report. Depending upon the selected remediation options, the cost of remediation may increase or decrease to that of Rs. 75 Crores. In such case, the amount may be collected or refunded to each of the said polluting units, as the case may be, in the same proportion as the damage recovery cost has been recommended to be paid.

In case recovery of the remediation cost from the polluting units is delayed or not met partially or fully due to one or other reasons at any stage, the Govt. of Maharashtra may initially incur such assessment and remediation cost and initiate the remediation activities such as allocation of fund, selection of consultant, etc., as outlined under (ii) above, initiate in a month in consultation with MPCB.

8.3 POLLUTING UNITS AND HEARING GIVEN TO THEM

In accordance with orders of the Hon’ble Tribunal, MPCB provided list of 221 defaulting units including the CETP in Tarapur MIDC as polluting units based on violation of discharge standards of individual units, discharge into storm water drain, drains passing through outside premises of the units, etc. and the actions taken i.e. Show-cause Notice, Closure Direction and other Interim/Proposed Directions issued under section 33 A of Water (Prevention & Control of Pollution) Act, 1974 since 28/4/2011. Hearing to the said listed units (of which 05 were absent) were given by the Committee during Nov 30 – Dec 03, 2019 where MPCB presented nature and period of violations. Representative of the respective unit was also given opportunity to submit records against such violations.

Based on observations made during the hearing, the committee requested MPCB to revise the list of polluting units as per recommendations of the committee (observations & recommendations details given at Chapter 5).

MPCB re-examined and identified 83 of the said 221 units as polluting units and another 20 units considering observations and recommendations of the committee for the purpose of imposing environmental compensation/damage restoration

cost. MPCB also informed that the following recommendations of the committee were considered by MPCB in arriving 103 units as the polluting units:

- (i) Inclusion of only those units for which due records are available for establishing the violations;
- (ii) Exempting SSI units (having effluent discharge less than 25 KLD) who were found discharging effluent to CETP meeting CETP inlet consent norms of COD-3500 mg/l and BOD 1500 mg/l;
- (iii) Non-inclusion of violations which are not directly related to effluent discharge in to CETP or not causing damage to soil/ surface water/ground water;
- (iv) Considering the period of default of five years since the date of making Original Application No. 64/2016 (WZ) i.e. 28/4/2011 to 26/9/2019 taking reference from section 15(3) of the National Green Tribunal Act, 2010, with regard to consideration of default for assessing environmental compensation and cost of restoration;

MPCB also revised period of violations for the aforesaid 103 identified polluting units for the purpose of imposing environmental compensation as per recommendations of the committee that in cases where closure direction have been issued, the period of default (N in days) has been taken as date of inspection till the effective date of closure of the unit. For other cases including where conditional restart order issued under the Water (Prevention & Control of Pollution) Act, 1974/ Environment(Protection) Act, 1986, the period of default has been taken as number of days(N) for which violation took place. Such N has been taken as the period between the day of violation observed/ due date of compliance of directions and the day as on which the compliance was verified by MPCB. MPCB has only considered closure and conditional restart directions period. The period between effective closure of the unit till the date of restart order issued by MPCB has not been considered as violation period.

The aforesaid additional 20 units were called for hearing by the committee on 27/1/2020 where MPCB presented nature and period of violations to each of the units from records available with them and representative of the respective unit was also given opportunity to submit records against such violations. All the 05 units, who did not attend the hearing during Nov.30 - Dec. 04, 2019, and falling under the said list of 103 units were also called to attend the hearing giving them another opportunity. However, only 01 of the said 05 units attended the hearing on 27/1/2020 besides 03 of the said 20 units also did not attend the said hearing.

Notices were also served by MPCB to the 83 units (who were called/given the hearing earlier during Nov.30 - Dec. 04, 2019) on 28/1/2020 informing them to submit additional details, if any, by 31/1/2020. Replies received from 27 units of the said 83 units were examined by MPCB from the records available with them.

Thus, details of each of the 103 units (including CETP) identified as polluting units for the purpose of environmental damage cost/damage restoration cost along with nature and period of violation, prepared based on hearing given to them by the committee; recommendations of the committee; details submitted by the units to MPCB in support of compliance against the proposed violation details; vis-à-vis examination of records available at MPCB, as above, along with other details, as forwarded by MPCB, are given at Annexure V. Such unit wise details (given at Annexure V) have been used in deriving accountability of each of the 103 polluting units which includes the CETP also in terms of damage recovery cost in INR in meeting the estimated environmental damage cost and cost of restoration.

8.4 ENVIRONMENTAL DAMAGE COST AND RESTORATION COST

Environmental damage cost assessment has been done (as given in Chapter 6) for substandard effluent quality discharge from Tarapur CETP and industries into drains/coastal waters/drain. Approach of direct value transferred has been referred for assessment of environmental damage cost. The value transfer method has been used to calculate the economic value of benefits for the environment when an original study for valuation is not feasible. In order to estimate the damages done due to the discharge of pollutants to the Sea and the wetlands, the effluent discharge standard prescribed in consent issued by MPCB have been taken into consideration. The damage cost per kg of the load has been used for each standard exceeding pollutant (viz. COD, BOD and SS among the historic reported parameters) individually which is discharged in to the sea and the wetlands.

Environmental damage cost has been calculated within the aforesaid reporting period² of 28/4/2011 to 26/9/2019. The damage cost from the direct value transfer method is about 5.938 Crore INR for Sea and 79.014 Crore INR for wetlands considering inflation value. The above estimate is conservative as it only considers scope of damages due to effluent discharge beyond the standards on surface water wetlands. The impact on sea water pollution is also very conservative due to lack of better information on pollutants including nitrogen.

However, it has been found that the ground water is contaminated in the region besides having impacts on creeks and coastal sea water due to illegal discharges of effluent from the industries/CETP, which have not been valued in the above damage cost assessment. Instead cost to be incurred in their further detailed assessment (including other water bodies) and their remediation have been accounted as “Super Fund” and the initial amount for the super fund has been suggested as 75 Crores INR which may increase or decrease depending upon the selected remediation options based on outcome of the detailed assessment and application of other tools as suggested under para 8.2.2.1 above .

The total environmental damage cost has, therefore, been estimated as 85.042 Crore INR (79.014 + 5.938 Crore INR) and with creation of super fund having initial deposit of Rs. 75 Crore INR as environmental restoration cost.

Therefore, the total estimated environmental damage and restoration cost comes out to be 160.042 Crore INR.

8.5 ACCOUNTABILITY OF POLLUTING UNITS INCLUDING CETP IN MEETING THE ENVIRONMENTAL DAMAGE COST AND RESTORATION COST

Polluter Pay Principal and the methodology recommended in “Report of the CPCB In-house Committee on Methodology for Assessing Environmental Compensation and Action Plan to Utilize the Fund” have been used adding some additional features to meet objective of deriving accountability of each of the identified polluting units including CETP. The used methodology (details given in Chapter 7) gives distributed accountability among each of the identified 103 polluting units in terms of damage recovery cost in INR in recovering the

² This reporting period has been considered by the committee for the purpose of its report only so as to limit the period taking reference from section 15(3) of the National Green Tribunal Act, 2010.

estimated environmental damage cost and restoration cost of 160.042 Crore INR in terms of their respective pollution index depending on pollution hazard, scale of operation, load factor based on the population located around the industrial unit, number of days for which violation took place and also considering deterrence for repeat/habitual violators.

The said damage recovery cost along with the corresponding Distributed Recovery Cost (DRC) Factor, derived as above, for each of the 103 polluting units including CETP is given at Sl. No. 16 of the respective tables given at Annexure V.

The range of such accountability as damage recovery cost for meeting the said environmental damage cost and cost of restoration comes out to be 0.887 Lakh INR (to a SSI unit who has reported violation period of 14 days with no repeat violation) to 1042.241 Lakh INR (to a LSI unit having first violation for a period of 482 days, first repeat violation of 1150 days, second repeat violation of 58 days and third repeat violation of 309 days).

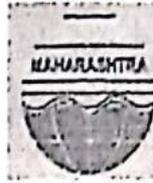
The accountability of the CETP comes out to be 7231.470 Lakh INR as damage recovery cost for meeting the said environmental damage cost and cost of restoration.

As suggested in Chapter 6, of the 160.042 Crore INR, 75 Crore INR may be deposited in “Super Fund” and in case based on the detailed assessment and selection of remediation options, the assessment & remediation cost exceeds or comes out to be lower than the 75 Crore INR deposited in the super fund, the additional amount may be deposited or returned back to that of the damage recovery cost to each of the polluting units, as the case may be, proportionate to that as has been recovered. The amount to be deposited or returned back to each of the 103 polluting units may be arrived by multiplying their respective “Distributed Recovery Cost (DRC) Factor” (given for each of the polluting units at Sl. No. 14 in their respective table at Annexure V) and the said increased or decreased amount to that of 75 Crore INR, as the case may be, as used in Equation (4) in Chapter 7.

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MAHARASHTRA POLLUTION CONTROL BOARD Annexure I

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Malunga Scheme Road No. 8, Opp. PVR
Cinema, Near Sion Circle, Sion (E),
Mumbai - 400 022

Red/SSI

Date: 29/11/2019

Consent No: BO/JD(WPC)/ UAN No-0000062174/R/HOD/ 1911001395

To,
M/s. Tarapur Environmental Protection Society,
Common Effluent Treatment Plant (25 MLD),
Plot No AM 29 (pt), MIDC Tarapur,
Boisar, Dist Palghar.

Subject: Renewal of Consent to Operate for Common Effluent Treatment Plant under RED category.

- Ref: 1. Earlier consent granted vide no. BO/JD(WPC)/ UAN No-0000017747/R/CC-1703002119 dtd 31.03.2017 valid till 31.12.2017.
2. Your application for renewal of consent dtd 08/12/2018

For: Renewal of Consent to Operate for CETP under RED category. under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 5 of the Hazardous & Other Wastes (M & T M) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

- The consent is granted for a period from 31/12/2017 upto 31/12/2020
- The actual capital investment of the industry is Rs. 20.67 Crs. (As per the C.A. Certificate submitted by industry)
- The Consent is valid for the manufacture of -

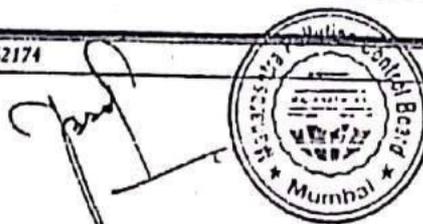
Sr. No.	Treatment Facility	Maximum Quantity	UOM
1	Common Effluent Treatment Plant - The daily quantity of industrial effluent to be treated shall not exceed	25	MLD

- Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. no.	Description	Permitted quantity of discharge	Standards to be achieved	Disposal
1	Trade effluent	25.0 MLD	As per Schedule -I	Marine outfall, at a point to be specified by National Institute of Oceanography
2	Domestic effluent	5.0 CMD	As per Schedule -I	Marine outfall, at a point to be specified by National Institute of Oceanography

- Conditions under Air (P& CP) Act, 1981 for air emissions:

Sr. no.	Description of stack/ source	Number of Stack	Standards to be achieved
1	D.G Set (626 KVA)	01	As per Schedule -II



29/11/2019

Schedule-I

Terms & conditions for compliance of Water Pollution Control:

- 1) A) As per your application, you have provided Common Effluent Treatment Plant (CETP) with the design capacity of 25.0 MLD.
- B) The Consent is valid for collection, storage and treatment of Industrial and Domestic Effluent conforming to the inlet standards specified hereunder:-

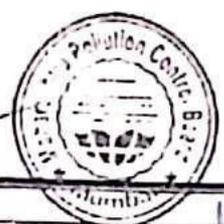
Sr. No.	Parameters	Standards prescribed by Board (If any) Limiting Concentration in mg/l. except for pH & Temperature
1.	pH	
2	Temperature	6.0 to 9.0
3	Oil & Grease	45 °C
4	Phenolic Compounds	20
5	Ammonical Nitrogen (as N)	5.0
6	Cyanide (as CN)	50
7	Hexavalent Chromium (as Cr ⁶⁺)	0.2
8	Total Chromium (as Cr)	2.0
9	Copper (as Cu)	2.0
10	Lead (as Pb)	3.0
11	Nickel (as Ni)	1.0
12	Zinc (as Zn)	3.0
13	Arsenic (as As)	15
14	Mercury (as Hg)	0.2
15	Cadmium	0.01
16	Selenium (as Se)	1.0
17	Fluoride (as F)	0.05
18	Boron (as B)	15
		2.0

In case of SSI unit, BOD of maximum of 1500 mg/l and COD of maximum 3500 mg/l will be allowed. In case of other primary and secondary treatment is required

- Note :
- i) These standards apply to the small scale industries i.e. total discharge up to 25 M³.
 - ii) All (small Scale Units generating effluent quantity more than 25 m³/day and Medium & Large Scale Units irrespective of the quantity of effluent will have to achieve the standards as prescribed in the letter of Consent issued to them individually under the Water (P & CP) Act 1974, Air (P & CP) Act 1981, Hazardous Waste (M, H & TM) Amendment thereto before discharging the effluent into CETP.

C) Treatment and disposal for combined Industrial and Domestic effluent.
Treatment: The CETP authority shall provide comprehensive treatment system consisting of primary / secondary and/or tertiary treatment as is warranted with reference to influent quality for strong stream and weak stream and operate and maintain the same continuously so as to achieve the quality of the treated effluent to the following standards:

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Sr No. Parameters		Standards prescribed by Board (If any)
I. General Parameters		Max permissible values (in mg/l, except for pH & Temperature)
01	pH	6.0 to 9.0
02	BOD 3 Days 27 Deg.C	30
03	COD	250
04	Suspended Solids	100
06	Fixed Dissolved Solids	Not Specified
II. Specific Parameters		Max permissible values (in mg/l, except for pH & Temperature)
06	Temperature	Shall not exceed more than 5° C above ambient water temperature
07	Oil & Grease	10
08	Ammonical Nitrogen (as N)	50
09	T.K.N	50
10	Nitrate Nitrogen	50
11	Phosphate as P	Not Specified
12	Chlorides	Not Specified
13	Sulphate (as SO ₄)	Not Specified
14	Fluoride (as F)	15
16	Sulphide (as S)	5
16	Phenolic Compound (as C ₆ H ₅ OH)	5
17	Total Residue Chlorine	1
18	Zinc (as Zn)	15
19	Iron	3
20	Copper (as Cu)	3
21	Trivalent Chromium	2
22	Manganese	2
23	Nickel	3
24	Arsenic (as As)	0.2
25	Cyanide (as CN)	0.2
26	Vanadium	0.2
27	Lead (as Pb)	0.1
28	Hexavalent Chromium	0.1
29	Selenium (as Se)	0.05
30	Cadmium (as Cd)	0.05
31	Mercury (as Hg)	0.01
32	Bio Assay Test	90 % survival of fish after 96 hrs in 100 % effluent

Note:-

- i) All efforts should be made to remove colour and unpleasant odour as per as possible.
- ii) If the CETP is not able to achieve the outlet parameters, then all the members and the said Society would be individually and jointly responsible and liable for legal actions under the provisions of sections 47 of the Water (Prevention & Control of Pollution) Act, 1974.

Schedule-II

Terms & conditions for compliance of Air Pollution Control:

1. As per your application, you have provided the Air pollution control (APC) system and also erected following stack (s) and to observe the following fuel pattern-

Sr. No.	Stack Attached To	APC System	Height Mtrs.	Type of Fuel	Quantity & UoM	S %	SO ₂ Kg/Day
1	D.G. Set (625 KVA) - 1 Nos.	----	5.0*	Diescl	80 Lit./Hr	1.0%	26.88

(*Above the roof of the building in which it is installed)

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time.
3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Particulate matter	Not to exceed	150mg/Nm ³
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4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).



Schedule-III
Details of Bank Guarantees

Proposed Bank Guarantee:

Sr. No	Consent (C to E/O/R)	BG Guarantee	Submission Period	Consent conditions	Compliance period	Validity
1	C to R	Rs.10.0 Lakhs	15 Days	Operation and Maintenance of CETP	Continuous	30.04.2021
2	C to R	Rs.2.5 Lakhs	15 Days	Treatability Study	Continuous	30.04.2021
3	C to R	Rs.2.5 Lakhs	15 Days	Improvement in existing plants including sludge Removal	Continuous	30.04.2021



Maharashtra Pollution Control Board
Mumbai

Schedule-IV
General Conditions:

- 1) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- 2) Industry should monitor effluent quality, stack emissions and ambient air quality quarterly.
- 3) The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
- 4) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- 5) The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- 6) The firm shall submit to this office, the 30th day of September every year, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
- 7) The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous & Other Waste (M & TM) Rules, 2016, which can be recycled /processed/reused/recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc should go for that purpose, in order to reduce load on incineration and landfill site/environment.
- 8) The industry should comply with the Hazardous & Other Waste (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 5(6) & 22(2) of Hazardous & Other Waste (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
- 9) An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
- 10) The applicant shall make an application for renewal of the consent at least 60 days before the date of the expiry of the consent.
- 11) Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website(www.mpcb.gov.in).
- 12) The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.
- 13) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
- 14) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
- 15) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
- 16) Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.

- b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
- d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use
- f) D.G. Set shall be operated only in case of power failure.
- g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
- h) The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel
- 17) The industry should not cause any nuisance in surrounding area.
- 18) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
- 19) The applicant shall maintain good housekeeping.
- 20) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a statement on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end, with the Environment Statement.
- 21) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
- 22) The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
- 23) The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
- 24) The industry shall submit quarterly statement in respect of industries' obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB official site).
- 25) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
- 26) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.
- 27) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
- 28) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

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6. Conditions about Non Hazardous Wastes:

Sr. no.	Type Of Waste	Quantity & UoM	Treatment	Disposal
--N.A.--				

7. Conditions under Hazardous Waste (M, H & TM) Rules, 2008 for treatment and disposal of hazardous waste:

Sr. No.	Type Of Waste	Category	Quantity	UOM	Treatment	Disposal
1	CETP Sludge	35.3	7	MT/D	—	CHWTSDF

- The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
- This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.
- This renewal of grant of consent is issued without prejudice to order being passed by the Appellate Authority in the appeal filed vide letter dtd 15.04.2019..
- This renewal of grant of consent is issued without prejudice to Hon'ble NGT order passed or being passed in the application No 64/2016.

For and on behalf of the
Maharashtra Pollution Control Board



Dr. Y. B. Sontakke
Joint Director (WPC)

Received Consent fee of -

Sr. No.	Amount (Rs.)	Transaction No.	Date
1	50000	NEFT DR 7618540	11.12.2018
2	100000	TXN1911001559	20.11.32019

Copy to:

- Regional Officer -Pune and Sub-Regional Officer-Pune- I MPCB, they are directed to ensure the compliance of the consent conditions.
- Chief Accounts Officer, MPCB, Mumbai.
- EIC desk- for record & website updation purposes.

**PHOTOGRAPHS
(13.11.2019)**



Equalization Tanks



Secondary Clarifier & Aeration Tanks



Leakages in pipeline and defunct tertiary treatment (Pressure Sand & Activated Carbon Filters)



Decanters- Sludge dewatering

Annexure III

MPCB Analysis results of samples since April 2011 to Nov. 2019								
Date of Monitoring	Inlet influent of CETP (All parameters are in mg/l except pH)				Outlet Effluent of CETP (All parameters are in mg/l except pH)			
	pH	BOD	COD	SS	pH	BOD	COD	SS
11-11-2019	6.6	1400	4880	312	7.2	600	1616	248
04-11-2019	8.1	950	2848	252	6.9	850	2560	360
30-10-2019	2.8	1600	5000	268	7.3	300	888	212
07-10-2019	4.9	950	2928	124	7.3	230	752	196
30-09-2019	7.6	750	2400	196	7.1	220	712	162
23-09-2019	6.6	700	2240	152	6.5	200	692	78
16-09-2019	6.7	600	1840	256	7.1	290	936	128
09-09-2019	7.2	490	1568	108	7.1	80	256	68
26-08-2019	6.7	800	2816	186	7	210	708	96
19-08-2019	8.6	850	2736	168	7.2	160	536	106
13-08-2019	6.6	1500	4560	512	6.8	210	708	132
05-08-2019	7	550	1688	132	6.9	105	316	76
29-07-2019	7.6	480	1584	128	6.5	250	788	64
22-07-2019	7.1	575	1936	124	6.7	120	540	78
15-07-2019	6.7	1350	4480	172	6.6	130	420	38
08-07-2019	7.2	380	1232	146	6.4	160	508	42
01-07-2019	7.7	230	540	158	7.1	20	60	54
24-06-2019	6.5	950	3008	408	7	110	372	78
17-06-2019	7.1	1000	3344	354	6.9	250	672	84
10-06-2019	5.7	1900	6320	442	6.8	440	1032	148
03-06-2019	1.9	1450	4480	218	6.7	135	348	80
27-05-2019	6.7	950	3024	294	6.8	210	652	108
20-05-2019	7.3	900	3040	326	6.9	205	668	86
13-05-2019	7.9	1200	3776	242	7.1	110	352	102
15-04-2019	7.8	700	2256	460	7	110	372	58
08-04-2019	6.9	1050	3200	444	7.4	600	1888	228
01-04-2019	6.5	1175	3424	512	6.8	160	392	116
18-03-2019	6.5	1650	5160	422	6.9	340	1160	128
11-03-2019	6.3	1050	3328	412	6.9	50	192	42
05-03-2019	8.3	2450	7840	612	7	210	560	142
25-02-2019	6.9	375	3424	408	6.9	325	2384	378
18-02-2019	6.9	1100	3840	354	6.7	425	1496	120
11-02-2019	7.4	850	3344	508	6.5	260	1048	134
04-02-2019	3.9	1700	5720	878	6.7	330	1000	148

28-01-2019	7.5	825	3024	134	6.5	900	3040	408
21-01-2019	6.4	1800	5720	236	7.1	290	968	124
14-01-2019	5.1	1150	3680	690	6.9	270	888	166
07-01-2019	7.4	1100	3120	300	7.3	370	1232	60
31-12-2018	5.2	850	2752	400	6.9	625	2112	600
17-12-2018	6.7	1025	3320	480	6.4	470	1520	220
10-12-2018	5.4	975	3312	382	6.8	900	3088	328
03-12-2018	7.4	1050	3488	60	6.8	370	1264	380
26-11-2018	6.4	1250	4400	606	6.7	120	408	54
19-11-2018	7	1700	5480	170	7	240	760	78
12-11-2018	6.6	1350	3800	650	6.8	580	1888	310
05-11-2018	6.6	800	2608	330	4.5	610	2240	220
29-10-2018	6.8	1050	3320	532	6.9	195	648	128
22-10-2018	5.5	950	3120	360	7	210	560	160
15-10-2018	6.5	1400	4520	638	6.9	130	448	76
01-10-2018	6.5	975	2800	520	7.2	260	872	368
10-09-2018	6.2	1400	4960	560	6.9	150	424	82
03-09-2018	5.9	925	2896	180	6.7	130	424	90
13-08-2018	7.2	925	2832	418	6.8	220	736	190
06-08-2018	6.9	1300	4280	278	7.5	105	360	110
30-07-2018	7.9	1100	3424	412	6.9	125	424	74
23-07-2018	6.5	975	3320	130	6.8	130	416	38
16-07-2018	8	850	2736	474	8	310	1064	138
09-07-2018	7.8	420	1440	96	7.2	105	320	42
02-07-2018	8	590	1680	280	7	260	728	80
18-06-2018	6.5	1600	4640	420	6.6	900	2448	612
11-06-2018	6.5	1600	4880	144	7.1	325	1176	118
04-06-2018	7.4	1400	4040	130	7.3	180	384	108
14-05-2018	6.8	1850	4280	159	7	1550	3120	331
07-05-2018	7.7	2050	3280	554	7	1600	2912	273
02-05-2018	6.8	1650	4240	370	6.9	1150	1952	181
23-04-2018	8.8	4800	18240	182	7.9	275	736	126
09-04-2018	6.7	1650	5320	380	7.3	280	652	110
04-04-2018	6.9	1075	2304	163	7.1	475	824	146
26-03-2018	7.6	1550	4480	162	7.4	270	640	132
12-03-2018	7	1850	5440	198	7.1	360	968	148
05-03-2018	7	1200	3504	148	7.3	220	624	110
01-03-2018	7	3100	8640	193	7.4	875	2992	118
26-02-2018	8.8	700	2032	146	7.1	825	2416	128
22-02-2018	6.6	1000	3488	144	7.3	850	2752	138
20-02-2018	6.7	2900	7320	142	7.2	210	744	114
12-02-2018	6.9	925	2912	210	7.2	850	2672	172

05-02-2018	6.7	1800	5200	162	7.1	600	1328	140
31-01-2018	6.8	675	1224	160	6.8	200	372	120
29-01-2018	7	1425	4920	140	7.2	900	3424	160
24-01-2018	6.9	1000	2624	140	7	260	516	76
22-01-2018	7.3	1160	1856	250	7.3	560	904	210
17-01-2018	6.8	700	1760	130	6.8	360	712	120
15-01-2018	5.1	1450	4160	146	6.6	140	376	56
10-01-2018	6.8	875	1488	94	7.1	580	1144	120
08-01-2018	4.7	900	3640	92	7.3	260	600	160
04-01-2018	7.1	620	1568	240	7.2	440	1040	190
01-01-2018	7.1	1300	3760	166	7.2	425	1160	148
26-12-2017	6.3	550	1872	288	7.3	400	1080	140
18-12-2017	6.2	1700	4600	186	7.3	170	464	110
11-12-2017	5	1550	4320	112	7.1	270	744	64
04-12-2017	6.4	1150	3040	86	6.9	180	480	88
28-11-2017	7.2	950	3600	120	7.2	550	1792	94
20-11-2017	6.8	1200	3312	248	7.6	80	204	58
14-11-2017	6.5	1225	3728	136	7.4	240	632	74
06-11-2017	7.7	1100	3584	264	7.4	160	520	128
30-10-2017	8.2	975	3088	294	7.1	120	440	114
23-10-2017	6.6	950	3056	322	7.6	110	376	110
16-10-2017	6.8	625	1984	240	6.7	110	368	148
10-10-2017	7.6	775	1808	156	7.9	115	392	112
03-10-2017	6.8	950	2864	286	7.5	170	584	186
25-09-2017	8.1	925	2896	286	7.4	120	432	130
18-09-2017	6.6	1150	3520	240	7.2	120	396	86
12-09-2017	7.1	1150	3640	218	6.8	130	448	112
04-09-2017	6.7	720	2192	218	7.1	140	412	84
28-08-2017	6.8	688	2176	216	7.3	130	400	110
21-08-2017	9.1	500	1600	202	7.4	120	424	118
14-08-2017	6.8	950	3080	402	7.2	130	448	178
31-07-2017	7.4	575	1744	280	7.4	170	544	162
25-07-2017	7.3	675	2112	420	7.2	210	680	214
17-07-2017	7.6	475	1520	180	7.2	230	744	148
10-07-2017	5.8	1350	4120	308	7.6	280	896	130
07-07-2017	7.1	875	2736	372	7.4	130	448	152
03-07-2017	6.7	825	2560	242	6.9	300	952	164
27-06-2017	6.7	850	2400	222	7.2	260	800	144
19-06-2017	6.1	775	2336	124	7.5	115	324	70
12-06-2017	6.7	575	1712	234	7.1	120	384	82
05-06-2017	7	825	2496	134	7.3	160	420	54
29-05-2017	8.4	975	2928	394	7.1	270	824	434

22-05-2017	6.4	950	3000	210	7.2	145	440	140
15-05-2017	7.1	1100	3440	334	7.2	140	432	316
24-04-2017	6.8	1100	3120	682	7.4	170	488	298
17-04-2017	6.6	1250	4200	504	7.2	775	2416	450
10-04-2017	6.9	1200	3680	332	7.1	700	2200	494
03-04-2017	7	610	1616	186	7.2	130	424	120
02-04-2017	6.4	900	2784	154	7	275	764	234
27-03-2017	6.7	2600	8400	630	7.3	280	808	506
20-03-2017	6.7	2250	7400	440	7.2	270	848	112
14-03-2017	7.7	975	3160	378	7.4	480	764	78
06-03-2017	2.9	1100	3424	618	7.3	240	792	532
20-02-2017	7.2	1150	3536	682	7.3	360	784	708
13-02-2017	7	1150	3296	284	7.5	280	784	132
06-02-2017	6.6	525	2160	132	7.5	240	960	444
30-01-2017	6.5	1750	5680	988	7.5	600	1696	494
23-01-2017	7.1	700	2208	236	7.3	390	1288	188
16-01-2017	7.3	700	2176	492	7.4	590	1872	284
09-01-2017	5.4	2250	7240	766	7.4	750	1648	362
02-01-2017	7.1	950	2992	1268	7.3	530	1984	758
26-12-2016	5.9	2000	6400	442	8.9	260	832	184
13-12-2016	5.6	1500	4880	760	7.3	650	2064	314
05-12-2016	7.8	675	2128	404	7.6	580	1728	252
28-11-2016	5.2	2200	7160	2380	6.4	610	2160	282
21-11-2016	6.6	2050	4160	454	7	550	1920	138
15-11-2016	6.3	925	2592	222	6.8	370	1216	148
24-10-2016	6.2	1650	5520	162	7.3	450	1144	192
17-10-2016	5.6	1450	3680	260	7	380	1264	310
10-10-2016	4.8	725	3200	466	7	115	360	52
03-10-2016	6.8	625	2000	368	7.2	120	392	196
26-09-2016	6.9	1375	2896	210	6.9	220	508	240
19-09-2016	6.2	950	2992	254	9.2	150	416	74
12-09-2016	5.6	640	2720	220	6.6	110	368	86
06-09-2016	6.5	775	2784	362	6.8	62	224	86
22-08-2016	6.3	420	1680	400	7.1	145	468	76
16-08-2016	7.5	475	1440	538	6.8	115	352	60
08-08-2016	8.8	625	2208	746	6.6	170	300	174
01-08-2016	3.7	700	1952	708	6.6	110	348	110
25-07-2016	5.5	950	3296	522	6.5	130	308	126
18-07-2016	4.3	975	3344	116	6.5	240	772	74
11-07-2016	4.2	725	2144	214	5.9	280	920	102
04-07-2016	5.5	775	2432	338	6.6	270	888	46
27-06-2016	4.9	825	2912	424	6.5	280	960	122

06-06-2016	5.3	1000	3648	364	6.6	190	600	124
30-05-2016	4.6	2300	10720	354	6.5	370	1216	150
23-05-2016	7	1100	3600	498	7.4	290	848	148
16-05-2016	7.1	850	2576	260	7.6	120	560	80
09-05-2016	6.8	1200	2384	382	7.7	170	528	112
02-05-2016	6	1100	3408	294	7.5	160	560	340
25-04-2016	7.2	500	1104	394	7.2	360	800	188
18-04-2016	4.2	550	1704	220	6.9	400	1456	88
11-04-2016	7.9	875	2512	336	7.5	200	536	140
04-04-2016	3.6	1075	3392	376	7.7	320	824	886
31-03-2016	8.4	525	1392	416	8	370	1104	66
21-03-2016	8	1850	5000	682	8	240	600	96
14-03-2016	6.8	330	1056	66	7.4	180	544	84
07-03-2016	8	450	1416	52	7.4	210	592	56
29-02-2016	7.2	725	1888	256	7	240	664	176
22-02-2016	7.1	650	1856	240	7.4	180	520	130
15-02-2016	7	725	1952	156	7.4	180	464	174
08-02-2016	6.8	1050	2528	722	7.2	140	376	302
01-02-2016	8.4	330	1000	474	7.2	190	520	78
25-01-2016	1.6	675	1968	178	7.3	180	584	196
18-01-2016	9.3	850	2032	364	7.5	320	824	130
11-01-2016	7.3	2250	6080	606	7.2	360	920	126
04-01-2016	8.8	3400	8400	554	7.8	170	532	54
28-12-2015	6.6	490	1392	292	7.3	170	440	142
14-12-2015	6.1	1650	4640	420	7.5	220	636	164
07-12-2015	7.8	725	2080	850	8.2	350	1120	196
03-12-2015	7.1	450	1248	354	7.2	210	688	116
16-11-2015	6.6	3700	10080	534	7.4	140	376	24
02-11-2015	5.5	1150	3296	646	7.3	190	692	60
26-10-2015	6.3	750	1888	1660	7.3	220	724	114
19-10-2015	9.3	625	1272	156	7.7	270	660	68
12-10-2015	6.3	1075	3880	258	7.3	160	552	114
28-09-2015	7.7	850	2336	418	7.3	115	515	120
22-09-2015	5.9	950	2464	560	7.3	725	1776	480
14-09-2015	7.1	560	1520	562	6.9	275	696	128
07-09-2015	6.8	575	1608	484	8.1	220	600	288
31-08-2015	6.6	650	1464	168	7.8	90	264	20
24-08-2015	6.2	825	1968	788	8	140	360	40
17-08-2015	8.4	1075	2960	980	8.2	145	400	42
10-08-2015	8.5	460	1320	368	7.9	135	396	52
03-08-2015	5.7	850	2352	1194	8.1	125	340	48
27-07-2015	7.3	800	2272	386	7.8	280	768	188

20-07-2015	6.6	1600	5000	384	8.3	200	568	42
13-07-2015	6.3	1050	4800	1180	7.8	160	432	34
06-07-2015	6.2	750	2160	218	7.7	220	560	88
29-06-2015	8.3	260	728	232	7.3	90	232	188
22-06-2015	7.3	925	2112	678	7.6	135	400	40
08-06-2015	6.4	1200	2832	392	8.1	120	368	108
01-06-2015	7.4	590	1496	180	7.9	520	1328	146
25-05-2015	6.6	1100	2720	492	8.2	145	480	28
18-05-2015	8.2	320	872	274	8.1	125	392	42
11-05-2015	8	925	2496	244	7.6	120	312	68
05-05-2015	8.2	1200	3200	274	7.8	210	448	110
27-04-2015	7	1200	5280	544	7.7	230	776	188
13-04-2015	8.2	1750	5680	734	7.5	2500	9520	844
06-04-2015	7.1	630	2096	400	7.5	340	1216	518
23-03-2015	6.6	460	1680	482	7.6	76	256	80
16-03-2015	7.1	530	1344	264	7.8	150	388	190
09-03-2015	6.6	1800	5520	570	7.3	150	408	276
02-03-2015	6.7	2250	8000	260	7.6	120	288	110
23-02-2015	6.8	1650	5520	424	7.8	190	464	104
16-02-2015	6.9	1750	6280	982	7.4	325	824	258
09-02-2015	7.7	925	3472	228	7.7	180	528	156
02-02-2015	8.4	800	1504	390	8	230	720	122
27-01-2015	8.4	2400	5360	214	7.9	180	476	88
19-01-2015	6.7	130	3360	198	8.1	280	896	86
12-01-2015	6.6	1700	4800	254	8	180	440	146
05-01-2015	6.9	2300	7200	168	8.2	280	712	138
29-12-2014	6.3	800	3640	240	7.7	160	528	110
22-12-2014	6.9	750	1776	108	7.2	180	464	90
15-12-2014	6	950	2480	310	7.6	280	524	350
01-12-2014	8.4	800	2368	172	7.8	210	696	138
24-11-2014	7.7	260	720	198	7.5	320	696	180
17-11-2014	7.2	390	1088	86	7.2	110	328	62
10-11-2014	7	600	1920	286	7.5	120	400	60
03-11-2014	7	380	752	146	7	140	344	166
27-10-2014	6.3	800	2352	386	7	110	268	198
20-10-2014	7.4	675	2288	288	7.5	90	232	118
13-10-2014	5.1	750	4280	208	6.7	120	288	90
07-10-2014	6.9	1700	4760	126	7.1	110	336	68
29-09-2014	7.3	410	1072	710	6.9	160	392	148
22-09-2014	6.8	350	800	172	6.9	120	268	90
15-09-2014	6.8	580	1392	270	6.8	80	212	38
09-09-2014	6.4	300	800	326	6.9	150	440	102

01-09-2014	7.4	270	680	140	7.4	180	408	146
25-08-2014	7	900	2432	238	6.9	210	488	270
19-08-2014	6.7	560	1632	138	7	110	268	46
11-08-2014	4.3	440	1256	122	7	70	212	150
04-08-2014	7	510	1120	184	7.1	80	220	88
28-07-2014	6.9	600	1632	256	7.1	120	344	64
21-07-2014	8.1	270	768	238	7.4	140	368	42
14-07-2014	6.4	850	2560	216	7	120	332	98
07-07-2014	6.8	950	2720	254	7	220	560	180
30-06-2014	6.5	1000	3136	278	6.8	300	696	222
23-06-2014	7.1	850	2656	292	7.2	115	364	128
16-06-2014	6.3	675	1936	256	7.3	190	416	118
09-06-2014	7.1	1300	3840	360	7.1	155	360	58
02-06-2014	6.9	450	968	278	7.1	120	348	128
26-05-2014	7.6	950	1904	342	7.3	160	472	358
19-05-2014	7.2	800	2400	260	7	190	408	200
12-05-2014	6	1700	5400	272	7.5	390	664	284
05-05-2014	6.9	800	2064	268	6.8	200	488	84
28-04-2014	6.2	1300	4160	296	7.1	200	552	254
21-04-2014	4.4	925	2704	280	7.3	430	1160	274
15-04-2014	8	710	2320	320	7.5	340	864	292
07-04-2014	4.6	1250	3880	440	6.8	250	528	302
01-04-2014	6.8	1250	3760	310	7.4	150	472	328
24-03-2014	5.8	2600	6200	442	7.2	150	504	160
18-03-2014	7.5	1100	4400	272	6.9	190	650	240
10-03-2014	6.8	550	1632	188	7.5	130	472	68
03-03-2014	4.8	1400	4480	296	6.8	200	408	272
24-02-2014	7.6	800	2416	192	7	240	584	178
17-02-2014	7.2	1150	3680	204	7.3	140	464	160
10-02-2014	6.3	850	2720	242	6.8	260	580	310
06-02-2014	4.5	1350	4120	182	7	220	800	160
03-02-2014	8.7	950	2848	228	7	350	1088	238
27-01-2014	4.9	900	3360	310	6.3	350	1008	282
20-01-2014	7.3	950	4000	318	6.7	280	560	212
13-01-2014	7.8	550	1664	184	6	280	656	260
06-01-2014	7.5	850	3344	198	7.2	170	480	188
03-01-2014	6.4	1800	4800	156	6.9	260	648	112
30-12-2013	5.9	1400	3104	292	7.3	240	560	140
23-12-2013	9.5	1250	3200	272	7	240	600	260
16-12-2013	6.6	2500	6360	168	7	260	672	160
09-12-2013	6.8	975	2288	150	6.8	240	528	150
06-12-2013	6.4	1200	3264	154	6.6	300	784	134

02-12-2013	7.3	900	2432	174	7.1	220	796	82
25-11-2013	6.9	1150	3232	230	7.4	240	656	180
18-11-2013	6.9	775	2240	120	7.2	220	600	80
11-11-2013	4.6	700	2016	120	7.6	240	560	110
06-11-2013	4.5	950	2512	182	4.8	300	664	180
28-10-2013	6.7	480	1952	120	6.4	240	456	140
21-10-2013	7.7	900	2624	80	7.8	220	576	88
14-10-2013	5.9	650	1840	210	6.4	180	472	88
07-10-2013	4.7	725	2080	110	5.2	240	656	40
04-10-2013	7	600	1712	200	6.9	170	432	248
30-09-2013	7.3	600	1760	90	6.6	140	360	60
23-09-2013	6.6	525	1352	120	7.6	370	1048	110
16-09-2013	7	650	1880	160	6.8	170	424	120
09-09-2013	6.9	525	1496	160	6.9	140	384	118
06-09-2013	4.3	2050	6000	140	6.7	210	480	80
02-09-2013	6.2	310	848	190	7.1	260	448	92
26-08-2013	6.5	950	2704	140	6.2	170	464	40
19-08-2013	6.2	800	2304	182	6.9	220	560	190
12-08-2013	6.8	260	704	140	7.1	240	480	232
05-08-2013	6.8	210	584	180	7.2	190	360	160
02-08-2013	6.9	260	736	192	7.3	160	296	60
29-07-2013	5.7	800	2064	248	7.5	150	372	122
22-07-2013	6.6	450	1160	186	6.8	120	276	98
15-07-2013	6	320	748	280	9.3	240	612	248
08-07-2013	6.6	1200	3152	220	7.4	180	408	116
01-07-2013	6.9	775	1736	166	6.8	130	384	140
24-06-2013	6.8	550	1504	198	7.2	250	672	128
17-06-2013	7	900	2416	238	7.9	180	460	180
10-06-2013	7.4	750	2240	306	7.7	140	344	76
03-06-2013	7.8	450	1272	168	7.9	140	380	68
27-05-2013	7.6	1100	2848	288	8.4	180	412	34
20-05-2013	6.8	900	2192	248	7.7	150	376	108
13-05-2013	6.9	800	2112	238	7.6	140	368	122
06-05-2013	7.5	550	1472	258	8.4	180	496	200
29-04-2013	7.2	1600	2512	360	7.7	145	340	228
22-04-2013	8	600	1616	124	8.1	130	324	60
15-04-2013	6.9	1800	5080	380	8.2	400	568	410
08-04-2013	7.6	280	640	300	7.3	170	428	28
01-04-2013	8.3	475	1264	198	7.7	160	392	176
25-03-2013	7.6	1600	NA	280	7.9	120	300	186
18-03-2013	8	475	1376	186	7	170	436	110
11-03-2013	8.2	775	2192	236	7.7	160	416	180

04-03-2013	7	475	1360	170	8.2	150	396	140
25-02-2013	7.5	1125	3200	186	7.8	150	376	104
18-02-2013	8.6	725	2176	172	7.8	190	492	136
11-02-2013	6.9	410	1360	124	7.9	210	712	112
04-02-2013	8	530	1648	90	8.1	210	552	88
28-01-2013	4.2	2200	6320	144	7.5	290	832	116
21-01-2013	7	675	1952	122	7.4	260	744	94
14-01-2013	5.4	1600	4680	210	7.4	85	228	30
07-01-2013	8.2	675	1880	72	7.3	370	1048	112
01-01-2013	6.5	490	1408	152	7.2	420	896	286
31-12-2012	7	825	2400	118	7.1	170	512	32
24-12-2012	7.3	875	2864	272	7.1	230	400	146
21-12-2012	7.6	NA	1984	40	7.4	NA	672	60
18-12-2012	6.4	625	2016	66	7.3	170	644	126
13-12-2012	8.2	440	2064	184	7.4	310	960	236
05-12-2012	7.3	500	1328	168	6.9	290	896	184
22-11-2012	6.8	1050	1400	72	7.3	260	656	40
02-11-2012	6.3	550	2800	164	7.7	180	624	62
18-10-2012	7.4	650	1568	164	7.4	240	472	52
11-10-2012	4.7	330	1936	122	7.1	140	656	32
20-09-2012	6.9	180	912	52	7	48	296	42
03-09-2012	6.8	760	560	32	7.4	310	100	34
29-08-2012	6.9	420	3400	168	6.7	66	816	128
03-08-2012	6.8	620	1136	162	6.7	610	132	30
20-07-2012	6.6	2016	2000	132	8.3	963	1456	120
07-07-2012	6.2	750	805	296	6.5	632	448	173
30-06-2012	8.4	480	2240	222	7.8	500	632	162
25-05-2012	7.9	850	1312	140	7.4	260	1248	220
19-05-2012	6.3	950	2336	244	7.1	320	560	212
17-05-2012	6.2	1600	2752	154	7.4	725	1144	126
29-04-2012	7.9	750	2368	144	6.7	430	1504	122
28-04-2012	7.6	2000	1856	168	7.2	190	1096	208
27-04-2012	6.9	940	2880	158	6.9	330	640	192
26-04-2012	8.8	420	2768	284	7.8	375	776	186
24-04-2012	7.4	800	1152	304	7.6	280	960	188
23-04-2012	7.7	510	2384	210	7.6	170	744	164
22-04-2012	7.3	675	1880	148	6.8	420	448	282
21-04-2012	6.9	320	2192	90	7.2	460	1360	142
20-04-2012	3.6	470	1440	176	6.8	490	1360	124
19-04-2012	6.6	850	1280	288	6.9	540	1360	176
18-04-2012	8.5	750	2192	240	6.8	550	1472	284
16-04-2012	5.2	700	2480	164	7.1	290	1840	286

11-04-2012	2	475	2240	284	7	160	608	256
03-04-2012	8.3	1450	1264	198	7.7	625	392	176
25-03-2012	7.6	700	3136	562	6.8	600	1440	536
20-03-2012	6.8	750	2336	462	7	110	1008	514
15-03-2012	4.8	900	1552	294	7.4	400	480	88
02-02-2012	5	650	1840	214	7	130	320	68
24-01-2012	7.3	825	2176	220	7.3	190	320	84
01-12-2011	6.6	950	272	--	7.2	540	406	286
09-11-2011	7.7	500	3216	180	7.1	190	1720	64
03-11-2011	6.2	900	1872	220	6.8	370	448	154
07-10-2011	6.4	540	2680	--	7	240	1152	--
06-10-2011	7.3	140	1736	278	7.1	100	1680	48
17-09-2011	6.9	300	280	--	7.1	260	260	--
03-09-2011	6.6	280	840	604	8.9	180	764	288
05-08-2011	6.5	750	2640	172	7	280	368	162
16-07-2011	5.2	4000	2400	340	7.1	1200	920	284
01-07-2011	8.1	1200	8640	248	7.1	350	2432	236
17-05-2011	7.2	3500	2400	274	7	550	1800	118
07-05-2011	7.9	390	8000	194	8.5	310	1072	144
01-05-2011	6.2	2200	1264	--	7.4	1425	919	0
05-04-2011	6	390	9760	182	7.4	330	4160	554
01-04-2011	4.2	700	1376	120	6.9	307	1104	196

Annexure IV

Monthly average of estimated daily inlet effluent quantity to CETP (as provided by M/s TEPS)

Month Year	January	February	March	April	May	June	July	August	September	October	November	December
2011	-	-	-	25.543	25.153	25.154	25.153	25.153	25.153	25.317	25.32	25.311
2012	25.221	25.39	25.221	25.447	25.403	24.507	25.377	25.332	25.287	25.237	25.101	25.264
2013	25.214	25.166	25.092	25.2	24.374	25.151	25.178	25.128	25.144	25.154	25.164	25.182
2014	25.169	25.169	25.192	25.184	25.153	25.154	24.936	25.181	25.015	25.134	25.142	25.156
2015	25.133	25.149	25.15	25.151	25.148	25.156	25.153	25.161	25.168	25.185	25.18	25.175
2016	25.193	25.18	25.181	25.173	25.153	25.226	25.198	25.309	25.079	23.786	23.604	24.243
2017	23.36	23.922	22.872	22.885	23.142	22.591	23.05	24.661	25.448	24.628	22.723	25.109
2018	25.116	21.832	23.543	22.825	24.078	23.809	25.563	25.767	25.02	25.863	23.447	25.324
2019	25.628	22.661	23.605	24.67	26.209	23.809	26.343	26.246	24.81	23.069	24.982	-

Annexure – V

DETAILS OF 103 POLLUTING UNITS (INCLUDING CETP) AND DAMAGE RECOVERY COST

Table No. 1

Sl.No	Item	Details
1.	Name of Industry	Aarti Drugs Ltd, G-60, MIDC Tarapur
2.	Year of Establishment/Commissioning	01.10.1994
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	119
7.	Date of Inspection	05.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	31.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	15.5.2014
13.	Period of non-compliance (no. of days)	44+197= 241
14.	Reason for Closure/non-compliance	1 Increase water consumption 2. Discharge of Substandard quality effluent 3. Change of Fuel pattern 4. Flow meter not provided to ETP outlet
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	45.786 Lakh INR (Distribution Recovery Cost Factor = 0.0028609)
17.	Date of Hearing	30.11.2019

Table No. 2

Sl. No	Item	Details
1.	Name of Industry	Aarti Drugs Ltd, N-198, 199, MIDC Tarapur
2.	Year of Establishment/Commissioning	01.04.1994
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	LSI

6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	63.1			
7.	Date of Inspection	12.4.2012.	5.9.2013.	23.11.2016.	22.4.2017.
8.	Date of Closure Order	16.05.2012	15.10.2013.	3.12.2016.	25.4.2017.
9.	Effective date of Closure of the unit	19.5.2012	18.10.2013.	6.12.2016.	28.4.2017.
10.	Unconditional re-start Order date	NA			
11.	Conditional re-start order date	19.06.2012	13.11.2013.	3.2.2017.	18.5.2017.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	4.9.2013	22.11.2016.	18.3.2017.	15.3.2018.
13.	Period of non-compliance (no. of days)	482	43+1107=1150 (First repeat violation)	14+44=58 (Second repeat violation)	309 (Third repeat violation)
14.	Reason for Closure/non-compliance	Not operating ETP properly , Discharge of Substandard quality effluent to CETP	Discharge of Substandard quality effluent to CETP, Fuel alteration, Flow meter not provided.	Discharge of Substandard quality effluent to CETP COD-1520	Discharge of Substandard quality effluent to CETP COD 28000, pH 5.1, SS 800
15.	Liable for Compensation	Yes			
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	1042.241 Lakh INR (Distribution Recovery Cost Factor = 0.0651229)			
17.	Date of Hearing	30.11.2019			

Table No. 3

Sl. No	Item	Details	
1.	Name of Industry	Aarti Drugs Ltd, E-21,22 MIDC Tarapur	
2.	Year of Establishment/Commissioning	01.04.1994	
3.	Product Type	Bulk drug	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	88.3	
7.	Date of Inspection	12.4.2012.	5.9.2013.
8.	Date of Closure Order	16.5.2012 Voluntary Closure Direction	15.10.2013

9.	Effective date of Closure of the unit	18.10.2013 (no effective date of voluntary closure & not obtained conditional restart for same hence non-compliance period is consider from 12.4.2012 to 18.10.2013)	
10	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	Not obtain	21.11.2013.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	---	3.4.2014.
13.	Period of non-compliance (no. of days)	555	134 (First repeat violation)
14.	Reason for Closure/non-compliance	Board Issued Voluntary Closure Direction towards discharge of substandard quality effluent to the CETP. As per the voluntary closure direction industry has not stopped manufacturing activity till effective next closure i.e.18.10.2013	1 Excess water consumption 2 Primary, Secondary not in operation, territory treatment bypass 3 Effluent bypass outside 4 Change in fuel 5 Bore well supply 6 Discharge of substandard effluent BOD -1375 & COD-3200
15.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	156.355 Lakh INR (Distribution Recovery Cost Factor 0.0097696)	
17.	Date of Hearing	30.11.2019	

Table No. 4

Sl. No	Item	Details
1.	Name of Industry	Aarti Industries Ltd, E-50, MIDC Tarapur
2.	Year of Establishment/Commissioning	01.10.1994
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	119
7.	Date of Inspection	05.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	31.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	15.5.2014
13.	Period of non-compliance (no. of days)	43+196=239

14.	Reason for Closure/non-compliance	1 Discharge of substandard quality effluent pH -3.4 2 Change of Fuel 3 Flow meter not provided
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	45.406 Lakh INR (Distribution Recovery Cost Factor = 0.0028371)
17.	Date of Hearing	30.11.2019

Table No. 5

Sl. No	Item	Details
1.	Name of Industry	Aarti Industries Ltd, K-17,18,19, Tarapur
2.	Year of Establishment/Commissioning	1995
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	318.4
7.	Date of Inspection	05.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	31.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	15.5.2014
13.	Period of non-compliance	44+196=240
14.	Reason for Closure/non-compliance (no. of days)	1.Excess water consumption and discharge of excess quantity effluent 2 Discharge of Substandard quality effluent on 05.09.2013
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	45.596 Lakh INR (Distribution Recovery Cost Factor = 0.0028490)
17.	Date of Hearing	30.11.2019

Table No. 6

Sl. No	Item	Details
1.	Name of Industry	Aarti Industries Ltd, L-5,8,9 MIDC, Tarapur
2.	Year of Establishment/Commissioning	1993
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	LSI

6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	20.0
7.	Date of Inspection	23.11.2018
8.	Date of Closure Order	3.12.2016
9.	Effective date of Closure of the unit	6.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	2.3.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	9.10.2018
13.	Period of non-compliance (no. of days)	13+587=600
14.	Reason for Closure/non-compliance	1 High COD stream not segregation 2 Discharge of substandard quality effluent having COD – 840 mg/l
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	113.989 Lakh INR (Distribution Recovery Cost Factor = 0.0071225)
17.	Date of Hearing	30.11.2019

Table No. 7

Sl. No	Item	Details
1.	Name of Industry	Bombay Rayon Fashion Ltd, C-6,7, MIDC, Tarapur .
2.	Year of Establishment/Commissioning	2011
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6000.0
7.	Date of Inspection	5.10.2016.
8.	Date of Closure Order	14.10.2016
9.	Effective date of Closure of the unit	17.10.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	27.10.2018.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.9.2019.
13.	Period of non-compliance (no. of days)	13+335=348
14.	Reason for Closure/non-compliance	1 Discharging substandard quality effluent 2 Ozonisation not in operation 3 Decanter not in operation 4 Poor operation and maintenance of ETP 5.Excess water consumption & excess effluent generation hampering performance of CETP
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost	66.114 Lakh INR (Distribution Recovery Cost Factor =

	and restoration cost	0.0041310)
17.	Date of Hearing	30.11.2019

Table No. 8

Sl. No	Item	Details
1.	Name of Industry	Siyaram Silk Mills (Balkrishna Synthetics), H-3/1, MIDC, Tarapur .
2.	Year of Establishment/Commissioning	1981
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	2000.0
7.	Date of Inspection	6.9.2013.
8.	Date of Closure Order	15.10.2013.
9.	Effective date of Closure of the unit	18.10.2013.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	29.10.2013.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	22.12.2014.
13.	Period of non-compliance (no. of days)	43+420=463.
14.	Reason for Closure/non-compliance	<ol style="list-style-type: none"> 1) Operation & Maintenance of ETP observed very poor i.e. Aeration tank has become spetic, 2) Discharge of sub standard quality effluent to CETP . 3) The final effluent has temp 45 C which shows the effluent just passing through ETP units without any treatment. 4) final treated effluent is connected to MIDC CETP drainage by movable plastic pipeline having several leakages causing injury to environment. 5) Changed fuel from coal to pet coke without prior permission of the Board, thereby leading to excess emission load to environment.
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	87.962 Lakh INR (Distribution Recovery Cost Factor = 0.0054962)
17.	Date of Hearing	30.11.2019

Table No. 9

Sl. No	Item	Details	
1.	Name of Industry	Camlin Fine Chemicals, D-2/3, MIDC, Tarapur .	
2.	Year of Establishment/Commissioning	1984	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	20.0	
7.	Date of Inspection	16.05.2012	22.04.2017
8.	Date of Closure Order	24.10.2013	25.04.2017
9.	Effective date of Closure of the unit	27.10.2013	28.04.2017
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	11.01.2013	16.05.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	03.04.2014	26.09.2019
13.	Period of non-compliance (no. of days)	530+447=977	7+864=871 (First repeat violation)
14.	Reason for Closure/non-compliance	1 Discharge effluent sub-standard COD-88400, SS-845	Discharge of substandard effluent to CETP COD 23200 mg/l & SS 385 mg/l
15.	Liabile for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	516.561 Lakh INR (Distribution Recovery Cost Factor = 0.0322766)	
17.	Date of Hearing	30.11.2019	

Table No. 10

Sl. No	Item	Details	
1.	Name of Industry	M/s. Ciron Drugs & pharmaceutical Pvt. LTD. N - 113,118,119 & 119/2, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	2009	
3.	Product Type	Pharma	
4.	Category	Orange	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	4.5	
7.	Date of Inspection	30.7.2018.	
8.	Date of Closure Order	8.8.2018.	
9.	Effective date of Closure of the unit	11.8.2018.	
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	23.8.2018.	
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	13.11.2018.	

13.	Period of non-compliance (no. of days)	96
14.	Reason for Closure/non-compliance	1 Discharge of substandard quality effluent having COD 396 mg/L 2 Swage treatment plant not provided for domestic effluent 4 Contaminated plastic bags disposal
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	11.399 Lakh INR (Distribution Recovery Cost Factor = 0.0007122)
17.	Date of Hearing	30.11.2019

Table No. 11

Sl. No	Item	Details
1.	Name of Industry	M/s. Dicitex Home Furnishing Pvt. Ltd, G -7/1 & 7/2. MIDC, Tarapur.
2.	Year of Establishment/Commissioning	2004
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	510.0
7.	Date of Inspection	7.10.2017.
8.	Date of Closure Order	6.2.2018.
9.	Effective date of Closure of the unit	9.2.2018.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	13.3.2018.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	17.12.2018.
13.	Period of non-compliance (no. of days)	406
14.	Reason for Closure/non-compliance	Industry has failed to provide Multiple effective Evaporator.
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	77.133 Lakh INR (Distribution Recovery Cost Factor = 0.0048195)
17.	Date of Hearing	30.11.2019

Table No. 12

Sl. No	Item	Details
1.	Name of Industry	M/s. Dicitex Furnishing Pvt. Ltd., G-58, MIDC, Tarapur.
2.	Year of Establishment/Commissioning	2001
3.	Product Type	Textile

4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	880.0
7.	Date of Inspection	6.8.2013.
8.	Date of Closure Order	15.10.2013.
9.	Effective date of Closure of the unit	18.10.2013.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	29.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	11.11.2013
13.	Period of non-compliance (no. of days)	75+14=89
14.	Reason for Closure/non-compliance	<p>1. Industry has made bypass arrangement to discharge sub standard quality effluent having COD -292 mg/L to CETP which is also confirmed by the exceeding sample results.</p> <p>2. Primary clarifier is also not in use for long period as indicated by algal growth.</p> <p>The Sludge / Slurry arises during treatment of effluent is being discharge in the final chamber before MIDC drain leading to CETP, which hampers effective functioning of CETP.</p> <p>Coal consumption is more than consented quantity, thereby leading to excess emission load to environment at inadequate height.</p>
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	<p>16.908 Lakh INR (Distribution Recovery Cost Factor = 0.0010565)</p>
17.	Date of Hearing	30.11.2019

Table No. 13

Sl. No	Item	Details
1.	Name of Industry	DC Polyester Pvt Ltd, E--26/2, MIDC, Tarapur.
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	300.0
7.	Date of Inspection	6.9.2013.
8.	Date of Closure Order	15.10.2013.
9.	Effective date of Closure of the unit	18.10.2013.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	29.10.2013.
12.	Date of inspection when the conditions at	17.5.2014.

	Sl. No. 11 was verified as compliance	
13.	Period of non-compliance (no. of days)	244
14.	Reason for Closure/non-compliance	1.Excess production without obtaining consent from MPC Board might be leading extra effluent load on CETP. 2. Discharge of Substandard quality effluent to CETP. 3. Hazardous waste not disposed within stipulated time. 4. Flow meter not provided to measure effluent discharge to CETP.
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	46.356 Lakh INR (Distribution Recovery Cost Factor = 0.0028965)
17.	Date of Hearing	30.11.2019

Table No. 14

Sl. No	Item	Details
1.	Name of Industry	DC Textile, E--26/1, MIDC, Tarapur.
2.	Year of Establishment/Commissioning	2012
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	95.0
7.	Date of Inspection	7.4.2014.
8.	Date of Closure Order	11.4.2014.
9.	Effective date of Closure of the unit	14.4.2014.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	26.5.2014.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.5.2014.
13.	Period of non-compliance (no. of days)	9
14.	Reason for Closure/non-compliance	1.Discharge of substandard effluent having pH 9-10 bypassing ETP, Unscientific primary treatment, Secondary treatment not provided at ETP , 2.Less generation of Hazardous waste compared to production and effluent quantity. 3. Increase in production & fuel consumption
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	1.710 Lakh INR (Distribution Recovery Cost Factor = 0.0001068)
17.	Date of Hearing	30.11.2019

Table No. 15

Sl. No	Item	Details
1.	Name of Industry	JSW Steel Ltd, B-6, MIDC, Tarapur.
2.	Year of Establishment/Commissioning	1989
3.	Product Type	Steel (Engineering)
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	603.
7.	Date of Inspection	3.8.2011.
8.	Date of Closure Order	21.12.2011.
9.	Effective date of Closure of the unit	21.12.2011.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	23.12.2011.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	23.8.2013.
13.	Period of non-compliance (no. of days)	744
14.	Reason for Closure/non-compliance	Non-Provision of Multiple effective evaporator .
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	141.347 Lakh INR (Distribution Recovery Cost Factor = 0.0088318)
17.	Date of Hearing	30.11.2019

Table No. 16

Sl. No	Item	Details	
1.	Name of Industry	M/s Kriplon Synthetics pvt Ltd., N -97/1/2,97,98, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	2008	
3.	Product Type	Textile	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	497.0	
7.	Date of Inspection	28.11.2016.	2.2.2018.
8.	Date of Closure Order	3.12.2016.	2.2.2018.
9.	Effective date of Closure of the unit	6.12.2016.	5.2.2018.
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	25.1.2017	21.2.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	1.2.2018	11.7.2018
13.	Period of non-compliance (no. of days)	9+373=382	3+141=144 (First repeat violation)
14.	Reason for Closure/non-compliance	1. Discharge of substandard quality effluent to CETP	1. Not provided providing of Multiple effective evaporator.

15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	127.288 Lakh INR (Distribution Recovery Cost Factor = 0.0079534)
17.	Date of Hearing	30.11.2019

Table No. 17

Sl. No	Item	Details
1.	Name of Industry	Mandhana Dyeing, E -25, MIDC, Tarapur.
2.	Year of Establishment/Commissioning	1995
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	900.0
7.	Date of Inspection	11.5.2017.
8.	Date of Closure Order	17.5.2017.
9.	Effective date of Closure of the unit	20.5.2017.
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	copy not available. Industry also failed to submit.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	Closure was issued for discharge of substandard quality effluent . Sample of 27.06.2017 meeting consented stadards.
13.	Period of non-compliance (no. of days)	77.
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD 1016 mg/L
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	14.629 Lakh INR (Distribution Recovery Cost Factor = 0.0009140)
17.	Date of Hearing	30.11.2019

Table No. 18

Sl. No	Item	Details	
1.	Name of Industry	E-Land Fashion (Mudra Life Style), D-1, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	2008	
3.	Product Type	Textile	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	115.0	
7.	Date of Inspection	12.4.2016.	12.5.2017.
8.	Date of Closure Order	14.10.2016.	17.5.2017.
9.	Effective date of Closure of the unit	17.10.2016.	20.5.2017.
10	Unconditional re-start Order date	NA	

11.	Conditional re-start order date	28.10.2016.	23.6.2017.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	12.5.2017.	1.12.2018.
13.	Period of non-compliance (no. of days)	386	567 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent to CETP having COD-828 mg/L , SS-142 mg/L	Discharge of substandard effluent to CETP having COD 976 mg/L SS 125 mg/l
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	288.772 Lakh INR (Distribution Recovery Cost Factor = 0.0180435)	
17.	Date of Hearing	30.11.2019	

Table No. 19

Sl. No	Item	Details	
1.	Name of Industry	Nipur Chemical, D -17, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	1980	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	120.0	
7.	Date of Inspection	9.7.2017.	
8.	Date of Closure Order	21.7.2017.	
9.	Effective date of Closure of the unit	24.7.2017.	
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	28.8.2017.	
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.10.2017.	
13.	Period of non-compliance (no. of days)	76	
14.	Reason for Closure/non-compliance	1 Scrubber not provided at loading & unloading 2 Seepages/ Leakages of acid from gamma acid plant having COD 440 mg/L causing injury to environment 3 SVS section scrubber not working.	
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	14.439 Lakh INR (Distribution Recovery Cost Factor = 0.0009022)	
17.	Date of Hearing	30.11.2019	

Table No. 20

Sl. No	Item	Details	
1.	Name of Industry	Manan Costyn Pvt Ltd, G -4/2,, MIDC, Tarapur.	

2.	Year of Establishment/Commissioning	2012	
3.	Product Type	Textile	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	225.0	
7.	Date of Inspection	27.12.2012.	11.9.2013.
8.	Date of Closure Order	10.1.2013.	15.10.2013.
9.	Effective date of Closure of the unit	13.1.2013.	18.10.2013.
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	31.12.2013.	31.12.2013.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	31.12.2013.	9.7.2017.
13.	Period of non-compliance (no. of days)	19	1325 (First repeat violation)
14.	Reason for Closure/non-compliance	Zero liquid discharge not provided , use of tanker water , Discharge of substandard quality effluent.	ETP not in operation, Made bypass arrangement for discharge of substandard quality effluent, Zero liquid discharge not provided . use of tanker water ,.
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	507.062 Lakh INR (Distribution Recovery Cost Factor = 0.0316830)	
17.	Date of Hearing	30.11.2019	

Table No. 21

Sl. No	Item	Details	
1.	Name of Industry	Resonance Speciality Ltd. T-140, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	1992	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	12.0	
7.	Date of Inspection	12.9.2013.	13.2.2018.
8.	Date of Closure Order	15.10.2013.	18.4.2018.
9.	Effective date of Closure of the unit	18.10.2013.	21.4.2018.
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	7.11.2013	8.5.2018.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	12.2.2018	26.9.2019
13.	Period of non-compliance (no. of days)	37+1559 = 1596	67+507 =574 (First repeat violation)

14.	Reason for Closure/non-compliance	<p>1) manufacturing unauthorized products.</p> <p>2) Effluent treatment plant corroded and dismantled condition indicating, non operation of ETP, thereby leading to sub standard quality effluent discharge to CETP.</p> <p>3) using pet coke as fuel without prior permission of the Board, thereby leading to excess emission load to environment at inadequate height.</p> <p>4) The distillation residue is unscientifically stored and is burnt in the industrial premises leading to emission of harmful emissions and causing grave injury to the environment</p> <p>5) The smell of ammonia gas is felt all over the industrial premises, indicating non provision of ammonia scrubbing system.</p>	<p>1. Install R & D facility without obtaining consent from Board.</p> <p>2. About 10 MT Distillation residue illegally stored in factory premises.</p> <p>3. Increased fuel quantity ,</p> <p>4. Analysis reports of sample collected on 12.07.2017 indicate substandard quality effluent having COD-3536, TDS – 4682 mg/L which is affecting performance of CETP ,</p>
15.	Liabile for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	<p>173.770 Lakh INR (Distribution Recovery Cost Factor = 0.0108578)</p>	
17.	Date of Hearing	30.11.2019	

Table No. 22

Sl. No	Item	Details	
1.	Name of Industry	Silvester Textiles P. Ltd., E-24,, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	1993	
3.	Product Type	Textile	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	410.0	
7.	Date of Inspection	4.9.2013.	9.7.2017.
8.	Date of Closure Order	15.10.2013.	21.7.2017.

9.	Effective date of Closure of the unit	18.10.2013.	24.7.2017.
10	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	29.10.2013.	18.8.2017.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	30.6.2014.	27.7.2018.
13.	Period of non-compliance (no. of days)	290	360. (First repeat violation)
14.	Reason for Closure/non-compliance	Operating without valid consent applied for renewal 2 Secondary treatment Not provided at ETP 3 Poor operation and maintenance ETP 4 sub standard quality effluent discharge to CETP. 5 Flow mtr. Not provided	sub standard quality effluent discharge to CETP having COD 432 mg/L
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	191.882 Lakh INR (Distribution Recovery Cost Factor = 0.0119895)	
17.	Date of Hearing	30.11.2019	

Table No. 23

Sl. No	Item	Details	
1.	Name of Industry	Sarex Overseas, N-129, 130, 131, 132, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	1992	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	400.0	
7.	Date of Inspection	9.7.2017.	
8.	Date of Closure Order	21.7.2017.	
9.	Effective date of Closure of the unit	24.7.2017.	
10	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	28.7.2017.	
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.9.2019.	
13.	Period of non-compliance (no. of days)	809.	
14.	Reason for Closure/non-compliance	Operating without valid consent ,substandard effluent discharge having COD 432 mg/L .	
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	153.695 Lakh INR (Distribution Recovery Cost Factor =	

		0.0096034)
17.	Date of Hearing	30.11.2019

Table No. 24

Sl. No	Item	Details	
1.	Name of Industry	Zeus International Ltd ,A-10 & 11, MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	2009	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	400.0	
7.	Date of Inspection	11.10.2012	16.1.2017.
8.	Date of Closure Order	24.5.2013	14.2.2017.
9.	Effective date of Closure of the unit	27.5.2013.	17.3.2017.
10	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	7.11.2013.	9.5.2017.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	15.1.2017	26.9.2019
13.	Period of non-compliance (no. of days)	229+1166 =1396	61+871 = 932 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent to CETP	Discharge of substandard effluent to CETP on following days,16.1.2017-COD- 504 mg/L 17.1.2017-COD -252 mg/l
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	619.341 Lakh INR (Distribution Recovery Cost Factor = 0.0386986)	
17.	Date of Hearing	30.11.2019	

Table No. 25

Sl. No	Item	Details	
1.	Name of Industry	Valiant Glass Pvt Ltd, , J-85 , MIDC, Tarapur.	
2.	Year of Establishment/Commissioning	2001	
3.	Product Type	Textile	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	2000.0	
7.	Date of Inspection	11.9.2013.	1.12.2018.
8.	Date of Closure Order	15.10.2013.	24.12.2018.
9.	Effective date of Closure of the unit	18.10.2013.	27.12.2018.
10	Unconditional re-start Order date	NA	

11.	Conditional re-start order date	28.10.2013.	2.1.2019.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	13.8.2014.	12.4.2019.
13.	Period of non-compliance (no. of days)	327.	126 (First repeat violation)
14.	Reason for Closure/non-compliance	1 Not Provided Secondary treatment 2 Use of Pet coke 3 Flow mtr not provided 4 STP not provided discharge of substandard quality effluent having COD 1400 mg/L .	1. Discharge of substandard quality effluent having COD 496 2. STP not provided.
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	110.000 Lakh INR (Distribution Recovery Cost Factor = 0.0068732)	
17.	Date of Hearing	30.11.2019	

Table No. 26

Sl. No	Item	Details
1.	Name of Industry	Aarti Drugs Ltd, E-9/3-4, MIDC, Tarapur.
2.	Year of Establishment/Commissioning	1983
3.	Product Type	Bulk Drugs.
4.	Category	Red
5.	Scale	MSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	30.0
7.	Date of Inspection	12.9.2013.
8.	Date of Closure Order	15.10.2013.
9.	Effective date of Closure of the unit	18.10.2013.
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	31.10.2013.
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	29.10.2013.
13.	Period of non-compliance (no. of days)	38.
14.	Reason for Closure/non-compliance	1) The ETP especially secondary & tertiary treatment was not found in operation, thereby leading to sub standard discharge of effluent quality to CETP 2) The provision of By-pass arrangement, thereby leading to sub standard discharge of effluent quality to CETP 3) The high COD stream is not disposed off properly ,thereby hampering operation of CETP. 4) disposing waste solvent in an unauthorized manner. 5) increased production of 2 Phenoxy Sulphonamide more than consented quantity without obtaining Environment clearance & consent from the Board.

		6) Change of fuel from Briquette to coal without prior permission of the Board, thereby leading to excess emission load to environment at inadequate height.
15.	Liability for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	4.813 Lakh INR (Distribution Recovery Cost Factor = 0.0003007)
17.	Date of Hearing	30.11.2019

Table No. 27

Sl. No	Item	Details
1.	Name of Industry	Jakharia Textile, A-13, MIDC Tarapur
2.	Year of Establishment/Commissioning	2011
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	378
7.	Date of Inspection	03.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	29.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	28.04.2017
13.	Period of non-compliance (no. of days)	46+1278 = 1324
14.	Reason for Closure/non-compliance	1 Production more than consented 2 Discharge of untreated effluent outside premises 3 Flow meter not provided to measure effluent discharge quantity
15.	Liability for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	251.536 Lakh INR (Distribution Recovery Cost Factor = 0.0157169)
17.	Date of Hearing	30.11.2019

Table No. 28

Sl. No	Item	Details
1.	Name of Industry	Pal Fashions Pvt Ltd, E-49 & E-49/2, MIDC Tarapur
2.	Year of Establishment/Commissioning	1982
3.	Product Type	Textile
4.	Category	Red
5.	Scale	MSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	500

7.	Date of Inspection	13.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	29.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	17.11.2015
13.	Period of non-compliance (no. of days)	36+750= 786
14.	Reason for Closure/non-compliance	1 Excess water consumption 2 Discharge of substandard quality effluent 3 No secondary treatment 4 40% water consumption not curtail 5 Hazardous waste quantity exceeds consented limit 6 Online monitoring system not provided
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	99.551 Lakh INR (Distribution Recovery Cost Factor = 0.0062203)
17.	Date of Hearing	30.11.2019

Table No. 29

Sl. No	Item	Details	
1.	Name of Industry	SD Fine Chemicals, E-27/28, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1978	
3.	Product Type	Chemicals	
4.	Category	Red	
5.	Scale	MSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	16	
7.	Date of Inspection	12.09.2013	28.07.2018
8.	Date of Closure Order	15.10.2013	08.08.2018
9.	Effective date of Closure of the unit	18.10.2013	11.08.2018
10	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	29.10.2013	23.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	27.7.2018	26.09.2019
13.	Period of non-compliance (no. of days)	37+1733 =1770	15+400 =415 (First repeat violation)
14.	Reason for Closure/non-compliance	Production more than consented quantity and discharge of substandard quality effluent to CETP , not provided flow meters	unconsented product, discharge of substandard quality effluent to CETP COD 408 mg/l , SS 119 mg/L , storage of out dated chemicals in premises .
15.	Liabe for Compensation	Yes	
16.	Accountability in terms of recovery cost in	329.302 Lakh INR (Distribution Recovery Cost Factor =	

	meeting the environmental damage cost and restoration cost	0.0205760)
17.	Date of Hearing	30.11.2019

Table No. 30

Sl. No	Item	Details
1.	Name of Industry	Iraa Clothing (P) Ltd (Shagun Clothing P Ltd), B- 7/3, MIDC Tarapur
2.	Year of Establishment/Commissioning	2016
3.	Product Type	Textile
4.	Category	Red
5.	Scale	MSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	180
7.	Date of Inspection	16.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	21.06.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	17+828= 845
14.	Reason for Closure/non-compliance	discharge of Substandard quality effluent having – COD 2840 mg/L (industry dain which leads to MIDC drain & by pass – 1136 mg/L (both samples collected on 16.1.2017)
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	107.023 Lakh INR (Distribution Recovery Cost Factor = 0.0066872)
17.	Date of Hearing	30.11.2019

Table No. 31

Sl. No	Item	Details	
1.	Name of Industry	Auro Laboratories Ltd , K-56, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1992	
3.	Product Type	Bulk Durgs	
4.	Category	Red	
5.	Scale	MSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	19	
7.	Date of Inspection	03.06.2016	28.07.2017
8.	Date of Closure Order	28.07.2016	08.08.2018
9.	Effective date of Closure of the unit	31.07.2016	11.08.2018
10	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	17.05.2017	07.01.2019

12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	27.7.2017	26.09.2019
13.	Period of non-compliance (no. of days)	59+72 =131	380+263 =643(First repeat violation)
14.	Reason for Closure/non-compliance	1 ETP not in operation 2 Using storm water drain to carry effluent 3 Generating mother liquor but not shown is consent 4 HW stored near ETP unscientifically	1. Discharge of substandard quality effluent having COD 70000 mg/L 2. ETP not operational
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	179.470 Lakh INR (Distribution Recovery Cost Factor = 0.0112139)	
17.	Date of Hearing	02.12.2019	

Table No. 32

Sl. No	Item	Details
1.	Name of Industry	Abhilasha Texchem Pvt Ltd, M-7, MIDC Tarapur
2.	Year of Establishment/Commissioning	1996
3.	Product Type	Textile
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6
7.	Date of Inspection	10.11.2016
8.	Date of Closure Order	29.11.2016
9.	Effective date of Closure of the unit	02.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	15.02.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	10.04.2017
13.	Period of non-compliance (no. of days)	23+55= 78
14.	Reason for Closure/non-compliance	Zero liquid discharge not provided
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	4.940 Lakh INR (Distribution Recovery Cost Factor = 0.0003086)
17.	Date of Hearing	02.12.2019

Table No. 33

Sl. No	Item	Details	
1.	Name of Industry	Alexo Chemicals, N-174, MIDC Tarapur	
2.	Year of Establishment/Commissioning	2011	
3.	Product Type	Chemicals	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.7	
7.	Date of Inspection	28.11.2016	26.07.2018
8.	Date of Closure Order	03.12.2016	08.08.2018
9.	Effective date of Closure of the unit	06.12.2016	11.08.2018
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	17/03/2017	08.10.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	07.06.2017	26.09.2019
13.	Period of non-compliance (no. of days)	92	371 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD 32000 mg/l	Direct discharge of substandard effluent having COD – 70400 Mg/L, BOD – 23000 mg/L
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	52.815 Lakh INR (Distribution Recovery Cost Factor = 0.0033001)	
17.	Date of Hearing	02.12.2019	

Table No. 34

Sl. No	Item	Details	
1.	Name of Industry	Ashwin Synthetics P Ltd, C-8/2, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1989	
3.	Product Type	Chemicals	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	30	
7.	Date of Inspection	15.12.2016	30.08.2018
8.	Date of Closure Order	15.12.2016	30.08.2018
9.	Effective date of Closure of the unit	18.12.2016	02.09.2018
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	16.06.2017	19.06.2019
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	29.08.2018	26.09.2019
13.	Period of non-compliance (no. of days)	4+400=444	3+100=103 (First repeat violation)

14.	Reason for Closure/non-compliance	Discharge of substandard effluent to CETP	<ul style="list-style-type: none"> • Violation of voluntary closure direction • Jeans washing activity without permission • Direct discharge in nalla • Using unauthorized water (tanker) • Not disposing Hazardous waste to Common disposal facility i.e. CHWTSDF
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	41.163 Lakh INR (Distribution Recovery Cost Factor = 0.0025720)	
17.	Date of Hearing	02.12.2019	

Table No. 35

Sl. No	Item	Details
1.	Name of Industry	Accusynth Speciality Chemical, E-29/1-2, MIDC Tarapur
2.	Year of Establishment/Commissioning	2007
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	2.5
7.	Date of Inspection	05.01.2018
8.	Date of Closure Order	12.01.2018
9.	Effective date of Closure of the unit	15.01.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	04.05.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	11+511= 522
14.	Reason for Closure/non-compliance	<ul style="list-style-type: none"> • Increase water consumption • Violation of environment clearance • Exceeding fuel consumption • Illegal transportation of spent acid • Not disposing hazardous waste timely
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	33.057 Lakh INR (Distribution Recovery Cost Factor = 0.0020655)
17.	Date of Hearing	02.12.2019

Table No. 36

Sl. No	Item	Details
1.	Name of Industry	Ajmera Organics, N-211/2/1, MIDC Tarapur
2.	Year of Establishment/Commissioning	2017
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6
7.	Date of Inspection	14.08.2018
8.	Date of Closure Order	03.09.2018
9.	Effective date of Closure of the unit	06.09.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	Till date not applied restart
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	03.09.2018
13.	Period of non-compliance (no. of days)	24
14.	Reason for Closure/non-compliance	<ul style="list-style-type: none"> • Discharge of substandard quality effluent having pH 3.5 • Not provided positive discharge
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	1.520 Lakh INR (Distribution Recovery Cost Factor = 0.0000950)
17.	Date of Hearing	02.12.2019

Table No. 37

Sl. No	Item	Details
1.	Name of Industry	Aarey Drugs & Pharmaceuticals Ltd, E-34, MIDC Tarapur
2.	Year of Establishment/Commissioning	2012
3.	Product Type	Drug intermediate
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	40
7.	Date of Inspection	05.02.2018
8.	Date of Closure Order	27.02.2018
9.	Effective date of Closure of the unit	02.03.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	Till date not applied restart
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	27.02.2018
13.	Period of non-compliance (no. of days)	25
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD – 20480 <ul style="list-style-type: none"> • Unconsented production

		• Not provided full-fledged ETP
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	1.583 Lakh INR (Distribution Recovery Cost Factor = 0.0000989)
17.	Date of Hearing	02.12.2019

Table No. 38

Sl. No	Item	Details
1.	Name of Industry	Aradhana Energy Pvt Ltd, K-34, MIDC Tarapur
2.	Year of Establishment/Commissioning	2015
3.	Product Type	Chemicals
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	00
7.	Date of Inspection	20.01.2019
8.	Date of Closure Order	12.03.2019
9.	Effective date of Closure of the unit	15.03.2019
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	04.04.2019
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	04.01.2020
13.	Period of non-compliance (no. of days)	54+275= 329
14.	Reason for Closure/non-compliance	Unconsented / Production without Environment clearance
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	20.835 Lakh INR (Distribution Recovery Cost Factor = 0.0013018)
17.	Date of Hearing	02.12.2019

Table No. 39

Sl. No	Item	Details
1.	Name of Industry	Bajaj Health Care Ltd, N-216, N-217, MIDC Tarapur
2.	Year of Establishment/Commissioning	1994
3.	Product Type	Drug Intermediate
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.3
7.	Date of Inspection	12.4.2012 05.09.2013
8.	Date of Closure Order	16.05.2012 15.10.2013
9.	Effective date of Closure of the unit	19.05.2012 18.10.2013

10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	19.06.2012	30.10.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	4.09.2019	15.03.2014
13.	Period of non-compliance (no. of days)	38+443= 481	44+133 =177 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent to CETP	1. Manufacturing unconsented products. 2. Inadequate ETP, Discharge of substandard effluent to CETP
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	52.878 Lakh INR (Distribution Recovery Cost Factor = 0.0033040)	
17.	Date of Hearing	02.12.2019	

Table No. 40

Sl. No	Item	Details
1.	Name of Industry	Bostan Pharma, E-84, MIDC Tarapur
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Chemicals
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.2
7.	Date of Inspection	10.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	14.07.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	05.01.2019
13.	Period of non-compliance (no. of days)	39+541= 580
14.	Reason for Closure/non-compliance	Discharge of substandard effluent to CETP , COD 18080 mg/L
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	36.730 Lakh INR (Distribution Recovery Cost Factor = 0.0022950)
17.	Date of Hearing	02.12.2019

Table No. 41

Sl. No	Item	Details
1.	Name of Industry	Panchamrut Chemical Pvt Ltd (Dragon Drugs Pvt Ltd),

		N-76, MIDC Tarapur
2.	Year of Establishment/Commissioning	2012
3.	Product Type	Chemicals
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	20
7.	Date of Inspection	26.07.2018
8.	Date of Closure Order	08.08.2018
9.	Effective date of Closure of the unit	11.08.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017 & 24.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	04.01.2019
13.	Period of non-compliance (no. of days)	17+659= 676
14.	Reason for Closure/non-compliance	<ul style="list-style-type: none"> • No segregation of High COD-37600 • Trade effluent discharge in nalla bypassing ETP • ETP tampering by filling fresh water
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	42.809 Lakh INR (Distribution Recovery Cost Factor = 0.0026749)
17.	Date of Hearing	03.12.2019

Table No. 42

Sl. No	Item	Details
1.	Name of Industry	Diakaffil Chemicals, E-4, MIDC Tarapur
2.	Year of Establishment/Commissioning	1987
3.	Product Type	Chemicals
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1
7.	Date of Inspection	12.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	01.11.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	21.07.2014
13.	Period of non-compliance (no. of days)	37+263= 300
14.	Reason for Closure/non-compliance	1) Only primary treatment provided 2) Not segregated high COD stream 3) Effluent generation from the process is more 4) Producing excess production without valid consent ie from 20 MT/M to 146 MT/M also taking crude and dilution products

		5)ETP sludge is not disposed in last one year 6) Coal consumption is also excess than consented quantity 7) Flow meter is not provided
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	18.998 Lakh INR (Distribution Recovery Cost Factor = 0.0011871)
17.	Date of Hearing	02.12.2019

Table No. 43

Sl. No	Item	Details	
1.	Name of Industry	DRV Organics, N-184, N-185, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1990	
3.	Product Type	Drug Intermediate	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.3	
7.	Date of Inspection	30.11.2016	26.07.2018
8.	Date of Closure Order	03.12.2016	08.08.2018
9.	Effective date of Closure of the unit	06.12.2016	11.08.2018
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	04.03.2017	23.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	25.7.2018	26.09.2019
13.	Period of non-compliance (no. of days)	7+509 = 516	17+400 = 417 (First repeat violation)
14.	Reason for Closure/non-compliance	1 Discharge of substandard effluent COD-6000 and 12460 mg/L 2 No segregation and treatment from high COD	Discharge of substandard effluent having COD -11760 mg/L
15.	Liabe for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	85.239 Lakh INR (Distribution Recovery Cost Factor = 0.0053260)	
17.	Date of Hearing	02.12.2019	

Table No. 44

Sl. No	Item	Details
1.	Name of Industry	Dufon Laboratories P ltd, E-61/3, MIDC Tarapur
2.	Year of Establishment/Commissioning	1986
3.	Product Type	Drug Intermediate

4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	15	
7.	Date of Inspection	06.09.2013	24.11.2016
8.	Date of Closure Order	15.10.2013	03.12.2016
9.	Effective date of Closure of the unit	18.10.2013	06.12.2016
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	30.10.2013	15.07.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	23.11.2016	26.09.2019
13.	Period of non-compliance (no. of days)	43+1122 = 1165	13+804=817 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent pH-8.5, COD- 9760 mg/l	Discharge of substandard effluent on 09/01/17 COD- 17600mg/l , Discharge of substandard effluent 10/01/17 COD- 2512 mg/L
15.	Liabe for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	177.253 Lakh INR (Distribution Recovery Cost Factor 0.0110754)	
17.	Date of Hearing	02.12.2019	

Table No. 45

Sl.No	Item	Details
1.	Name of Industry	D.H. Organic N-89, MIDC Tarapur
2.	Year of Establishment/Commissioning	1992
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.8
7.	Date of Inspection	24.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	04.01.2019
13.	Period of non-compliance (no. of days)	12+ 658= 670
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having pH-8.5, COD-9760 mg/l
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	42.429 Lakh INR (Distribution Recovery Cost Factor = 0.0026511)
17.	Date of Hearing	02.12.2019

Table No. 46

Sl.No	Item	Details
1.	Name of Industry	Gangwal Chemical, N-5, MIDC Tarapur
2.	Year of Establishment/Commissioning	2009
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.5
7.	Date of Inspection	30.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	04.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	17.06.2017
13.	Period of non-compliance (no. of days)	7+105 =112
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD-12,960 mg/l
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	7.093 Lakh INR (Distribution Recovery Cost Factor = 0.0004432)
17.	Date of Hearing	02.12.2019

Table No. 47

Sl.No	Item	Details
1.	Name of Industry	Haren Textile Pvt Ltd, J-194, MIDC Tarapur
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Textile processing
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	80
7.	Date of Inspection	21.06.2018
8.	Date of Closure Order	17.07.2018
9.	Effective date of Closure of the unit	20.07.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	31.07.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	06.09.2019
13.	Period of non-compliance (no. of days)	29+767 = 796
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent and excess consumption of water
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage	50.409

	cost and restoration cost	Lakh INR (Distribution Recovery Cost Factor = 0.0031497)
17.	Date of Hearing	02.12.2019

Table No. 48

SI.No	Item	Details	
1.	Name of Industry	Indo Amines Ltd (Previously known as Sri Sai Industries) K-33 ,MIDC Tarapur	
2.	Year of Establishment/Commissioning	2000	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	5.6	
7.	Date of Inspection	12.01.2017	21.01.2019
8.	Date of Closure Order	14.02.17	12.03.19
9.	Effective date of Closure of the unit	17.02.2017	15.03.2019
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	31.05.2017	04.05.2019
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	20.1.2019	08.06.2019
13.	Period of non-compliance (no. of days)	36+707= 743	53+35= 88 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having pH- 9.8 COD- 13280 Mg/L Exceeding consent limit	Discharge of substandard effluent having COD 1272 mg/L
15.	Liabile for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	58.198 Lakh INR (Distribution Recovery Cost Factor = 0.0036364)	
17.	Date of Hearing	02.12.2019	

Table No. 49

SI. No	Item	Details	
1.	Name of Industry	Indaco Jeans Pvt Ltd, G-21, MIDC Tarapur	
2.	Year of Establishment/Commissioning	2013	
3.	Product Type	Textile processing	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	100	
7.	Date of Inspection	22.09.2018	06.03.2018
8.	Date of Closure Order	24.10.2018	18.04.2018
9.	Effective date of Closure of the unit	27.10.2018	21.04.2018

10	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	01.11.2018	08.05.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	18.02.2019	14.06.2018
13.	Period of non-compliance (no. of days)	35+109=144	46+37=83 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent BOD 135 mg/L , COD 288 mg/L	discharging effluent outside premises BOD 175 mg/L , COD 744mg/L
15.	Liabe for Compensation	Yes	yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	19.631 Lakh INR (Distribution Recovery Cost Factor = 0.0012266)	
17.	Date of Hearing	02.12.2019	

Table No. 50

Sl. No	Item	Details
1.	Name of Industry	Mehta API Pvt Ltd, Gut NO- 546, 571, 519, 520, Vill-Lumbhavali, Tal & Dsit- Palghar
2.	Year of Establishment/Commissioning	2009
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	MSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	7
7.	Date of Inspection	13.04.2018
8.	Date of Closure Order	12.06.2018
9.	Effective date of Closure of the unit	15.06.2018
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	06.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	11.07.2018
13.	Period of non-compliance (no. of days)	63+26=89
14.	Reason for Closure/non-compliance	'Obtained fraudulent CETP membership for discharge of effluent ,
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	11.272 Lakh INR (Distribution Recovery Cost Factor = 0.0007043)
17.	Date of Hearing	02.12.2019

Table No. 51

Sl. No	Item	Details
1.	Name of Industry	Moltus Research Laboratories, N-59 , MIDC tarapur
2.	Year of Establishment/Commissioning	2015
3.	Product Type	Chemical
4.	Category	Red

5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.1
7.	Date of Inspection	19.07.2017
8.	Date of Closure Order	28.07.2017
9.	Effective date of Closure of the unit	31.07.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	06.12.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	06.12.2017. Industry vide their letter dtd. 31.01.2020 stated that HW not belong t them and to wave EC as in MPCB report dtd 23.08.2017 results of HW mismatched .
13.	Period of non-compliance (no. of days)	13+1=14
14.	Reason for Closure/non-compliance	Hazardous waste dumped illegally
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	0.887 Lakh INR (Distribution Recovery Cost Factor = 0.0000554)
17.	Date of Hearing	02.12.2019

Table No. 52

Sl. No	Item	Details
1.	Name of Industry	K P Chemicals, L-63, MIDC Tarapur
2.	Year of Establishment/Commissioning	2002
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	11
7.	Date of Inspection	24.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	13+924 = 937
14.	Reason for Closure/non-compliance	Discharge of Substandard quality effluent having COD-8560 mg/l ,
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	59.338 Lakh INR (Distribution Recovery Cost Factor = 0.0037076)
17.	Date of Hearing	02.12.2019

Table No. 53

Sl. No	Item	Details
1.	Name of Industry	JPN Pharma, T-108-109, MIDC Tarapur
2.	Year of Establishment/Commissioning	1990
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	3
7.	Date of Inspection	29.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	30.07.2018
13.	Period of non-compliance (no. of days)	8+501=509
14.	Reason for Closure/non-compliance	Discharge of Substandard quality effluent COD-7280 mg/l ,
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	32.234 Lakh INR (Distribution Recovery Cost Factor = 0.0020141)
17.	Date of Hearing	02.12.2019

Table No. 54

Sl. No	Item	Details
1.	Name of Industry	Khanna & Khanna K-10, MIDC Tarapur
2.	Year of Establishment/Commissioning	1987
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.1
7.	Date of Inspection	01.12.2016
8.	Date of Closure Order	23.02.2017
9.	Effective date of Closure of the unit	26.02.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	23.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	12.04.2017
13.	Period of non-compliance (no. of days)	88+20 = 108
14.	Reason for Closure/non-compliance	Discharge of Substandard quality effluent COD-10400 mg/l ,
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage	6.839 Lakh INR (Distribution Recovery Cost Factor = 0.0004273)

	cost and restoration cost	
17.	Date of Hearing	02.12.2019

Table No. 55

Sl. No	Item	Details
1.	Name of Industry	Keshav Organics P Ltd,T-97,98,100, MIDC Tarapur
2.	Year of Establishment/Commissioning	1990
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	4.5
7.	Date of Inspection	25.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	20.02.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	02.05.2017
13.	Period of non-compliance (no. of days)	11+71 = 82
14.	Reason for Closure/non-compliance	Discharge of Substandard quality effluent COD-5720 mg/l ,
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	5.193 Lakh INR (Distribution Recovery Cost Factor = 0.0003245)
17.	Date of Hearing	02.12.2019

Table No. 56

Sl. No	Item	Details	
1.	Name of Industry	Nayakem Organics Pvt Ltd, T-128 ,MIDC Tarapur	
2.	Year of Establishment/Commissioning	1990	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.0	
7.	Date of Inspection	26.11.2016	30.07.2018
8.	Date of Closure Order	03.12.2016	08.08.2018
9.	Effective date of Closure of the unit	06.12.2016	11.08.2018
10.	Unconditional re-start Order date	NA	01.09.2018
11.	Conditional re-start order date	17.03.2017	NA
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	22.03.2017	01.09.2018
13.	Period of non-compliance (no. of days)	10+5=15	13+56=69 (First repeat violation)

14.	Reason for Closure/non-compliance	Discharge of Substandard quality effluent t having Outlet COD - 8160 mg/l	Discharge of substandard quality effluent having Outlet COD - 32400 mg/l
15.	Liabe for Compensation	Yes	yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	9.689 Lakh INR (Distribution Recovery Cost Factor = 0.0006054)	
17.	Date of Hearing	30.11.2019	

Table No. 57

Sl. No	Item	Details	
1.	Name of Industry	Nirbhay Rasayan Pvt Ltd,N-35,96,96/1, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1996	
3.	Product Type	Dyes	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	93	
7.	Date of Inspection	05.09.2013	30.11.2016
8.	Date of Closure Order	15.10.2013	03.12.2016
9.	Effective date of Closure of the unit	18.10.2013	06.12.2016
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	31.10.2013	23.02.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	29.11.2016	18.03.2017
13.	Period of non-compliance (no. of days)	44+1126=1170	7+24=31 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of Substandard quality effluent , additional product without consent, 50 MT excess production	Discharging substandard effluent having COD 1248 mg/l
15.	Liabe for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	78.019 Lakh INR (Distribution Recovery Cost Factor = 0.0048749)	
17.	Date of Hearing	30.11.2019	

Table No. 58

Sl. No	Item	Details
1.	Name of Industry	Nutraplus India Ltd, N-92, MIDC Tarapur
2.	Year of Establishment/Commissioning	1998
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI

6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	5.0		
7.	Date of Inspection	26.11.2016	25.07.2018	24.12.2018.
8.	Date of Closure Order	03.12.2016	08.08.2018	27.12.2018
9.	Effective date of Closure of the unit	06.12.2016	11.08.2018	30.12.2018
10.	Unconditional re-start Order date	NA	NA	NA
11.	Conditional re-start order date	17.07.2017	09.11.2018	No restart issued
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	24.7.2018	23.12.2018	26.09.2019 (operating illegally without restart till board visit 4.10.2019)
13.	Period of non-compliance (no. of days)	11+391=402	18+45=63 (First repeat violation)	277 (Second repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent, COD - 8560 mg/l	High COD stream not segregated. online monitoring system for pH, flow, COD, TSS and positive discharge not provided. Separate storm water drain not provided. Hazardous waste storage not proper. Failed to curtail 40 % water consumption.	Accident due to improper operation of reactor. meta bromo nitro benzene kept aside spilled on floor.
15.	Liable for Compensation	Yes		
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	103.603 Lakh INR (Distribution Recovery Cost Factor = 0.0064735)		
17.	Date of Hearing	30.11.2019		

Table No. 59

Sl. No	Item	Details
1.	Name of Industry	Sequent Scientific Ltd (Pi Drugs Pharmaceuticals), W-136, 137, 138, 151 MIDC Tarapur
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	37.8
7.	Date of Inspection	22.04.2017

8.	Date of Closure Order	25.04.2017
9.	Effective date of Closure of the unit	28.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	04.01.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	11.11.2019 (26.09.2019 period consider up to)
13.	Period of non-compliance (no. of days)	6+677 =683
14.	Reason for Closure/non-compliance	By pass arrangement Discharge of substandard quality effluent having COD – 268 mg/L
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	43.253 Lakh INR (Distribution Recovery Cost Factor = 0.0027026)
17.	Date of Hearing	03.12.2019

Table No. 60

Sl. No	Item	Details
1.	Name of Industry	Pulcra Chemicals India Ltd ,D-7/1/1 MIDC Tarapur
2.	Year of Establishment/Commissioning	1992
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	15
7.	Date of Inspection	12.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	18.04.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	37+892= 929
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having Outlet COD - 32400 mg/l
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	58.831 Lakh INR (Distribution Recovery Cost Factor = 0.0036760)
17.	Date of Hearing	3.12.2019

Table No. 61

Sl. No	Item	Details
1.	Name of Industry	M/s. Pentagon Drugs Ltd Plot No. N-224, 225, MIDC Tarapur

2.	Year of Establishment/Commissioning	1995
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	5.5
7.	Date of Inspection	30.07.2018
8.	Date of Closure Order	08.08.2018
9.	Effective date of Closure of the unit	11.08.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	01.09.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	13 + 391 = 404
14.	Reason for Closure/non-compliance	Discharge of substandard effluent PH – 22, COD – 59200 Not provided adequate system for high COD stream
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	25.584 Lakh INR (Distribution Recovery Cost Factor = 0.0015986)
17.	Date of Hearing	03.12.2019

Table No. 62

Sl. No	Item	Details
1.	Name of Industry	M/s. Paramount Syncot Textile, Plot No. N-13/2, MIDC Tarapur
2.	Year of Establishment/Commissioning	2011
3.	Product Type	Textile
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	40.0
7.	Date of Inspection	26.7.2018
8.	Date of Closure Order	08.08.2018
9.	Effective date of Closure of the unit	11.08.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	23.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	14+400=414

14.	Reason for Closure/non-compliance	1. Generated effluent discharge formed into natur nalla 2. ETP was not founded in operation 3. Discharge untreated effluent along with sludge having COD -720, 684 mg/L 4. Not provided any position for recycling of treated effluent 5. Water consumption is exceeding consented quantity
15.	Liabale for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	26.217 Lakh INR (Distribution Recovery Cost Factor = 0.0016382)
17.	Date of Hearing	03.12.2019

Table No. 63

Sl. No	Item	Details	
1.	Name of Industry	M/s. IPCA Laboratories (Ramdev Chemicals), Plot No. E-41, MIDC Tarapur	
2.	Year of Establishment/Commissioning	2019	
3.	Product Type	Bulk drug	
4.	Category	Red	
5.	Scale	MSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	65.6	
7.	Date of Inspection	12.04.2012,	22.04.2017
8.	Date of Closure Order	16.05.2012,	25.04.2017
9.	Effective date of Closure of the unit	19.05.2012,	28.04.2017
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	23.01.2013	09.05.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	25.07.2014	26.09.2019
13.	Period of non-compliance (no. of days)	38+458= 496	7+871=878 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent to CETP	Discharge of substandard effluent COD – 508 mg/L
15.	Liabale for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	285.226 Lakh INR (Distribution Recovery Cost Factor = 0.0178220)	
17.	Date of Hearing	03.12.2019	

Table No. 64

Sl. No	Item	Details
1.	Name of Industry	M/s. Tryst Chemicals, Plot No. L-47, MIDC Tarapur
2.	Year of Establishment/Commissioning	2002
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	2.8
7.	Date of Inspection	..
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	18.05.2018
13.	Period of non-compliance (no. of days)	3 + 428 = 431
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD 488000 mg/l , pH 11.8
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	27.294 Lakh INR (Distribution Recovery Cost Factor = 0.0017054)
17.	Date of Hearing	03.12.2019

Table No. 65

Sl. No	Item	Details
1.	Name of Industry	M/s. Omtech Chemicals Plot No. T-12, MIDC Tarapur
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	30.0
7.	Date of Inspection	14.09.2013
8.	Date of Closure Order	15.10.2013
9.	Effective date of Closure of the unit	18.10.2013
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	01.11.2013
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	18.06.2014
13.	Period of non-compliance (no. of days)	35 + 230 = 265
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having Ph-10 to 11, ETP not in operation, flow meter not provided
15.	Liable for Compensation	Yes

16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	16.782 Lakh INR (Distribution Recovery Cost Factor = 0.0010486)
17.	Date of Hearing	01.12.2019

Table No. 66

Sl. No	Item	Details
1.	Name of Industry	M/s. Shreenath Chemicals, Plot No. T-54, T-80, MIDC Tarapur
2.	Year of Establishment/Commissioning	1990
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.5
7.	Date of Inspection	27.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	25.05.2017
13.	Period of non-compliance (no. of days)	10 + 70 = 80
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD – 4000 mg/L
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	5.066 Lakh INR (Distribution Recovery Cost Factor = 0.0003166)
17.	Date of Hearing	03.12.2019

Table No. 67

Sl. No	Item	Details			
1.	Name of Industry	M/s. Salvi Chemicals Industries, Plot No. E-90 E-91 E-92, E-93 E-94 E-95, MIDC Tarapur			
2.	Year of Establishment/Commissioning	1990			
3.	Product Type	Chemical			
4.	Category	Red			
5.	Scale	SSI			
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	55.5			
7.	Date of Inspection	20.08.2016	11.04.2018	13.07.2018	07.08.2019
8.	Date of Closure Order	04.11.2016	17.04.2018	17.07.2018	25.09.2019

9.	Effective date of Closure of the unit	07.11.2016	20.04.2018	20.07.2018	26.09.2019
10	Unconditional re-start Order date	NA	NA	NA	NA
11.	Conditional re-start order date	12.1.2017	24.5.2018	28.08.2018	Not issued
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	10.4.2018	12.7.2018	6.08.2019	Not issued before 26.09.2019
13.	Period of non-compliance (no. of days)	80+454=534	10+50 =60 (First repeat violation)	8+344=352 (Second repeat violation)	51 (third repeat violation)
14.	Reason for Closure/non-compliance	Discharge of acidic effluent in MIDC drain, POOR operation and maintenance of ETP, No segregation of High COD stream.	Unauthorised storage HW at Plot E-131 and not disposed HW in 2016-17, Discharge of substandard effluent COD 12080 ,BOD 5300,SS 668 ,O & G 15.2 Not provided MEE with up gradation of ETP	Manufacturing of unconsented products, No segregation of High COD stream. not completed multi effective evaporator (MEE), oil contaminated effluent is discharge to CETP	Voluntary not stopped production activity ETP, multi effective evaporator (MEE) not in operation ,failed to upgrade ETP
15.	Liable for Compensation	Yes			
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	156.418 Lakh INR (Distribution Recovery Cost Factor = 0.0097736)			
17.	Date of Hearing	03.12.2019			

Table No. 68

Sl. No	Item	Details
1.	Name of Industry	M/s. Sapna Detergent, Plot No. N-152/ N-153 & N-154, MIDC Tarapur
2.	Year of Establishment/Commissioning	2001
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.5
7.	Date of Inspection	24.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10	Unconditional re-start Order date	NA

11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	13 + 924 = 937
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having PH-4/4 COD – 4480 mg/l
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	59.338 Lakh INR (Distribution Recovery Cost Factor = 0.0037076)
17.	Date of Hearing	03.12.2019

Table No. 69

Sl. No	Item	Details
1.	Name of Industry	M/s. Sagitta P Ltd, Plot No. N-4, MIDC Tarapur
2.	Year of Establishment/Commissioning	1985
3.	Product Type	Chemicals
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	3.5
7.	Date of Inspection	24.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	10 + 924 = 934
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having PH – 11.4, COD – 976 mg/L
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	59.148 Lakh INR (Distribution Recovery Cost Factor = 0.0036958)
17.	Date of Hearing	03.12.2019

Table No. 70

Sl. No	Item	Details
1.	Name of Industry	M/s. Surmount chemicals (I) P Ltd, Plot No. N-41, MIDC Tarapur
2.	Year of Establishment/Commissioning	2018
3.	Product Type	Chemicals
4.	Category	Red

5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.8
7.	Date of Inspection	01.02.2019
8.	Date of Closure Order	22.02.2019
9.	Effective date of Closure of the unit	25.02.2019
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	09.07.2019
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	22 + 80 = 102
14.	Reason for Closure/non-compliance	without consent High Alkaline Discharge – 9.9 in Nalla
15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	6.459 Lakh INR (Distribution Recovery Cost Factor = 0.0004036)
17.	Date of Hearing	03.12.2019

Table No. 71

Sl. No	Item	Details
1.	Name of Industry	M/s. Shri Vinayak Chemex India Pvt. Ltd. Plot No. T-11, MIDC Tarapur
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.5
7.	Date of Inspection	23.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	14 + 924 = 938
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent COD – 68800 mg/L
15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	59.401 Lakh INR (Distribution Recovery Cost Factor = 0.0037116)
17.	Date of Hearing	03.12.2019

Table No. 72

Sl. No	Item	Details	
1.	Name of Industry	M/s. Sunil Great Processers Plot No. N-47/3, MIDC Tarapur	
2.	Year of Establishment/Commissioning	2005	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6.0	
7.	Date of Inspection	24.11.2016	29.07.2018
8.	Date of Closure Order	03.12.2016	08.08.2018
9.	Effective date of Closure of the unit	06.12.2016	11.08.2018
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	17.03.2017	20.10.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	28.7.2018	26.09.2019
13.	Period of non-compliance (no. of days)	13+499=512	14+342=356 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD 16160 mg/L	Discharge of substandard effluent having COD 18160 mg/l
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	77.513 Lakh INR (Distribution Recovery Cost Factor = 0.0048433)	
17.	Date of Hearing	03.12.2019	

Table No. 73

Sl. No	Item	Details	
1.	Name of Industry	M/s. Vardhman Dyestuff Pvt Ltd, Plot No. N-33, T-34, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1996	
3.	Product Type	Dyes	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	52.0	
7.	Date of Inspection	08.05.2012	
8.	Date of Closure Order	22.06.2012	
9.	Effective date of Closure of the unit	23.06.2012	
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	15.09.2012	
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	09.11.2012	
13.	Period of non-compliance (no. of days)	46 + 55 = 101	

14.	Reason for Closure/non-compliance	Treated effluent samples collected on , 10/12/2013 -COD-336 mg/l, 02/12/2014 540 mg/l, 30/05/2015 392 mg/l, 05/02/2016-260 mg/l, 28/01/2014-pH-5, 31/11/2016-COD- 364 mg/l, & 14/10/2019-TDS-3322 mg/l which shos Exceeding treated effluents standard by 100% than consented norms,
15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	6.396 Lakh INR (Distribution Recovery Cost Factor = 0.0003996)
17.	Date of Hearing	03.12.2019

Table No. 74

Sl. No	Item	Details	
1.	Name of Industry	M/s. Usha Fashion, Plot No. E-42, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1987	
3.	Product Type	Textile	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	305.0	
7.	Date of Inspection	05.09.2013	10.01.2017
8.	Date of Closure Order	15.10.2013	14.02.2017
9.	Effective date of Closure of the unit	18.10.2013	17.02.2017
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	07.11.2013,	08.05.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	14.03.2014,	26.09.2019
13.	Period of non-compliance (no. of days)	43 + 127 = 170	38 + 871 = 909 (First repeat violation)
14.	Reason for Closure/non-compliance	Operation and maianatainace of ETP is poor. Discharge of substandard effluent to CETP. Flow meter not provided to outlet. Hazardous waste storage arrangement not provided.	Discharge of substandard effluent to CETP on following dates 13.01.2017 -COD - 1552 14.01.2017 –COD-1240 mg/L, 15.01.2017, COD-560 mg/L
15.	Liabile for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	125.895 Lakh INR (Distribution Recovery Cost Factor = 0.0078664)	
17.	Date of Hearing	03.12.2019	

Table No. 75

Sl. No	Item	Details
1.	Name of Industry	M/s. Visen Industries Ltd Plot No. K-30, T-31, T-32, MIDC Tarapur
2.	Year of Establishment/Commissioning	1985
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	7.0
7.	Date of Inspection	21.01.2019
8.	Date of Closure Order	12.03.2019
9.	Effective date of Closure of the unit	15.03.2019
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	22.04.2019
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	53 = 157 = 210
14.	Reason for Closure/non-compliance	Discharge of untreated effluent having PH-9.4, BOD-11000, COD- 36000 through domestic line into MIDC Chamber
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	13.299 Lakh INR (Distribution Recovery Cost Factor = 0.0008310)
17.	Date of Hearing	03.12.2019

Table No. 76

Sl. No	Item	Details	
1.	Name of Industry	M/s. U. K. Aromatics & Chemicals Plot No. K-6/3, MIDC Tarapur	
2.	Year of Establishment/Commissioning	2009	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6	
7.	Date of Inspection	01.12.2016	21.01.2019
8.	Date of Closure Order	23.02.2017	12.03.2019
9.	Effective date of Closure of the unit	26.02.2017	15.03.2019
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	08.08.2017	28.03.2019
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	28.07.2017	02.04.2019
13.	Period of non-compliance (no. of days)	87 + 11 = 98	53 + 5 = 58 (First repeat

			violation)
14.	Reason for Closure/non-compliance	Discharge of untreated effluent in MIDC drain having pH 4.8, COD-10320.	Discharge of substandard effluent having BOD-72000, COD - 2,24,000
15.	Liabe for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	13.552 Lakh INR (Distribution Recovery Cost Factor = 0.0008468)	
17.	Date of Hearing	03.12.2019	

Table No. 77

Sl. No	Item	Details	
1.	Name of Industry	M/s. Ujwal Pharma P Ltd Plot No. N-52, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1989	
3.	Product Type	Chemical	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	4.0	
7.	Date of Inspection	28.11.2016,	30.07.2018
8.	Date of Closure Order	03.12.2016,	08.08.2018
9.	Effective date of Closure of the unit	06.12.2016,	11.08.2018
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	04.03.2017,	06.09.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	30.07.2018,	26.09.2019
13.	Period of non-compliance (no. of days)	8 + 513 = 521	12 + 385 = 397 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-11360 mg/L	Discharge of substandard effluent having PH – 11.6, COD – 2,96,000 mg/L
15.	Liabe for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	83.275 Lakh INR (Distribution Recovery Cost Factor = 0.0052033)	
17.	Date of Hearing	03.12.2019	

Table No. 78

Sl. No	Item	Details
1.	Name of Industry	M/s. Vividh Global Inds Ltd Plot No. D-21/1, MIDC Tarapur
2.	Year of Establishment/Commissioning	1996
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	40.0
7.	Date of Inspection	23.11.2016
8.	Date of Closure Order	23.02.2017
9.	Effective date of Closure of the unit	26.02.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	11.05.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	95 + 868 = 963
14.	Reason for Closure/non-compliance	MPCB- Discharge of substandard effluent in night hours to CETP, PH – 2.5 & COD – 52000 CPCB issued closure direction on 07.5.2018 for Acidic effluent openly discharged on ground, substandard effluent used for gardening, ZLD not in operation effectively.
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	60.984 Lakh INR (Distribution Recovery Cost Factor = 0.0038105)
17.	Date of Hearing	03.12.2019

Table No. 79

Sl. No	Item	Details
1.	Name of Industry	M/s. Square Chemical Plot No. N-60, MIDC Tarapur
2.	Year of Establishment/Commissioning	1993
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	4.0
7.	Date of Inspection	11.02.2018
8.	Date of Closure Order	19.03.2018
9.	Effective date of Closure of the unit	22.03.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.05.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	13.05.2019

13.	Period of non-compliance (no. of days)	39 + 361 = 400
14.	Reason for Closure/non-compliance	Manufacturing of unconsented products, sludge drained into MIDC chamber, No provision of positive discharge
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	25.331 Lakh INR (Distribution Recovery Cost Factor = 0.0015828)
17.	Date of Hearing	03.12.2019

Table No. 80

Sl. No	Item	Details
1.	Name of Industry	M/s. Shree Chakra Organics Pvt Ltd Plot No. K-62, MIDC Tarapur
2.	Year of Establishment/Commissioning	1993
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	25.0
7.	Date of Inspection	29.07.2018
8.	Date of Closure Order	08.08.2018
9.	Effective date of Closure of the unit	11.08.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	27.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	29.01.2019
13.	Period of non-compliance (no. of days)	13 + 155 = 168
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-17440, SS-3049-
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	10.639 Lakh INR (Distribution Recovery Cost Factor = 0.0006648)
17.	Date of Hearing	03.12.2019

Table No. 81

Sl. No	Item	Details
1.	Name of Industry	M/s. AArti Drugs, Plot No: E-106, 119, 120, MIDC Tarapur
2.	Year of Establishment/Commissioning	2005
3.	Product Type	Bulk Drugs
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	23 CMD

7.	Date of Inspection	25.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	03/02/2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	27/02/2017
13.	Period of non-compliance (no. of days)	12+25=37
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD – 704 mg/L
15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	7.029 Lakh INR (Distribution Recovery Cost Factor = 0.0004392)
17.	Date of Hearing	

Table No. 82

Sl. No	Item	Details	
1.	Name of Industry	Omega Colours Pvt Ltd., Plot No.- D-21/2/3, MIDC Tarapur	
2.	Year of Establishment/Commissioning	2007	
3.	Product Type	Dyes	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	82	
7.	Date of Inspection	23.11.2016	05.04.2017
8.	Date of Closure Order	03.12.2016	05.04.2017
9.	Effective date of Closure of the unit	06.12.2016	08.04.2017
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	23.02.2017	01.06.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	15.03.2017	06.08.2017
13.	Period of non-compliance (no. of days)	14+21 =35	4+67 =71 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent on following date 23.11.2016-COD- 320 mg/L ,30.11.2016 –COD- 512	Discharge of substandard quality effluent having pH-4.9
15.	Liabile for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	11.209 Lakh INR (Distribution Recovery Cost Factor = 0.0007004)	
17.	Date of Hearing	30.11.2019	

Table No. 83

Sl. No	Item	Details
1.	Name of Industry	REMI Edelstahi Tubulars Ltd., (Old Name-RAJENDRA MECHANICAL INDL LTD.) Plot No.- N 2011 /1, MIDC Tarapur
2.	Year of Establishment/Commissioning	2005
3.	Product Type	Engineering
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	20
7.	Date of Inspection	28.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	25.01.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	06.02.2017
13.	Period of non-compliance (no. of days)	9+13=22
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD-976 mg/l , pH 2.7
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	4.180 Lakh INR (Distribution Recovery Cost Factor = 0.0002612)
17.	Date of Hearing	30.11.2019

Table No. 84

Sl. No	Item	Details
1.	Name of Industry	Gini Silk Mills Ltd., Plot No.- E-15, MIDC Tarapur
2.	Year of Establishment/Commissioning	1996
3.	Product Type	Textile
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	510
7.	Date of Inspection	23.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	03.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	28.01.2019
13.	Period of non-compliance (no. of days)	14+614=628
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD-896 mg/L

15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	119.309 Lakh INR (Distribution Recovery Cost Factor = 0.00074548)
17.	Date of Hearing	30.11.2019

Table No. 85

Sl. No	Item	Details
1.	Name of Industry	Mayfair Bio tech (Ankit Petro) Plot No.- L-12, MIDC Tarapur
2.	Year of Establishment/Commissioning	1991
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	Nil
7.	Date of Inspection	24.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	24.10.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	13+703=716
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD-8880 mg/L
15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	136.027 Lakh INR (Distribution Recovery Cost Factor = 0.0084995)
17.	Date of Hearing	30.11.2019

Table No. 86

Sl. No	Item	Details	
1.	Name of Industry	Rediant Intermediates Plot No.- N-224, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1996	
3.	Product Type	Chemicals	
4.	Category	Red	
5.	Scale	SSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1.4	
7.	Date of Inspection	29.11.2016	30.07.2018
8.	Date of Closure Order	03.12.2016	08.08.2018
9.	Effective date of Closure of the unit	6.12.2016	11.08.2018
10.	Unconditional re-start Order date	NA	NA
11.	Conditional re-start order date	03.03.2017	01.09.2018

12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	29.7.2018	26.09.2019
13.	Period of non-compliance (no. of days)	8+514= 522	13+391= 404 (First repeat violation)
14.	Reason for Closure/non-compliance	Discharge of substandard effluent quality having COD-16360, pH 5.0	Not segregating and treating high COD stream
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	84.225 Lakh INR (Distribution Recovery Cost Factor = 0.0052627)	
17.	Date of Hearing	30.11.2019	

Table No. 87

Sl. No	Item	Details	
1.	Name of Industry	Premier Intermediate Plot No.- T-55, T-56, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1991	
3.	Product Type	Bulk Drugs	
4.	Category	Red	
5.	Scale	LSI	
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	5	
7.	Date of Inspection	28.11.2016	
8.	Date of Closure Order	03.12.2016	
9.	Effective date of Closure of the unit	06.12.2016	
10.	Unconditional re-start Order date	NA	
11.	Conditional re-start order date	17.03.2017	
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.04.2017	
13.	Period of non-compliance (no. of days)	9+41=50	
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-6400 mg/L,	
15.	Liable for Compensation	Yes	
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	9.499 Lakh INR (Distribution Recovery Cost Factor = 0.0005935)	
17.	Date of Hearing	30.11.2019	

Table No. 88

Sl. No	Item	Details	
1.	Name of Industry	Maharashtra Organo Metalics Pvt. Ltd., Plot No.- N-220 & 221, MIDC Tarapur	
2.	Year of Establishment/Commissioning	1995	
3.	Product Type	Chemicals	
4.	Category	Red	

5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6
7.	Date of Inspection	24.11.2016
8.	Date of Closure Order	03.12.2016
9.	Effective date of Closure of the unit	06.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	17.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	Analysis results of sample from 21.03.2017 to 06.04.2017 are within limit, hence compliance date is considered as 21.03.2017
13.	Period of non-compliance (no. of days)	44+5=49
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-1728, pH 4.4
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	9.309 Lakh INR (Distribution Recovery Cost Factor = 0.0005817)
17.	Date of Hearing	30.11.2019

Table No. 89

Sl. No	Item	Details
1.	Name of Industry	Anuh Pharma Chem Plot No.- E-17/3 & 4, MIDC Tarapur
2.	Year of Establishment/Commissioning	1989
3.	Product Type	Bulk drug
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	10
7.	Date of Inspection	12.03.2016
8.	Date of Closure Order	30.11.2016
9.	Effective date of Closure of the unit	03.12.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	Not obtained restart
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	30.11.2016
13.	Period of non-compliance (no. of days)	266
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-324, pH 1.7
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	50.535 Lakh INR (Distribution Recovery Cost Factor = 0.0031576)
17.	Date of Hearing	30.11.2019

Table No. 90

Sl. No	Item	Details
1.	Name of Industry	Ganesh Benzoplast Plot No.- D-21/2/2, MIDC Tarapur
2.	Year of Establishment/Commissioning	1987
3.	Product Type	Bulk Drug
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	5
7.	Date of Inspection	07.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	23.02.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	42+946=988
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-7560, pH 3.9
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	187.702 Lakh INR (Distribution Recovery Cost Factor = 0.0117283)
17.	Date of Hearing	30.11.2019

Table No. 91

Sl. No	Item	Details
1.	Name of Industry	Zorba Dyechem Plot No.- W-14, MIDC Tarapur
2.	Year of Establishment/Commissioning	2006
3.	Product Type	Dyes
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.3
7.	Date of Inspection	12.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	15.06.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	29.06.2017
13.	Period of non-compliance (no. of days)	36+15=51
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD-272, pH 4.8
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	3.230 Lakh INR (Distribution Recovery Cost Factor =

		0.0002018)
17.	Date of Hearing	30.11.2019

Table No. 92

Sl. No	Item	Details
1.	Name of Industry	Prabhat Engineering Plot No.- L-50, MIDC Tarapur
2.	Year of Establishment/Commissioning	2015
3.	Product Type	Engineering (pickeling)
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.75
7.	Date of Inspection	07.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	--
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	--
13.	Period of non-compliance (no. of days)	42
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD - 296 pH- 2.2
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	7.979 Lakh INR (Distribution Recovery Cost Factor = 0.0004986)
17.	Date of Hearing	30.11.2019

Table No. 93

Sl. No	Item	Details
1.	Name of Industry	Aarviam Dye Chem Plot No.- L-9/2, MIDC Tarapur
2.	Year of Establishment/Commissioning	1987
3.	Product Type	Dyes
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	20
7.	Date of Inspection	12.01.2017
8.	Date of Closure Order	14.02.2017
9.	Effective date of Closure of the unit	17.02.2017
10	Unconditional re-start Order date	NA
11.	Conditional re-start order date	18.05.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	20.06.2017
13.	Period of non-compliance (no. of days)	34+36=70
14.	Reason for Closure/non-compliance	Discharge of substandard effluent having COD - 7400

		pH - 11
15.	Liability for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	4.433 Lakh INR (Distribution Recovery Cost Factor = 0.0002770)
17.	Date of Hearing	30.11.2019

Table No. 94

Sl. No	Item	Details
1.	Name of Industry	Dhanlaxmi Steel Plot No.- J-56, MIDC Tarapur
2.	Year of Establishment/Commissioning	2012
3.	Product Type	Engg
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.8
7.	Date of Inspection	15.10.2016
8.	Date of Closure Order	23.11.2016
9.	Effective date of Closure of the unit	26.11.2016
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	03.03.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	13.06.2019
13.	Period of non-compliance (no. of days)	43+833=876
14.	Reason for Closure/non-compliance	not provided ETP for pickling effluent
15.	Liability for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	55.475 Lakh INR (Distribution Recovery Cost Factor = 0.0034663)
17.	Date of Hearing	30.11.2019

Table No. 95

Sl. No	Item	Details
1.	Name of Industry	Sarswati Steel (Shiv steel) Plot No.- W-88/A, MIDC Tarapur
2.	Year of Establishment/Commissioning	2012
3.	Product Type	Engineering
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.5
7.	Date of Inspection	22.12.016
8.	Date of Closure Order	29.12.2016
9.	Effective date of Closure of the unit	01.01.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	18.10.2017

12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	04.01.2018
13.	Period of non-compliance (no. of days)	11+81=92
14.	Reason for Closure/non-compliance	operating without consent , Discharge of untreated effluent discharge, not member of CHWTSDF
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	5.826 Lakh INR (Distribution Recovery Cost Factor = 0.0003640)
17.	Date of Hearing	30.11.2019

Table No. 96

Sl. No	Item	Details
1.	Name of Industry	Deep Industries Plot No.- W-146, MIDC Tarapur
2.	Year of Establishment/Commissioning	2015
3.	Product Type	Engineering
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.2
7.	Date of Inspection	01.04.2017
8.	Date of Closure Order	21.04.2017
9.	Effective date of Closure of the unit	24.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	---
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	--
13.	Period of non-compliance (no. of days)	24
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	1.520 Lakh INR (Distribution Recovery Cost Factor = 0.0000950)
17.	Date of Hearing	30.11.2019

Table No. 97

Sl. No	Item	Details
1.	Name of Industry	SR Steel, Plot No.- W-80/A, MIDC Tarapur
2.	Year of Establishment/Commissioning	2014
3.	Product Type	Engineering
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	0.2
7.	Date of Inspection	01.04.2017

8.	Date of Closure Order	26.04.2017
9.	Effective date of Closure of the unit	29.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	---
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	21.11.2017
13.	Period of non-compliance (no. of days)	209
14.	Reason for Closure/non-compliance	ETP not found in operation, untreated effluent discharge in environment
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	13.235 Lakh INR (Distribution Recovery Cost Factor = 0.0008270)
17.	Date of Hearing	30.11.2019

Table No. 98

Sl. No	Item	Details
1.	Name of Industry	J V Chem Industries, Plot No.- N-111,112, MIDC Tarapur
2.	Year of Establishment/Commissioning	2008
3.	Product Type	Chemical
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	4
7.	Date of Inspection	05.04.2017
8.	Date of Closure Order	10.04.2017
9.	Effective date of Closure of the unit	13.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	04.07.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	06.03.2018
13.	Period of non-compliance (no. of days)	9+246=255
14.	Reason for Closure/non-compliance	Discharge of Acidic substandard effluent outside factory premises COD – 24960 mg/L
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	16.148 Lakh INR (Distribution Recovery Cost Factor = 0.0010090)
17.	Date of Hearing	30.11.2019

Table No. 99

Sl. No	Item	Details
1.	Name of Industry	Shriyans Chemical, Plot No.- W-43, MIDC Tarapur
2.	Year of Establishment/Commissioning	2002

3.	Product Type	Chemicals
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1
7.	Date of Inspection	05.04.2017
8.	Date of Closure Order	05.04.2017
9.	Effective date of Closure of the unit	08.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	31.05.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	4=849=853
14.	Reason for Closure/non-compliance	Discharge of substandard quality effluent having COD -19680 mg/l
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	54.018 Lakh INR (Distribution Recovery Cost Factor = 0.0033753)
17.	Date of Hearing	30.11.2019

Table No. 100

Sl. No	Item	Details
1.	Name of Industry	The Pharmaceutical Product of India Ltd., Plot No.-N-24, N-25, MIDC Tarapur
2.	Year of Establishment/Commissioning	1990
3.	Product Type	Bulk Drug
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	63
7.	Date of Inspection	22.04.2017
8.	Date of Closure Order	25.04.2017
9.	Effective date of Closure of the unit	28.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	--
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	---
13.	Period of non-compliance (no. of days)	131
14.	Reason for Closure/non-compliance	sample collected from inlet of ETP shows COD – 48000 m/L and outlet COD – 16 mg/L which seems malafide intentions of industry by diluting treated effluent with fresh water.
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	24.888 Lakh INR (Distribution Recovery Cost Factor = 0.0015551)
17.	Date of Hearing	30.11.2019

Table No. 101

Sl. No	Item	Details
1.	Name of Industry	Union Park Chemiclas Pvt. Ltd., Plot No.-E-11, MIDC Tarapur
2.	Year of Establishment/Commissioning	2000
3.	Product Type	Dyes
4.	Category	Red
5.	Scale	SSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	6
7.	Date of Inspection	22.04.2017
8.	Date of Closure Order	25.04.2017
9.	Effective date of Closure of the unit	28.04.2017
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	26.06.2017
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	11.07.2017
13.	Period of non-compliance (no. of days)	7+16=23
14.	Reason for Closure/non-compliance	Discharge of substandard Effluent having COD 3480 mg/L , SS 273 mg/L
15.	Liabe for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	1.457 Lakh INR (Distribution Recovery Cost Factor = 0.0000910)
17.	Date of Hearing	30.11.2019

Table No. 102

Sl. No	Item	Details
1.	Name of Industry	Lavino Kapoor Cottons Pvt. Ltd., Plot No.-H-1, MIDC Tarapur
2.	Year of Establishment/Commissioning	1990
3.	Product Type	Cotton
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day (CMD)	1380
7.	Date of Inspection	12.05.2017
8.	Date of Closure Order	17.05.2017 08.08.2018
9.	Effective date of Closure of the unit	11.08.2018
10.	Unconditional re-start Order date	NA
11.	Conditional re-start order date	24.08.2018
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	26.09.2019
13.	Period of non-compliance (no. of days)	9+399=408

14.	Reason for Closure/non-compliance	Discharge of substandard Effluent having COD 740 mg/L
15.	Liable for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	77.513 Lakh INR (Distribution Recovery Cost Factor = 0.0048433)
17.	Date of Hearing	30.11.2019

Table No. 103

Sl. No	Item	Details
1.	Name of Industry	M/s. Tarapur Environment Protection Society CETP (25 MLD), Plot No: AM-29, MIDC Tarapur.
2.	Year of Establishment/Commissioning	Enhanced capacity of 25 MLD since 2009
3.	Product Type	Collection, storage and treatment of effluent from member industries
4.	Category	Red
5.	Scale	LSI
6.	Discharge Quantity as per the Consent in cubic meter/day CMD	25 MLD
7.	Date of Inspection	Several continued inspections and monthly (1-5 times a month) sampling & analysis of CETP inlet & outlet effluent in a month since 2009
8.	Date of Closure Order	Though no closure direction, and hence conditional/unconditional restart thereof, issued during the limiting period ¹ considered by the committee i.e. 28/4/2011 to 26/9/2019 for the purpose of distributing environmental damage cost and restoration cost among the polluting units, however, the CETP has been prosecuted by MPCB under the Water (Prevention & Control of Pollution) Act, 1974 and issued various directions w.r.t. non-compliances which have not been complied with.
9.	Effective date of Closure of the unit	
10.	Unconditional re-start Order date	
11.	Conditional re-start order date	
12.	Date of inspection when the conditions at Sl. No. 11 was verified as compliance	Not applicable due to continued non-compliances/ violations (violations details also given under chapter 3 of this report)
13.	Period of non-compliance	Period of non-compliance has been considered from beginning and end of the limiting period ¹ considered by the committee i.e. 28/4/2011 to 26/9/2019 for the purpose of distributing environmental damage cost and restoration cost as periodical sampling & monitoring of CETP by MPCB reveals violations prior to the said limiting period ¹ and violation of various directions as given at Sl. 14 of this table. The segmented non-compliance periods, as per dates of various directions issued (which are not complied), are as

¹ This reporting period has been considered by the committee for the purpose of its report only so as to limit the period taking reference from section 15(3) of the National Green Tribunal Act, 2010

		<p>below:</p> <p>(i) First non-compliance period = starting date of the said limiting period¹ i.e. from 28/4/2011 to the day before date of the first direction (which are non-complied) issued by MPCB during the said limiting period = 03/4/2012 - 28/4/2011 = 342 days</p> <p>(ii) First repeated non-compliance period = date of the aforesaid first direction(which are non-complied) dated 04/4/2012 to the day before second date of directions (which are non-complied) issued by MPCB = 14/12/2012 - 04/4/2012 = 255 days</p> <p>(iii) Second repeated non-compliance period = date of the aforesaid second direction(which are non-complied) dated 15/12/2012 to the day before third date of directions(which are non-complied) issued by MPCB = 18/01/2013 - 15/12/2012 = 35 days</p> <p>(iv) Third repeated non-compliance period = date of the aforesaid third direction(which are non-complied) dated 19/1/2013 to the day before fourth date of directions(which are non-complied) issued by MPCB = 25/9/2013 - 19/01/2013 = 250 days</p> <p>(v) Fourth repeated non-compliance period = date of the aforesaid fourth direction(which are non-complied) dated 26/9/2013 to the end date of the said limiting period¹ i.e. 26/9/2019 though non-compliances are continued beyond the said 26/9/2019 = 26/9/2019 - 26/9/2013 = 2192 days</p> <p>The committee has considered only up to fourth repeated violations (though the CETP has violated repeatedly beyond the same as given in Sl. No. 14 of this Table) to include deterrent effect for repeated violations in deriving accountability of the polluting units in recovering environmental damage cost and cost of restoration.</p>
14.	Reason for Closure/non-compliance	<p>Though closure direction was not issued being the common facility but has been prosecuted under the Water (Prevention & Control of Pollution) Act, 1974 in 2010, 2017 and 2018. Directions under Water (Prevention & Control of Pollution) Act, 1974/ Air (Prevention & Control of Pollution) Act, 1981 have also been issued time to time for improving the performance of the CETP and the same have not complied yet. The periodical sampling & monitoring of CETP by MPCB reveals continued violations prior to the said limiting¹ period recommended by the committee i.e.</p>

¹This reporting period has been considered by the committee for the purpose of its report only so as to limit the period taking reference from section 15(3) of the National Green Tribunal Act, 2010

	<p>28/4/2011, therefore, period of violations for CETP has been considered since 28/4/2011 to 26/9/2019. The average COD and BOD in CETP outlet has remained as 813.64 mg/l and 315.6 mg/l respectively exceeding the respective prescribed norm during the said limiting period¹ besides overflows (of untreated effluent from CETP) from CETP to the drain and thereby to creeks and seashore (more detailed non-compliances vis-à-vis standards given under chapter 3 of this report).</p> <p>Details of the directions issued by MPCB, which violated during the said limiting period, are as below:</p> <ul style="list-style-type: none"> (i) <u>Directions dated 04.04.2012</u>: - Not to accept high COD effluent stream from the industries; CETP does not get overload resulting into non-performance or substandard performances; install online flow meter, pH meter & TOC analyzer of inlet & outlet with data logger & real time display; submit complete proposal to achieve outlet parameters of CETP; discontinue receiving pretreated effluent from the unit when such effluent will not be able to be treated in CETP meeting outlet norms; etc. (ii) <u>Directions dated 15.12.2012</u>: - To restrict the effluent from the member industries to the capacity of CETP; introduce a system/mechanism of assessing the effluent from member industries & informing to MPCB; submission concrete proposal for upgradation to achieve the standards; etc. (iii) <u>Directions dated 19.01.2013</u>: - To install TOC analyzer with data logging system by 30.04.2013; not to admit new members since the existing capacity of CETP is already exhausted; etc. (iv) <u>Directions dated 26.09.2013</u>: - To restrict inlet effluent quantity to CETP as 25 MLD; stop discharge of effluent from equalization tank and after secondary treatment; etc. (v) <u>Directions dated 20.02.2016</u>: - To install SCADA system and regular O & M of the online system. (vi) <u>Directions dated 22.04.2016</u>: - To achieve discharge standards of BOD-30 mg/l within six months and meet other standards. (vii) <u>Directions dated 25.05.2016</u>: - To improve upon the treatment system. (viii) <u>Directions dated 26.09.2016</u>: - To install SCADA system by 15.10.2016 and upgradation of CETP (ix) <u>Directions dated 29.09.2016</u>: - Not to discharge substandard quality effluent to Navapur Sea; submit daily data/flow meter readings of CETP and daily data of flow meter reading of member industries; compliance of Hon'ble NGT order dtd. 09.09.2016. (x) <u>Directions dated 07.10.2016</u>: - Not to discharge substandard quality to Navapur Sea; operate online
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		<p>electronic flow meter/data logger and keep close vigil on incoming how to CETP; connect SCADA data of member industries to central server; compliance of Hon'ble NGT direction.</p> <p>(xi) <u>Directions dated 29.11.2016</u>: - To comply with consented disposal standards, maintenance of online monitoring data; connect SCADA system of industries at central server; constitution of vigilance team for CETP inlet & outlet quality; etc.</p> <p>(xii) <u>Directions dated 21.01.2017</u>: - To improve upon the CETP performance.</p> <p>(xiii) <u>Directions dated 05.08.2017</u>: - To develop monitoring mechanism and implement.</p> <p>(xiv) <u>Directions dated 24.01.2019</u>: - To deposit Rs. 5.0 Lac/Day towards the remediation cost to the environment.</p> <p>(xv) <u>Directions dated 11.09.2019</u>: - To submit corrective steps on effluent being received higher than 25 MLD and reply why Environmental Compensation be not levied.</p>
15.	Liabile for Compensation	Yes
16.	Accountability in terms of recovery cost in meeting the environmental damage cost and restoration cost	7231.470 Lakh INR (Distribution Recovery Cost Factor = 0.4518483)
17.	Date of Hearing	30/01/2019

ToR

Preparation of Detailed Project Report and Providing Consultancy Services for Remediation of Contaminated Sites in and around Tarapur MIDC, Maharashtra

1. Background

MIDC Tarapur is an industrial estate set up by Maharashtra Industrial Development Corporation, Government of Maharashtra, in the year 1972. Tarapur is geographically located at 17°42'N 75°28'E 17.7°N 75.47°E and at an elevation of average 10 m above the MSL. Nearest highway is NH-8 connecting Mumbai to Ahmedabad. Tarapur MIDC is approximately 130 kms from Mumbai and 17 kms off the national highway NH-8. It is one of the largest chemical industrial estate in the State of Maharashtra. It is spread into 1028 hectares and has manufacturing units, specialty chemical manufacturing units, steel plants, textile plants, etc. Population in & around Industrial Area of 75 villages as per census 2001 is 1,84,345.

MIDC Tarapur, Tal Palghar Dist. Palghar, was declared by CPCB in 2009 among 88 critically polluting stretches in India. The Common Effluent Treatment Plant for industries in Tarapur MIDC, commissioned in 2006 do not meet discharge standards stipulated under the Consent to Operate by Maharashtra Pollution Control Board (MPCB). It has effluent collection and channelization pipeline network of about 59 km and the outlet of CETP is discharged into Navapur Seashore at distance of about 500 m from BPT (Break Pressure Tank)-2. Leakages from drains of CETP and overflow, illegal discharges and dumping of hazardous wastes have been noticed. Indiscriminate discharge of partially treated wastewater and other discharges have contaminated drains and ground water in and around Tarapur MIDC and have also impacted Creeks, and coastal sea.

In the matter of Original Application No. 64/2016 (WZ); Akhil Bhartiya Mangela Samaj & Ors. Versus Maharashtra Pollution Control Board & Ors., the Hon'ble National Green Tribunal constituted a committee to assess extent of damage, cost of restoration of the environment and also suggests steps for restoration of the environment. The committee's report outlines contamination in surface water and ground water.

The project is designed to provide a detailed site investigation, design of appropriate engineering solutions for remediation and implementation of the remediation of contaminated sites in and around Tarapur MIDC. This project is envisaged in two phases i.e. preparation of detailed project report (DPR) for remediation of each contaminated area in the first phase and subsequently undertaking environmentally sound remediation of these sites in the second phase of the project. The scope of implementing the project is described in Steps 1 to 8 in this ToR.

5.2 Contaminated Areas in and around Tarapur MIDC

The aforesaid Committee's report reveal that drains and ground water in and around Tarapur MIDC are contaminated due to industrial activities which have also impacted Creeks and coastal areas. The said report of the committee is given at Annexure.....

Contamination at the various sites may be attributed to discharge of untreated wastewater and disposal of hazardous waste by various industry located in Tarapur MIDC.

Groundwater at some locations is at surface level forming water patches and swamps.

5.3 Objective

The objective of this project is envisaged in two phases, i.e. preparation of detailed project report (DPR) followed by providing consultancy services for environmentally sound remediation of identified contaminated sites including coastal waters where effluent has been discharged. In phase-I, a detailed project report based on assessment studies and a technical bidding document with specifications for the approved remediation option should be prepared and in phase-II, the consultant should assess and monitor the remediation works so as to ensure that works are done as per the technical specifications and standards set for remediation. The objectives are to be achieved in following steps;

Phase-I

- (i) To assess the levels and nature of contaminants in surface water bodies (including coastal water), ground water and soils/sands/sediments in and around the Tarapur MIDC due to industrial effluent discharges from MIDC Tarapur including dumping of hazardous wastes;
- (ii) Detailed reassessment studies;
- (iii) Prepare detailed project report along with technical and engineering designs for remediation /rehabilitation plans;

Phase-II

- (iv) Monitoring and assessment during remediation works; and
- (v) Validation of remediation works and preparation of post-remediation monitoring plan.

Although the proposed project may not necessarily bring direct economic benefits; it will generate long term environmental and social benefits. These benefits will be mainly associated with a reduction in air, water and soil pollution and hence an improvement in human health and the environment.

5.4 Scope of Work

5.4.1 Phase-I works

To prepare a detailed project report for contaminated sites in and around Tarapur MIDC area in phase-I, which includes identification & assessment of contaminants, delineating the contaminated areas, and areas needing remediation as discussed and agreed with MPCB, detailed site investigation & characterization, risk assessment studies, selection of remediation criteria, outlining remediation options, preparation of detailed technical document with specifications for the selected remediation option in steps 1 to 5 as specified below;

Step 1. Preliminary investigations of the contaminated site and development of site conceptual plan & sampling protocols

- Reconnaissance of surface and water bodies in and around MIDC area including coastal waters through field visits, visual site inspections, review of existing documents, maps and literature and carry out the following activities.
 - Current sources contributing to the pollution of the site and disposal practices in the influence area.
 - Collection of history/background information of the contaminated site
 - Basic features of the site i.e. collection of available information on the site like site maps (topographical, geological), hydro-geological information, information from local authorities, information on the type of polluting-sources, storage and disposal of raw materials, by-products, waste water and wastes at site.
 - Study of previous site investigation reports

- Nature, location, type and characteristics of the site
 - Site photographs
 - Identification of previous and current land use pattern of the site
 - Identification of parameters causing immediate threat to the ecology and environment.
 - Discussion with local people and other informed people, district administration, municipal and regulatory authorities, NGOS, etc.
- Selection of the available observation wells (Bore Well) in the watershed covering the site, for monitoring water level and quality monitoring at appropriate locations, & Inventory details like total depth of the well, Water column; Frequency of sampling (Pre monsoon/ Post monsoon)
 - Description of area with respect to existing land use, potential areas of environmental/ecological risk including affected seashore/beach area, demographic profile, social economic and environmental conditions of the people in receptor areas, flora and fauna, etc.
 - Preparation of groundwater level contour maps w.r.t. msl; ascertaining groundwater flow direction.
 - Collection of preliminary samples and analysis of soil, sub-soil, surface water, sediments, ground water for comprehensive analysis of major ions and heavy metals, organic constituents, and other relevant parameters related to the contaminated site as per national / international accredited testing procedures.
 - Develop a sampling protocol aimed at assessing the contamination level of the site and to establish the baseline environmental status of the project area. The protocol shall include identification of criteria pollutant (parameters) for analysis, sampling frequency (number of seasons), number of samples, etc. and shall be submitted for approval of MPCB.
 - Identification of Benchmark /Background samples.
 - Use of rapid assessment tools / methods (for Field & Laboratory analysis)
 - Outlining the extent of contaminant plume through surfer maps Submission of report based on preliminary findings.
 - Development of conceptual site plan/model. The conceptual site plan comprise three elements (i) Potential sources of contamination, (ii) Potential receptors that may be harmed and (iii) Potential pathways linking the two

Step 2. Detailed site investigation and characterization

- Drilling of sampling bore-holes in and around contaminated sites.
 - Water quality assessment, geochemical analysis - analysis of criteria pollutants, specification of heavy metals, isotopic signatures etc.
 - Collect data on Geological, hydrogeological and hydrological features of the contaminated site - if required necessary studies shall be carried.
 - Groundwater flow processes & contaminant transport processes to visualize the contaminant plume in groundwater.
 - Clearly delineate the boundaries, longitudinal and cross section of the contaminated site through topographic and other engineering surveys and prepare a base map of the project site.
 - Development of groundwater flow, surface water flow, and mass transport models.
 - Estimate the quantity of contaminants and their concentrations including secondary pollutants.
- The expected approach for detailed site investigation:
 - i. The area of investigation should be identified considering the main pathways, air and water transport of contaminates.

- ii. Prior to any drilling or sampling work, a detailed map showing the site and its surroundings is required to document sampling points, findings and later the concentrations of contaminants. If such a map is not available, it should be generated based on a survey of the area.
- iii. All locations where effluents discharged/waste dumped shall be clearly identified. Available wells in the surroundings should be identified and tested for identified pollutant. The depth of the wells should be recorded and surveyed against mean seal level.
- iv. Drilling of test wells is necessary if existing wells are not appropriately placed or designed to gain consistent results.
- v. The depth of the bore wells should depend on the geological and hydro-geological conditions (minimum recommended depth is 30 feet). If these conditions are unknown, a test bore for geological logging needs to be installed. If results of the drilling reveal the presence of two aquifers, wells should not penetrate impermeable layer in-between. The filter sections of the wells should all be in same depth considering the geological conditions.
- vi. Background samples should be taken from up gradient wells. The groundwater flow directions shall be determined based on the water level measurements in the wells.
- vii. Surface water samples and sediment samples shall be collected from all identified surface water bodies including affected coastal waters. Composite samples are not recommended. Groundwater-monitoring along the down gradient should be carried out as per requirement.
- viii. About 2 samples each of contaminated soil, waste, ground water, sand, sediment/sludge, surface water representing each contaminated site should be tested comprehensively for all possible parameters (general parameters, inorganic compounds, metals, VOCs, PCBs, PAH, fractions of the TPH, halogenated organic compounds, etc.). The results shall be used for deciding on Constituents of Concern (CoC) and parameters for detailed investigation studies. The number of parameters for detailed investigations can be restricted as per the findings.
- ix. Soil/Sediment/Sand sampling shall be carried out in a grid pattern. The depth of sampling bore-holes shall be flexibly adapted to the extent of contamination (findings). According to the findings, the grid spaces can be reduced.
- x. Prepare a detailed sampling and analysis Protocol supported with a map providing the locations of the proposed sampling points, type of samples (surface water including affected sea area/groundwater/soil/contaminated soil/ waste/ash-from surface/subsurface etc.), indicating the number of samples and the parameter for analysis for detailed site investigations studies.
- xi. Intrusive investigation should include the soil underneath and surrounding the waste in order to identify the depth and extent of contamination.
- xii. If there is any potential source of contamination from any industry premises within or adjoining the identified contaminated sites, sampling should be carried from the premises of such industry to assess the impacts.
- xiii. Soil / contaminated soil or sand / waste samples collected should be tested for total concentration expressed in mg/Kg. The selected samples (in consultation with MPCB) should be tested for leachable concentration in mg/L in the leachate extracted as per Toxicity Characteristic Leaching Procedure (TCLP) or any standard methods of extraction such as APHA or USEPA, etc.

- xiv. Evaluation of the results should be carried out in order to identify potential sources pathways and receptors, and to identify the entire contamination quantitatively.
- xv. Waste should be tested as per Schedule-II of HOWM Rules, 2016

Step 3. Risk Assessment

- Socio - economic and environmental assessment of the contaminated area.
- Assess the potential environmental/ecological/health impacts on soil, ground water, surface water bodies including sea/coast area, population, flora and fauna
- Pathways of contaminant transport, fate of the contaminant and exposure.
- Assessment of toxicity, bioavailability, biodegradability and mobility of contaminants.
- Identification of significant receptors and establishing trigger values.
- Use suitable risk assessment model.
- Interaction with local groups. Reporting of meetings/opinions.
- Suggest risk based remediation standards

Step 4. - Identification of remediation goals/objectives and preparation of Remediation plans

- Identification of remediation goals/objectives.
- Identify list of prerequisite actions to be taken by stakeholders (including residents in pact area) before start of remediation works and after completion of remediation
- List and evaluate best options for remediation of the contaminated site including (soil, surface water including seashore/coast area, groundwater, etc.) based on economic feasibility, complexity, technology transfer from the international suppliers / agencies, effectiveness, execution aspects, previous performance, safety, locally available skills, etc.
- Assess the environmental and social impacts of remediation options, based on detailed field surveys and investigations
- Recommend at least 3 remedial options and appropriate implementation strategies along with cost of remediation for each of the options, considering the future land use and target contaminant concentrations. The options should be recommended based on (i) health and environmental risks due to the contamination, (ii) compliance with the standards based on techno-economic feasibility (iii) performance based approach that is based on verifiable success in similar situations.
- The implementation strategy should consider options such as technology neutral performance or conventional turnkey or Engineer-Procure-Construct (EPC) contracts. For each of the identified strategy, the consultant will analyze engineering, environmental and contractual requirements.
- Selection of a suitable site specific remediation technology

Step 5. Design of remediation plan and submission of DPR along with technical document with detailed specification

Submission of detailed project report along with remediation plan for the approved remediation option, comprising detailed designs, engineering drawings, cost estimates and implementation schedule

5.4.2 Phase-II Work

In Phase-II, the consultants have to monitor and assess the remediation works (for the selected contaminated sites) being implemented by another contractor or an agency so as to ensure that remediation works are implemented as per the technical specifications and standards proposed for remediation followed by verification of remediation works and submission of post remediation monitoring plan, in Steps 6 to 8.

Step 6. Preparation of bid documents and bid process Management

- Based on the approved implementation strategy, the consultant will assist MPCB in preparation of necessary bid documents (RFP / tender documents, etc.).

Step 7: Monitoring and assessment of actual Remediation works

After award of remediation work, the consultant shall monitor and assess the implementation of the remediation works to ensure that all the activities are being carried out as per approved design and agreed terms and also provide technical advice on the quality of work. Duration of such assessment and monitoring will depend on type of remediation work.

During assessment and monitoring, the consultant shall (i) ensure that all the activities agreed as part of the contract complied with the technical standards (ii) monitoring the progress of work in accordance with QC/QA and (iii) conduct random investigations/sampling/tests to verify the implementation works.

The Consultant shall provide the details of staff & deployment schedule to accomplish the task.

Step 8. : Validation of Remediation works

The consultant on completion of the remedial plan will carry out a confirmatory sampling, to demonstrate that the contamination has been removed or stabilized effectively and the remediation objectives have been achieved.

The consultant shall recommend a long term monitoring plan for post remediated site and suggest key environmental attributes for such activity.

5.5 Finalization of Remediation Plan

The consultant is required to submit atleast 03 alternate remediation options for each site with techno-economic feasibility and also in conformity to remediation criteria approved by Technical Expert Committee (TEC) constituted by MPCB. Detailed engineering design shall be prepared only for the remediation option approved by MPCB.

The final remediation plan should provide detailed remediation options with complete engineering solution that can be implementable in the country for the particular contaminant under investigation.

The report is subjected to more detailed review as and when appropriate, to allow decisions to be made on the interventions and possible remediation goals.

The consultant shall work in association with project team of MPCB and report its progress of work regularly to the members of the Project Steering Committee constituted by MPCB in this regard.

5.6. Data Services and facilities to be provided by MPCB

If desired by the consultant towards executing of above referred services, the MPCB shall provide

- Relevant reports available with MPCB
- Write letter to relevant agencies for making relevant reports and data available to the consultant, however to get the necessary data and reports would be sole responsibility of the consultant.
- All deliverables shall be provided by the consultant in color hardcopy (6 copies) and in electronic form.

5.7 Final outputs (i.e. Reports, Drawing, etc.) that will be required of the consultant Delivery Schedules.

Activities/Deliverables	Time in Months																	
	Phase-I															Phase-II		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16-36	36-42	
Report on Reconnaissance and Preliminary Assessment and Preliminary investigations of the contaminated site and development of site conceptual plan & sampling protocols (Step 1-2)	█	█	█															
Report on Detailed site investigation and characterization(Step 3)				█	█	█												
Report on Risk Assessment(Step 4)							█	█	█									
Report on Identification of remediation goals/objectives and preparation of Remediation plans(Step 5)										█	█	█						
Report on Design of remediation plan and submission of DPR along with technical document with detailed specification (Step 5)													█	█				
Preparation of bid documents and bid process Management (Step 6)														█	█			
Monitoring and assessment of actual Remediation works (Step 7)																█	█	
Validation of Remediation works (Step 8)																	█	

- Consultant is required to plan his resources keeping in view the above time schedule.
- The consultant is required to present the findings of study to the Project Steering Committee members constituted by MPCB for their feedback on quarterly basis.

- The approved final DPR shall be provided by the consultant in colour hardcopy (6 copies) and in electronic form.

5.8. Composition of Project Steering Committee (PSC) to Monitor Consultants Work and Technical Expert Committee (TEC)

MPCB shall constitute Project Steering Committee (PSC) having members drawn from MPCB, CPCB and MIDC. MPCB shall also constitute a technical expert committee (TEC) for suggesting remediation criteria and for recommending remediation options. The exact composition of both the committees would be intimated to the consultant after contract finalization.

5.9. Procedure for Review of Progress Reports, Inception, Status, Final Draft and Final Reports

The reports submitted by the consultant would be circulated among all the members of the Project Steering Committee (PSC) and Technical Expert Committee (TEC) by MPCB. The consultant would be required to make presentation of all the reports as per the delivery schedule sought to the above referred project steering committee constituted by MPCB and seek its comments/suggestions. The Project Steering Committee recommendations shall be incorporated / implemented by the consultant and in case of disagreement the decision of the Chairperson, Project Steering Committee shall be binding on both the parties.

5.10 Consultant Qualifications and Team

The Consultant team should reflect their range of experience and expertise and the list of key professional positions whose CV & experience will be evaluated is as under:

S. No.	Key Position	Qualifications	Professional Experience
1.	Team Leader	Post Graduate in Environmental / Civil/Chemical Engineering /Science Or relevant discipline	Minimum 15 years experience, with excellent understanding of environmental issues in industrial effluent management; strong track record in systems for remediation of contaminated sites including coastal environment; ability to balance technical, regulatory, financial and community requirements; knowledge of international best practice in contaminated sites clean up remediation techniques and application of cost effective methodologies.
2.	Remediation expert-1 (assessment expert)	Post Graduate in Environmental / Civil/Chemical Engineering /Hydrogeology/Science or relevant discipline	At least 10 years experience in assessment of contaminated sites including in coastal environment, risk assessment, priority setting, management of industrial effluent,

			characterization & disposal effluent/ hazardous wastes.
3.	Engineering Design Specialist in Remediation works)	Graduate/Post Graduate in Environmental / Civil/Chemical Engineering / relevant discipline	At least 7 years of experience in designing remediation works including in coastal environment i.e pump and treat, designing landfills, extraction wells, impermeable barriers, liners, capping etc.
4.	Social Development expert	Master Degree in Social Sciences / Sociology / Planning	At least 5years experience in social development sector and social impacts

5.11. Terms of Payment

Terms of Payment	Amount payable
After signing of contract	25% of contract value of Phase-I works against bank guarantee for equal amount)
Preliminary Assessment, Report on Preliminary investigations of the contaminated site and development of site conceptual plan & sampling protocols for Detailed site investigation and characterization(Step - 1)	15% of contract value of Phase-I works
Report on Detailed site investigation and characterization and Report on Risk Assessment(Step - 2&3)	25% of contract value of Phase-I works
Report on Identification of remediation goals/objectives and preparation of Remediation plans, Report on Design of remediation plan and submission of DPR along with technical document with detailed specification and Report on Preparation of bid documents and bid process Management(Step – 4 to 6)	25% of contract value of Phase-I works
Monitoring and assessment of actual Remediation works (Step - 7)	60% of contract value of Phase-II works
Validation of Remediation works(Step - 8)	40%of contract value of Phase-II works + 10% of the contract value of Phase-I works

Item No. 07

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
(Through Video Conferencing)**

Original Application No. 64/2016 (WZ)
(M.A. No. 400/2016)

Akhil Bhartiya Mangela Samaj & Ors. Applicant(s)

Versus

Maharashtra Pollution Control Board & Ors. Respondent(s)

Date of hearing: 26.09.2019

**CORAM : HON'BLE MR. JUSTICE S. P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Applicant(s): Ms. Gayatri Singh, Senior Advocate along
with Ms. Meenaz Kakalia, Advocate

For Respondent (s): Mr. Rahul Garg, Advocate for MoEF & CC
Mr. Kanetkar, Senior Counsel alongwith
Ms. Manasi Joshi, Advocate for
Respondent No. 1
Mr. Pradnyesh Oregaonkar i/b Little & Co.
Mr. Sudhir Amlrive, Executive Engineer,
MIDC, and Mr. Rajendra Totala, Dy.
Engineer, MIDC, Tarapur for Respondent
No. 2
Mr. Ruturaj Bathe, Advocate for
Respondent No. 3

ORDER

1. The grievance expressed by the applicant is severe environmental and ecological degradation of the water bodies situated in the vicinity of the Tarapur MIDC caused by the discharge of untreated sewage and industrial effluent in MIDC and the release of

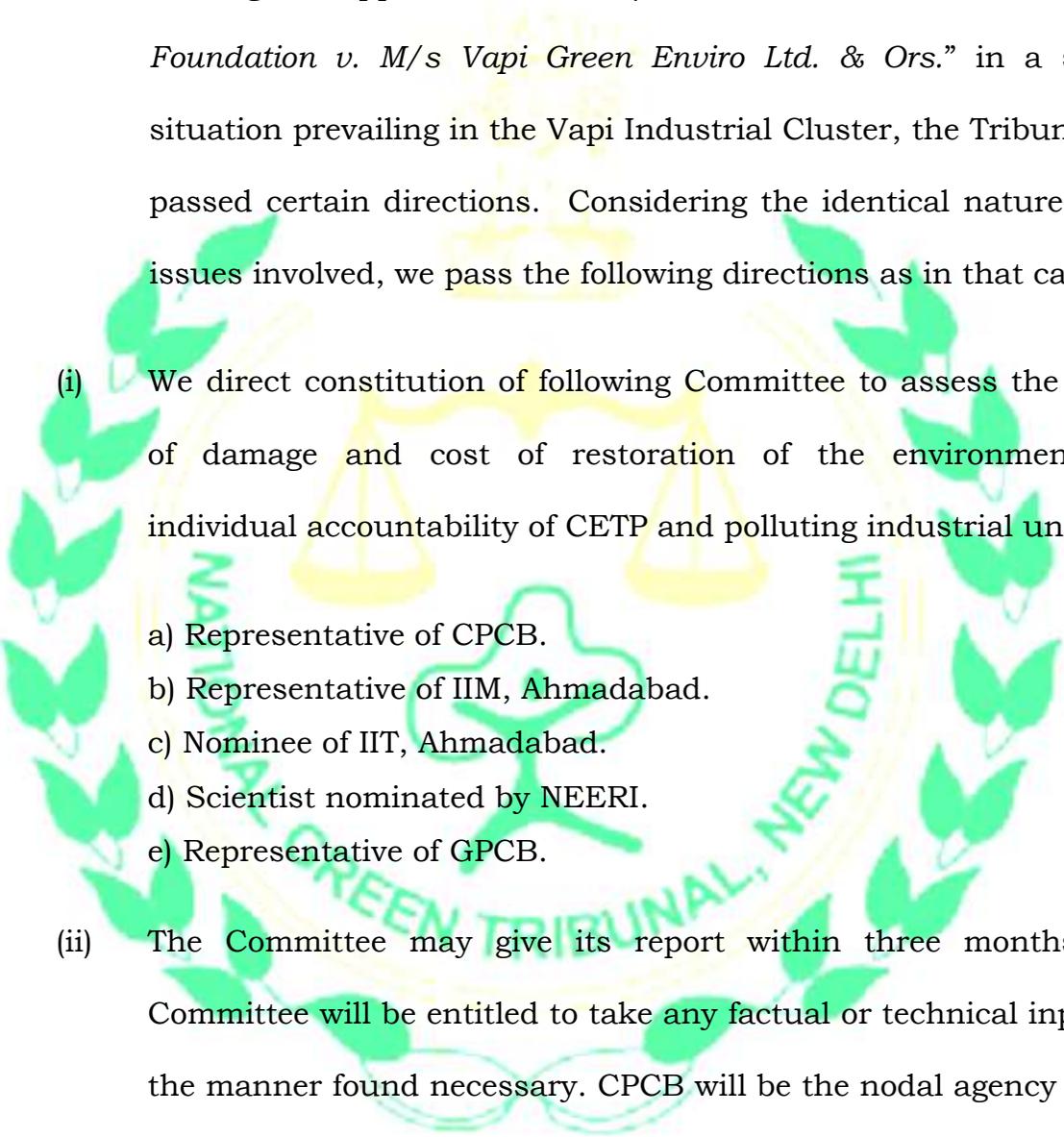
unauthorised volume of effluent in excess of the permitted limit by the Maharashtra Pollution Control Board in the Arabian Sea at Navapur as well as in the water bodies in the vicinity of Tarapur MIDC from the Common Effluent Treatment Plant. This has impacted the livelihood of the fisherfolk and the health of the people in habiting this area and caused degradation of the aquatic ecology. The affected water bodies include Murbe creek running through Murbe till Mahagaon, Murbe-Satpati creek and the Navapur-Dandi creek. The villages affected include Tarapur, Kamboda, Ghivali, Uchchheli, Dandi, Navapur, Alevadi, Murabe, Kharekuran, Satapati, Shirganv, Wadarai, Tembi, Dadara, Mahim and Kelave. The Tarapur Environment Protection Society (TEPS-CETP), the Respondent No. 3, comprises of industries of industries located in the Tarapur MIDC and was formed for taking care of matters relating to environmental protection and pollution control in Tarapur MIDC industrial area. It was commissioned as a primary treatment plant with a capacity of 20 MLD in 2006 which was subsequently enhanced to 25 MLD in 2009. A 59 kilometre effluent carrying pipeline runs throughout the industrial area to dispose treated/partially treated effluent to Arabian Sea at Navapur which is about 8 km away from MIDC.

2. It is stated that the Tarapur MIDC has a long history of being one of the most polluted industrial area in the country ever since it began functioning in 1972, showing flagrant violations of prescribed norms for industries.

3. The industrial area was identified as a critically polluted area in 1996 by the Central Pollution Control Board. The Central Pollution Control Board conducted a performance status of the CETPs in India which included the Tarapur CETP. It was recorded that *'Tarapur CETP (Maharashtra) has four-stage treatment but still these plants were not meeting standards. This reflects gross neglect in operation.'*
4. There have been frequent leakages from the CETP which have been recorded in several reports, resulting in high pollution levels in the water bodies that lie in its vicinity.
5. In 2010, the Central Pollution Control Board in association with the Indian Institute of Technology, Delhi, carried out an environmental assessment of the industrial clusters across the country with the aim of identifying polluted industrial clusters and prioritizing planning need for intervention to improve the quality of the environment in these industrial clusters. The Assessment was based on the Comprehensive Environmental Pollution Index (CEPI).
6. As per the CEPI index, industrial cluster within aggregate score of 70 and above are to be considered to be critically polluted. The aggregate CEPI score of Tarapur was found to be 72.01 and, therefore, identified as critically polluted. The Maharashtra Pollution Control Board is stated to have failed to monitor to ensure that the industries conform to the consent orders and, the Respondent No. 2 had failed to provide the requisite infrastructure for operations, repairs and upgradation of the effluent collection

system. In other words, the regulatory authorities like the SPCBs have not been as effective as expected as noted by the Hon'ble Supreme Court in *Techi Tagi Tara vs. Rajendra Singh Bhandari & Ors.* (supra).

7. In Original Application No. 95/2018 in the matter of "*Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.*" in a similar situation prevailing in the Vapi Industrial Cluster, the Tribunal had passed certain directions. Considering the identical nature of the issues involved, we pass the following directions as in that case:

- 
- (i) We direct constitution of following Committee to assess the extent of damage and cost of restoration of the environment and individual accountability of CETP and polluting industrial units:
 - a) Representative of CPCB.
 - b) Representative of IIM, Ahmadabad.
 - c) Nominee of IIT, Ahmadabad.
 - d) Scientist nominated by NEERI.
 - e) Representative of GPCB.
 - (ii) The Committee may give its report within three months. The Committee will be entitled to take any factual or technical inputs in the manner found necessary. CPCB will be the nodal agency for the purpose. The Committee may also suggest steps for restoration of the environment.
 - (iii) The Committee may give hearing to the CETP operator and the units identified as polluting by the GPCB for which list will be

furnished by the GPCB to the Committee indicating the period and nature of default within one month.

- (iv) The GPCB may inform the defaulting units for compliance of this order.
- (v) The GPCB may also consider exercise of its statutory powers of prosecution which power is coupled with duty.
- (vi) Having regard to the entirety of the fact situation in the present case, we direct that, except for the green and white categories of industries, other category of defaulting industries connected to the CETP, shall deposit with the CPCB the following amounts towards interim compensation within one month:
 - a) Large Industries – Rs. 1 Crore each.
 - b) Medium Industries – Rs. 50 Lakhs each.
 - c) Small Industries – Rs. 25 Lakhs each.
- (vii) The CETP on its part shall deposit a sum of Rs. 10 Crores with the CPCB towards interim compensation within one month.
- (viii) The amount may be utilized by the CPCB for restoration of the environment.
- (ix) The CPCB shall undertake jointly with GPCB extensive surveillance and monitoring of the CETP at regular intervals of three months and submit its report to this Tribunal.
- (x) Copy of the order may be sent to CPCB by email and all reports in pursuance of the above directions be sent to this Tribunal at judicial-ngt@gov.in

8. In order to ensure uniformity in the proceedings, it is felt appropriate that the matter should be heard in Court No. 1 where

similar cases including Original Application No. 95/2018: *Aryavart Foundation v. M/s Vapi Green Enviro Ltd. & Ors.* is under consideration.

9. We accordingly direct that this case be listed in Court No. 1 on 07.01.2020.

S.P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

26th September, 2019
O.A. 64/2016 (WZ)
MN



Upon Mentioning

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI
(Through Video Conferencing)**

Original Application No. 64/2016 (WZ)

Akhil Bhartiya Mangela Samaj & Ors.

Applicant(s)

Versus

Maharashtra Pollution Control Board & Ors.

Respondent(s)

Date of hearing: 22.10.2019

**CORAM: HON'BLE MR. JUSTICE S. P. WANGDI, JUDICIAL MEMBER
HON'BLE MR. JUSTICE K. RAMAKRISHNAN, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

For Respondent (s): Ms. Manasi Joshi, Advocate for Respondent No. 1.

ORDER

1. On being mentioned by Ms. Manasi Joshi learned counsel for Gujarat Pollution Control Board, this case has been taken up.
2. It is submitted that on all places where the name of Gujarat Pollution Control Board appears, name of Maharashtra Pollution Control Board be inserted by substitution.
3. Let the above correction be made and the corrected order uploaded in the website.

S. P. Wangdi, JM

K. Ramakrishnan, JM

Dr. Nagin Nanda, EM

October 22, 2019
Original Application No. 64/2016 (WZ)