

Item No. 02

(Pune Bench)

**BEFORE THE NATIONAL GREEN TRIBUNAL
PUNE BENCH**

(By Video Conferencing)

Org. Application No. 60/2021(WZ)

Aryavart Foundation

Applicant

Versus

M/s Hemani Industries Ltd. & Ors.

Respondent(s)

Date of hearing: 02.02.2022

**CORAM: HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON
HON'BLE MR. JUSTICE SUDHIR AGARWAL, JUDICIAL MEMBER
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER
HON'BLE DR. VIJAY KULKARNI, EXPERT MEMBER
HON'BLE DR. AFROZ AHMAD, EXPERT MEMBER**

Applicant: Mr. Raj Panjwani, Senior Advocate with Dr. S.S. Hooda, Advocate for Applicant

Respondent(s): Mr. Saurabh Kulkarni, Advocate for M/s Hemani Industries Ltd.
Mr. Maulik Nanavati, Advocate for R 2 & 7
Mr. Rahul Garg, Advocate with Mr. Amit Thakkar, Scientist-D, CPCB
Ms. Supriya Danagre, Advocate for GDIA
Mr. Himanshu Desai, Advocate for industries association

ORDER

1. Grievance in this application is against violation of environmental norms by industrial units operating in the complex of Gujrat Industrial Development Corporation (GIDC), Dahej, District Bharuch, Gujarat. Though initial grievance in the application was against an individual unit, respondent No.1, in the course of proceedings and in the light of material which has come on record in the form of inspection reports, scope of proceedings stands extended to all polluting units operating in the area.

2. Violations involved include ghost pipeline through which untreated effluents are discharged into the GIDC drainage system. VOC (Volatile Organic Compound) odour is sensed from the GIDC manhole in which this ghost pipeline is connected. Several inspections were carried out and clandestine discharge of effluents was noticed. Untreated effluents are also discharged into the deep sea at 600 m inside the Sea (with 600 m off-shore separate Pipeline), instead of 4.5 km due to damage/choking of 4.5 km off-shore pipeline/diffuser system. The discharge does not meet the standards. There are over-flowing manholes due to leakage of drainage line. Though show cause notices under the Water (Prevention and Control of Pollution) Act, 1974 (the Water Act) and the Air (Prevention and Control of Pollution) Act, 1981 (the Air Act) have been issued by the State PCB but no remedial action has been taken. No bio-assay test has been conducted near the seashore to prevent deterioration of the environment.

3. The matter was considered on 16.08.2021. The Tribunal issued notice to the respondents - M/s Hemani Industries Ltd., Dahej, Gujarat Pollution Control Board (GPCB), Central Pollution Control Board (CPCB), GIDC, the Collector, Bharuch, Director of Notified Areas and Member Secretary, Gujarat Coastal Zone Management Authority (GCZMA).

4. Vide order dated 04.10.2021, considering the stand of the GIDC about the compliance status, the Tribunal found that there was *prima-facie* violation of environmental norms by industrial units in the area generally. The Tribunal directed the Chief Secretary, Gujarat to convene a meeting for the remedial action and also directed the State PCB and the CPCB to inspect the 'red category' industrial units in the area to assess the extent of violations and propose compensation liability of the

concerned industrial units. Relevant part of the said order is reproduced below:-

- “17. *The Chief Secretary of Government of Gujarat is directed to convene a Meeting with the participation of Gujarat Pollution Control Board (GPCB), Respondent No. 4 represented by Chairman and Managing Director, Respondent No. 5 and the Respondent No. 7 and the result of the said Meeting and decision to be taken in the said Meeting, be submitted in the form of the report with supporting documents on the next date of hearing.*
18. ***The Respondent No. 2 in coordination with the Respondent No. 3, shall cause inspection of industrial units which fall under “Red Category” to find out whether they discharge untreated/partly treated effluents into the STPs maintained by the Respondent No. 4 and if any infractions/violations are noted, shall come out with the solutions as well as the assessment of the environmental compensation, to be paid by them. It is also made clear that depending upon the contents of the said report to be filed by the Respondent Nos. 2 & 3, further action would follow against the Respondent No. 1 as well as the other industrial units, in accordance with law.”***

5. In pursuance of above, a report has been filed on 22.12.2021 by the GPCB and the CPCB through three joint teams. Samples were collected and analyzed in respect of 34 industries. The team also visited the pumping stations, CETP, Dahej and concluded that there is non-compliance by all the said units and entities. Compensation has also been calculated for the past violations and recommendations have been made for remedial action. The report is extracted below:-

“3. INTRODUCTION TO THE AREA

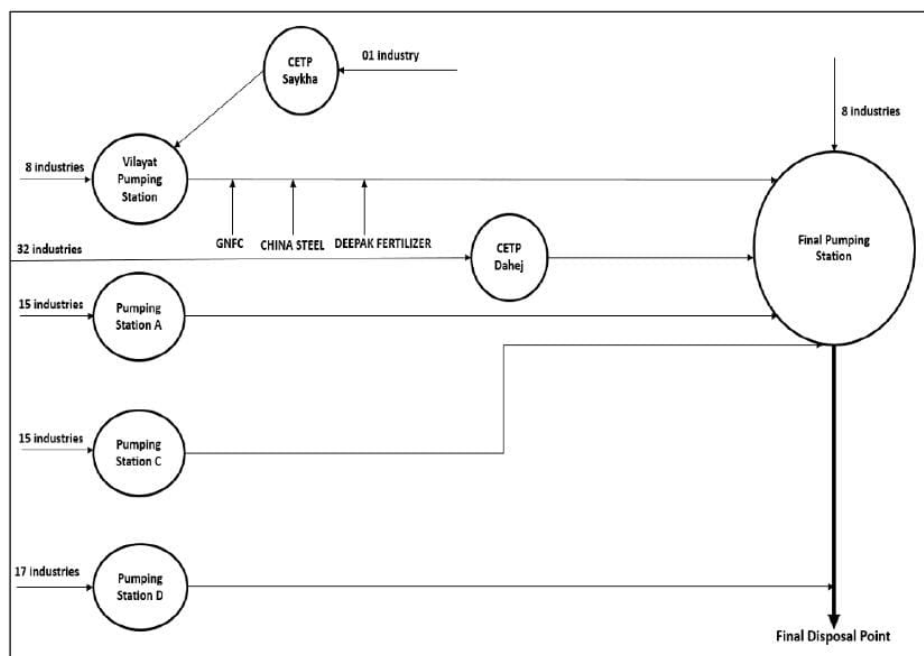
Dahej Industrial Area started in the year 2006-07 is located in Taluka Vagra, District: Bharuch. As per estimates based on the 2011 census, the human population in Vagra Taluka is about 1.24 Lakhs and in Bharuch district is about 16.35 Lakhs.

The industrial estate of Dahej known as Gujarat Petroleum, Chemical and Petro-chemical Investment Region (PCPIR) is amongst the 04 PCPIRs notified by Government of India under PCPIR Policy 2007. The PCPIR region has total area of 452.98 sq. km which includes 8.53 sq.

km. of reserved forests and is located near Gulf of Khambhat. The PCPIR region covers the industrial establishments in the area namely Dahej-I, Dahej-II, Dahej-III, SEZ-I, SEZ-II, Vilayat, Saykha etc. The infrastructure facilities in the Dahej PCPIR region are managed by Gujarat Industrial Development Corporation, Dahej.

Dahej GIDC has provided fresh water supply network, wastewater pumping and drainage network, roads, storm water drain etc. in the area. Presently the fresh water requirement of the industries in the area is supplied by GIDC through pumping from River Narmada near Bodeli through a piping network of about 134 km. Fresh water requirement in the area is about 55MLD. As informed by GIDC, Desalination plant of 100 MLD is under process to meet the future requirement of the industries in the area. GIDC charges Rs. 43.51 per Kl of fresh water supply to the industries. GIDC had commissioned 90 MLD (65 MLD for Dahej + 25 MLD for Vilayat Industrial estate) wastewater collection and disposal scheme at Dahej PCPIR in year 2006-07. GIDC Dahej has provided wastewater drainage conveying network for which GPCB has granted CCA to GIDC. GIDC charges Rs. 9.70 per Kl as Drainage Cess from the member industries. The entire drainage system is underground supported by gravity flow to pumping stations. The discharge network pipeline was provided with total length of 52.5 kms, out of that 4.5 Kms of pipeline was in the offshore area underground buried in the inter tidal zone and sea bed in the gulf of Cambay, about 9 kms is in the coastal area and 39 kms in the onshore area. The hydraulic capacity of the drainage network was 90 MLD. The discharge point was provided at a point recommended by NIO i.e. Latitude 21°39'26"N and Longitude 72°29'50"E in the Gulf of Khambhat with the discharge norms stipulated in CCA issued by GPCB.

There are total 232 Red Category industries in the area as per records of GPCB. The wastewater management and disposal conditions varies from Zero Liquid Discharge, reuse for gardening, reuse in the process, discharge to CETP through tankers/pipelines, discharge to GIDC drainage system, direct discharge to FPS etc.



As shown above final pumping station receives

- **Wastewater through Pumping Station A which conveys wastewater from 15 drainage connection (15 industries)**
- **Wastewater through Pumping Station C which conveys wastewater from 15 drainage connection (15 industries)**
- **Wastewater through Vilayat Pumping Station which conveys wastewater from 03 drainage connection (08 industries) also receives wastewater directly from 03 industries located at Dahej Area.**
- **Wastewater through CETP Dahej which conveys wastewater from 32 drainage connection (32 industries)**
- **Wastewater through direct pipeline from 08 industries at Final Pumping Station.**
- **Wastewater through Pumping Station D which conveys wastewater from 17 drainage connection (17 industries)**

The wastewater from FPS is pumped to Final disposal point into Gulf of Khambhat. Wastewater from pumping station D is meeting the disposal line from FPS to final disposal point through T-joint at SEZ-II area. The pumping station D having 17 drainage connections (17 industries). Thus there are total 99 industries in the area which are discharging wastewater into GIDC drainage network/ GIDC infrastructure.

*GIDC carries out monitoring of the GIDC drainage network through third party laboratory M/s Unistar Environment and Research Lab. Pvt. Ltd., Dahej. GPCB also carries monthly monitoring of wastewater from all pumping stations in addition to random inspection of industries in the area which also includes night monitoring. **Based on the observations of past monitoring data of wastewater drainage network, observation on night monitoring of industrial discharges, various Show Cause Notices (SCN), Notice of Directions (NOD) and closure directions issued to various industries and GIDC by GPCB, the joint team has carried out inspection of total 34 industries including CETP Dahej in the area during two rounds (Round 01: 25.10.2021 to 27.10.2021, Round 02: 16.11.2021 to 18.11.2021). The joint team also carried out survey of the GIDC area, visited pumping stations, final disposal point and collected grab samples.***

The observations of inspection of industries pumping station wise is mentioned in the subsequent paragraphs.

3.1. Observations with respect to Pumping Station A:

The pumping station A has 15 drainage connection covering about 139.3 Hectares of Area in the GIDC. The Booked wastewater discharge quantity from the member industries in the underground

drainage network to pumping station A is 6,932 KLD. The pumping station A has hydraulic design capacity of 13,000 KLD (13 MLD) to pump the wastewater to final pumping station.

It is observed from the past monitoring results of GIDC and GPCB of sample of pumping station A that the COD of wastewater from pumping station A varies from 247 mg/l (04.07.2016) to 12,490 mg/l (06.10.2021). The variation of concentration of COD in last 05 years is shown in the graph (Graph: 1.0).

From the graph plotted for concentration of COD observed during last 05 years **it can be seen that regular non-compliance with respect to discharge standard observed since 2016**. The joint team has also collected sample of wastewater from pumping station A on 26.10.2021. The analysis results are tabulated below:

Parameters	Discharge norms as per CCA	Analysis Results by GPCB	Analysis Results by third party laboratory
pH	6 to 9	5.29	5.32
Colour	--	10,000	>500
Total Suspended Solids	100	384	400
Fluorides	15	1.3	BDL
Sulphides	5	28.8	>50
Ammonical Nitrogen	50	143.36	114
Sulphate	--	1108	1764
Total Kjeldahl Nitrogen	50	170.24	120
Nitrate Nitrogen	50	113.19	2.4
BOD (3 days at 27 C)	100	1985	1650
COD	250	9023	7207
Chlorides	--	15625	19783
Phenolic Compounds	5	24.3	88

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The analysis results shows that concentration of TSS, COD, BOD, Ammonical Nitrogen, Nitrate Nitrogen, TKN, Phenol and Sulphide and, pH exceeds the discharge standards as mentioned in the CCA. The exceedance factor shows gross non-compliance.

The member industries in the area discharging into pumping station A were examined for the present status of manufacturing, operational condition, type/ category etc. it is found that presently out of 15 member industries discharging wastewater through pumping station A, 02 industries are closed, 10 industries are manufacturing different organic chemicals including pesticides and remaining 03 are producing other chemicals. The joint teams have carried out inspection of 07 industries (which includes industry of Respondent 01 in the matter) discharging into "pumping station A" considering past records of GPCB inspection & directions, newly established industries and probability of generating wastewater having high organic pollutant.

Inspection reports of the industries are attached from Annexure A1 to A7. Brief findings industry wise and its compliance status are tabulated below:

S. No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as
1.	M/s Meghmani Organics Ltd., Plot No. CH-1, CH-2/A, D-2/CH 10/A, GIDC Dahej	The industry is non-complying to wastewater discharge standards and violating the CCA conditions with very high concentration of organic contamination such as COD of 3964 mg/l and Phenol of 312 mg/l. This indicates industry is discharging phenol based wastewater without treatment into GIDC drainage. Furthermore, dilution of treated wastewater from ETP through fresh raw water through hidden pipeline also shows malpractices and noncompliance by the industry. About 800 MT of solid hazardous waste and about 200 MT of liquid hazardous waste/chemical is stored in haphazard way inside the premises of the industry leading to formation of ponding of contaminated wastewater with high concentration of analyzed parameters like Phenol etc. over open ground behind ETP near hazardous waste storage area. Such haphazard storage of hazardous waste has potential to contaminate soil and groundwater in and around the premises of the industry. The industry has previously been issued closure directions on multiple occasions by GPCB in reference to wastewater management. This shows that the industry is a routine violator of environmental norms.	Non Complying	A-1

		<p>The industry need to improve effluent treatment efficacy and hazardous waste storage and handling measures. The industry need to immediately dispose of solid and liquid hazardous waste stored inside the premises and provide adequate hazardous waste storage facility. The industry need to operate phenol recovery plant effectively to reduce phenol concentration in its treated wastewater.</p>		
2.	<p>M/s. Bhar at Rasayan Ltd.(Old Name:Siris Crop Science Limited), 42/4, GIDC , DAHEJ, Amod road, Tal: Vagra, Dahej - 392130</p>	<p>The industry found meeting the discharge standards except for TSS which slightly exceeds from the sample of wastewater collected from final outlet. However, high concentration of COD :19065 mg/l, Phenol:105.5 mg/l, BOD: 9360 mg/l, Ammonical Nitrogen: 742 mg/l was found in main storm water drain. Similarly high concentration of measured parameters and high alkaline wastewater was observed in another drain inside the premises. The storm water drains should be dry except during rainfall and no contaminated runoff is even allowed to discharge during rains. As no permanent arrangement is provided for the pumping of contaminated wastewater from storm water drain to ETP, the industry need to take immediate action to remove contaminated wastewater from main storm water drains, tank farm area and treat it as per the requirement. The overall mismanagement of acidic and alkaline material/wastewater, leakages of phenolic material on the approach road having slope towards the storm water drain,</p>	Non-complying	A-2

		<p><i>highly contaminated wastewater in the storm water drain shows gross negligence towards the handling and management of chemicals. Such condition of contamination in the storm water drain has potential of contaminated runoff from the premises.</i></p> <p><i>The installed capacity of ETP is less than the consented wastewater generation. The industry need to provide ETP of adequate capacity as per the total wastewater generation mentioned in the CCA or amend CCA as per actual generation. The OCEMS installed found defunct during visit.</i></p> <p><i>The industry found storing HW in open area, the HW storage shed provided was not having proper leachate collection and transfer to ETP facility. In total storage of 98.529 MT of various HW including drums were found stored outside the shed at various locations. Looking to the site conditions of high COD and Phenolic wastewater into the main storm water drains and mismanagement of HW has potential of soil and ground water contamination in and around the premises. Mishandling of High COD wastewater, leakages, storage of high organic residue from CMAC plant in open etc. also resulted for VOCs which was sensed during visit. The industry also not compliance with CCA condition to make storage facilities to store the effluent for atleast 48 hours. The industry need to take adequate measures for compliance</i></p>		
--	--	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

		<i>of observations and CCA conditions</i>		
3.	<i>M/s. Hemani Industries Ltd, CH-5,E-362 GIDC Dahej, Tal: Vagra, Bharuch</i>	<i>The industry is discharging wastewater to GIDC drain without complying with CCA discharge norms. Foaming and scum deposition at the top of clarifier was observed The industry need to operate ETP properly to meet the discharge standards. The installed capacity of incinerator is less than the permitted quantity. The industry need to provide adequate capacity of incinerator and operate it efficiently. The industry found storing HW in open area, the HW storage shed provided was not having proper leachate collection and transfer to ETP facility. Present stock of about 2500 MT of MEE salt, 200 MT of ETP sludge stored for disposal of CHWT SDF. In addition drums containing incinerable HW (more than 500 drums) found stored in open area inside the premises. Physical conditions of some of the drums were dilapidated/corroded. In total about 100 MT of hazardous waste were found stored haphazardly at various locations inside the premises of the industry. Mishandling of High COD wastewater, leakages, storage of high organic residue from CMAC plant in open etc. has potential to contaminate soil and groundwater in and around the premises of the industry. Moreover, it has also resulted in release of VOCs observed during visit. Records for the generation of high COD wastewater was not maintained by the unit. The industry is not complying with CCA</i>	<i>Non Complying</i>	<i>A-3</i>

		<p>condition to provide guard pond to store the wastewater for atleast 48 hours. The industry need to take adequate steps to comply with the CCA conditions, provide proper storage facility of HW and dispose the presently stored HW as per the CCA conditions.</p>		
4.	<p>M/s Insecticides India Ltd., Plot no. CH- 21, GIDC Dahej, Tal: Vagr a, Bharuch</p>	<p>The industry is discharging wastewater to GIDC drain without complying with CCA discharge norms. The industry need to take adequate steps to operate ETP to meet the discharge standard. The industry found stored drums containing various hazardous wastes, the drums were not labeled and found leakage, spillage of hazardous waste due to leakages of drums etc. shows violation towards the overall environmental management. The HW storage shed provided was not having proper leachate collection and transfer to ETP facility. More than 800 drums (200lt capacity each) about 160MT containing incinerable HW/ products/In-process material found stored in open area inside the premises. Such haphazard storage and handling of hazardous waste has potential for contamination of soil and groundwater in and around the premises of the industry. The industry is not compliance with CCA condition to make storage facilities to store the effluent for atleast 48 hours. The industry need to take adequate steps to comply with the CCA conditions, provide proper storage facility of HW. The industry need to dispose the presently stored HW as per the CCA conditions.</p>	<p>Non Complying</p>	<p>A-4</p>

5.	<p>M/s Meghmani Limited Liability Partnership, D-2/CH-3, GIDC, DAHEJ, TAL:VAGRA, DIST: BHARUCH</p>	<p>The industry in non-complying to CCA discharge standards for pH, OCEMS connectivity, conditions related with management of hazardous waste such as dilute acetic acid. The industry is selling dilute acetic acid categorized under Rule 9 of Hazardous waste Rules without following proper manifest system and to unauthorized end users. The industry has not connected OCEMS at ETP outlet to CPCB/GPCB server. Further, the industry was found discharging contaminated water/wastewater in GIDC drain through a ghost pipeline during visit by GPCB team. Therefore, the industry need to improve ETP sludge storage facility and improve handling of dilute acetic acid as per rules and, provide connectivity of OCEMS to CPCB/GPCB server. The industry also need to comply to CCA discharge conditions, provide arrangement for treatment of contaminated wastewater in storm water drains inside the industry and stop any discharges of contaminated wastewater into GIDC drain through ghost connections</p>	Non-complying	A-5
6.	<p>M/s Meghmani Novotech Pvt. Ltd. (Old Name: M/s Meghmani Speciality Chemicals LLP) Plot No: CH- 22, GIDC Estate- Dahej, Ta: Vagra, Dist: Bharuch.</p>	<p>During the visit, large quantity of various types of hazardous waste like process distillation residue, off specification/reject material, ETP sludge was found stored on open land without impervious flooring in haphazard manner without any labelling at various locations within the industry premises. Many drums containing process distillation residue, off specification/reject material were found leaking and leaking waste</p>	Non Complying	A-6

		<p>contaminating the surrounding soil. Also fugitive emissions from many such drums were found. Such mismanagement of hazardous waste has potential to contaminate soil and groundwater within the industrial premises. As reported by the industry about 560 MT hazardous waste were stored within the premises. Industry has not provided proper and adequate hazardous waste storage area and also there is no leachate collection system provided by the industry.</p> <p>Therefore, industry needs to provide proper hazardous waste storage shed area with impervious flooring & other adequate safety measures to avoid contamination of the environment. Industry needs to dispose-off hazardous waste to Common Hazardous Waste Incineration/ disposal facility on priority basis.</p> <p>Industry is discharging waste water to GIDC drain without meeting prescribed discharge norms. Therefore, Industry needs to upgrade the treatment system to meet the prescribed discharge norms. Industry has installed online analyzers at the final treated waste water discharge line. However the analyzer provided by the industry is not connected with the server of GPCB/ CPCB. Industry needs to provide connectivity of the online analyzer with the server of GPCB/ CPCB. Industry should display the hazardous waste handled in the industry and other relevant information at the</p>		
--	--	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

		entrance gate of the industry.		
7.	M/s Tagros Chemicals India Limited Plot No. 43/1, GIDC Estate Dahej, Tal. Vagra, Dist. Bharuch.	<p>Industry discharging waste water without meeting the discharge norms prescribed in the CCA by GPCB. During the visit deposition of oily sludge observed in the equalization and neutralization tank of ETP provided for the treatment of high COD/TDS process waste water. Leakages of high COD/TDS waste water were observed in MEE section.</p> <p>Industry needs to upgrade waste water treatment system to meet the discharge norms prescribed in the CCA. Industry needs to control the leakages of high COD/TDS waste water in MEE section and industry should remove the oily sludge deposited in the equalization tank and in neutralization tank of the high COD/TDS ETP.</p> <p>Reportedly 950 MT hazardous waste of various type were stored in the hazardous waste storage shed. The hazardous waste storage shed is inadequate as some process waste drums were kept outside the shed on concrete flooring. Industry needs to provide hazardous waste storage shed of adequate capacity.</p>	Non Complying	A-7

3.2. Observations with respect to Pumping Station C:

The pumping station C has 15 drainage connection covering about 97.02 Hectares of Area in the GIDC. The Booked wastewater discharge quantity from the member industries in the drainage network of pumping station C is 4,007.24 KLD. The pumping station C has hydraulic design capacity of 5,000 KLD (5 MLD). Presently the pumping station C is not in operation and GIDC has provided temporary station namely Pumping Station E. Wastewater from

member industries through gravity (underground drainage) reaches to the chamber of pumping station E from where the wastewater is pumped to Final Pumping Station along with the CETP Dahej discharge line.

It is observed from the past monitoring results of GIDC and GPCB of sample of pumping station C that the COD of wastewater from pumping station C varies from 70 mg/l (07.11.2019) to 5,571 mg/l (05.05.2021). The variation of concentration of COD in last 05 years is shown in the graph (Graph: 2.0).

From the graph plotted for concentration of COD observed during last 05 years it can be seen that regular non-compliance with respect to discharge standard observed since 2016. The joint team has also collected sample of wastewater from pumping station E on 17.11.2021. The analysis results are tabulated below:

Parameters	Discharge norms as per CCA	Analysis Results by GPCB	Analysis Results by third party laboratory
pH	6 to 9	5.01	5
Colour	--	7500	>500
Total Suspended Solids	100	712	820
Fluorides	15	10.3	BDL
Sulphides	5	BDL	>50
Ammonical Nitrogen	50	77.28	81
Sulphate	--	4492	3385
Total Kjeldahl Nitrogen	50	117.6	93
Nitrate Nitrogen	50	36.9	24.6
BOD (3 days at 27 C)	100	952	760
COD	250	4115	3160
Chlorides	--	1174	1661
Phenolic Compounds	5	2.06	1.95

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The analysis results shows that concentration of TSS, COD, BOD, Ammonical Nitrogen, TKN and pH exceeds the discharge standards as mentioned in the CCA. The exceedance factor shows gross non-compliance.

In addition, accumulation of wastewater on open plot in front of M/s Torrent power was observed during visit. The joint team visited the area to understand the reason for such accumulation. It was found that there was leakage of wastewater from the T-Junction of pressure line from pumping station E to FPS (joining the discharge line from CETP to FPS). This location is about 1 Km from pumping station E. pH of water was checked and found highly acidic. The joint team contacted GIDC official over phone, due to unavailability of GIDC official at Dahej, GIDC official send the maintenance contractor. He was unable to answer the probable source of such acidic discharge as entire drainage

network is underground. The joint team along with the contractor also visited the discharge points and no traces of acidic discharge were found. Thus it clearly indicates the illegal connection into the underground drainage network and malpractice of acidic wastewater discharge from one or other member industry in the area. The joint team collected grab sample from the leakage and also from the discharge end of the drainage line at FPS.

The analysis results are given below:

Parameters	Discharge norms as per CCA	GPCB Analysis Results of leakage of PS-C	Analysis Results by third party laboratory of leakage of PS-C	GPCB Analysis Results of PS-C discharge into FPS	Analysis Results by third party laboratory of PS-C discharge into FPS
pH	6 to 9	1.23	1.3	2.29	2.33
Colour	--	1250	>500	300	>500
Total Suspended Solids	100	228	180	114	240
Fluorides	15	12.9	3.9	2.9	BDL
Sulphides	5	1.2	4	9.6	27
Ammonical Nitrogen	50	442.4	256	161.84	170
Sulphate	--	8542	12053	1333	1324
Total Kjeldahl Nitrogen	50	560	290	201.6	182
Nitrate Nitrogen	50	44.32	98	19.12	39
BOD (3 days at 27 C)	100	782	720	304	250
COD	250	3596	3600	1248	1104
Chlorides	--	2817	2970	2910	6393
Phenolic Compounds	5	0.99	1.32	0.71	0.89

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The GPCB analysis results of leakage of PS-C shows that the wastewater was highly acidic and having high contamination. The concentration of TSS, COD, BOD, Ammonical Nitrogen, TKN and pH even exceeds the discharge standards as mentioned in the CCA. Variation in concentration of COD and Chloride & Ammonical Nitrogen from the sample collected from pumping station C and from the leakages indicates that the concentration of COD do not vary much in both the samples. However, concentration of chloride and ammonical nitrogen increases significantly. The exceedance of concentration of chloride and ammonical

nitrogen may be due to illegal discharge of waste water containing Hydro chloric acid and ammonical compounds.

The GPCB analysis results of PS-C discharge to Final Pumping Station (FPS) shows that the wastewater was highly acidic and having high contamination. The concentration of TSS, BOD, COD and pH exceeds the discharge standards as mentioned in the CCA. Variation in measured values of sample collected from the leakage point to that from the FPS may have resulted due to dilution from CETP Dahej discharge.

*The member industries in the area were examined for the present status of manufacturing, operational condition, type/ category etc. it is found that presently out of 15 member industries discharging wastewater through pumping station C (or Pumping Station E), 01 industry is closed, 04 industries are manufacturing different organic chemicals including pesticides, 02 industries are manufacturing pharmaceutical products, 04 industries are producing dyes & dyes intermediates and remaining 04 are producing other chemicals. **The joint teams have carried out inspection of 08 industries (including pesticides, organic, dyes & dyes intermediates, pharma, etc.) considering past records of GPCB inspection & directions and probability of generating highly polluted wastewater.***

Inspection reports of the industries are attached from Annexure B1 to B8. Brief findings industry wise and its compliance status are tabulated below:

S. No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as
---------------	-------------------------	-----------------------	--------------------------	-------------------------------------

1	<p>M/s Meghmani Industries Ltd., (Old name: Meghmani Speciality Chemicals Ltd.) (12286), Plot No. Z-6, SEZ, Dahej, Tal. Vagra & Dist.: Bharuch- 392130</p>	<p>The industry is non-complying to wastewater discharge standards and violating the CCA conditions. About 1000 MT of hazardous waste is stored in inadequate storage facility inside the premises of industry which led to contaminated wastewater runoff to storm water drains and ponding over open ground. Contaminated water from storm water drains flowed into GIDC storm water drain. It is worth to mention that storm water drains are meant to carry only rainwater during heavy rainfall. The GIDC storm water drains ultimately discharge into estuarine zone of River Narmada. Moreover, formation of contaminated wastewater ponding over open ground due to haphazard way of handling hazardous wastes in the premises of the industry has potential to contaminate soil and groundwater in and around the premises of the industry. The industry has previously been issued closure directions on multiple occasions by GPCB in reference to wastewater management. This shows that the industry is a routine violator of environmental norms.</p> <p>The industry need to improve effluent treatment efficacy and hazardous waste storage and handling measures. The industry need to provide gate valves to stop discharge of contaminated water in GIDC storm water drains and provide appropriate facility for pumping and treating contaminated water in industry's storm water drains</p>	Non Complying	B-1
2.	<p>M/s Sun Pharmaceuticals Pvt. Ltd., Plot No. Z-15, SEZ, Dahej, Tal. Vagra & Dist.: Bharuch- 392130</p>	<p>The industry is discharging wastewater to GIDC drainage network without complying with CCA discharge norms. The industry need to improve treatment efficiency of its ETP through regular maintenance and proper operation. The industry also needs to provide flow meter at wastewater inlet of ETP. Further, the hazardous waste handling at the industry is poor. About 50 MT of hazardous waste was found stored in open land such as internal roads etc. and leachate seepages from the wastes flowing to open ground and storm water drains has potential to contaminate soil and ground water in</p>	Non Complying	B-2

3.	M/s Aries Color Chem Pvt Ltd, PLOT NO Z/29 ,Z/30,DAHEJ SEZ PART I, Dahej, Tal. Vagra & Dist.: Bharuch-392130	The industry is discharging wastewater to GIDC drains without complying with CCA discharge norms. The industry need to improve treatment efficiency of its ETP through regular maintenance and proper operation. The industry also needs to provide flow meter at wastewater inlet of ETP and for MEE condensate reused in the process. Connectivity of OCEMS to GPCB/CPCB server need to be provided by the industry. The hazardous waste storage facility provided by the industry is without leachate collection and pumping facility to ETP for treatment. Therefore, the industry needs to provide adequate hazardous waste storage facility.	Non Complying	B-3
4.	M/s Accent Microcell Pvt. Ltd. PLOT NO Z/59 ,Z/63,Z/64,DAHEJ SEZ PART I, Dahej, Tal. Vagra & Dist.: Bharuch-392130	Though the industry is discharging wastewater meeting the GPCB discharge standards, however the industry has provided ETP of treatment capacity (reportedly 250 KLD) lesser than the wastewater generation and discharge permission as per CCA (790 KLD). Therefore, the industry is considered as non-complying with the CCA condition. Moreover, the industry was issued multiple closure directions with respect to wastewater management in past by GPCB. The industry need to re-examine the quantity of wastewater generation to augment the ETP with adequate capacity. Hazardous waste was found stored on uncovered area for drying without leachate collection and treatment facility. The industry also needs to improve facility for intermediate storage and handling of hazardous waste by providing covered shed with leachate collection.	Non-complying	B-4

5.	<p>M/s Indofil Industries Ltd. Plot No. Z-8, SEZ-1, Dahej Tal. Vagra District Bharuch</p>	<p>During the visit ETP was not operational due to breakdown in chlorination tank and in Activate Carbon Filter (ACF). Industry needs to put more efforts in operation of all the ETP units in proper way so that ETP may be functional at all the time. During the visit, industry has stored about 616 MT ETP sludge in temporary sludge storage shed having concrete flooring at various locations near the ETP area. Industry has not provided proper leachate collection facility with the sludge storage sheds. Therefore, Industry needs to provide adequate ETP sludge storage shed with impervious flooring and proper leachate collection facility to avoid the seepages of leachate. Industry needs to dispose-off this large quantity of stored sludge in the ETP area.</p>	Complying	B-5
6	<p>M/s Meghmani Organics Limited Industry discharging the waste water without meeting discharge norms as</p>	<p>prescribed in CCA. The industry is not operating ETP in adequately as during the visit all the units of ETP were not found in operation. Therefore, industry needs to improve operation and maintenance of ETP or upgrade the same in order to meet the discharge norms. During the visit about 400 MT of hazardous waste (Gypsum and ETP sludge) was found stored in haphazard way on open land without impervious flooring at various locations in ETP area. Such haphazard storage and handling of hazardous waste has potential to contaminate the soil and groundwater in and around the premises of the industry. Industry needs to provide proper ETP and gypsum sludge storage shed with leachate collection facility to avoid seepages of leachate in open area. Industry needs to dispose-off all stored huge quantity of ETP sludge, Gypsum sludge and MEE salt on priority basis. Industry should provide proper storage tank of adequate capacity for the MEE feed waste water so that incase of any breakdown in MEE, the MEE feed waste water can be stored safely. During the visit flow meter and online analysers were found nonfunctional. Hence the industry should provide operational flowmeter and online analyzers at the final discharge line. Also, the industry need to maintain proper record of ETP operation, hazardous waste management in the proper logbook.</p>	Non Complying	B-6

7.	<p>M/s Shiva Pharmachem Ltd. Plot No. Z-88,Z-88/4 Dahej SEZ Part-1, GIDC Dahej 392130, Tal. Vagra, Dist. Bharuch.</p>	<p>Industry was found discharging waste water into GIDC drainage system during shutdown period of drainage network by GIDC. Sample was collected from the the final discharge point. Analysis of sample reveals that the sample collected from final discharge point exceeds the discharge standard prescribed by GPCB for the parameters COD.</p> <p>Industry needs to upgrade treatment system so that industry may achieve the discharge standard norms prescribed by GPCB. During the visit in the industrial premises it is observed that in hazardous waste storage shed the proper leachate collection facility is not provided. However, industry has provided concrete and impervious flooring in hazardous waste storage shed. Therefore, industry Needs to provide proper leachate collection facility in the hazardous waste storage</p>	Non-Complying	B-7
8.	<p>M/s Meghmani LLP (UNIT-II) Plot No: Z-34, Dahej SEZ, Ta: Vagra, Dist: Bharuch – 392130.</p>	<p>Industry is discharging waste water into the GIDC drainage system without meeting discharge norms prescribed by the GPCB. Therefore, industry needs to upgrade ETP to meet the discharge norms. During the visit, Reportedly, 200 MT of ETP sludge was stored in the hazardous waste storage area having concrete flooring in industry premises. Industry has not provided sludge storage shed of adequate capacity and proper leachate collection facility is not provided in the storage shed. Industry needs dispose-off the stored waste to CHWTSDF on priority basis. The industry should provide covered shed of adequate capacity with leachate collection facility. Industry has installed online analyzers at the line of final discharge point. However, connectivity is not provided with the server of GPCB and CPCB. Industry should provide connectivity of online TOC analyzer with the server of GPCB and CPCB. Industry should update the information related with hazardous waste handling and other relevant information on the display board at the entrance gate of the industry.</p>	Non Complying	B-8

3.3. Observations with respect to Vilayat Pumping Station:

Vilayat pumping station has 03 drainage connections (comprising of discharge from 08 industries). The drainage network from

Vilayat Pumping station to FPS passes through GIDC Saykha. Presently GIDC has not provided separate drainage network for discharging of wastewater from Saykha GIDC. It is gathered that wastewater from 01 industry located at GIDC Saykha which discharges the wastewater into the Saykha CETP (the CETP is presently not operational and CCA is still not granted by GPCB) is connected to the drainage network from Vilayat Pumping station to FPS.

Coverage area of Vilayat Pumping station is about 376.84 Hectares. The Booked wastewater discharge quantity from the member industries in the underground drainage network of Vilayat pumping station is 13705 KLD. The Vilayat pumping station has hydraulic design capacity of 25,000 KLD (25 MLD). Wastewater from member industries through gravity (underground drainage) reaches to Vilayat pumping station from where the wastewater is pumped to FPS at Ambetha, Dahej.

It is observed from the past monitoring results of GPCB of sample of Vilayat Pumping station that the COD of wastewater from vilayat pumping station varies from 59 mg/l (02.09.2021) to 668 mg/l (08.11.2016). The variation of concentration of COD in last 05 years is shown in the graph (Graph: 3.0).

From the graph plotted for concentration of COD observed during last 05 years, some instances of non-compliance can be seen with respect to discharge standard observed since 2016. However, less contaminated discharge as compared to the gross non-compliance of pumping station A and C (Pumping station E) was observed.

The member industries in the area were examine for the present status of manufacturing, operational condition, type/ category etc. it is found that presently out of 08 member industries discharging wastewater having 03 discharge connection. The joint teams have carried out inspection of 03 industries considering comparatively less polluted wastewater in Vilayat pumping station as compared to Pumping Station A and C.

Inspection reports of the industries are attached as Annexure C1 to C3. Brief findings of the industries and its compliance status are tabulated below:

S.No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as

1	Grasim Cellulosic (A Unit Of Grasim Ind. Ltd), Plot No.1, GIDC Vilayat, Tal:Vagra, Dist: Bharuch	Industry is discharging the waste water almost meeting the discharge norms prescribed in the CCA as per GPCB analysis results. Industry has not provided proper leachate collection facility in the sludge storage area. Industry should provide proper/adequate leachate collection facility in the sludge storage area. Industry needs to dispose-off ETP sludge/gypsum	Complying	C-1
2	Grasim Industries Ltd- Chemical Division (Chlor Alkali), Plot No.1, GIDC Vilayat, Tal: Vagra, Bharuch	The industry meeting the discharge norms prescribed by the GPCB. Huge quantity (6000 MT) of process Sludge (mainly Phospho Gypsum Sludge & Brine Sludge) was found stored in the specified Storage area having concrete flooring within the plant premises. However, storage area capacity seems to be inadequate. Unit has not provided proper leachate collection system with the sludge storage area. The	Complying	C-2
3	Grasim Industries Ltd (Chemical Division- Epoxy), Plot No. 1 GIDC Vilayat, Tal: Vagra, Bharuch	As per GPCB analysis results, the industry is discharging wastewater meeting the discharge norms prescribed in the CCA. The hazardous waste management and overall housekeeping was found satisfactory.	Complying	C-3

The joint team also visited 01 industry located in the Saykha GIDC considering the discharge from the industry into CETP Saykha and discharge from the CETP Saykha into the drainage network from Vilayat Pumping Station to FPS.

Inspection report of the industry is attached as Annexure D1. Brief findings of the industry and its compliance status are tabulated below:

S.No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as
-------	------------------	----------------	-------------------	------------------------------

1	M/s Hemani Crop Care Private Limited, Plot No. 73-74, GIDC Saykha, Tal. Vagra & Dist.: Bharuch- 392130	<p>The industry is non-complying to the CCA conditions. The industry has not provided OCEMS connected to GPCB/CPCB server. The toxic fumes from VTFD condensate has potential to damage health and safety of human population, flora and fauna in and around the premises of the industry. About 40 MT of hazardous waste stored haphazardly in the premises of the industry spreading in form of dust over open ground, roads etc. has potential to contaminate soil and groundwater in and around the premises of the industry.</p> <p>The industry need to improve effluent treatment efficacy and hazardous waste storage and handling measures. The industry need to provide stripper and MEE system before VTFD and provide closed tanks for VTFD condensate. Digital Flowmeter at inlet of ETP and VTFD need to be provided along with connectivity of OCEMS to CPCB/GPCB server.</p>	Non Complying	D-1
---	--------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------	-----

3.4. Observations with respect to CETP Dahej:

The Common Effluent Treatment Plant (CETP) Dahej has installed capacity 40 MLD. The total area of CETP is 549732 Sqm. The project got finance of about 50 Cr. by industries commissionerate and GIDC has invested about 197.72 Cr. in the CETP. The CETP has obtained Environmental clearance and has obtained CTE from GPCB on dated 11.12.2017. The CTE was amended on 19.07.2018, which is valid up to 27.06.2024. The CETP has obtained CCA from GPCB via order no: AWH-107883 which is valid up to 14.01.2025. The CETP is commissioned on 15.05.2017.

This CETP consists of following treatment units: Inlet chamber (1 no),- Screen chamber(2Nos) -Grit Chamber(2 Nos) - Parshal Flume(1 No) - Oil & Grease Tank(2 No) - Equalization Tank(2 Nos) - Neutralization Tank(12 Nos) - Flash Mixer (4 Nos) - Primary Clariflocculator(2Nos) - Oxidation Ditch(4 Nos) - Secondary Clarifier(4 Nos) - Secondary Treated Sump(1Nos) - Chlorine Reaction Tank(8Nos) with Chlorine dosing system- SBS Reaction Tank(8Nos) - Static Mixer(6 Nos) - Tertiary Clariflocculator (2Nos) - Sludge Sump(3 Nos) - Sludge Thicker(5 Nos) - Filter Press(8 Nos) - Gravity Sand Filter(4 Nos) - Tertiary treated Sump(1 No) - Activated Carbon

Filter(16 No) - discharged into sea through final pumping station. The CETP is provided with fully controlled and operated by PLC (Programmable Logic Controller) and SCADA (Supervisory Control and Data Acquisition) system.

As informed, the CETP was conceptualized mainly for small scale and medium scale industries in the area having wastewater discharge less than 1MLD. Presently, the CETP is receiving wastewater from industries located in Dahej-II and from Dahej-III area of the Estate. In total there are 32 member industries having membership from CETP with booked quantity of only 2.37 MLD out of installed 40 MLD capacity. Out of 32 member industries, about 05 industries send wastewater to CETP through tankers and remaining through GIDC drainage network. The number of member industries of CETP also includes discharge from a few large scale industries like M/s SRF, M/s Mehali Papers etc. to CETP to increase hydraulic load.

GPCB started monitoring of the CETP since 2020, It is observed from the past monitoring results of GPCB that the CETP is discharging wastewater with concentration of COD exceeding GPCB discharge norms. Increase in concentration of COD at the outlet of CETP observed in September 2021. The variation of concentration of COD is shown in the graph (Graph: 4.0).

The joint team has visited the CETP on 27.10.2021 and collected grab sample from inlet (Equalization Tank) and final outlet from the CETP. The analysis results of the sample collected is tabulated below:

Analysis result by GPCB:

Parameters	Equalization tank of CETP	Final outlet of treated wastewater discharge point of CETP	GPCB Discharge Standards as per CCA
pH	7.43	7.55	5.5-9.0
Colour	500	500	--
Total Suspended Solids	114	82	100
Fluorides	4.05	3.15	15
Sulphides	5.6	39.84	5
Ammonical Nitrogen	172.48	151.2	50
Sulphate	465	82	--
Total Kjeldahl Nitrogen	185.92	166.88	50
Nitrate Nitrogen	12.58	4.15	50
BOD (3 days at 27 C)	208	315	100
COD	840	1250	250
Chlorides	1978	2613	--
Phenolic Compounds	0.98	1.68	5

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The analysis results reveal that the concentration of Sulphides, Ammonical Nitrogen, TKN, BOD and COD at the outlet of CETP is exceeding the discharge standards. The

CETP has been issued notice of directions under Section 33A of the Water (P&CP) Act, 1974 by GPCB on following dates in last 5 years: 01/03/2021, 26/05/2021 and 31/07/2021.

The CETP provided seems to have good infrastructure. However, the CETP is not yet started functioning. The waste water simply flows from inlet chamber to final discharge storage tank without any treatment. The non-operational condition of CETP since inception shows the nonutilization of huge investment and also installed plant, Machinery and sensors will get defunct due to non-functioning since long.

The member industries in the area were examine for the present status of manufacturing, operational condition, type/ category etc. it is found that presently out of 32 member industries discharging wastewater to CETP most of the industries are of small and medium scale. The joint teams have carried out inspection of 08 industries including 02 large and 06 small / medium scales of industries

Inspection reports of the industries are attached as Annexure E1 to E8. Brief findings of the industry and its compliance status are tabulated below:

S. No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as
1.	M/s Mehali Papers Pvt. Ltd., Plot No. D2/11/B/2, GIDC Dahej, Bharuch	The industry is discharging wastewater to GIDC drains and using for gardening and other purposes without complying with CCA discharge norms. The industry need to improve treatment efficiency of its ETP through regular maintenance and proper operation. The industry also needs to provide flow meter at wastewater inlet of ETP.	Non Complying	E-1
2.	M/s. Viswaat Chemical Limited, Plot No. D-3/10, GIDC Dahej, Ta. Vagra, Dist. Bharuch	The industry is discharging wastewater to CETP through tankers without complying with CCA discharge norms. The industry need to improve treatment efficiency of its ETP through regular maintenance and proper operation. The industry also needs to provide flow meter at wastewater inlet of ETP.	Non Complying	E-2
3.	M/s Rossari Biotech Ltd., Plot no. D-3/24/3, GIDC, Galenda, Bharuch	The industry is discharging wastewater to CETP Dahej without complying with CCA discharge norms prescribed for inlet of CETP. Moreover, as the CETP Dahej is non-operational since beginning, the wastewater from the industry is being discharged into GIDC final pumping station without further treatment. Therefore, the industry need to provide wastewater treatment facility to comply with discharge norms prescribed to	Non Complying	E-3

		<i>industries discharging directly into GIDC drainage network. The industry also needs to provide connectivity of OCEMS to CPCB/GPCB servers.</i>		
4.	<i>M/s ANAGHA CHEM, PLOT NO D-2/CH-318, GIDC, DAHEJ, TAL: VAGRA, DIST: BHARUCH</i>	<i>The industry has not provided proper records of products, raw material consumption, water consumption, wastewater generation and disposal of wastewater, hazardous waste generation and haphazard storage, stacks without monitoring facility, storage of Contaminated drums, not sharing of requisite details, production of various products without CCA shows gross noncompliance of the industry. About 10MT of hazardous waste were stored within premises of the industry which has potential to contaminate soil and groundwater in and around the premises of the industry. The industry need to take adequate steps to make the ETP functional, amend CCA for the actual products which are intended to manufacture, provide proper storage facility of HW. The industry need to dispose the presently stored HW as per the CCA conditions.</i>	<i>Non Complying</i>	<i>E-4</i>
5.	<i>M/s Magxid Fine Chem D/2, CH-323, GIDC Dahej, Bharuch</i>	<i>The industry manufactured inorganic products. The analysis results of sample collected from storage tank of ETP reveals that the industry exceeds discharge norms for concentration of COD based on analysis results of third party however meets the discharge standards for all measured parameters as per analysis results of GPCB. Variation in concentration of COD at final outlet from GPCB and third party may be attributed because of high chloride interference.</i>	<i>Complying</i>	<i>E-5</i>
6.	<i>M/s MEGHMANI LLP (Unit-3), D-2/CH-5, GIDC, DAHEJ, TAL: VAGRA, DIST: BHARUCH</i>	<i>The industry is discharging wastewater to CETP without complying with CCA discharge norms. The industry generates very high COD wastewater and no separate collection and treatment system is provided. During visit the installed ETP was not in operation. The records submitted for the generation of dilute acetic acid varies with the mass balance data submitted by the industry. The industry is not following online manifest system for the disposal of dil. Acetic acid (HW). The industry need to improve treatment efficiency of its ETP through regular maintenance, proper operation and</i>	<i>Non Complying</i>	<i>E-6</i>

		<i>stream segregation. The industry also needs to provide flowmeter at wastewater inlet of ETP. The industry need to follow online manifest system for the disposal of HW and implement good housekeeping practices. The industry is not complying with CCA condition to make storage facilities to store the effluent for atleast 48 hours. The industry need to take adequate steps to comply with the CCA conditions, provide proper storage facility of HW.</i>		
7.	<i>M/s Pragna Pharma Private Limited Plot No. D2-CH-224, GIDC, Dahej-2, Tal:-Vagra, Dist:-Bharuch, 392130</i>	<i>The industry is meets the discharge standards of the analysed parameters. However, the industry found stored about 900 drums (approx. 180 MT) of various incinerable HW and solvents on open area and stored about 800 MT of solid hazardous waste inside the storage shed. The HW storage shed provided was not having proper leachate collection and transfer to ETP facility. The storage condition of HW, the drums were not labeled and found leakage, spillage of hazardous waste due to leachate etc. shows violation towards the overall environmental management. Huge quantity (about 800 T) of HW found stored in HDPE bags inside the storage shed and near High COD wastewater storage tank. The industry has stored lot of drums (@ 900 nos. of about 200 lt capacity) containing various HW inside the premises at many locations on open ground. The industry is not complying with CCA condition to make storage facilities to store the effluent for atleast 48 hours. The industry need to take adequate steps to comply with the CCA conditions, provide proper storage facility of HW and disposed the presently stored HW as per the CCA condition.</i>	<i>Non Complying</i>	<i>E-7</i>
8.	<i>M/s Deramic Battery Separator India Pvt. Ltd. Plot No. D3-17, GIDC Dahej III Tal Vagra, District Bharuch</i>	<i>Industry was operational during the visit. The waste water samples collected from the ETP reveals that Industry meeting the discharge norms prescribed by the GPCB. The industry disposing its waster through tanker to CETP Dahej. Industry has provided proper hazardous waste storage area. The overall housekeeping in the ETP and in plant found satisfactory.</i>	<i>Complying</i>	<i>E-8</i>

3.5. Observations with respect to Final Pumping Station:

The final pumping station located at Ambetha, Dahej receives wastewater from 08 drainage connection covering about 1040.40 Hectares of Area in the GIDC. The Booked wastewater discharge quantity from the member industries discharging directly to FPS is 20343.3 KLD. Industry wise HDPE storage tank is provided before discharge from member industries to FPS. The final pumping station also receives wastewater from Vilayat Pumping Station, Pumping Station A, Pumping Station C and CETP.

The final pumping station is provided with pumping arrangement to discharge the wastewater to final disposal point through pipeline having hydraulic capacity of 90,000 KLD (90 MLD). The final pumping station has collection sump and also provided with three sludge drying beds. Heavy sludge deposition is observed on the walls of collection sumps.

It is observed from the past monitoring results of GIDC and GPCB of sample of final pumping station that the COD of wastewater from final pumping station varies from 179 mg/l (02.08.2019) to 2264 mg/l (03.02.2021). The variation of concentration of COD in last 05 years is shown in the graph (Graph: 5.0).

From the graph plotted for concentration of COD observed during last 05 years it can be seen that regular non-compliance with respect to discharge standard observed since 2016. During last five years, there are only two occasions when the sample from FPS meets GPCB discharge standards.

Out of 08 member industries discharging directly into FPS, the joint team has visited 05 industries. Inspection report of the industries is attached as Annexure F1 to F5. Brief findings of the industry and its compliance status are tabulated below:

S. No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as
1.	M/s Deepak Nitrite Limited, Plot No. 12/B Dahej GIDC Estate Dist. Bharuch.	During the visit industry was not operational reportedly due to annual boiler maintenance shutdown and non-availability of raw materials. ETP was also not operational during the visit therefore waste water samples were not collected. During the visit reportedly 1010 MT hazardous waste of various type was stored in the hazardous waste storage shed. Industry has provided concrete flooring in the sludge storage area. However, industry has not provided proper leachate collection facility in sludge storage shed. Industry needs to dispose-off the all the waste stored in the	Non operational during visit	F-1

		<p>Hazardous waste storage area. Industry needs to provide proper leachate collection facility in the storage shed. During the visit it is observed that unit is not maintaining the logbook record of ETP operations and waste water discharge. The current flow meter readings were not matching with the last discharge of waste water into GIDC pumping station. Industry needs to maintain the proper logbook for the discharge of treated waste water and ETP operations. Industry needs to update the details of hazardous waste and other information on the display board at the entrance gate of the industry.</p>		
2.	<p>M/s Deepak Phenolics Limited (DPL) Plot No.12/B/1 GIDC Estate Dahej. Tal. Vagra, Distric Bharuch</p>	<p>Industry meeting the norms for final outlet discharge prescribed by the GPCB and overall compliance is found satisfactory.</p>	Complying	F-2
3.	<p>M/s Gujarat Fluorochemicals Ltd., Plot no. 12-A, GIDC Dahej, Tal. Vagra, Bharuch</p>	<p>The industry is discharging wastewater to Final pumping station of GIDC without complying with CCA discharge norms. The industry need to improve treatment efficiency of its ETP through regular maintenance and proper operation. The industry also needs to provide flow meter at wastewater inlet of ETP for each stream. The industry had stored calcium chloride along with other waste haphazardly inside the premises. The industry need to explore to utilize or sell calcium chloride produced instead of disposing it in CHWTSDF. The industry need to improve handling of coal dust, fly ash and other wastes inside the premises and implement good housekeeping practices.</p>	Non Complying	F-3
4.	<p>M/s. ONGC Petro Additions Ltd, OPAL- Petrochemical Complex, Vill: Ambheta , Ta: Vagra, GIDC Dahej</p>	<p>The sample collected from the final discharge point meets the GPCB discharge standard. However, the industry has not provided proper hazardous waste storage shed. Seepage was observed from some of the drums. The present practice of storage of HW needs improvement.</p>	Complying	F-4
5.	<p>M/s NOCIL LTD. Plot No. 12/A/1 & 13/B,</p>	<p>Industry is discharging waste water without meeting discharge norms as prescribed in CCA by GPCB. Therefore, industry needs</p>	Non Complying	F-5

	GIDC , Dahej 392130 Tal. Vagra, District Bharuch	to upgrade treatment system to meet the discharge norms. During the visit it is observed that ETP is not of adequate hydraulic load as per CCA condition hence, Industry needs to increase the ETP capacity of adequate hydraulic load as per CCA condition. Unit should have installed flow meter at the collection pits of respective plant and should maintain the proper record in logbooks.		
--	--------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

3.6. Observations with respect to Pumping Station D:

The pumping station D has 17 drainage connection (comprising 15 Red category industries and 02 orange category industries) covering about 118.66 Hectares of Area located in SEZ-II. The Booked wastewater discharge quantity from the member industries in the underground drainage network of pumping station D is 5959.75 KLD. The pumping station D has hydraulic design capacity of 5,000 KLD (5 MLD). Wastewater from member industries through gravity (underground drainage) reaches to the chamber of pumping station D from where the wastewater is pumped to T-joint into the drainage line from FPS to final disposal point.

It is observed that the booked quantity found higher than that of the hydraulic pumping capacity. From the past monitoring results of GIDC and GPCB of sample of pumping station D it is observed that the COD of wastewater from pumping station D varies from 53 mg/l (06.10.2021) to 852 mg/l (01.12.2018). The variation of concentration of COD in last 05 years is shown in the graph (Graph: 6.0).

From the graph plotted for concentration of COD observed during last 05 years it can be seen that some non-compliances with respect to discharge standard observed since 2016. However, less polluted discharge as compared to the gross non-compliance of pumping station A and C was observed. The joint team has also collected sample of wastewater from pumping station D on 17.11.2021. The analysis results are tabulated below:

Parameters	Discharge norms as per CCA	Analysis Results by GPCB	Analysis Results by third party laboratory
pH	6 to 9	7.1	7.19
Colour	--	100	185
Total Suspended Solids	100	28	120
Fluorides	15	1.31	1
Sulphides	5	<1	3
Ammonical Nitrogen	50	20.16	26
Sulphate	--	3674	1560
Total Kjeldahl Nitrogen	50	31.92	34
Nitrate Nitrogen	50	0.51	5
BOD (3 days at 27 C)	100	34	35
COD	250	165	120

Chlorides	--	2044	2003
Phenolic Compounds	5	0.14	0.12

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The GPCB analysis results show that concentration of all the parameters are within the permitted discharge standards as mentioned in the CCA.

The member industries in the area were examine for the present status of manufacturing, operational condition, type/ category etc. it is found that presently out of 17 member industries discharging wastewater through pumping station D, 02 industries are orange category, 08 industries are manufacturing different organic chemicals including pesticide, 05 industries are manufacturing pharmaceutical chemicals/API and 02 industries are producing dye & dye intermediates remaining. The joint teams have carried out inspection of only 01 pesticide manufacturing industry considering comparatively less polluted wastewater in pumping station D as compared to Pumping Station A and C.

Inspection report of the industry is attached as Annexure G1. Brief findings of the industry and its compliance status are tabulated below:

S. No.	Name of Industry	Brief findings	Compliance status	Inspection Report Annexed as
1.	M/s Yashashvi Rasayan Pvt. Ltd. Plot No. Z/96/E Dahej SEZ II Tal. Vagra, District Bharuch	Industry discharging the waste water into the GIDC pumping station meeting the discharge norms as per GPCB analysis results. Industry has stored about 1114 MT of various type of hazardous waste in hazardous waste storage area. The industry needs to provide leachate collection facility in the storage shed. Industry needs to provide safety measures like fire alarming system, smoke detectors and water sprinkling system in the hazardous waste storage shed. Industry needs to dispose-off stored hazardous waste on priority basis. Industry should update the hazardous waste details and other information on the display board at the entrance gate of the industry.	Complying	G-1

3.7. Observations with respect to Final Disposal point:

The joint team has visited the final disposal point on 26.10.2021. It is found that the present main disposal line is routed for disposal through a separate pipeline near the shore with extension limited to about 600 m into the Sea, instead of 4.5 km line (due to damage /choking of 4.5 km off-shore pipeline /diffuser system) as was suggested by NIO. **The 600 m off shore pipe line used is having**

leakages at a number of locations in between High Tide Level (HTL) & Low Tide Level (LTL) into CRZ-IB Area. Google image of final disposal point and photographs taken during visit are shown below:

Grab Sample of wastewater from the present disposal point was collected during visit. The analysis results of the sample collected is tabulated below:

Parameters	Discharge norms as per CCA	Analysis Results by GPCB	Analysis Results by third party laboratory
pH	6 to 9	7.41	7.21
Colour	--	300	>500
Total Suspended Solids	100	278	286
Fluorides	15	6.4	2.2
Sulphides	5	14.4	24
Ammonical Nitrogen	50	89.04	53
Sulphate	--	4712	5848
Total Kjeldahl Nitrogen	50	99.1	60
Nitrate Nitrogen	50	11.78	1.4
BOD (3 days at 27 C)	100	481	552
COD	250	1860	2495
Chlorides	--	3215	2466
Phenolic Compounds	5	13.89	12

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The analysis results shows that concentration of TSS, COD, BOD, Ammonical Nitrogen, TKN and phenols exceeds the discharge standards as mentioned in the CCA. The exceedance factor with respect to discharge standards shows gross non-compliance.

It was informed that now GIDC has undertaken the work of Providing and Laying 1000 mm Dia HDPE pipe line for discharging 90MLD wastewater up to 800 mtr offshore replacing the above mentioned 600mt offshore discharge line. The present disposal point is also not suggested by NIO.

3.8. Other Observation on Survey of GIDC area:

During survey of the GIDC area, **coloured patches or accumulation of wastewater was observed in the vacant plots, near many manhole chambers of the drainage network etc. It is understood that it may be due to overflow of wastewater from the manhole chambers and its spread on the area surrounding the chambers. Moreover, the overflow was not addressed timely and properly which indicates from the dried colored patches (white, yellow, black, reddish etc.).**

- During visit, the storm water drains in the area was having contaminated wastewater.

Grab samples of wastewater was also collected by the joint team during visit. The analysis results of the sample collected is tabulated below:

Analysis results by GPCB:

Parameters	Discharge norms as per CCA	GIDC storm water drain near m/s Momai Impex	GIDC storm water drain near m/s Indofil Industries Ltd Unit-3	Storm water drain beside Khaitan Fertilizer road near Salt Pan, Dahej	Storm water ponding near Salt pan, Dahej (storm water drain coming from Amod road)
<i>pH</i>	6 to 9	7.79	6.83	4.92	8.6
<i>Colour</i>	--	150	400	500	30
<i>Total Suspended Solids</i>	100	366	4704	76	28
<i>Fluorides</i>	15	0.7	1.6	18.25	4.7
<i>Sulphides</i>	5	<1	13.6	5.28	BDL
<i>Ammonical Nitrogen</i>	50	BDL	50.4	515.2	1.68
<i>Sulphate</i>	--	158	477	1103	476
<i>Total Kjeldahl Nitrogen</i>	50	1.68	84	604.8	4.48
<i>Nitrate Nitrogen</i>	50	4.89	1.69	12.89	3.45
<i>BOD (3 days at 27 C)</i>	100	60	424	512	24
<i>COD</i>	250	237	1737	2086	101
<i>Chlorides</i>	--	327	2946	7845	2309
<i>Phenolic Compounds</i>	5	BDL	15.6	11.96	< 0.1

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale
Analysis results by third party laboratory:

Parameters	Discharge norms as per CCA	GIDC storm water drain near m/s Momai Impex	GIDC storm water drain near m/s Indofil Industries Ltd Unit-3	Storm water drain beside Khaitan Fertilizer road near Salt Pan, Dahej	Storm water ponding near Salt pan, Dahej (storm water drain coming from Amod road)
pH	6 to 9	7.68	6.92	4.78	8.58
Colour	--	>500	>500	>500	200
TSS	100	450	3600	140	120
Fluorides	15	1	BDL	15.5	2.9
Sulphides	5	BDL	20.5	42	2.5
Ammonical Nitrogen	50	BDL	50	203	BDL
Sulphate	--	61	226	1228	404
TKN	50	BDL	58	210	8
Nitrate	50	2	7.4	9	7
Nitrogen					
BOD (3 days at 27 C)	100	40	195	550	15
COD	250	168	880	2040	52
Chlorides	--	294	2869	9212	2265
Phenolic Compounds	5	0.23	1.6	1.45	2.19

Note: All parameters are in mg/l except pH and Colour in Pt/Co scale

The analysis results of samples of storm water drain collected from 4 locations shows very high organic contamination. It is understood that the rainwater runoff from the industries in the area is one of the reason of contamination of storm water drains besides overflow from manholes and pumping stations. As the evidences of mismanagement of hazardous waste in form of storage on open ground, seepages, waste dust laying on roads etc. is observed during visit to industries in the area. Such improper management of hazardous waste may have led to runoff of contaminated water during rainfall to the storm water drains in the area.

Thus, be inferred that there are lapses on part of treatment of industrial wastewater in the area. **Illegal discharges of high COD wastewater through ghost connections in the underground drainage network may also be possible as high COD of more than 9000 mg/l observed from drainage line from pumping station A to FPS and acidic wastewater observed in the sample collected from drainage network of pumping station C (Pumping Station E). The noncompliance of wastewater discharge is observed from the last 5 year monitoring results of GPCB/GIDC.**

The overall noncompliance of discharge standards at Final disposal point, heavy sludge deposition at FPS, overflowing of manholes due to choking / leakage problems of GIDC drainage lines, frequent overflowing of wastewater from manholes and pumping stations, contaminated runoff from industries etc. is leading to storm water drain / surface drains. The drains ultimately carry wastewater to estuary of River Narmada & to the Sea. Accumulation of wastewater in some area may also lead to soil and ground water contamination in the area.

3.9. Action taken by GPCB against GIDC:

The GIDC Dahej-Vilayat Pipeline Development cell has been issued closure directions under Section 33A of the Water (P&CP) Act, 1974 by GPCB on following dates in last 5 years: 23.09.2021, 24.03.2021, 14.08.2021, 23.03.2021 & 30.01.2019 and issued notice of directions under Section 33A of the Water (P&CP) Act, 1974 by GPCB on following dates in last 5 years: 27.05.2020, 31.12.2019, 24.08.2019, 24.12.2018, 06.09.2018, 25.07.2018, 20.06.2018, 25.01.2018, 16.11.2017, 25.09.2017, 12.06.2017, 03.03.2017, 31.08.2016 & 04.04.2016 by GPCB.

3.10. Observation based on Visit of Industries in the Area:

As detailed above, there are total 99 industries discharging wastewater into the drainage system of GIDC Dahej which includes Red, Orange category of the industries, Large, Medium & small scale industries. The Joint team visited total 34 industries in the area including one orange category industry, CETP Dahej which are discharging wastewater into the GIDC Drainage system. The inspection reports of individual industries are provided in the Annexures as detailed above. The findings of the inspection of industries were tabulated based on the point of discharge on the GIDC drainage network. The overall findings based on the inspection of industries are surmised below:

It was found that the member industries discharging wastewater to pumping station A and C are mostly organic chemicals, pesticides, Pharmaceuticals, Dyes & Dyes intermediates manufacturing units which have potential of generating highly polluted wastewater.

Many industries in the area have provided separate treatment systems for high COD/high TDS wastewater and Low COD/low TDS wastewater. In general, it is observed that systems like MEE followed by ATFD, Incinerator, RO system etc. are provided for High COD/TDS wastewater streams. **It was also found that industries are also sending the high COD/TDS stream to common MEE and Common Spray Dryer through drums/tankers.** The industries have provided treatment system comprising of primary, secondary and/or tertiary system for the treatment of low COD/TDS streams.

Mishandling/improper storage/runoff of leachate/spillages of various types of hazardous waste (ETP Sludge/MEE Salts/Gypsum/residue/solvent cut etc.) was observed in most

of the visited industries. Drums containing hazardous chemicals/waste/residue was found stored on open grounds without labeled/identification. In some of the industries the stored drums were found in dilapidated condition and emitting fumes.

Most of the industries have not provided 48 hr wastewater guard pond as per one of the condition of CCA.

The joint team has collected samples of final discharge into the GIDC drainage system and analyzed parameters were compared with the GPCB discharge norms. The industry wise compliance status were considered based discharge condition/mismanagement of hazardous Waste/accumulation of polluted wastewater on open land or storm water drain, inadequate capacity of ETP/OCEMS system not provided/leakages leading to storm water drain/ponding of wastewater etc.

Summarily, all 07 visited industries discharging at Pumping station A found non-complying, 07 out of 08 visited industries discharging at Pumping station C found non-complying, 01 out of 04 visited industries discharging at Vilayat Pumping station found non-complying, 06 out of 08 visited industries discharging at CETP Dahej found non-complying, 02 out 05 visited industries discharging at Final Pumping station found non-complying and 01 industry was not in operation, the visited industry discharging at Pumping station D found meeting the norms as per GPCB analysis results. It is worth to mention that exceedance (marginal or gross) and numbers of parameters are varying and thus degree of non-compliance.

4. ENVIRONMENT DAMAGE COMPENSATION:

Hon'ble NGT has also directed the joint team to assess the environmental compensation in case violation is observed. The joint team has referred earlier order dated 10.7.2019 of Hon'ble NGT in the matter OA 1038/2018 wherein, in the para 13 it is mentioned that "...assessing and recovering compensation from such identified polluters at least for five years which is the period specified under section 15(3) of the National Green Tribunal Act 2010...". The joint team has considered number of days of violation starting from the first date of NOD/ direction with respect to wastewater management issued by GPCB to the industry since 01.04.2016 till 29.11.2021 (Date of Hearing of the matter before Hon'ble NGT). In case GPCB not issued any directions during last five years, the number of days of violation is considered from the date of visit. The joint team has considered continual violation of the industry with respect to wastewater management because of the fact that the final disposal quality of the wastewater found non-complying the discharge conditions based on the last five years data.

During inspection of the industries in the area, GIDC Infrastructure, CETP Dahej etc. it was found that many industries are not complying with the discharge standards/conditions as per CCA and gross non-compliance of hazardous waste management practiced in terms of storage HW in open area, leakages, spillages, runoff etc. by the

industries in the area. Such mismanagement of various types of hazardous waste and its runoff during rains may be considered as one of the reasons for contamination observed in the storm water drains in the area. Huge stored quantity of incinerable hazardous waste in open area may also have potential of fire accidents. Moreover present practice of hazardous waste management also results in contamination of soil and ground water in addition to health and safety hazards. **As mismanagement of hazardous waste is detrimental to overall wastewater management, therefore the environmental damage compensation was calculated for the non-complying industries considering two aspects viz.**

- **non-compliance of discharge conditions/OCEMS and overall wastewater management**
- **mismanagement of hazardous waste**

Environmental Compensation is also calculated for GIDC (Respondent no 4) considering gross violation of CCA condition by GIDC in terms of:

- Discharging wastewater exceeding the discharge standards on CRZ area since 2016.
- Spillages and contamination on vacant plots observed at many locations in the GIDC.
- Storm water drains having contaminated wastewater
- Non-availability of flow measuring device/OCEMS system
- Non-complying with various directions of GPCB

The Environment Compensation is calculated following the guideline/methodology prepared by CPCB for calculation of Environmental Compensation. Summary of methodology adopted is briefed below:

The environmental damage compensation for present case (EC) can be defined as

$$EC = EC1 + EC2$$

Where, EC1 is environmental compensation for violation of CCA conditions and EC2 for environmental compensation for violation of HW Rules [CPCB guideline May 2019: Determination of Environmental Compensation to be recovered for violation of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016] as detailed below.

EC1 was calculated for following cases:

- a) Discharges in violation of consent conditions, mainly prescribed standards/ consent limits
- b) Not complying with the directions issued, such as direction for closure due to non-installation of OCEMS, non-adherence to the action plans submitted etc.
- c) Intentional avoidance of data submission or data manipulation by tampering the online continuous emission/effluent monitoring systems

As per this method, the Environmental Compensation shall be based on the following formula:

$$EC1 = PI \times N \times R \times S \times LF$$

Where:

PI= Pollution Index of industrial sector, as the concerned industries falls in the Red Category, its Pollution Index is 80

N= Number of days for which the violation took place is considered from the first date of NOD/ direction with respect to wastewater management issued by GPCB to the industry since 01.04.2016 till 29.11.2021 (Date of Hearing of the matter before Hon'ble NGT). In case GPCB not issued any directions during last five years, the N is considered from the date of visit. The joint team has considered continual violation of the industry with respect to wastewater management because of the fact that the final disposal quality of the wastewater found noncomplying the discharge conditions based on the last five years data.

R= A factor in Rupees (Rs.) for EC is Rs. 250/day

S= Factor for scale of operation is 1.5 for large scale, 1.0 for medium scale and 0.5 for small or micro scale.

LF= Location Factor is 1 as the population of the area is less than 1 million.

These values have been applied to the formula for EC1 determination for the industries and GIDC where non-compliance observed.

EC2 was calculated for following cases:

Where mismanagement of hazardous waste was observed, stored quantity of hazardous or other wastes, which may have caused environmental damages, may be proportionate to extent of damages thereof.

The Environmental compensation EC2 may, therefore, be directly correlated with the quantity of hazardous or other waste under reference as per Determination of Environmental Compensation to be recovered for violation of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

Under such wide variables, the following quantity based environmental compensation EC2 calculation in Rupees may be used and be imposed on violating facility /operator:

$$EC2 = Q \times ERF \times R$$

Where,

Q is noticed or observed quantity (in MT) of hazardous or other wastes which have not been managed in compliance with various provisions of the Acts/Rules/Guidelines/conditions of the authorisation/directions issued by CPCB/SPCB/PCC/MoEF&CC

ERF = Environmental Risk Factor which is a number denoting the increasing degree of risk to the environment and human health due to the scenarios = 1.5 (When hazardous and other wastes is

disposed at un-authorized place or handed over or sold to unauthorized party)

R= Environmental Compensation factor, which may be taken as Rs. 30,000 (as per referred guideline).

Based on the non-compliance observed, calculated EC for industries and GIDC are tabulated below.

S.No.	Name of Industry	Scale of Operation (as per GPCB records)	No. of days of violation	EC1 (Rs. In crores)	Quantum of HW observed (MT)	EC2 (Rs. In crores)	Total EC (Rs. In crores)
1.	M/s Meghmani Organics Ltd., Plot No. CH-1, CH-2/A, D-2/CH 10/A, GIDC Dahej	1.5	1936	5.808	1000	4.5	10.308
2.	M/s. Bharat Rasayan Ltd., 42/4, GIDC, DAHEJ, Amod road, Tal: Vagra, Dahej - 392130	1.5	1867	5.601	98.529	0.443381	6.044
3.	M/s. Hemani Industries Ltd, CH-5,E-362 GIDC Dahej, Tal: Vagra, Bharuch	1.5	1569	4.707	100	0.45	5.157
4.	M/s Insecticides India Ltd., Plot no. CH-21, GIDC Dahej, Tal: Vagra, Bharuch	1.5	1338	4.014	160	0.72	4.734
5.	M/s Meghmani Limited Liability Partnership, D-2/CH-3, GIDC, Dahej, TAL: Vagra, DIST: Bharuch	1	1377	2.754	0	0	2.754
6.	M/s Meghmani Novotech Pvt. Ltd. Plot No: CH-22, GIDC Estate- Dahej, Ta: Vagra, Dist: Bharuch.	1	12	0.024	560	2.52	2.544
7.	M/s Tagros Chemicals India Limited, Plot No. 43/1, GIDC Estate Dahej, Tal. Vagra	1.5	2014	6.042	0	0	6.042
8.	M/s Meghmani Industries Ltd., Plot No. Z-6, SEZ, Dahej, Tal. Vagra & Dist.: Bharuch-392130	1.5	2051	6.153	1000	4.5	10.653

9.	M/s Sun Pharmaceuticals Pvt. Ltd., Plot No. Z-15, SEZ, Dahej, Tal. Vagra & Dist.: Bharuch- 392130	1.5	36	0.108	50	0.225	0.333
10.	M/s Aries Color Chem Pvt Ltd, PLOT NO Z/29 ,Z/30,DAHEJ SEZ PART I, Dahej, Tal. Vagra & Dist.: Bharuch- 392130	1	1762	3.524	0	0	3.524
11.	M/s Accent Microcell Pvt. Ltd. PLOT NO Z/59, Z/63,Z/64,DAHEJ SEZ PART I, Dahej, Tal. Vagra & Dist.: Bharuch-392130	1	2058	4.116	0	0	4.116
12.	M/s Meghmani Organics Limited (Unit-8) Plot No. Z-31, Z-32 Dahej SEZ Part- 1, Tal. Vagra,	1.5	2013	6.039	400	1.8	7.839
13.	M/s Shiva Pharmachem Ltd. Plot No. Z-88,Z-88/4 Dahej SEZ Part- 1, GIDC Dahej	1.5	1035	3.105	0	0	3.105
14.	M/s Meghmani LLP (UNIT-II), Plot No: Z-34, Dahej SEZ,	1.5	1463	4.389	0	0	4.389
15.	M/s Gujarat Fluorochemicals Ltd., Plot no. 12-A, GIDC Dahej, Tal. Vagra, Bharuch	1.5	1730	5.19	0	0	5.190
16.	M/s NOCIL LTD.Plot No. 12/A/1 & 13/B, GIDC , Dahej 392130Tal. Vagra, District Bharuch	1.5	35	0.105	0	0	0.105
17.	M/s Mehali Papers Pvt. Ltd., Plot No. D2/11/B/2, GIDC Dahej, Bharuch	1.5	1182	3.546	0	0	3.546
18.	M/s. Viswaat Chemical Limited, Plot No. D-3/10, GIDC Dahej, Ta. Vagra, Dist. Bharuch	1.5	34	0.102	0	0	0.102

19.	M/s Rossari Biotech Ltd., Plot no. D-3/24/3, GIDC, Galenda, Bharuch	1	34	0.068	0	0	0.068
20.	M/s ANAGHA CHEM, PLOT NO D-2/CH-318 ,GIDC , Dahej, TAL: Vagra, DIST: Bharuch	0.5	34	0.034	10	0.045	0.079
21.	M/s MEGHMANI LLP (Unit-3),D-2/CH-5, GIDC , Dahej, TAL: Vagra, DIST: Bharuch	1	172	0.344	0	0	0.344
22.	M/s Pragna Pharma Private Limited, Plot No. D2-CH-224, GIDC, Dahej-2, Tal:- Vagra, Dist:- Bharuch	0.5	34	0.034	180	0.81	0.844
23.	M/s Hemani Crop Care Private Limited, Plot No. 73-74, GIDC Saykha, Tal. Vagra & Dist.: Bharuch	1	13	0.026	40	0.18	0.206
24.	CETP Dahej	1.5	274	0.822	0	0	0.822
25.	GIDC Dahej	1.5	2066	6.198	0	0	6.198

The Environmental Damage compensation is calculated for the visited non-complying industries. However, the overall condition of wastewater management in the area is not limited to the visited industries. The other industries in the area may also contribute to the condition. However, the industries visited cover the regular non-complying industries in the area as per records of GPCB.

5. CONCLUSIONS

*In the matter of Hon'ble NGT OA no. 60/2021 (WZ) [Aryavart Foundation v/s Hemani Industries Ltd. & Ors.] related with wastewater management by the industries and Gujarat Infrastructure Development Corporation (GIDC) in the Dahej industrial area, joint teams of CPCB and GPCB has carried out inspection of industries located in the area which are discharging wastewater into the GIDC drainage system. **There are total 99 industries discharging wastewater into the drainage system of GIDC Dahej which includes Red, Orange category of the industries, Large, Medium & small scale industries. The remaining industries in the area are having Zero Liquid Discharge condition as per CCA. The***

Joint team visited total 34 industries in the area including one orange category industry and CETP Dahej which are discharging wastewater into the GIDC Drainage system. The joint team has also visited and collected samples from various pumping stations and final disposal point of GIDC drainage network to check the final discharge quality and also GIDC drainage network as GIDC is issued CCA by GPCB categorized under Red Category.

The joint team visited total 34 industries including CETP Dahej and the industry of Respondent No.1 in the matter and has collected samples of final outlet which is being discharge into the GIDC drainage system and analyzed parameters were compared with the norms prescribed in the CCA. The industry wise compliance status is assessed on the basis of discharge condition/management of hazardous Waste/accumulation of polluted wastewater on open land or storm water drain, inadequacy of ETP/OCEMS system, leakages leading to storm water drain/ponding of wastewater etc. The industry wise findings are discussed in the respective annexed reports. **Summarily, all 07 visited industries discharging at Pumping station A found non-complying, 07 out of 08 visited industries discharging at Pumping station C found noncomplying, 01 out of 04 visited industries discharging at Vilayat Pumping station found non-complying, 06 out of 08 visited industries discharging at CETP Dahej found non-complying, 02 out 05 visited industries discharging at Final Pumping station found non-complying and 01 industry was not in operation, the visited industry discharging at Pumping station D found meeting the norms as per GPCB analysis results. It is worth to mention that exceedance (marginal or gross) and numbers of parameters are varying and thus degree of non-compliance.**

The joint team also visited the CETP Dahej and collected samples. The CETP has good infrastructure. However, the **CETP is not yet started functioning. The waste water simply flows from inlet chamber to final discharge storage tank without any treatment. The non-operational condition of CETP since inception shows the non-utilization of huge investment and also installed plant, Machinery and sensors will get defunct due to non-functioning over the period. The analysis results reveal that the CETP is not meeting the discharge standards.**

The analysis results of the sample collected from the pumping station A and Pumping station C indicates illegal discharges of high COD wastewater through ghost connections in the underground drainage network as high COD of more than 9000 mg/l observed from drainage line from pumping station A to FPS and acidic wastewater observed in the sample collected from drainage network of pumping station C.

The last 5 years monitoring results of GIDC pumping network analyzed by GPCB were examined. **The analysis results show continual non-compliance with respect to wastewater discharge standards. It can thus be inferred that there are lapses on part of treatment of industrial wastewater in the area.**

*The joint team has visited the final disposal point and found that the present main disposal line is routed for disposal through a separate pipeline near the shore with extension limited to about 600 m into the Sea, instead of 4.5 km line (due to damage / choking of 4.5 km off-shore pipeline / diffuser system) as was suggested by NIO. **The 600 m off shore pipe line used is having leakages at a number of locations in between High Tide Level (HTL) & Low Tide Level (LTL) into CRZ-IB Area. The analysis results of sample collected shows that concentration of TSS, COD, BOD, Ammonical Nitrogen, TKN and phenols exceed the discharge standards as mentioned in the CCA. The exceedance factor of the sample collected by the joint team shows gross noncompliance with respect to prescribed standards.***

The overall noncompliance of discharge standards at Final disposal point, heavy sludge deposition at FPS, overflowing of manholes due to choking / leakage problems of GIDC drainage lines, frequent overflowing of wastewater from manholes and pumping stations, contaminated runoff from industries etc. is leading to storm water drain / surface drains. The drains ultimately carry wastewater to estuary of River Narmada & to the Sea. Accumulation of wastewater at some places may also lead to soil and ground water contamination.

As per order of Hon'ble NGT, the environmental damage compensation for the non-complying industries, CETP and GIDC is also calculated for kind consideration by the Hon'ble NGT. Hon'ble NGT has also directed the joint teams to come out with solutions. Based on the above detailed findings, following actions/measures are suggested for kind consideration:

For the Industries and CETP in the area:

- *Strict action including closure directions (with disconnection of Electricity and GIDC water supply and drainage connection) against the industries found grossly and repeatedly violating the CCA condition may be issued by GPCB.*
- *All the Industries need to take corrective action for the non-compliances observed and mentioned in the respective reports including compliance of conditions prescribed in the CCA.*
- *Environment Damage compensation is calculated for respective non-complying industries till the date of hearing i.e. 29.11.2021 which may be extend till the date of actual compliance achieved by the respective industry. The industry may require depositing Environment Damage Compensation (EDC) and submitting compliance report/time bound action plan to GPCB and after verification, GPCB may further charge EDC till the date of actual compliance.*
- *The industries in the area need to provide separate flow meters and energy meters for ETP, MEE, incinerator and color coding of all pipeline networks of wastewater within the premises of Industries with flow directions and nomenclatures. Only single discharge point at the final outlet tank should be practiced by the industries.*

- *All the industries in the area need to handle, store and dispose various types of hazardous waste as per the Hazardous & Other Waste (Management and Handling) Rules, 2016. Industries need to provide adequate in-house HW storage facility with leachate management system.*
- *Industries in the area are handling various toxic and hazardous chemicals as raw material and manufacturing many such products. Many of such chemicals contains high VOCs. All industries need to take adequate measures to prevent leakage, spillage while handling such chemicals.*

For the GIDC

- *GIDC may be directed to stop discharge of wastewater in CRZ 1B area and to lay down the deep sea disposal pipeline with diffusers as suggested by NIO at the earliest. GIDC may also explore technology for regular cleaning or select such Material of construction of pipeline to avoid scaling and chocking. GIDC should take the requisite permission from CRZ Authority, GPCB etc. for laying new pipeline and changes if any.*
- *GIDC may require to deposit EDC and submit compliance report/time bound action plan to GPCB and after verification, GPCB may further charge EDC till the date of actual compliance. In addition, considering the years of non-compliance and discharge of high polluted wastewater into CRZ area which has potential to create adverse effect on Marine ecology, detailed impact assessment study from institute of repute involved in the research of coastal/marine ecology may be carried out by GIDC and the measures for the restoration of the marine ecology as suggested by the institute need to be implemented.*
- *GIDC need to take immediate action to lift accumulated wastewater due to leakages/seepage/overflow in PCPIR area and also dredging of contaminated soil. The dredged contaminated soil need to be disposed safely at CHWTSDF site. GIDC may also identify the reasons and take corrective measures to prevent frequent overflow from the manholes and pumping stations.*
- *Augmentation of the infrastructure like replacing the subsided drainage lines near OPAL in SEZ-1 and replacing damaged/leaking other drainage lines to be made by GIDC on priority basis.*
- *GIDC reported past incidence of choking of final discharge pipeline. The probable reasons like discharge of wastewater beyond CCA standards, reaction tendency during mixing of various types of wastewater discharged from different types of industries etc. has resulted in such chokings & scaling in the pipeline again in future, GIDC may explore and implement measures to help in removal of salts formation at final pumping station before discharge of wastewater.*
- *GIDC need to provide Guard Pond at Final Pumping station to hold wastewater in case of maintenance of pumping stations/drainage network, monsoon or any such emergency so that discharge/bypass from pumping stations to storm water drain may not occur.*

- *GIDC need to provide flow measuring system and to make online TOC/COD meter operational at all the pumping stations. Proper records of flow and COD need to be maintained by GIDC. GIDC need to take strict action against non-complying industries.*
- *The GIDC need to switch to Express discharge line for better surveillance. Express discharge lines with free fall and auto sampler arrangements may be initiated first for Industrial units connected to Pumping station A and Pumping station C as both was found to have high pollution potential (e.g. high TDS/COD/NH3-N/phenol) and then to replace all underground drainage system.*
- *The GIDC need to explore the SCADA system as practiced in the GIDC area of Vatva for drainage system.*
- *GIDC need to frame Standard Operating Procedure to address the leakages which should also include the steps required for proper disposal of contaminated sludge removed during de-sludging of drainage lines/manholes.*

For the GIDC and GPCB

- *Considering the aspect of ghost connection into the drainage network, it is urgent need to be checked all GIDC manholes/drainage lines by GIDC in presence of GPCB. All necessary action to be taken by GIDC to identify ghost connection particularly in Pumping station-A & Pumping Station-C area. GIDC shall ensure that no ghost connection of any industry to the GIDC drainage system. In case of Ghost connection observed, strict action may be initiated against such industries by GPCB & GIDC.*
- *GPCB & GIDC may need to frame guideline for stringent action against ghost connections of wastewater discharge into drainage network which should also include provisions of financial penalty.*
- *GPCB and GIDC need to strengthen the surveillance of the area by adopting proper mechanism and take strict action against the non-complying industries.*
- *As it is observed that most of the industries in the area do not meet the discharge standard as per CCA and the installed CETP of 40 MLD capacity is presently defunct. Therefore, all necessary measures to be taken for making the Installed CETP in operation. GPCB and GIDC may conduct mass drive for the industries to send the wastewater streams to CETP for treatment. Proper functioning of CETP need to be ensured to meet the discharge standards.*

For the GPCB

- *GPCB need to frame guideline for limiting maximum storage of High TDS/ High COD wastewater at any point of time in the premises of the industry and other precautionary measures associated with the management of such high COD/TDS wastewater.*
- *GPCB need to revise the CCA by amending the discharge norms presently prescribed as per CETP inlet norm for the industries to general discharge norms till the CETP is in operation and meets the discharge standards.*

- *GPCB need to be more vigilant and take strict action against the polluting industries.*

All the stakeholders may examine the findings and work on further self-assessment for actions required. The stakeholders may prepare set of actions of their respective concerns with timeline and status which can be updated from time to time and submitted to authorities.”

6. We have also noted the minutes of meeting held by the Chief Secretary, Gujarat on 27.10.2021 and 18.11.2021 and the affidavit filed on behalf of the CPCB. We reserve our comments on the minutes except that remedial action has to be strictly in terms of the statutory mandate under the Water Act, the Air Act, Environment (Protection) Act, 1986, CRZ Regulations and other environmental norms.

7. The report of the joint Committee shows gross continued violation of environmental norms and failure of the statutory regulators to enforce the law by way of closures, prosecution, recovery of compensation for past violations. Compensation formula adopted is not compliant with the law laid down by the Hon'ble Supreme Court inter alia in MC Mehta, (1987) 1 SCC 595, Sterlite, (2013) 4 SCC 575, Goel Ganga (2018) 18 SCC 257 and order of this Tribunal dated 24.01.2022 in O.A No. 64/2016 (WZ), Akhil Bhartiya Mengela Samaj Parishad & Ors. v. Maharashtra Pollution Control Board & Ors, so as to be linked to the financial capacity of the violator, apart from other factors and not merely days of violation at a fixed rate irrespective of the financial capacity and magnitude of violations. Deterrent element has also to be included and cost of restoration assessed. There is utter failure of the statutory regulators in enforcing the law of the land to the detriment of environment and public health. Pending further consideration, there is need and expectation from statutory authorities to close all polluting activities and recover realistic compensation from violators, apart from initiating prosecution, as per law. The entire Dahej

industrial area/cluster need to be considered as one of the critically polluted area for which Comprehensive Environmental Pollution Index (CEPI) should be assessed particularly immediately with regard to the water and soil component. Such assessment may be done through credible mechanism under the supervision and monitoring of the Joint Committee. The assessment should be holistic to cover all the categories of industries, assessing groundwater quality, soil characteristic and coastal water analysis. Such study be conducted within three month and report filed which may also be uploaded on the website of the State PCB for response of the concerned units, if any, before this Tribunal.

The Committee may particularly, address the issues of (i) addressing and prohibiting illegitimate and non-complying discharges into the pipeline/pumping station; (ii) immediate action on the non-complying industries discharging high COD waste into CETP/pipeline ultimately culminating to pumping Stations A and C. Such industries may not be allowed to operate till they comply with the consent conditions. Closure should be effective which need to include disconnection of water and electricity supply and not discharging into the GIDC effluent conveyance system; (iii) Not permitting discharging of the effluents in the inter-tidal zone and ensuring proper mode of disposal of treated effluents as applicable and in case of marine disposal, laying submarine pipeline with diffuser system ensuring the proper dilution and no damage to the marine eco-system; (iv) the environmental damage caused in terms of soil and groundwater and other components need to be restored for which executable and monitorable mechanism should be in place; (v) for immediate actions, visible action should be taken which may include lifting of spilled over and discharged waste (solid and liquid) should be taken to the appropriate sites for proper management (vi) CETP of 40 MLD

is underutilized and this CETP needs to be commissioned properly and the member industries need to meet the inlet standards as well as the outlet of the CETP to conform to the standards and all the treated effluents may be disposed as consented; (vii) the existing capacity for management of hazardous waste should be assessed in terms of its adequacy and compliance with environmental norms; (viii) the Committee and the State Government should also ensure that the health conditions of the villagers and other safeguards are taken to protect human health as well as the flora and fauna of the entire area including recipient coastal water. The next report of the joint Committee may be filed by May 31, 2022 by email at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF. Response to the said report may be filed by affected parties by June 30, 2022 by email. Pendency of proceedings before the Tribunal may not be taken as ground for the statutory authorities not to enforce the law and for continued failure, the statutory authorities will also be held accountable. The Chief Secretary, Gujarat may also take further action to enforce the law in the light of observations of the joint Committee and the observations of the Tribunal referred to above, subject to any challenge against the report of Committee and orders of the statutory authorities being dealt with by this Tribunal or any forum where the same are challenged.

8. We also direct the State PCB to serve notice on all individual non-compliant industrial units as well as their Association by appropriate means including e-mail for their response, if any, before this Tribunal. It is, however, made clear that consideration of the matter by the Tribunal will not prevent the industrial units to take remedial measures for future compliances, without prejudice to the liability of the past violations nor

prevent the statutory regulators from exercising their powers, subject to their orders being challenged by the aggrieved parties as per law.

The matter will now be taken up for final consideration on 06.07.2022 with complete report covering issues as mentioned above.

A copy of this order be sent to the Chief Secretary, Gujarat and the State PCB by email for compliance.

Adarsh Kumar Goel, CP

Sudhir Agarwal, JM

Dr. Nagin Nanda, EM

Dr. Vijay Kulkarni, EM

Dr. Afroz Ahmad, EM

February 2, 2022
Org. Application No. 60/2021(WZ)
AB